Internationalisation
and Collaboration

SPARC 2018 Book of Abstracts

Salford Postgraduate Annual Reseach Conference

4 - 5 July 2018 MediaCityUK

SPARC 2018 Book of Abstracts

ISBN: 978-1-912337-10-1

Published by:
The University of Salford
Salford
Greater Manchester
M5 4WT
United Kingdom

Design & Layout: Tracy Ireland t.j.ireland@salford.ac.uk & Jill Potter j.potter@salford.ac.uk

Preface

Welcome to the Book of Abstracts for the 2018 SPARC conference. This year we not only celebrate the work of our PGRs but also the launch of our Doctoral School, which makes this year's conference extra special. Once again we have received a tremendous contribution from our postgraduate research community; with over 100 presenters, the conference truly showcases a vibrant PGR community at Salford. These abstracts provide a taster of the research strengths of their works, and provide delegates with a reference point for networking and initiating critical debate. 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 inevitably requires interdisciplinary collaboration. This is recognised by all major research funders. Therefore engaging with the work of others and forging collaborations across subject areas is an essential skill for the next generation of researchers.

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. You can also follow us on Twitter at @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.

Dr Ursula Hurley
Director of the Doctoral School
University of Salford
u.k.hurley@salford.ac.uk

Contents

Oral Presentations

The Challenges for the Reconstruction of Affordable Housing for the Internally Displaced People in Maiduguri Due to Boko Haram Conflict in Nigeria

Yakubu Abdulkadir Abdu

School of the Built Environment
Email: y.a.abdu@edu.salford.ac.uk

Supervisor
Dr Chaminda Pathirage – c.p.pathirage@edu.salford.ac.uk

Abstract

Many countries across the world have experienced different forms of manmade disasters ranging from terrorism to war and conflict, most especially African countries. Many countries in Africa have experienced different violent conflicts and many other are still experiencing armed conflicts which are due to political, religious, ethnic and economic differences. Due to conflict, a lot of people have been displaced in Africa and many houses belonging to these people have been destroyed. The governments affected by conflict are left with the task of rebuilding the houses destroyed.

Post conflict housing reconstruction is one of the major challenges many countries around the world are facing presently, most especially in third world countries. In Nigeria, Boko Haram conflict has caused more destruction than any other conflict in the past, and it was estimated that one million houses have been destroyed in Borno State during the conflict. The government is left with the task of reconstruction and there are number of challenges the government will face towards rebuilding the houses which include corruption, lack of resources, relocation, urgency and insecurity among others.

The aim of this paper is to highlight and examine the challenges associated with reconstruction of affordable housing for the Internally Displaced People in Maiduguri due to Boko Haram conflict in Nigeria. The critical literature review and 12 semi-structure interviews carried out with building construction professionals from the Commission for Reconstruction Rehabilitation and Resettlement in Maiduguri and the Commission for Refugee, Migrants and the Internally Displaced Persons in Abuja, revealed that there are number of challenges that can hinder the reconstruction of affordable housing for the IDPs in Maiduguri, Nigeria. Therefore, the government will have to overcome these challenges to successfully reconstruct houses for the IDPs in Maiduguri.

Keywords

Affordable Housing, Africa, Boko Haram Conflict, Challenges, Nigeria, Maiduguri

A Study of Discourse Pragmatics in a Second Language Acquisition: Exploring the Acquisition of English Information Structure by Saudi Learners

Samah Abduljawad

School of Arts & Media
Email: s.a.s.abduljawad@edu.salford.ac.uk

Supervisor
Dr Axiotis Kechagias – a.kechagias@salford.ac.uk

Abstract

Despite the developing of learning English as a second language (ESL) in Saudi Arabia, the language of Saudi ESL learners, even in advanced stages, deviates from utterance produced by native speakers of English. ESL learners may generate semantically and grammatically well-formed phrases or sentences but their phrases and sentences may still not be sufficiently comprehensible. The interviewed ESL teachers of this study attribute this difficulty to the lack of ESL curricula for subjects of discourse pragmatics, particularly syntactic constructions of information structure (IS). They agree that the information structure, organising information in different contexts by using syntactic devices in order to convey pragmatic meanings, is considered to be the basis to language acquisition. Unfortunately, there is no study investigating how ESL learners in the Saudi context regarding the syntax-IS interface, that is, how different information structure (i.e. discourse) categories are realised when using English. It is hoped that this research will be a great source for the Ministry of Education teachers in Saudi Arabia.

This study could help in raising ESL teachers' awareness about the importance of IS in educational settings in order to help learners to acquire successfully the second language. The study examines aspects of second language discourse competence by looking at how Saudi learners of English realise information structure and the role of teaching IS in second language learning. Two studies are conducted. The first is experimental, with a discourse judgement task, a completion task, and interviews with six ESL teachers, and the second study compares data from a corpus of native English speakers.

Keywords

Information structure, pragmatics, second language learning

A Case for the Justiciability of Right to Health in Nigeria

Raheemah Abdullahi

Salford Business School
Email: r.o.abdullahi@edu.salford.ac.uk

Supervisor
Dr Nicolas Kang-Riou – n.kang-riou@salford.ac.uk

Abstract

The yearnings, hopes and aspirations of the Nigerian people are yet to be met as there continues to be a gap between the promises embodied in international human rights law, especially, the commitment to the right to health and its actual practice. Noticeably is the fact that there has been considerably less attention placed on the need to develop the content of the Economic Social and Cultural rights under which the right to health falls, despite the fact that the rights have been part of the language of international human rights since at least the adoption of the Universal Declaration of Human Rights (UDHR) in 1948. Under the Nigerian legal system, there is no clearly written legal foundation the reliance upon which the right to health claims could be asserted, therefore the domestic courts have contributed very little to the development of socio-economic rights protection, generally because of their inherent limitations.

This research critically analyses the concept of justiciability of the right to health in Nigeria. 'Justiciability', as used in this research presupposes the existence of a review mechanism to determine the non-compliance with the terms of the legal regime and includes judicial, quasi-judicial and an integrative approach. The research provides an insight into the holistic approaches that need to be taken for the protection of the right to health to have a significant impact on both policy and practical outcomes in Nigeria.

Keywords

Justiciability, Right to Health, UDHR, Nigeria

The Application of Business Case with Particular Emphasis on Selected Abandoned Public Sector Construction Projects in Nigeria

Abiodun Abolarinwa Abraham

School of the Built Environment
Email: A.Abraham2@edu.salford.ac.uk

Supervisor
Prof Carl Abbott – c.abbott@salford.ac.uk

Abstract

Project abandonment is not limited to developing nations like Nigeria alone. Abandonment of public sector construction projects are scattered all over the world. Good examples are Hashina Island (Japan), Battersea Power stations (UK), The Chunnel (UK/France), Sagrada Família; Barcelona, Spain, Sydney Opera House; Sydney, Australia, and World Island (Dubai). Abandonment of public sector construction projects in Nigeria becomes worrisome when over 12,000 public sector construction projects are abandoned, at various level of completion in the last four decades. The misconception among the literature is that the major factor responsible for public sector construction project abandonment is corruption. Little or no attention is attached to the effect of project decision making tools in operation in Nigeria, over the last four decades.

The aim of this study is to compare the features of Business case as a decision making tool with other project decision making tools in Nigeria, and develop a framework to assist in reducing the cases of public sector construction project abandonment in Nigeria. The method of data collection shall employ both interviews and questionnaires to arrive at a finding and make recommendation for the study.

Keywords

Abandonment, Business case, Public sector, Decision making tool, Interview, Questionnaire

Fundamental Solution of Navier-Stokes Equation and its Application in Modelling Oil Flows

Hamid Adamu

School of Computing, Science & Engineering
Email: h.a.adamu@edu.salford.ac.uk

Supervisor
Dr Edmund Chadwick – E.A.Chadwick@salford.ac.uk

Abstract

Navier-Stokes equations are the fundamental governing equations for fluid dynamics and can be seen as the Newton second law of motion. They are Partial Differential Equations (PDEs) that are considered as an extension of Euler equations and includes the effects of viscosity on fluid flows. The equations are known for over 150 years, but analytic solutions prove difficult except for simple cases because they are non-linear. However, various researchers have used the Greens integral method for Stokes' and Oseen's equations giving Greens functions referred to as the Stokeslet and Oseenlet respectively. But Greens functions for the Navier-Stokes solution which shall be called Navier-stokeslet (NSlets) are yet to be examined. The point solution gives unit force and has important applications in the oil industries. Therefore, this research is to construct the NSlets (to obtain the velocity and pressure of a point force in the Navier-Stokes equation) in two dimensions and examine its application in modelling oil flows. Thus, the research is aimed at finding the fundamental solution of the Navier-Stokes equations which represent a point force.

Keywords

Navier-Stokes equation, Oil flows, NSlets,

Environmental Risks from Contaminated Land – An Investigation into the Role of Public Perception in the Risk Assessment Process

Abimbola Henry Adeleke

School of Environment & Life Sciences
Email: a.h.adeleke@edu.salford.ac.uk

Supervisor
Prof Chu Xia Lin – c.lin@salford.ac.uk

Abstract

Land Contamination poses significant health risk to people, especially those living in close proximity to these sites through oral ingestion, particle inhalation and dermal contact. The likelihood of harm varies from minor skin irritations to major diseases like cancer or even death. Scientific evidence has also indicated that while soil is a great sink for heavy metals, these metals sometimes become mobile under water inundation (rainfall). This can lead to transportation of these harmful contaminants depending on the topography of the area. This underlines the threat from surface water movement as well as leachate percolation into groundwater sources. The perception of this risk has surprisingly divided opinion even among scientists, even among residents' different views have been recorded. Previous studies indicated that people living adjacent to hazardous sites have been known to sometimes develop amenity view of these sites. This is more prevalent where there has not been any risk event in recent times from such sites. The indication here is that the public may actually understand the potential risk from the sites and yet, they still disagree with the "experts" on probability of occurrence because they are viewing this from a different value judgement position. As intended for this study, in order to develop an acceptable risk management model, adequate consideration must be given to the views of all stakeholders and effort will be made to find a balance between technical risk data based on scientific data and 'unscientific perception' based on pure 'gut feeling' and intuition of residents.

Keywords

Land contamination, health, perception, risk management

Smart Cities KPIs Model: A System Dynamics Modeling Approach

Mohammed Agbali

School of the Built Environment
Email: m.agbali@edu.salford.ac.uk

Supervisor
Dr Claudia Trillo – C.Trillo2@salford.ac.uk

Abstract

Smart City (SC) innovation is an emerging phenomenon towards the demands for balance among the socio-economic and environmental concerns of a sustainable city. The Smart Cities (SCs) concept has the main goal of improving the performance of cities with a vision that not only includes the citizens' prosperity but also the sustainability of future cities where more than half of the ever-increasing world population will live in 2050. A number of studies have proposed Smart City key performance indicators (KPIs) and metrics for bench-marking performance of cities. This paper validates that the Smart City innovation is complex and dynamic requiring dynamic approach for performance assessment. Based on empirical data from the city of Abuja, this paper employed System Dynamics method to analyse the causal relationships of the Smart City KPIs and relating to the complex structure of the core components of Smart Cities. Simulating and comparing the performance of the factors and indicators, a System Dynamics model of Smart City assessment structure is proposed consisting of establishing system boundaries, establishing flow diagrams, parameter estimation, model validation for the core components of Smart Infrastructure, Smart Institution, and Smart People respectively.

Keywords

Smart City Innovation, Sustainability, Future Cities, System Dynamics, Smart Infrastructure, Smart Institution, Smart People

Modelling the Pro-Environmental Behaviour and Resilience of Ethnic Minority Retail SMEs (Food Retailers) in the United Kingdom

Tanveer Ahmed

Salford Business School
Email: T.Ahmed8@edu.salford.ac.uk

Supervisor
Prof Sunil Sahadev – s.sahadev@salford.ac.uk

Abstract

The world is facing serious environmental issues and human behaviour is considered responsible for these issues. Consequently, most people agree that human should change their behaviour to minimize further environmental damage. The purpose of this study is to investigate the pro-environmental behaviour of ethnic minority retail SMEs (food retailers) in the United Kingdom and the impact of the individual resilience. Furthermore, over 300,000 small businesses were owned or led by the ethnic minority groups which are adding £30 billion to the UK economy. Immigrants are three time more likely to be entrepreneurial as compared to their British counterparts. Most of the research which deals with pro-environmental issues has focused on large firms, rather than small firms like ethnic minority food retailers. So, the purpose of this study is to investigate the pro-environmental behaviour of ethnic minority retail SMEs (food retailers) in the United Kingdom and the impact of the individual resilience. A self-administered questionnaire will be used among food retailers to collect the data. The expected theoretical contribution will be new knowledge about the ethnic minority pro-environmental behaviour and individual resilience impact. And on practical grounds provide guidance and suggestion to policy makers to encourage them to adopt pro-environmental behaviour and hence forth contribute towards betterment of environment.

Keywords

Ethnic minority, resilience, Pro-environmental behaviour, questionnaire, food retailers

The Moderating Role of Task Characteristics in the Relationship between Internal Team Environment and Shared Leadership Development in UK Students' Unions

Nnamdi Eustace Akabuogu

Salford Business School
Email: N.E.Akabuogu@edu.salford.ac.uk

Supervisor
Dr David Beech – d.h.beech@salford.ac.uk

Abstract

This study seeks to investigate the relationship between internal team environment and shared leadership, as well as whether task characteristics strengthens or weakens this relationship. Another aim of this study is to find out whether vertical leadership is a factor that influences that influence the development of shared leadership in UK Students' Union team context. With the exception of a few mixed method studies, the literature review indicates that majority of the research on shared leadership has been concerned with adopting either a quantitative or qualitative approach. In this light, this study intends to adopt a mixed method approach in other to capture nuances and illuminate factors that may lead to the development of shared leadership in the varied UK Students' Union fresher's week project teams. While there are other approaches compatible with mixed methods, a pragmatic philosophy is adopted in the investigation process due to its flexible epistemological stance, which would be highly appropriate and relevant to answering the research questions and meeting the objectives of this study.

This research work is a major attempt at carrying out an explanatory study on shared leadership in UK Fresher's week project team context. Thus, the potential findings of this research could make essential contribution to a better understanding of shared leadership behaviours in fresher's week project teams for Sabbatical officers, staff, and volunteers. Sabbatical officers, staff and student volunteers could be trained on how to use shared leadership as a tool to improve team performance.

Keywords

Shared leadership, internal team environment, vertical leadership, antecedents, moderators, team performance

Exploring Sound Locations for Hearing Aids

Hanaa Al-Abboodi

School of Computing, Science & Engineering
Email: H.M.A.Al-abboodi@edu.salford.ac.uk

Supervisor
Dr Paul Kendrick – p.kendrick@salford.ac.uk

Abstract

Humans have a sophisticated hearing mechanism, able to accurately localize sounds. Head Related Transfer Functions (HRTF) refers to the filter that emulates the two ears. HRTFs are important for fitting hearing aids to people who suffer from difficulties in hearing in one or both ears. The ability to localize sounds can be significantly reduced with only one ear. This is an automated method to use locations information to improve the hearing process. A HRTF dummy head was used to acquire binaural signals. A brain simulator trained to extract spatial information from binaural signals. The experiments results show that the proposed bionic binaural emulator can accurately localize complex sound signals in a noisy environment.

The main advantage of sound signal locations detection model is to support the hearing aids manufacturing by enhance the hearing aid abilities for sound signals exploring. The most important advantage of sound signals localization model is support augment reality applications for sound perception and sound directions discovering.

Keywords

Head Related Transfer Functions, HRTF, sound, binaural signals, hearing aid

Three-Dimensional Upper-Limb Joint Angles Derivation Using Magneto-Inertial Measurement Units Sensors

Abdullah Al-Ani

School of Computing, Science & Engineering
Email: a.al-ani@edu.salford.ac.uk

Supervisor
Prof David Howard – d.howard@salford.ac.uk
Prof Laurence Kenney - l.p.j.kenney@salford.ac.uk

Abstract

Guidelines suggest that rehabilitation of the upper-limb following stroke should involve intensive practice of functional tasks. Functional electrical stimulation (FES) is one approach to assist patients with this type of practice. FES is the use of small electrical pulses applied to peripheral nerves of people with weak or paralysed muscles to generate muscle contractions, coordinated in such a way as to support functional activities. The author's PhD focuses on the design of an FES system to support practice of upper-limb tasks. The system will be controlled using information on upper-limb joint angles, derived from body-worn magnetic and inertial measurement units (MIMU). Body-worn MIMUs provide motion and orientation data of the unit itself, not of the segment, or of the joint angles between adjoining segments. In order to make use of these data in our application we need to first estimate the orientation of each sensor relative to its body segment (anatomical calibration), then use information from two adjoining sensors to estimate joint angles, derived in such a way as to avoid singularities (configurations in which there is no single solution to the equations defining the joint configurations) over typical ranges of movement.

An experiment to evaluate different anatomical calibration methods has been carried out and a literature review has been completed of promising mathematical approaches used to represent upper limb joint angles: the sequence-dependent Cardan/Euler angles; the sequence-independent Joint Coordinate System (JCS); and finally, the helical representation, which has not been applied to upper-limb problems previously.

Keywords

Stroke, Functional electrical stimulation, FES, upper-limb, joint angles

The Power of Music

David Aldred

Leeds Beckett University
Email: d.aldred4494@student.leedsbeckett.ac.uk

Supervisor
Dr Sue Miller - s.m.miller@leedsbeckett.ac.uk
Sarah Jane Smith - s.j.smith@leedsbeckett.ac.uk

Abstract

The presentation is a performance which brings sound, words, imagery and dance together in a fusion of artforms. 'Mimesis' - a recently formed small arts collective - have performed at a number of literature and story-telling festivals in the north. Our work occupies a space at the intersection of cultures and our aim is to express connections and interelationships in diversity through collaborative performance. We employ various spoken languages within performances as well as embracing different forms of media and art. We are an international trio of European, Asian and African backgrounds.

'The Power of Music' is inspired by the eponymous expressionist painting, completed in 1920, by the Austrian artist Oskar Kokoschka. The painting is set to music, dance and poetry in a multifaceted response to the emotion and meaning elicited from the painting. Music is the most abstract and universal of languages and artfroms. Gesture is at the heart of our work and is revealed through the forms of dance, sound, words and video in which it is embodied. It is the impulse to life which creativity reflects.

We believe in the capacity of all to create and express art, and endeavour to build an environment with the right components and ambience to facilitate this in our workshops and performances.

Keywords

Performance, story-telling, creativity, dance, poetry, painting

Implementation of Total Quality Management in Iraqi Oil Companies

Abbas Aletaiby

School of the Built Environment
Email: A.A.Aletaiby@edu.salford.ac.uk

Supervisor
Dr Udayangani Kulatunga – udayangani2002@yahoo.com

Abstract

The Iraqi oil companies constitute the main industrial structure in Iraq, as oil is the main source of income in the country. However, these companies are facing a number of challenges including decreasing performance and quality levels, particularly in management systems. In addition, they are challenged by increasing competition from international companies working in Iraq. In order to face these challenges and increase their efficiency and competitiveness, Iraqi oil companies need to successfully employ quality management initiatives such as TQM.

The aim of this study is to develop a framework to facilitate the implementation of TQM in the Iraqi Oil Companies. This entailed a review of issues relevant to TQM in general and an exploration of the current levels of awareness of TQM in the oil company by identifying the presence or absence of certain recognised TQM key factors and barriers which impede TQM implementation as well as the expected benefits to be gained from TQM implementation. To achieve this aim, the study utilises a mixed research approach and adopting a single holistic case study strategy by triangulating the data collected through different techniques (semi-structured interviews, questionnaire survey and literature review). Data was collected from one of the most significant oil company in Iraq.

The research identified nine TQM key factors that can support TQM implementation and seven TQM barriers that hinder TQM implementation. Additionally, five TQM benefits which can be gained as a result of successful implementation were also identified. Furthermore, the research reveals two key relationships. Firstly, the relationship between the barriers that hinder TQM implementation and the key factors required for successful TQM implementation. Secondly, the relationship between the key factors of TQM implementation and the potential benefits of successful TQM implementation. Finally, emerging from the study, a conceptual framework has been developed to facilitate the TQM implementation in the Iraqi oil industry.

Keywords

Total Quality Management, TMQ, Oil, Iraq

Coverage and Capacity Improvement of Millimetre Wave 5G Network Using Remote Radio Heads

Naser Al-Falahy

School of Computing, Science & Engineering
Email: n.f.a.al-falahy@edu.salford.ac.uk

Supervisor
Dr Omar Alani – o.y.k.alani@salford.ac.uk

Abstract

In this work, Distributed Base Station (DBS) with remote radio head (RRH) is considered as the architecture of the 5th Generation (5G) network. DBS network architecture supports easier scalability for network expansions using remote antennas in the form of RRHs. RRHs have been used in this work in order to compensate for the severe path loss and penetration loss that characterise millimetre wave (mmWave) communications. The band of interest is the pioneer band at 26GHz, which has been recently released by Ofcom for 5G services focused on areas of high traffic demand in the UK. DBS architecture can minimise the number of base stations (BSs) required for the same Quality of Service (QoS). An algorithm has been developed for DBS scheduling. Additionally, the gains of using DBS has been demonstrated in terms of: increasing user data throughput, decreasing unnecessary handovers as a result of dense network deployment, increasing the coverage probability in terms of Line of Site (LoS) coverage, and minimising the impact of shadow fading. The results have shown significant improvement in terms of peak, average, and cell-edge data throughput. The coverage probability has been improved consequently due to the spatial distribution of RRHs.

Keywords

Distributed Base Station, DBS, 5G, RRH, network expansion

Validation of PLAXIS Software to Simulate Deep Foundations under Different Loading Types

Ali Al-Jazaairry

School of Computing, Science & Engineering
Email: a.a.s.al-jazaairry@edu.salford.ac.uk

Supervisor
Dr Tahsin Toma-Sabbagh – t.toma@salford.ac.uk

Abstract

Solving civil engineering problems using software can save a considerable time and money. Therefore, in recent years, software based on finite element method has been successfully implemented in the field of civil engineering. PLAXIS software is one of the civil engineering programs, which is mainly a finite element method. In order to simulate deep foundations in PLAXIS, an embedded pile is a great feature within the software to do so. Although this software is a comparatively new program, it has been validated by comparisons with the experimental tests as well as full-scale field tests. Therefore, it is arguable whether the deep foundation under different loading types shows a reliable performance in the PLAXIS software environment. In order to answer this question, this research is aimed to provide a validation of deep foundation under axial and lateral loading. The available finite element software (PLAXIS 2D) shows satisfactory comparisons with other programs, laboratory work and field observations. The comparison between the results of PLAXIS software with the results of other finite element programs (ANSYS) as well as field test demonstrates excellent agreement. Accordingly, it can be concluded that PLAXIS software could simulate civil engineering problems effectively.

Keywords

PLAXIS, civil engineering, ANSYS, axial loading, lateral loading

Autocorrelation Detection for Early Reflection to Improve Robustness of Speaker Verification in Reverberant Conditions

Khamis Al-Karawi

School of Computing, Science & Engineering
Email: k.a.yousif@edu.salford.ac.uk

Supervisor
Dr Francis Li – f.f.li@salford.ac.uk

Abstract

Automatic speaker recognition systems have developed into an increasingly relevant technology for security applications in modern times. The primary challenge for automatic speaker recognition is to deal with the variability of the environments and channels from where the speech was obtained. Good results have been achieved for clean, high-quality speech with the matching of training and test acoustic conditions. However, under mismatched conditions and reverberant environments, often expected in the real world, system performance degrades significantly. The early reflections and their properties play an essential role in the acoustics of an enclosure. In this paper, the early reflection in the reverberant signal has been estimated using an autocorrelation function. The estimation then convoluted with an anechoic signal to improve the robustness of speaker verification. Experimental results have shown good improvement in system performance regarding reduced equal error rate and detection error trade-off.

Keywords

Automatic speaker recognition, acoustics, reverberant environments, autocorrelation

Human Resources Practices in the Telecommunications Sector

Ali Almojahed

Salford Business School
Email: a.a.a.almojahed@edu.salford.ac.uk

Supervisor
Dr Kathy Hartley – k.a.hartley@salford.ac.uk

Abstract

This study aims to explore high performance work systems (HPWS) in the Libyan telecommunications sector. HPWS are a set of distinct but interrelated human resources management practices combined in a consistent bundle and used to increase employee commitment and motivation, and thereby enhance organizational performance. Existing literature about HPWS shows that most previous studies were conducted in developed countries, and in the manufacturing sector in particular, and mainly concentrated on employer's perspective only.

Little is known about HPWS in public services organizations in general and in the Libyan context in particular, which reveals a significant knowledge gap regarding the implementation of HPWS in this context. The present study aims to contribute to knowledge by studying the HPWS in the setting of a developing country where specific socio-economic and cultural factors may affect the implementation of HPWS, and in under-researched sector, the services sector, by considering both employees and employer's perspectives.

Keywords

HPWS, Libya, telecommunications, organizational performance

Comparison of Image Quality and Radiation Exposure in Hospitals

Sadeq Al-Murshedi

School of Health Sciences
Email: S.H.M.Al-Murshedi@edu.salford.ac.uk

Supervisor
Prof Peter Hogg – p.hogg@salford.ac.uk
Dr Andrew England – a.england@salford.ac.uk

Abstract

In radiography, the initial priority is to produce images with a sufficient level of quality to achieve diagnosis. However, the radiation dose to the patient should also be taken into consideration in order to reduce the risk. Guidance and legislation mandate that the radiation dose should be as low as reasonably practicable. The process of achieving a balance between radiation dose and image quality is termed optimisation and it is a fundamental component of radiographic practice. However, optimisation is not easy to achieve because of differences in X-ray imaging equipment performance, patient size variations and differences in clinical imaging techniques that are in routine use. These factors could lead to image quality and radiation dose differences, between and within hospitals, for the same clinical investigations.

Image quality differences may affect the diagnostic outcome with differences in radiation dose affecting the risk to the patient. Among the different X-ray examinations, chest radiography is the most common as a result of common respiratory conditions such as pneumonia. Also, it is invaluable for resolving a broad range of clinical problems. The aim of this study is to compare image quality and radiation dose for adult chest radiogrphy between seventeen X-ray units located in eight hospitals within the north west of England. Early results suggest that between and within hospitals there is considerable variation in image quality and radiation dose. Differences are likely to be the result of different types of X-ray imaging equipment and imaging techniques used.

Keywords

Radiation dose, radiography, image quality, imaging techniques

What do Iraqi Quasi-Governmental Construction Companies Need to Make a Step Change Improvement in their Performance?

Taha Al-Obaidi

School of the Built Environment
Email: tahasame@yahoo.com

Supervisor
Dr Anthony Higham – A.P.Higham@salford.ac.uk

Abstract

In today's turbulent and highly competitive business environment, successful organisations are those that have the ability to beat their competitors by being better, faster and cheaper. Achieving these three features without trade-offs between them can only be through focusing on improving the operational processes. Over the last decade, Iraqi Quasi-Governmental Construction Companies (IQGCCs) have faced wide criticism due to their poor performance, low productivity and inability to generate profits. An earlier exploratory study conducted by the researchers highlighted a number of challenges and barriers to efficiency in the operational processes of these companies, resulting mainly from four interrelated factors, namely: government restrictions, management system, authority distribution and finally communication system. Accordingly, this study aims to explore the most applicable solutions to the existence limitations in IQGCCs' operational processes. To accomplish this aim, a series of semi-structured interviews were carried out with ten experts selected from various management levels of three IQGCCs. The data revealed that a step change improvement in IQGCCs' performance can be achieved through: 1) considering IQGCCs as autonomous, profit-seeking organisations managed independently away from the current government regulations and other restrictions, 2) moving away from their traditional management system to focus on improving their operational process and 3) using information technology as an alternative communication system to the current manual paper-driven ones. As a result of these findings, a conceptual transformational organisational framework has been proposed to act as a roadmap to streamline and continuously improve the IQGCCs' operational processes.

Keywords

Iraq, IQGCCs, operational processes, organisational framework

The impact of a Training Intervention on Emotional Intelligence, Leadership Styles, Self-Efficacy and Perception of Power in University Nursing Specialties in Saudi Arabia

Maha Alreshidi

School of Health and Society
Email: m.s.alreshidi@edu.salford.ac.uk

Supervisor
Dr Ashley Weinberg – a.weinberg@salford.ac.uk

Abstract

The importance of emotional intelligence (EI) has been highlighted as an influential contributor to enhanced performance in a range of job-related areas, including leadership, self-efficacy and sense of power. Whilst EI has been studied in a range of cultural contexts, relatively few studies have been conducted on this concept in an Arabic context. Previously published studies in this area have incorporated relatively small sample sizes and have tended to utilise student populations. This original study was designed address the above gaps indicated in the literature.

A quasi-experimental within-participants design was used to test the effectiveness of a one-day emotional intelligence training intervention. The sample was recruited from nursing colleges across four different sites within the same university. Training consisted of providing information about EI, as well as discussion and practise of relevant strategies by participants to enhance the range of emotional competencies identified within EI model. Both the intervention and control groups completed the Schutte Emotional Intelligence Self-Report Scale, the Multifactorial Leadership Questionnaire, as well as measures assessing self-efficacy and perceptions of power. Participants in both groups completed the research measures at four time-points: immediately pre- and post- workshop, and at one month and three months follow-up.

No differences were found at baseline between the intervention and control. Subsequently participants in the EI intervention group – compared to their own baseline pre-intervention scores - recorded significantly improved scores in emotional intelligence, transformational leadership style and self-efficacy one month after completing training. These increases were also apparent at the EI subscale level and were maintained or improved upon at the three months follow-up. The overall efficacy of this EI training intervention is supported by the significantly increased post-intervention scores among workshop participants compared to the non-participating control group. This has implications for future research as well as practitioner developments in the field of EI at work and is the first study of its kind in Saudi Arabia.

Keywords

Emotional intelligence, Saudi Arabia, leadership, training, nursing

The Impact of a Focused Education Session on the Knowledge, Attitude and Intended Behaviour Regarding Breastfeeding by Saudi Women Who are Pregnant For the First Time

Nojoud Alreshidi

School of Health and Society
Email: n.a.alreshidi@edu.salford.ac.uk

Supervisor
Prof Tony Long – t.long@salford.ac.uk

Abstract

Rapid socio-economic growth during the last decade in the Kingdom of Saudi Arabia has resulted in nutritional impacts, specifically in rapid changes in lifestyle, diet, and eating patterns, together with decline in breastfeeding. The global recommendation for infant feeding from the World Health Organization and UNICEF is that infants should be breastfed exclusively for the first six months. This study was designed to explore the effects of a focused education intervention on the attitudes, knowledge, and intended behaviours regarding breastfeeding by Saudi women who were pregnant for the first time. This study utilised a mixed methods quasi-experimental design.

Questionnaires were administered at baseline, post-test (2 months), and follow-up (four months), at which point a single interview was conducted. The intervention was an interactive breastfeeding education session. Twenty-three Saudi women who were pregnant for the first time were assigned to the intervention group, while 10 formed the comparison group.

The test results indicated that there was a significant positive change in knowledge and attitude in the intervention group between the pre-test and the post-test, and this improvement was maintained as far as follow-up. There was little change in breastfeeding practice, but increased knowledge and movement in attitude towards acceptability and desirability of breastfeeding were shown. Such changes were not observed in the comparison group. The education session was effective on enhancing knowledge and attitudes about breastfeeding. Interview data offered additional insights into the barriers to both starting and maintaining exclusive breastfeeding.

Keywords

Kingdom of Saudi Arabia, breastfeeding, intervention, education

Morality, Self-Control and Crime: A Test of SAT among Adolescents in Saudi Arabia

Norah Alruwaili

School of Health and Society
Email: N.Alruwaili@edu.slford.ac.uk

Supervisor
Prof Chris Birkbeck – c.h.birkbeck@salford.ac.uk

Abstract

Situational Action Theory is a new theoretical framework on the causes of crime. It defines crime as a moral action, which means breaking the moral rules stated in law. This paper we will test one of the fundamental propositions of Situational Action Theory: that people's morality is a more important factor in explaining crime involvement than their capability to exercise self-control.

This paper hypothesizes that, for young people with high morality, their ability to exercise self-control plays less of a role in their engagement in crime than it does for young people with low morality, whose ability to exercise self-control may substantially impact their engagement in crime. To test this hypothesis, self-report data are used from a sample of 588 young people aged 16–18, from Riyadh city in Saudi Arabia. Results reveal that among young people with lower morality, the ability to exercise self-control has a stronger effect on their engagement of crime than for young people with higher morality. This study provides support for these key hypotheses from SAT in Saudi Arabia.

Keywords

Adolescent crime, interaction effects, morality, self-control, situational action theory, Saudi Arabia

Sustainable Business Model for Housing Construction in the Kingdom of Saudi Arabia

Adnan Alshahrani

School of the Built Environment
Email: A.Y.Alshahrani@edu.salford.ac.uk

Supervisor
Prof Carl Abbott – c.abbott@salford.ac.uk

Abstract

Recently, sustainable housing (SH) has been the subject of significant innovations, resolving former housing problems and reducing the negative effects of the built environment. Many of these improvements have targeted efficient use of energy during housing design, construction, operation, improving design strategies, design tools, and alternative design processes, and on developing systems, products and technologies. These approaches only address isolated parts of the business model (BM) used by the housing construction companies. What is missing is how housing construction companies (HCCs) can systematically create and lead fundamental transformations of their conventional BMs to make them sustainable business model (SBM) and profitable.

SBM approach can help HCCs to be successful, in terms of creating and capturing value when engaging in sustainability principles. Kingdom of Saudi Arabia (KSA) is an example of a country undergoing rapid development with an expansion in the housing construction sector. HCCs in KSA have found it difficult to convert abstract sustainable strategies into viable and business concepts through existing practices. Summarizing previous research in the BM and changes required when engaging in sustainable practices. The literature showed that changes are required in all the business model elements including value proposition, customer segments, channel, customer relationship, value configuration, capability, partner network, cost structure and revenue model.

Keywords

Adolescent crime, interaction effects, morality, self-control, situational action theory, Saudi Arabia

Polarised or Rational Sphere: A Study of Online News Readers' Comments in Nigeria

Adeyanju Apejoye

School of Arts & Media
Email: A.Apejoye@edu.salford.ac.uk

Supervisor
Prof Seamus Simpson – S.Simpson@salford.ac.uk

Abstract

Online news commenting has become part of the features of online news sites in Nigeria providing space for readers to express their views on news content, and also engage with other readers in discussion. While online news commenting is seen as one of the democratic features the internet offers as well as making the audience active within the chain of news production; over time, these comments sections have become a space for the exchange of acerbic and, beyond that, extreme comments. In Nigeria, the popularity of comments sections of online news media is rising as people now have access to the news on the move through their smartphones. A core question arising from this is: does the online comments' space contribute to the development of a democratic sphere for rational and critical discourse among readers? This paper investigates online news readers' comments in Nigeria and in the process considers the extent to which they constitute an online public sphere. The research undertakes a content analysis of 1,236 comments, based on two news events, from four online news media. Consequently, the analysis revealed that online news commenting in Nigeria is sharply divided along ethnic and religious lines. The comments made are rarely rational and critical in their analysis of public issues. The conclusion of this paper therefore, is that online public sphere exists in Nigeria but is dysfunctional because deliberations within the sphere are not rational and critical of subject of discourse most of the time.

Keywords

Nigeria, online news media, public sphere

How Emotions and Social Groups Affect Online Videos in Going Viral? (Case Study of Salford City FC)

Joseph Asamoah

Salford Business School
Email: j.s.o.asamaoh@edu.salford.ac.uk

Supervisor
Dr Aleksej Heinze – aleksej.heinze@kedgebs.com

Abstract

A few online brands such as football clubs are keen to explore video virality to engage their audiences. One such club is Salford City Football Club (SCFC) which is interested in investing their resources in YouTube videos. Most recently, Salford City managed to stage an incredible come back from 4-0 with 10 minutes to go to create a social media buzz which culminated with over 45,000 views and shares. However, the reality is that not every video that is uploaded on YouTube and subsequently, shared on a social media platform by SCFC gets viral traction.

When executed correctly, a viral video campaign is said to offer the marketer benefits such as extended campaign reach and an increase in earned publicity. Because viral marketing research is still in its early stages, there are few models that academics can draw upon to better undestand the sharing of content online.

This research proposes that social groups and emotions are a factor whilst other researchers indicate that it's the video quality or type of content amongst others. Since it is evident that researchers remain unclear as to what drives the spread of content the call for research on what makes online video content to go viral will be explored.

Keywords

Salford City Football Club, SCFC, YouTube, online video content, viral video campaign

Bank Soundness in G7 Countries and Australia

Charmele Ayadurai

Salford Business School
Email: c.ayadurai@edu.salford.ac.uk

Supervisor
Dr Rasol Eskandari – r.eskandari@salford.ac.uk

Abstract

The recent Global Financial Crisis (GFC) showcased that even banks in matured economies with advanced regulatory markets and systems can fail. The study compares the soundness of banks in Australia and Canada to its European, UK and US counterparts in understanding the similarities and differences amongst these banks. Australian and Canadian banks were renowned for their robust banking system. Thus, the study examines bank soundness in G7 countries and Australia using CAMELS (Capital, Asset, Management, Equity, Liquidity and Sensitivity) indicators. The study applies 60 bank level variables that cover 1,139 banks for the period 2003 to 2013.

The results suggest that large banks are more fragile as they take on large risk, and thus, are more prone to crisis. This narrative is true for banks in G7 countries with the exclusion of Canada. Large Australian and Canadian banks on the other hand, portrayed resilience during crisis; this ties in with the popular doctrine of "too big to fail". Surprisingly, the study found that most banks in G7 countries, with the exclusion of Canada, that failed were banks with healthy capital levels. All the banks complied with the minimum capital holdings as required by Basel Committee. Bank managers also made good management decisions to keep banks operating as a going concern throughout the crisis period. On top of that, banks also received austerity packages through government interventions from time to time to ensure banks remain solvent. Despite these efforts, many banks still failed during the Global financial crisis (2007-9). This calls for more robust policy formulation if banks are to continue to remain sound.

Keywords

Global Financial Crisis, GFC, G7, CAMELS, banks

Mass Customisation and Additive Manufacturing in Medical Design and Development

Jonathan Binder

University of Huddersfield
Email: jonnybinder@hotmail.co.uk

Supervisor
Not supplied

Abstract

Paxman Coolers is making a monumental impact to individuals and families worldwide with their innovations in scalp cooling. This innovation reduces hair loss during Chemotherapy, already used in over 32 countries worldwide and growing with FDA approval and 7 Patents. The rigorous development in scalp cooling is ensuring a constant growth in success rates/ efficiency of the device.

This KTP funded project has pioneered the implementation of Additive Manufacturing (3D printing and laser sintering) for the manufacture of the Scalp Cooling Cap using silicone. One of my roles in the Knowledge transfer partnership is to use Computer Aided Design and Design for Manufacture to engineer and design these tools for the 3D printing process. An integral factor for the cooling cap is the fit; the tight mimicking fit of the scalp is crucial to the success of preventing hair-loss. The research project uses 3D scan data which aims to implement Mass customisation to generate feasible and affordable scalp cooling caps at low volumes that adhere to the patients' heads perfectly to increase success rates. Coupled with 3D printing technologies the cap can use collected data to generate customised 3D caps of high complexity for individuals in sustainable, hygienic smart materials that comply with standards and property engineered requirements such as tear strength, heat and chemical resistance.

Keywords

Chemotherapy, hair loss, 3D printing, scalp cooling caps

Intelligent Diabetes Management for Better Management and Reduced Costs to Health Providers

Fahad Darwish

School of Computing, Science & Engineering
Email: f.darwish@edu.salford.ac.uk

Supervisor
Dr Mohamad (Mo) Saraee - m.saraee@salford.ac.uk

Abstract

Diabetes is a growing worldwide pandemic that, by the year 2030 is expected to claim three people every ten minutes. By the year 2035, 17% of the NHS annual budget is expected to be spent on diabetes treatment, a figure of £16.8 billion, costs from this disease's complications could be responsible for bankrupting the British National Health System.

It is of great social importance that these costs and complications be reduced as much as possible by preventing new cases and minimising existing cases. This goal will be accomplished through patient education and self-management.

A major component of self-management involves regular blood testing and detailed record keeping. Detailed comparative analysis, extensive diabetic and medical surveying were used to determine how to best create universally available diabetes management website that will help the medical community and diabetic community come together to reduce the harmful effects of this disease.

The web application that has been created successfully connect the doctor to patient whilst providing the patient with a single means of recording every important vital health factor and simultaneously permitting the doctor real-time monitoring and input.

Our approach aims to review the existing big data tools and technologies available and apply data mining techniques on the massive data. This research will also study refining computer system analysis and mining to predict treatment for diabetic patients.

Keywords

Diabetes, NHS, patient education, self-management

A Critical Exploration of the Perceptions and Uptake of Screening Mammography among Keralite Women Residing in the United Arab Emirates

Leena Rajan Kuri David

School of Health Sciences
Email: l.david@edu.salford.ac.uk

Supervisor
Dr Leslie Robinson - leslierob10@gmail.com
Dr Lucy Walton - L.A.Walton@salford.ac.uk

Abstract

Social, cultural and ecological factors can influence and determine whether a woman will undergo screening for breast cancer.

Literature proves that undergoing screening mammography, the X-ray examination of breasts before noticing any symptoms has great ability to detect breast cancer in its early stages for better treatment options and longer survival. However, studies show that Keralite women residing in Kerala are diagnosing breast cancer in its advanced stages and it is not a routine practice to undergo screening mammography among them. The principle emigration destination of Keralites is the United Arab Emirates (UAE) and the Keralites residing away from their native place are referred to as Non-resident Keralites (NRK). This is the first study aims to explore and identify the socio-ecological determinants for the uptake of screening mammography amongst NRK (Non-resident Keralites) women in the UAE.

This study adopts qualitative research using focus group interviews. The sample of the study comprises two populations of NRK women: 1) those that have undergone screening mammography, and 2) those that have not undergone screening mammography. The socio-ecological model of health promotion is utilised as a theoretical framework for data analysis. Preliminary analysis shows that each entity of the socio-ecological framework has great impact on NRK women's decision on whether to undergo screening mammography.

This research will help identify potential interventions that may address some of the barriers and further enhance the facilitating factors to improving the rate of screening mammography uptake amongst NRK women. Further, this research helps to make recommendations to the Kerala government and UAE breast cancer screening organisations to increase the rate of uptake of screening mammography among NRK women.

Keywords

Breast cancer, UAE, NRK, Non-resident Keralites, mammography

Speech-To-Screen: Could Spatial Audio Engineering Improve the Speech Intelligibility of Audio-Visual Content for Small-Screen Devices?

Philippa Jean Demonte

School of Computing, Science & Engineering
Email: p.demonte@edu.salford.ac.uk

Supervisor
Prof Trevor Cox - T.J.Cox@salford.ac.uk

Abstract

Small-screen devices, such as mobile phones and tablets, are increasingly being used to access audio-visual content. However, the amount of spoken dialogue in this content that is intelligible, i.e. which can be clearly heard and understood, may be affected by both the listening environment and the other sounds in the audio mix. Furthermore, using headphones with these devices causes internalization: the mind incorrectly perceives sounds as being generated from inside the head instead of from an external source.

Using developments in technology and audio formatting, how could the speech intelligibility of audio-visual content for small-screen devices be improved?

What if a stereo mix for headphones could be audio-engineered so that spoken dialogue is perceived as: i) being separate from the other sounds, and ii) to be emanating from the screen, i.e. externalized?

A listening experiment was conducted in a controlled environment to test exactly this. Participants were tasked with identifying target words in spoken sentences played within background noise via headphones. 16 different combinations of 3 variables were tested: spatially audio-engineered speech and noise locations (to be perceived as internalized/externalized), video-on versus audio-only, and two types of background noise. Monitoring of participants' head movements was incorporated into the real-time sound processing to enhance the externalization effect.

Speech intelligibility significantly improved when participants could see the speakers (video-on), and when the sound processing encouraged externalization of dialogue at the screen and internalization of other sounds.

Results suggest this new development in audio engineering could improve the small-screen viewing and listening experience.

Keywords

Speech intelligibility, audio engineering, externalization

A Fourth Way: Cultural Heritage as the Key to Unlocking Plave-Driven Innovation Economies

Clare Devaney

School of the Built Environment
Email: clare@claredevaney.com

Supervisor
Dr Claudia Trillo - c.trillo2@salford.ac.uk

Abstract

We live in a world of threes – top, middle and bottom; left, right and centre, scoring a hat-trick, The Three Little Pigs, The Three Musketeers, but we are fast-approaching 'Industry 4.0', the industrial age of innovation. Increasingly, there is a tension between new and emerging 4.0 thinking and currently dominant three-part economic, social and political theories. 'A Fourth Way' is a radical proposal for a new way of thinking about the economy which rejects the binary thinking of yes/no, in/out, us/them and the consensus of the third option – 'the middle-ground' - to instead embrace a fourth vision for what a successful global economy might look like in a 4.0 world. The proposal builds on emerging thinking around "ecosystem economics" which promotes the role of the individual in the world economy, and "mission-oriented innovation" which advocates for individuals joining together in collective missions to solve global challenges.

Grounded in the academic discipline of the built environment, but incorporating elements from economics, sociology, human geography and literary theory, 'A Fourth Way' explores and tests what we mean by key concepts such as 'innovation' and 'place', and looks at how these might function in 'Industry 4.0'. The principles behind 'A Fourth Way' have been tested in practice by working alongside citizens from Manchester in a series of action research experiments and surveys. Findings have been used to create a new system of economic measurement which rejects the current system's base unit of productivity and instead measures levels of connectivity.

Keywords

Industry 4.0, ecosystem economics, connectivity

Assessing the Applicability of Radiological Environmental Assessment Approaches/Models to the Sub Saharan Africa

Rutase Doroh

School of Environment & Life Sciences
Email: R.M.Doroh@edu.salford.ac.uk

Supervisor
Prof Mike Wood - m.d.wood@salford.ac.uk

Abstract

A number of models have been developed for demonstrating and ensuring that both humans and wildlife are protected from the effects of ionising radiation. For these models, parameters to quantify transfer of radionuclide to wildlife and or agricultural foodstuffs are required. Nonetheless, international transfer databases have been developed primarily based on data from Europe and North America.

In sub Saharan Africa (SSA), there have been many attempts at nuclear development and expansion programmes are underway. Therefore, potential radionuclide releases to the environment must be assessed. However, there are agricultural production systems, food products, soil types and wildlife species in SSA, for which there are few or no data.

A systematic literature review and targeted field sampling programme have been undertaken to establish a database of transfer parameters for sub Saharan Africa.

These data have been collated with the sub Saharan Africa Database (SSAD).This presentation will explain the development of the SSAD and compares the transfer parameters for this region with those from other world regions (using values reported by the IAEA). The appropriateness of using international transfer parameters for sub Saharan Africa will be discussed.

Keywords

Ionising radiation, sub Saharan Africa, SSAD

What are the Surveillance Issues Arising from the Deployment of Wearable Technology at Workplace

Kair Dudaev

Salford Business School
Email: k.dudaev@edu.salford.ac.uk

Supervisor
Dr David Kreps - d.g.kreps@salford.ac.uk

Abstract

Most organisations worldwide are starting to compete with each other in better management of their data by introducing wearable technology at the workplace. Large corporations and world governments are fully supporting and even enhancing the rapid advancement of wearable technology. In a modern technologically developing world, such a relatively new phenomenon as wearable technology has attracted a lot of attention and led to the appearance of various discussions and arguments in the field of critical research in information systems (CRIS). In this case, since the wearable device, such as Apple Watch, worn on a human body enables the collection and management of private data it is significant to find out the range of reasons behind the deployment of wearables at the workplace. The deployment of such technology leads not only to collection of an enormous amount of personal data but also enables the "owner" of that data to have full control and power over those from whom that data were gathered. Current research study seeks to address the issues in relation to the power of technology over employees, and the further empowerment of those who deploy such technology as wearable at the workplace. Through controlling human personal data collected by a device that is worn on a human body, the corporations may be able to gain full control over that body. Therefore, current research study aims to investigate the surveillance issues and power relations associated with the introduction of wearable technology in organisations.

Keywords

Surveillance, wearable technology, personal data, management

The Impact of Auditors' Professional Liability Capping on Listed Companies' Financial Statements Integrity, Audit Market and Audit Profession in the United Kingdom

Samuel Ebhodaghe

Salford Business School
Email: S.Ebhodaghe@edu.salford.ac.uk

Supervisor
Dr Mohammad Al Bahloul - m.albahloul@salford.ac.uk

Abstract

The UK government has rejected external auditors' professional liability capping strategy as recommended by European Union in 2008 based on concerns of poor audit quality. Therefore, the aim of this study is to investigate whether external auditors in the UK will relax their professional scepticism attitude towards financial statements integrity; whether capping can help to demonopolize the current audit market in the UK that is currently dominated by the big four audit firms; and whether audit profession can survive and grow in the face of colossal legal claims against external auditors in the UK through a qualitative empirical study.

The study will collect and analyse primary data based on survey of 3000 population and 30 semi-structured interviews among chartered accountants, top management, institutional and individual shareholders in the UK. It will use thematic, descriptive statistics and methodological triangulation as a means of data analysis.

This study will promote a non-monodirectional audit reform in the UK through policy makers. It will also uncover the existing knowledge gap regarding the impact of auditors' professional liability capping on listed companies' financial statements integrity, the audit market and audit profession in the UK within the ambit of some existing literature on the topic.

Keywords

Auditors' liability capping, audit market, audit quality

The Effectiveness of University Campuses to Enhance Student Experience

Mohammed Mahmoud Gabr

School of the Built Environment
Email: m.gabr@edu.salford.ac.uk

Supervisor
Prof Hisham Elkadi - h.elkadi@salford.ac.uk

Abstract

Universities are increasingly concerned with the sustainability measures of their campus master plans. Such emphasis should consider the physical measures along with current and anticipated students' experience, hence raise academic performance and overall university reputation. This study therefore argues that campus physical development planning is a powerful tool for shaping the academic life, enriching the social environment, and supporting student experience during their study.

In a wide-ranging survey of the UK, the study examines the effectiveness of a typical, compact, and city central university campus outdoor development in UK: University of Salford (UOS). After recent campus development, UOS and the city of Salford is undergoing huge change to enhance the quality of life, thus raising University standards and enriching student satisfaction/awareness. Urban/masterplan analysis have been conducted using data collected through the University documents and masterplan current and future visions, along with a visual study (behavioural observations/notes).

The results obtained by visual and urban studies and behavioural observations were cross-referenced with the findings obtained from the literature, University documents and campus masterplans to obtain a detailed explanation. The research pointed out and prioritized the main matches/mismatches between campus design (space characters) and associated outdoor activities/experience towards achieving a more sustainable, innovative pattern of life on campus.

Keywords

Universities, campus development, Salford, urban studies

Participatory Communication for Community Development: The Ghanaian Experience

Francis Gbadago

School of Arts & Media
Email: f.gbadago@edu.salford.ac.uk

Supervisor
Prof Seamus Simpson - s.simpson@salford.ac.uk

Abstract

This paper explores the nature of development communication in a range of Ghanaian projects in the education sector focusing on the nature of engagements during formulation, implementation and evaluation of the projects. In democratic regions, provision of access to relevant information for people engaged in all forms of communicative practice around policy initiatives is considered imperative in securing full efficient participation and engagement. Researchers in the field of communication for economic and social development – the subject of this research, hold the view that such communication is best conducted in a consultation and dialogue rather than the historically practiced free or straight communication. This will inspire the target population's active and direct involvement through dialogue, consultation and full participation, maximizing the chances of project success.

In the wake of increasing concerns about the efficacy of development projects in Ghana, some attention has focused on the kind of participatory communication that takes place around the formulation, implementation and evaluation of such projects – a subject of further research as addressed in this project.

Initial data reviewed suggest low participation of some stakeholders with little or no knowledge of the needs and preferences of the direct intended beneficiaries.

Methodologically, the research focuses on government authorities (funding actors) and community members – youths, traditional and opinion leaders. These respondents were strategically chosen using purposive sampling, allowing interviews and focus groups in data gathering.

Keywords

Ghana, development, communication, participation, policies, programmes, projects, stakeholders, beneficiaries

Literature and the Environment: A Study of Selected Niger Delta Poetry

Vashti Gbolagun Suwa

School of Arts & Media
Email: V.Suwagbolagun@edu.salford.ac.uk

Supervisor
Dr Judy Kendall - J.Kendall@salford.ac.uk

Abstract

The continual devaluing of the environment due to human activities has drawn both national and international debate the world over. This has led to repeated calls for the care and preservation of the environment. This call has given rise to the emergence of a literature, which is concerned with environmental preservation known as Niger Delta poetry. One of the characteristics that makes Niger Delta poetry unique is its continuous engagement with environmental aspects of writing. This study highlights environmental concerns in the poetry of the Niger Delta region of Nigeria. The oil companies operating in the area preoccupy the poetry of this region with the negative effect of oil exploration. The poets selected in this study reveal in their works the region's environmental degradation, and economic stagnation. Their poetry reveals how the land has continued to suffer, as the continuous drilling of oil has degraded the environment. These writers decry the physical and psychological effect of environmental degradation on both the environment and its inhabitants through their poetry. This research work, therefore, analyses the selected poems of Tanure Ojaide, Ibiwari Ikiriko, Nimmo Bassey and Obari Gomba as they take up the responsibility of a call for the preservation of their environment and people. Their writing is committed to the preservation of environmental and human values.

The need to heed the voice of the concerns these poets address is very vital for the sustenance of life in the region.

Keywords

Niger Delta poetry, Nigeria, environmental preservation, oil exploration

Fighting Cancer with Gold Nanobullets

Michael Greenwood

School of Environment & Life Sciences
Email: m.greenwood2@edu.salford.ac.uk

Supervisor
Dr Zeljka Krpetic - Z.Krpetic@salford.ac.uk

Abstract

Gold nanotechnology centres on the use of tiny amounts of gold in technology and medicine, to enable different applications such as heating homes with solar cells containing gold, cleaning water with gold technology, or taking gold medicines.

Gold nanoparticles (GNPs), many thousands of times smaller than the width of a human hair, possess very interesting properties which may be exploited in the fight against cancer. Because gold is a metal, some of its electrons are free to move around, and when hit by just the right wavelength of light these electrons can be made to oscillate all at the same frequency. This special intrinsic property is called surface plasmon resonance (SPR) and it could be used to turn gold nanoparticles into very precise cancer killers. GNP synthesis can be tailored to yield different particle shapes: spherical, rods, nanostars, nanoplates or nanocubes.

Our research focuses on control and study of the advanced physico-chemical properties of gold nanoparticles, designing and manufacturing multifunctional nanomedicine to be used as radiation enhancers, providing safer radiotherapy nanotools with built-in nanochemotherapeutic properties.

Why would we want GNPs inside our body? Nanoparticles are much smaller than the average human cell, and so can be easily absorbed by a cell by attaching medicines to the nanoparticle, which enable direct targeting of cancer. In order to realise the full potential of nanomaterials, it is important to fully understand how these particle properties interact with living systems, and study the bio-nano interface interactions to maximise their potential for future clinical trials.

Keywords

Gold nanoparticles, radiotherapy, cancer, nanomaterials

The Effects of Cytokines on Heart Cell Function; A Study to Determine Why the Heart Fails in Sepsis

Natasha Hadgraft

School of Environment & Life Sciences
Email: n.hadgraft@edu.salford.ac.uk

Supervisor
Dr David Greensmith - d.j.greensmith@salford.ac.uk

Abstract

Sepsis is a severe illness killing 44,000 people in the UK each year and occurs when an infection spreads throughout the body. Though the resulting wide-spread inflammation can damage multiple organs, many people die from heart failure. During sepsis, the immune system releases inflammatory messengers called cytokines to fight infection. These cytokines contribute to heart failure in sepsis, though it is not clear if this is because they affect heart cells. A healthy heart beats as a whole because the billions of heart cells that form it contract then relax in unison. This occurs due to a cyclical rise then fall of calcium, which is dependent on an internal store of calcium. Altering this store or the way calcium rises and falls can alter the heart cell and therefore heart function. As such, we investigated the effects of two common cytokines (TNF-α and IL-1β) on this calcium cycle. A dye was used which binds to calcium inside the heart cell. This dye gives of light when calcium levels increase, so by measuring this light, we can measure calcium. Only TNF-α reduced heart cell contraction, however both cytokines reduced calcium levels by decreasing internal calcium stores. Unexpectedly, IL-1β increased contraction so the mechanism causing this is currently being investigated. These findings can account for certain aspects of heart failure in sepsis. It is important to understand heart cell function in sepsis as this may reveal new ways to treat heart failure and save lives.

Keywords

Sepsis, calcium, heart failure, cytokines

Identifying the Behavioural Success Factors in Strategic Construction Alliances in the UK

Wael Hameed

School of the Built Environment
Email: w.hameed@edu.salford.ac.uk

Supervisor
Prof Carl Abbott - c.abbott@salford.ac.uk

Abstract

Authors claim that the strategic alliances in the global market in general and the UK markets in particular are important for yielding long-term survival. Several authors have emphasized the importance of the alliances for adding value through knowledge development, enhancing learning processes of firms aligned together. Over the past decades, many opportunities have been provided by cooperation of firms for knowledge sharing and developing skills. Eventually, strategic alliances have fundamentally become one of the most beneficial organisational forms for developing firms' work strategies. The aim of this paper is to identify behavioural factors which affect the success of strategic construction alliances in the UK. The methodology adopted to achieve the aim of this study is the mixed-method exploratory technique to collecting data from the UK construction industry.

Firstly, semi-structured interviews were conducted with project managers to identify the critical behavioural success factors leading construction alliances to success. Secondly, it is planned to conduct online questionnaires to collect data from employees, contractors and sub-contractors to confirm and validate these factors identified from the interviews. The main findings distinguished as fifteen factors through semi-structured interviews are: trust, commitment, knowledge sharing, communication, mutual dependency, challenging, training, non-coercive power, leadership, understanding, teamwork, constructive conflict, aligned partners' objectives, aligned partners' vision, and selecting the right partners. The contribution of this paper is to help researchers to step forward in considering behavioural success factors in different typologies of alliances. Awareness of the presence of these factors is another contribution that helps practitioners analyse more attentively available options for decision-making and their consequences.

Keywords

Construction alliances, leadership, strategy

Hearing Voices: Practice and Lessons in Conducting Focus Groups and Interviews

Vicki Harvey

Salford Business School
Email: v.m.harvey1@edu.salford.ac.uk

Supervisor
Chris Procter - c.t.procter@salford.ac.uk

Abstract
Employability remains a critical part of the public policy rationale of Higher Education (HE) today. The purpose of this study is to therefore answer the central question: What does employability mean to students within HE business and management education? Placing students at the centre of this study, interview methods have been applied to capture various dimensions of opinion. This has taken the form of focus groups and interviews with student volunteers from within Salford Business School. Given the advanced planning of the research that is undertaken prior to the qualitative data collection process, it is important to consider the reality versus the theory of this key element of the PhD project.
Defining the questions for the data collection may be the most important starting point however; success depends upon many practical considerations:

- Pilot testing and logistics planning – advocated as a cardinal rule of such undertakings
- Development for the novice moderator
- Recruitment of participants
- Developing the analytical framework

This experience so far has provided opportunities to learn lessons in terms of developing the focus group and interview schedules. Thereby ensuring the most important questions were given sufficient prominence and time within the overall process, whilst having precautions for maintaining and gathering a variety of experiences from participants.
A version of indicative thematic analysis is being developed to authenticate and justify the method whilst providing rigor to the study. This takes on board the phases or iterative processes that data, analysis and coding entails as the overall approach is not linear but circular in nature.

Keywords
Focus groups, interviews, Students, higher education system, analysis

Petroleum Production Enhancement Solution

Kabir Yaradua Hassan

School of Computing, Science & Engineering
Email: K.Y.A.Hassan@edu.salford.ac.uk

Supervisor
Dr Abubakar Abbas - A.J.Abbas@salford.ac.uk

Abstract

The scariest petroleum production associated problem today is scale deposit in production tubing. It remains the key obstacle for achieving both flow assurance and global energy security. With yet no universal, acceptable solution despite the effort invested in tackling it. Making the dreams of achieving effective, economic, fast and safe solution un-attainable. Limiting it treatment options to chemical, mechanical, rig work-over or even differing production. Although high-pressure water treatment is gaining wider acceptance by multinational nowadays. Nevertheless suffers technical economic, safety and environmental setback.

This novel approach target on proffering a universal and effective scale treatment, using high-pressure spray. The experiment concept utilise a chamber housing high pressure multiple nozzle and scale.

High pressure spray analysis in terms of droplet size, velocity, impact pressure. Furthermore, other spray parameters would be conducted in the pre-descaling trials. Then descaling trials to investigate the rate of suppression and extension of cavitation. Followed by removal of scale in the chamber by varying it air concentration. Finally, all experimental results will be validated with a computational fluid dynamic simulator.

The state of the art solution will enhance flow assurance. In addition to increasing production capacity and reducing cost of production.

Keywords

Petroleum production, scale deposit, flow assurance, high-pressure spray

Hydrolysed Polyacrylamide – Viscosity and Viscoelasticity for Enhanced Oil Recovery

Kabiru Jega Hassan

School of Computing, Science & Engineering
Email: K.J.Hassan@edu.salford.ac.uk

Supervisor
Dr Godpower C. Enyi - G.C.Enyi@salford.ac.uk
Prof Ghasem G. Nasr - g.g.nasr@salford.ac.uk

Abstract
When an oil well is drilled, oil gushes to the surface at high pressure. However, with time and continuous production, the flow and pressure decline. At this later stage, work is done on the well to sustain flow and pressure. Water, chemicals and sometimes mechanical devices are used to increase flow. This is termed secondary or tertiary recovery stage. Hydrolysed polyacrylamide is one of the chemicals injected for polymer flooding.
This research studied the viscosity and viscoelastic properties of hydrolysed polyacrylamide (HPAM). Various molecular size chains of HPAM solutions ranging from 6 to 24 million molecular weight (Daltons) were experimentally analysed.
The results obtained from the experiments showed the impact of molecular chain size and concentration on viscosity and viscoelastic properties of the polymer injection solutions. The longer the molecular chain of the polymer, the greater the viscosity and viscoelasticity of the polymer solution. Similarly, lower molecular chain polymers, indicated lower viscosity and viscoelastic properties.
The application of HPAM in polymer flooding is to increase sweep and oil displacement efficiency. A high viscosity and viscoelastic polymer would displace and produce more oil. However, a balance is desirable to ensure reservoir pores are not blocked during polymer flooding.

Keywords
Oil, HPAM, flow, polymer injection solutions

Investigating Autophagy in Frontotemporal Dementia

Richard Heale

School of Environment & Life Sciences
Email: r.heale@edu.salford.ac.uk

Supervisor
Dr Gemma Lace-Costigan - g.l.lace-costigan@salford.ac.uk

Abstract

Frontotemporal dementia is the second most common type of dementia in those under 65 years of age. The underlying diseases are characterised by the build-up of waste and cell death in the front and sides of the brain. This is associated with changes in personality, mood and a person's ability to use and understand language. Healthy cells normally clear out junk using one of several waste disposal pathways. These can be general waste disposal systems or more selective similar to household recycling programmes.

The current study has used post mortem human brain tissue to look at these waste disposal processes people with a genetic mutation associated with frontotemporal dementia. These were compared to people with Alzheimer's disease and those of a similar age but without any diseases affecting the brain.

Our findings found evidence that the general waste system was impaired, whilst the more selective system wasn't as heavily affected. To confirm and further investigate this, more samples will be studied and more insightful techniques will be used to look at more specific changes.

Keywords

Frontotemporal dementia, Alzheimer's disease, genetic mutations, cell death

What Do the Police Know About Autism? A Qualitative Study of the Experiences of PCSOs and Autism

Diana Hepworth

School of Health and Society
Email: d.hepworth@edu.salford.ac.uk

Supervisor
Dr Muzammil Quraishi - m.quraishi@salford.ac.uk

Abstract

Autistic people are seven times more likely to have contact with the police than those without autism. People with autism can often face disadvantages in the criminal justice system because of their disorder. This can lead to their human rights being violated and miscarriages of justice occurring. Autism Spectrum Disorder is thought to affect up to 1 in 45 people. They can have problems with:

- Speaking with, or understanding people
- Reading body language and facial expressions
- Making eye contact
- Anxiety or mental health issues

Their differences can be misunderstood and look like the person is being rude or unhelpful. Without understanding autism, the police may think the person seems guilty, and might react to situations in the wrong way. This could lead to the person being handcuffed or arrested, when they don't need to be. Although autism awareness is improving, there is no standard or mandatory training for police in England and Wales.

My research will review what training Police community support officers (PCSOs) receive about autism, and explore the experiences of PCSOs and frontline officers in their application of knowledge to situations. Interviews and observations will develop an in-depth understanding of how police officers are equipped to deal with autistic people. Suggestions for future improvements can then be made. This will help to make sure that autistic people are treated fairly and equally by the police, and protect their human rights.

Keywords

Autism Spectrum Disorder, criminal justice system, PCSOs, police

Improving Health and Safety Management in Ghana's Upstream Oil and Gas Operations

Francis Horbah

School of the Built Environment
Email: f.horbah@edu.salford.ac.uk

Supervisor
Dr Chaminda Pathirage – C.P.Pathirage@salford.ac.uk

Abstract

It has been reported that the oil and gas industry is a highly hazardous environment, with multiple technological, human and environmental challenges. The history of the oil and gas industry has been marred by major accidents resulting in multiple consequences to workers' lives, assets loss, environmental pollutions and disruption of security of energy supply. Ghana's oil and gas industry is not an exception to these accidents with the current occurrence of explosions of gases leading to the loss of life, assets losses, environmental pollution and other incidents. It is indicated that lack of operational discipline or management deficiencies are attributed to these incidents. However, research into improving safety management of the industry has not received adequate attention by scholars and practitioners in the country. This study seeks to develop a model to improve safety management in Ghana's oil and gas industry. The proposed model will provide a useful guide to the management of safety in other industries in the country.

Keywords

Oil, gas, accidents, Ghana, safety management

Prediction of Dissolve Oxygen Using Artificial Neural Network Model

Umar Iliyasu

School of Computing, Science & Engineering
Email: u.iliyasu@edu.salford.ac.uk

Supervisor
Prof Miklas Scholz – M.scholz@salford.ac.uk

Abstract

Dissolve oxygen is one of the important parameters used when assessing water quality to determine the purity level of water. Dissolve oxygen comprises free oxygen (O2) molecules present in water and is essential for the survival of aquatic live and aerobic micro-organisms decomposing organic matter. Over two years of experimental data were used from vertical-flow constructed wetland systems for the treatment of domestic wastewater. The combinations of independent input parameters used for the development of the prediction model were prepared based on their high correlation with dissolved oxygen, these include pH, turbidity, suspended solids, electrical conductivity and temperature, while dissolve oxygen served as a dependent output parameter to be predicted. An artificial neural network was used for a model to predict dissolved oxygen. The input layer, hidden layer and output layer are introduced, comprising the weight adjustment process. About 70% of the data were used for training the model, while the remaining 30% served for testing the model. The root means square error, correlation coefficient, mean average percentage error and root relative squared error w applied as model evaluation criteria to assess the model prediction performance. The results showed that the artificial intelligence model had a high prediction accuracy.

Keywords

Dissolve oxygen, water purity, wetland systems, domestic wastewater

Calculate Risk before Investment

Robina Iqbal

Salford Business School
Email: R.Iqbal@edu.salford.ac.uk

Supervisor
Dr Ghulam Sorwar – g.sorwar@salford.ac.uk

Abstract

In recent years, financial risk management has become a popular discipline among academic researchers, industry analysts and regulators. There are different risk management approaches available, as different firms have different risk goals. Some companies use cash-flow volatility, while others use the volatility in the firm's value as risk management object. The size of the company is an important factor, as large companies managed risk more effectively than smaller companies.

From its very beginnings in the 1980's Value-at-Risk (VaR) as a measure of market risk has received widespread acceptance both amongst industry and regulators because of easy calculation and interpretation.

In its most basic form, VaR provides the worst possible loss at a given confidence level over a specific period. The main drawback of VaR is that there is no one accepted way of calculating it. It is possible that the use of different models will lead to different VaRs and that this could be very costly to financial institutions.

If VaR is overestimated, then the institution is tying up capital which it could use elsewhere for a higher return; or if it under estimates, then the firm is severely exposed to market downturns as it has not set aside the correct amount of capital.

As part of this debate, the expected shortfall (ES) as a new risk measure is now given more prominence under new banking regulations. In this paper, we analyse how to measure risk through expected shortfall before investment for words top stock indexes.

Keywords

Value-at-Risk, banking, risk management, expected shortfall

Flood Governance; Empowering Communities to take Ownership in Flood Resilience

Candace James

School of Environment & Life Sciences
Email: c.james3@edu.salford.ac.uk

Supervisor
Dr Mike Hardman – m.hardman@salford.ac.uk

Abstract
The project will investigate UK flooding events in urban areas through adopting an ethnographic approach to explore people impacted by such events. Key actors on the ground will be interviewed to inform case studies using a mixed methods approach. Connecting blue/green spaces and possibly floodplain meadows, the research will engage with communities as part of a feasibility study into flood intervention by participants.
Data sites will include but not be limited to, urban, peri-urban, rurban, and 'meanwhile' land where flooding occurs. Floodplain meadows which are situated near to existing housing and/or planned will be part of the project to ascertain their usefulness in a community setting as green infrastructure to prevent flooding and what affect, if any, they have in communities to help them intervene/mitigate flooding.
Using a drone and augmented reality to map environmental services and blue infrastructure/green infrastructure (BIGI), the project will map flooding prone areas as a community engagement tool and for data analysis purposes. From this social network analysis or network analysis will ideally inform an all-channel network in which relevant nodes are identified. This could include revealing connectivity and how vulnerable or resilient under pre-post flooding a community is. The goal would be to see how the Actor Network Theory can reveal agency of the human and non-human participants and how the networks could be optimised to improve green infrastructure.

Keywords
Flooding, Actor Network Theory, green infrastructure

Validation of Shellfish Isolates for Development as a Novel Anti-Tumour Therapy for Children: Marine Complex-Carbohydrate Action on White Blood Cells

Chloe Francesca Jones

School of Environment & Life Sciences
Email: c.f.jones1@edu.salford.ac.uk

Supervisor
Dr Lucy Smyth – L.smyth@salford.ac.uk

Abstract

Treatment for childhood blood-cancer (leukaemia) is effective in 8 of 10 cases, but has serious side effects on survivors: a new approach is needed for the 2 of 10 progressing to fatal disease. Kidscan charity research has found new substances (complex-carbohydrates) in shellfish (cockles and whelks) which are toxic to cancer cells presenting an intriguing new source of drugs for potential use in the clinic.

However, cancer drugs need to act specifically on fast growing cancer cells so that they do not target the body's normal immune system (specificity). To date the shellfish compounds have not been tested for their specificity or how they work.

This study aims to evaluate effects of cockle and whelk carbohydrates on cancer cells compared to healthy immune cells. Cockle and Whelk complex-carbohydrates were extracted in a series of steps (mashing, filtering and freeze-drying) and diluted in solution suitable for growing human cells.

Both cancer and healthy human white blood cells were treated with doses of shellfish compounds and experiments performed to measure consequent cell growth rates (proliferation) and death (apoptosis). As an additional control measure, healthy cells had their proliferation enhanced (activation) to simulate an infection e.g. cold or flu. We saw cancer cell growth slow after treatments while healthy immune cell (+/-activation) growth remained mostly unchanged; indicating our new drugs are specific to cancer.

Further experiments are planned to characterise how the drugs work and which families of cells are most sensitive to them; to further endorse their future use in the clinic.

Keywords

Leukaemia, shellfish compounds, cancer, immunity

Developing a Strategy for the Implementation of Sustainable Construction Practices in Libya

Aussama Khalil

School of the Built Environment
Email: a.k.khalil@edu.salford.ac.uk

Supervisor
Dr Udayangani Kulatunga – udayangani2002@yahoo.com

Abstract

In the 21st century, sustainability has become an urgent concern for the construction industry worldwide. It has been seen as one of the most significant challenges at the present time. Nowadays, the theory of sustainability is considered as a central part of strategy changes in most parts of the world because of the likelihood of negative effects of particular practices on the environment and society. Whilst sustainability is receiving significant attention in construction companies in developed countries, this seems to be less true for the construction industry in developing countries.

The study was carried out using a survey strategy to raise better understanding of the present status. Additionally, interviews were conducted in order to have both depth and breadth in the findings. A number of construction companies in Libya were selected for study to ensure the different backgrounds and opinions were included.

The research was conducted in two phases; first, a questionnaire survey was carried out to explore wide understandings of the existing practices and the desire of the participating companies to apply sustainable aspects in their practices.

The outcomes of the research explained the adoption of sustainable construction in Libya, and the data showed that the awareness of sustainability in construction was weak in the practice of several companies. Weakness in awareness of sustainability was found to have been caused by low levels of understanding on the part of principal actors in the entire construction industry, such as the clients, regulatory and construction organisations. The behaviour of the stakeholders is essentially linked to their values, the nature of the construction industry and their sense of sustainability principles.

Keywords

Construction, Libya, sustainability, environment

Widening Participation or Deepening Polarization? WhatsApp as an Expressive and Connective Digital Platform towards a Participatory Governance Paradigm

Amos Kibet

School of Arts & Media
Email: kibetams@gmail.com

Supervisor
Dr Stephen Ward – S.J.Ward@salford.ac.uk

Abstract

Kenya has the highest internet penetration (89.1%) and internet speed (13.7 mbps) in Africa. This internet phenomenon in Kenya, coupled with the popularity and ubiquity of smart phones have positioned Social Networking Platform (SNSs) platforms in a strategic role in the country's governance architecture. More than 10 million Kenyans are now on WhatsApp. WhatsApp as a platform is impacting the nature of polarisation in Kenya's fragile context.

My study posits that platforms like WhatsApp are crucial vehicles of participatory governance and more specifically in devolved systems of government achieved in Kenya. First, Platforms like WhatsApp can transform how individual's express governance decisions, policy opinions and collective petitions through group formations. Secondly, WhatsApp has translated loose, amorphous groupings hence creating stronger connectivity between users. This connectivity definitely influences the nature of polarisation around resource governance. Thirdly, WhatsApp has restructured inter-personal and group connectivity therefore revamping the nature, level and structure of policy discussion within various multi-level governance structures.

My study sought to establish empirical evidence on how discussions in WhatsApp groups have influenced participation interests, knowledge and efficacy towards resource governance in four sampled Kenyan counties. Further, it sought to understand how WhatsApp has influenced polarisation around resource governance in both fragile and non-fragile contexts.

This study through empirical findings seeks to contribute to knowledge regarding how citizens in developing countries can tap into networking applications and smartphone potentials towards good governance. Secondly, it will create a link between discussions in SNS platforms and polarisation around resource governance issues.

Keywords

Kenya, Whatsapp, Social Networking Platforms, governance

Construction Industry Leader's Perceptions of Mentorship as a Vehicle for Knowledge Exchange

Ellyn Lester

School of the Built Environment
Email: E.Lester@edu.salford.ac.uk

Supervisor
Prof Will Swan – W.C.Swan@salford.ac.uk

Abstract

A 2017 Institute of Electrical and Electronics Engineers (IEEE) survey noted that 44% of engineers learn from colleague/peer-to-peer interaction while less than 50% of companies have methods for sharing knowledge -- such as mentoring. As IEEE noted, this is critically important due to the aging workforce, shortages in skilled labor, turnover in staff, and demographic shifts that together contribute to a 'war for talent.'

Since knowledge exchange from professional to professional is a key constituent of competitive advantage and organizational resilience, leaders in the construction industry seek to identify, define, collect, and distribute knowledge. Whether their attempts are effective is difficult to ascertain.

Mentorship, though long recognized as an effective process for knowledge exchange, has not been an area of focused research in the construction industry.

Therefore, this research will critically investigate and compare the reports of New York City-based leaders in the construction industry to determine whether their perceptions, definitions and mentorship processes are designed to contribute to knowledge exchange within their organizations as well as their professions.

Consisting of a pilot study and semi-structured interviews, this research will result in an understanding of the status of mentorship in a world center of the construction industry, specifically as a vehicle for knowledge exchange.

Keywords

IEEE, mentorship, construction, New York City, knowledge exchange

Risk Assessment of Construction Projects in Libya

Naser Maauf

School of the Built Environment
Email: n.a.a.maauf@edu.saford.ac.uk

Supervisor
Dr Rod Gameson – r.gameson@salford.ac.uk

Abstract

In today's world, project risk management has always been a complicated topic, especially in the construction industry; thus managing project risks is required as compulsory for any construction project to be successful.

This study presents an analysis of Risk Assessments of Construction Projects in Libya and the significant impacts of its application on the success of a specific project's delivery. It identifies different types of project risk management processes and frameworks used by construction projects. To examine how risk and risk management process is perceived in construction projects, a case study of Libyan construction projects is chosen, and data collection methods of questionnaire survey are applied. The primary purpose of this study is to explore, describe and analyse the perceived risk management practice in Libyan construction project. Managing risks in the Libyan construction industry has been recognised as an essential project management process to achieve the project objectives regarding time, cost, and quality. The study will examine and evaluate the risk management process in Libya and fundamentally analyse the empirical findings. Finally, the study generalises, develops the project risk assessment and management from Libyan construction projects, and suggests project managers make better decisions under unsafe conditions.

Keywords

Risk management, Libya, construction industry

Design Implications of Urban Public Spaces for Female Physical Activity in Saudi Arabia

Ahmad Maghrabi

School of the Built Environment
Email: a.a.a.maghrabi@edu.saford.ac.uk

Supervisor
Dr Athena Moustaka – a.moustaka@salford.ac.uk

Abstract

With the rapid development of Jeddah city, combined with the increase of the population along with the integration of various social cultures, several factors have changed the social structure of the population. The need for open public spaces has become a basic requirement with an obvious change in the purpose of visiting these places.

In previous studies, the purpose of visiting open public spaces in the urban context of the society was based on recreation and well-being. In recent years, new spaces have been designed for physical activities and particularly, for walking with the ignorance of women's needs in Saudi Arabia.

The 2030 vision of Saudi Arabia aims to develop open spaces and raise the level of public health in the cities of the Kingdom, whilst taking into consideration the customs and traditions together with adequate adherence to the Islamic rules.

Women in Saudi Arabia confront several obstacles and avoid exercising in urban public open spaces for social reasons that are referred to the Saudi society.

This research aims to identify women's demands to exercise in public open spaces as well as to develop design recommendations for urban designers and landscape architects to improve women physical activity in urban public open spaces.

The methodology of this study is adapting a case study research strategy, qualitative exploratory research design as a methodological choice to provide a complex contextual description of how people use urban public spaces and the experience associated with them. The research strategy is developed through an investigation of spaces, integration of form and cultural practice. The data has been gathered from 24 female users and 5 designers / professionals, through semi- structured interviews and observations in open spaces. Thematic analysis is used to analyse the interviews. The results of this research provide some factors that can help to improve and develop the existing open spaces to meet women's needs of practicing physical activities in urban public open spaces.

Keywords

Saudi Arabia, Jeddah, public spaces, Islam, women

Exploring the Barriers to Secure Collaboration Within Construction Projects

Mohammed Tahir Mamun

School of the Built Environment
Email: M.T.Mamun@edu.saford.ac.uk

Supervisor
Prof Terrence Fernando – t.fernando@salford.ac.uk

Abstract

The increasingly digital nature of construction projects presents growing cyber – security concerns over the potential for malicious parties to exploit sensitive construction project information in order to cause damage to construction assets, and in cases of high - profile construction projects, cause harm to the environment and public. However, construction - specific cyber – risks are not yet well understood and further exploration is needed to understand their nature and thereby identify appropriate mitigation measures. Another aspect of the challenge is enabling secure, yet collaborative workflows where collaboration amongst project stakeholders is crucial to project efficiency. However, conflicts arising between collaborative and security - minded approaches within industrial practice represents barriers to secure collaboration. A core difficulty is balancing the amount of information provided to project stakeholders with project security constraints. Providing too little information to project stakeholders as a result of rigid security constraints may impede work efficiency. Similarly, providing too much information due to lax security approaches presents high levels of security - risk. The study will therefore aim to explore this and other barriers to secure collaboration along with the cyber – risks affecting the construction sector. Analysis of barriers will be used within this study to discuss how improved methods could be applied within construction projects to enable the benefits of both security and collaboration in tandem.

Keywords

Construction projects, cyber-security, risk, environment

The Resilience of the Poor: Why Borrow Rather Than Save?

Gisela Mann

School of Arts & Media
Email: g.mann4@edu.saford.ac.uk

Supervisor
Prof Karl Dayson – K.T.Dayson@salford.ac.uk

Abstract

5.1 million employees in the UK are low-paid, not earning enough to provide a basic standard of living. This affects people's mental and physical health, their relationships and makes them dependent on benefits. Children living in poverty may be bullied and stigmatised: they may receive less education and achieve fewer qualifications. Because of a lack of money, people borrow to provide their families with what they need. But this is expensive and they pay interest rates of over 400% on short term loans because they are shut-out from cheaper lending.

I wanted to find out why they borrow at such high rates if their income is so low instead of saving or doing without. My research has discovered that people believe that providing their children with certain gifts at Christmas such as branded trainers will stop their children being bullied. They were often bullied at school and this affected their own education. They are trying to stop the same happening to their children. But they don't have the money to buy things outright because they cannot save.

Saving in the bank makes it too easy to withdraw the money, and if they do try to save, there is always something that will eat up the money such as a school trip, or new school shoes, or succumbing to a take-away like everybody else. Borrowing from a high cost lender is a solution to achieve their financial goals which they feel is safer and more logical, than trying to save.

Keywords

Poverty, health, finance, high cost loans, standard of living

Finding a Link Between Physical Behaviour and Pain in People with Fibromyalgia

Kabir Isah Mayana

School of Health Sciences
Email: k.mayana@edu.saford.ac.uk

Supervisor
Dr Yeliz Prior - y.prior@salford.ac.uk

Abstract

Fibromyalgia is characterized by widespread chronic bodily pain and severe fatigue and highly associated with other common symptoms such as cognitive problems, sleep problems, anxiety and depression (ref). This condition affects around 5% of the UK population and its prevalence changes between 2-5% around the world (ref). Formerly regarded as a "mystery" by the medical community due to the unknown cause and poor response to treatment. Diagnosis and treatment still remain a challenge for both patients and healthcare practitioners. Patients are often referred across clinical specialties for management of symptoms, adding to the burden and impact on quality of life.

Among various treatment options, none-pharmacological treatments such as physical exercise were found to be more effective for managing pain and other symptoms according to the EULAR recommendations for (2016). Nevertheless, people with fibromyalgia tend to have low exercise tolerance, largely due to existing fatigue or a fear of aggravating pain. There is little or no evidence of how physical behaviour (sedentary lifestyle, moderate physical activity, vigorous physical activity, and sleep) is associated with pain in people with fibromyalgia. Finding the link between physical behaviour and pain can improve understanding of the type, intensity, and nature of exercise in people with fibromyalgia.

Therefore, my Ph.D. is aimed at identifying links between pain and physical behavior e.g. physical activity, inactivity/ sedentary behaviour, sleep and fatigue to explore the mechanisms which drive pain perception in people with Fibromyalgia.

Keywords

Fibromyalgia, pain, physical behavior, fatigue

Adaptation and Mutual Exploitation in Collaborative Practice

Manoli Moriaty

School of Arts & Media
Email: e.moraitis@edu.saford.ac.uk

Supervisor
Dr Joanne Scott - j.e.scott@salford.ac.uk

Abstract
Interdisciplinary collaboration is an approach employed by creative practitioners that has resulted in fruitful outcomes. While terms 'interdisciplinary' and 'collaborative' are currently modish by funding bodies and academic institutions as a loose allegory for togetherness, little context is provided in regards to the specific functions and expectations of group work between distinct subject. Artists and researchers respond to these prompts by forming alliances, who while concentrating on producing tangible outcomes, conduct limited reflection of the process. As a result, few solutions emerge to tackle some of the challenges of collaborative practice in areas of authorship, hierarchy in creative control, and division of labour.
Drawing insight from my sound art practice and collaborations with artists expressing through physical movement, I posit a set of precepts and strategies towards addressing these issues through a developed a framework for interdisciplinary collaboration informed from biological processes, particularly those concerning the observed co-evolution between species engaged in symbiotic relationships. Having interpreted the different types of symbiosis – mutualism, commensalism, and parasitism – into distinct modes of collaborative environments, this paper focuses on the aspect of conflict during mutually beneficial interactions. Deposing the sentimental connotations of harmony and altruism that are attributed to symbiosis by lexicographers, I acknowledge the antagonistic nature of biological interactions, and instead of proposing the often futile task of pacifying conflicting views, I celebrate diversity, and embrace a model of mutual exploitation, which, as demonstrated by biological associations, bares beneficial enduring results for all involved individuals.

Keywords
Collaborative practice, authorship, creative control, symbiotic relationships

Occurrence of a Commercially Important Freshwater Prawn *Macrobrachium lamarrei*, in the Ponds of the Rural Area of Bolpur-Sriniketan, India

Chayan Munshi

School of Environment & Life Sciences
Email: c.munshi@edu.saford.ac.uk

Supervisor
Dr Chiara Benvenuto - C.Benvenuto@salford.ac.uk
Dr Debapriya Mondal - D.Mondal@salford.ac.uk

Abstract

Macrobrachium lamarrei is a common freshwater decapod abundant in different water bodies, such as rivers, ponds, and lakes in India.

These prawns are easy to collect and small-scale fishermen and even farmers catch them for family consumption or small profit. They can be found in all local markets in West Bengal and are appreciated as food item, which makes them commercially important at the local scale. Despite their potential economic importance, there is no current available data on trade and consumption throughout West Bengal. We conducted a survey-based study concentrating on five villages in the Bolpur-Sriniketan block, Birbhum district in West Bengal, India to quantify the occurrence of this species in the ponds (total 109) and the rate of consumption in this area. We found *M. lamarrei* in all surveyed ponds. Information from the local fishermen indicated a good amount of prawn catches in every village (10-12 kg/month), distributed among the local people or sold outside the village. Bolpur-Sriniketan is a rural area close to the town of Bolpur, where the local fish market is an important platform for local fishermen to sell their catch. Bolpur fish market gets regular supply of this species with a high selling rate (approximately GBP 1.00/kg). Fishermen find it a more profitable target than fish to sell because of its effortless culture system and easy catching protocol. Occurrence of *M. lamarrei* in natural condition along with its demand as a food indicated it as a potential species for cost effective and sustainable aquaculture.

Keywords

Macrobrachium lamarrei, West Bengal, sustainable aquaculture, consumption

Community, Migration and Belonging in Longsight Manchester

Dillon Newton

School of Health and Society
Email: d.newton3@edu.salford.ac.uk

Supervisor
Dr Anya Ahmed - a.ahmed@salford.ac.uk

Abstract

The presentation will overview work-in-progress doctorate research relating to a qualitative study of the inner-city ward of Longsight. At the intersection of ethnic studies, social policy and housing studies, Longsight was identified as an appropriate study setting for exploring how a housing market based predominantly on private-renting shapes social relations in this ethnically diverse community.

It begins with a summary of literature that informed the fieldwork highlighting the extent to which authors claim an insider/outsider dichotomy structures the social life of communities. By introducing the study setting, showing its nature as an 'outsider' community comprising of new migrants and ethnic minorities, I will then summarise how the research is exploring a new perspective on the insider/outsider dichotomy based on migration history and citizenship.

Keywords

Longsight, community, citizenship, housing, migration history, ethnic minorities

Exploration of Lived Experience of Young Adults (18 - 30), Diagnosed with a Mental Illness and Being Treated at a Nigerian Psychiatric Hospital Regarding their Mental Health Problems

Aaron Beryl Nwedu

School of Health and Society
Email: a.b.nwedu@edu.salford.ac.uk

Supervisor
Prof Susan McAndrew - s.mcAndrew@salford.ac.uk

Abstract

Despite the negative impact mental illnesses can have on young adults, their families and society per se, commensurate attention has not been paid to their mental health and wellbeing, with the mental health system in Nigeria being described as 'inept' in meeting or addressing the needs of young people with mental health problems. Mental health care is based on narrow biological and/or medical ideation, with very little attention being given to other factors that could provide better insight regarding mental health problems and their subsequent treatment. Understanding what it is like for young adults to live with mental illness would generate a wealth of knowledge that will help the policy makers and care providers to design better ways of meeting patients' needs holistically.

This study explores the lived experiences of Nigerian young adults' regarding their mental health problems and ascertains what factors they feel might influence their mental wellbeing. This phenomenological study used 1:1 semi-structured interviews with a purposive sample of 16 young adults (18 – 30years) who were receiving treatment either as in-patient or out-patient at a Federal Neuro-Psychiatric Hospital, Enugu, Nigeria. Data was analysed using thematic analysis.

The findings were grouped 5 themes: The meaning of being mentally ill for the young adults, Hopelessness, Fear of the unknown, Violence and vulnerability, and Relevance of spirituality and religious faith in coping with mental illness.

Based on the study findings, these young adults are under duress from stigma in addition to their mental health problems and while spirituality and religion faith were noted as a source of hope it needs to be incorporated into the everyday practices of health professionals if their mental health needs are to be appropriately addressed.

Keywords

Lived experience, mental illness, mental health problems, phenomenology, service users, young adults

Harnessing the Real Estate Market for Equitable Affordable Housing Provision through Land Value Capture

Bernard Nzau

School of the Built Environment
Email: B.Nzau@edu.salford.ac.uk

Supervisor
Dr Claudia Trillo - C.Trillo2@salford.ac.uk

Abstract
Affordable housing remains a problem for both developed and developing countries. The Government of Kenya recently unveiled affordable housing as one its big agendas. Housing provision approaches supported by the current planning and housing policies which have been used for many years are unlikely to bring much change in the provision of affordable housing given the financial constraints faced by the Government. This leads to the question whether alternative innovative and effective approaches for providing affordable housing exists. One such approach is equitable planning and housing tools such as inclusionary housing (IH) and Land Value Capture (LVC) practised in some US cities.
Faced with high land and housing prices and declining federal subsidies, these cities have sought new policy tools to provide affordable housing.
IH and LVC are applauded as great tools for affordable equitable housing provision and there is potential for Kenya to benefit from them. It is possible they can provide theoretical and practical support for exploring new financing mode to solve urban housing problems. LVC as a tool can enable the Government to capture the market to support affordable inclusive housing (IH) provision. To understand how these tools can be implemented in the country, this research will review Literature on IH and LVC and explore in case studies how they are being applied for affordable housing provision in the cities identified. Their nature, outcome, output and impacts will help in evaluating their exportability and applicability in solving the housing problem in the city of Nairobi, Kenya.

Keywords
Kenya, affordable housing, Land Value Capture, inclusionary housing

Active and Collaborative Framework to Assist in the Utilisation of Agricultural Waste as Building Material in Nigeria

Abolade Odewole

School of the Built Environment
Email: a.o.odewole@edu.salford.ac.uk

Supervisor
Prof Carl Abbott - C.Abbott@salford.ac.uk

Abstract
The high cost of construction material in Nigeria provides a barrier to development. Further, a high proportion of this material is imported. At the same time there is a good potential to convert indigenous agricultural waste materials as construction material to provide a cheaper, more sustainable and affordable materials. Currently this waste is not utilised. The research therefore analyses Nigeria's overall innovation system and her construction and agricultural sectors to develop a framework to assist in the improved utilisation of agricultural waste as construction material.
The research adopts mixed methods approach using interpretive and constructive stances as the main basis of the research. It adopts a case study methodology that utilises qualitative and quantitative analysis of the data. Data is obtained through a combination of literature reviews, semi-structured interviews and questionnaires that are then analysed in the findings.
This has enabled the development of a framework to assist in the utilisation of agricultural waste for building. The purpose of this framework is to provide a structure that would better integrate the stakeholders that are involved in the implementation of innovation management approach in converting agricultural wastes to building construction material. Further, the framework implementation will help in reducing high cost of building material, improved housing and sustainable development.

Keywords
Collaborative, agricultural waste, construction material, innovation, framework, sustainable development

The Nigeria Housing Market and the Macroeconomy

Ayodeji Owoeye

Salford Business School
Email: a.b.owoeye@edu.salford.ac.uk

Supervisor
Dr Tony Syme - r.a.syme@salford.ac.uk

Abstract

This paper critically investigated the Nigeria Housing market and the macro economy. It has been established that there is a strong relationship exist between the development of the housing market and the macro economy. The ability of households to demand for affordable housing is directly related to the performance of the economy. This paper considers the performance of the macro economy by critically examining the macroeconomic objectives such the growth in gross domestic product (GDP), unemployment rate, Inflation rate, balance of payment position with the development of the Nigeria Housing Market.

Currently, Nigeria needs about 20 million housing units to provide shelter for its population of more than 200 million citizens to meet the gap in housing deficit and based on World Bank forecast that by 2050, Nigeria population will be 10 per cent of the World's population. Such an economy needs a vibrant economy to provide sustainable and affordable housing for its citizens.

This large housing deficit is partly due to under development in the mortgage finance market. The situation is a significant concern because a considerable number of households are living in inadequate shelter or are practically homeless. Consequently, substandard properties are constructed and slums are prevalent. This endangers lives and properties through outcomes such as building collapses and high crime rates in such places and this important sector has been under developed over the years.

The paper will critical investigate the various constraints from the macroeconomic perspective affecting households from accessing their desired housing demands. In addition to this, prevalent challenges in the financial market will be discussed and the impact on the macro economy will be examined. In conclusion, the study will proffer solution to the current housing crisis in the Nigerian Economy.

Keywords

Nigeria, affordable housing, mortgage finance market, housing crisis

A New Prosthetic Ankle to Improve Amputees' Quality of Life

Anna Pace

School of Computing, Science & Engineering
Email: A.pace1@edu.salford.ac.uk

Supervisor
Prof David Howard - D.Howard@salford.ac.uk

Abstract

Many people live with a disability after having a leg amputated. Therefore, they wear a prosthesis: an artificial limb to replace their missing leg and allow them to walk. Amputees using available prosthetic feet tend to tire quickly – they consume a lot of energy when walking – and walk slower. This strongly affects their life: many amputees, indeed, decide not to use their prosthesis or to use a wheelchair as walking is too exhausting.

The main reason for the poor performances of available prostheses is that they fail to adequately mimic the behaviour of a sound ankle joint. A healthy ankle stores and returns energy with every step by the stretching of important tendons, such as the Achilles. Also the muscles around the ankle help the walker adjust to different terrains and slopes. Most prostheses cannot perform these functions well and only provide basic walking help.

I am currently designing a new prosthetic ankle that can truly transform the lives of many amputees. The main aim of this new device is to better replicate the characteristics of a sound ankle. This will be achieved through an innovative mechanical system based on hydraulics. The new device will store and return energy during gait in a natural manner. This will make walking less tiring for people with an amputation, increasing significantly their quality of life. Initial results of the mathematical model describing the new device are promising and prototyping will hopefully be discussed with an English prosthetics company.

Keywords

Amputees, disability, prosthesis, hydraulics, ankle joint

The Use of Virtual Reality to Explore Tourist's Emotional Connection to Rural Places

Christos Pantelidis

Manchester Metropolitan University
Email: christos.pantelidis@stu.mmu.ac.uk

Supervisor
Dr Timothy Jung - t.jung@mmu.ac.uk

Abstract
Every one of us has been a tourist and travelled to different places. Recent technological developments such as in virtual reality (VR) let people experience VR with Head Mounted Displays excluding the physical environment from the user and dive into a different world. Thus, it allows people to travel to virtual places which can be either artificially generated such as in computer games or it can be a representation of a real place recorded with a 360-degree camera. Therefore VR in tourism has gained a lot of interest in the last years. Moreover, the experience gained in those touristic environments might increase people's emotional attachment to those places. This emotional bond between people and places is best described by the place attachment theory. However, this theory does not consider virtual places yet. Therefore, the aim of this study is to examine if VR can increase this emotional bond between tourists and a place which in this case is the Lake District National Park. The main objective of this study is to explore what aspects are important for people when travelling and using VR at the tourist destination from the perspective of place attachment theory since it is unknown. This is important to figure out how VR can help to increase people's feelings towards a place. Since more technology is becoming a part of our daily life it is important to understand how these technologies can be used to provide positive experiences for people.

Keywords
Lake District National Park, virtual reality, Head Mounted Displays, tourism

Modelling of Auditory Attention

Zuzanna Podwinska

School of Computing, Science & Engineering
Email: z.podwinska@edu.salford.ac.uk

Supervisor
Dr Bruno Fazenda - B.M.Fazenda@salford.ac.uk
Prof Bill Davies - w.davies@salford.ac.uk

Abstract

Attention helps the brain select relevant information from the vast amount of input arriving from our senses every second. People are able to focus on the sounds and images that are important to them at a particular moment. Our research focuses on auditory attention, specifically what characteristics make a sound salient or interesting to the listener. We are particularly interested in location - is sound coming from any particular direction more salient than sounds coming from other directions? And if so, what is the most attention-grabbing location?

We have designed and conducted two listening experiments to answer these questions. The answers will not only help us understand how the brain processes information, but will also be used to create a model of auditory attention. Such a model is a computer program that is able to listen to the environment and point to the particular sounds in it that are interesting.

A model of auditory attention can be used to guide the design of alarm sounds, soundscapes and sonic interfaces. It can also serve as a part of a machine listening module, helping computers separate sound sources from a recorded signal mixture - a task we call auditory scene analysis.

Keywords

Auditory attention, soundscapes, auditory scene analysis

Foot Orthoses for the Treatment of Tibialis Posterior Tendon Dysfunction in Rheumatoid Arthritis

Joanna Reeves

School of Health Sciences
Email: j.e.reeves@edu.salford.ac.uk

Supervisor
Prof Chris Nester - c.j.nester@salford.ac.uk

Abstract
Rheumatoid arthritis (RA) is a condition that has an increasing prevalence with age. Among those with RA, anywhere between 13-64% of individuals have tibialis posterior tendon dysfunction and an associated acquired flat foot. The tibialis posterior (TP) dynamically supports the medial arch of the foot and when this muscle is weakened by inflammation, this can lead to collapse of the arch and so a flat foot. Foot orthoses can be used in the management of TP tendon dysfunction because it's expected that by altering the external forces applied to the foot, the internal forces required from muscles and connective tissue would also change. Reduced activation of TP could reduce force through the tissue, which could help the tendon heal. The aim of this study was to establish if orthoses with medial heel wedging and increased medial arch height have effects on the activity of TP.
Healthy participants walked with a flat insert and four different orthoses. Muscle activity from TP was recorded using an electrode inserted into the muscle. Activity of TP significantly reduced in the period of walking soon after ground contact with orthoses with a medial wedge and a combination of a medial wedge and increased arch support. However the response of TP to orthoses in the period of waking prior to the foot leaving the ground was highly variable. Considering reduced TP activity with orthoses with medial wedging could be useful when designing orthoses to treat TP tendon dysfunction.

Keywords
Rheumatoid arthritis, foot orthoses, tibialis posterior tendon dysfunction

Critical Factors Affecting the Use of Offsite Construction in Iraq

Nehal Saffar

School of the Built Environment
Email: nehaladel81@yahoo.co.uk

Supervisor
Prof Carl Abbott - c.abbott@salford.ac.uk

Abstract

Offsite construction (OSC) is an innovative alternative to traditional construction. It involves fabricating building components before installing into their final locations. OSC has now reached sufficient maturity to evidence significant improvements for construction projects. However, very little understanding of the state of OSC in the Iraqi construction industry exists. Although there is a vital and urgent need to rehabilitate Iraq after many disasters faced it, a slow adoption of such construction is still in there. This paper report results from a questionnaire survey to examine the perceptions of experienced practitioners of construction companies regarding the critical factors of using OSC in Iraq mainly barriers and drivers. Findings highlighted that market is the main driver for using of OSC in Iraq as there is a problem of housing shortage in Iraq. Additionally, productivity, time and quality drivers are another highly influential drivers for enhancing the use of OSC in Iraq. The results also indicated that the main barrier to the use of OSC in Iraq is the political and economic factors. Moreover, the results showed that the industry and market culture are also a significant barrier to the practice of OSC. The third influential barrier is skills shortage. The study results will act as a starting point to develop a roadmap to enhance the use of OSC construction in Iraq.

Keywords

Iraq, offsight construction, housing, skills shortage, market culture

Lean Thinking Implementation Factors in the UK Construction Industry

Kubra Sari

School of the Built Environment
Email: k.sari1@edu.salford.ac.uk

Supervisor
Andrew Fleming – a.j.fleming@salford.ac.uk

Abstract

The need for improvement of the construction industry has been in the spotlight in recent years for failure in addressing administration and operational inadequacy. Although the manufacturing in construction has been improving in applying recent construction techniques, the management still needs further knowledge and methods in following best philosophies and practices. This will counter the factors holding back the construction sector. Lean thinking adapted to construction has been successful in different sectors, and strongly recommended by professionals in the industry as a theory to design manufacturing systems to reduce construction waste, effort, and time to increase the productivity.

This study aims to develop a framework on lean thinking implementation factors in the UK Construction Industry. In this study a qualitative method will be used to collect and analyse data throughout the interpretation and presentation of the research. This will be conducted by gathering comprehensive literature survey of Lean Thinking implementation factors in the UK Construction industry. To complement the findings, semi-structured interviews will be carried out with the managers and executives of the UK construction companies.

Keywords

Lean Thinking, Construction Industry, Implementation Factors

Sound Textiles: Engineering Acoustics in Nonwovens

Neha Sharma

School of Computing, Science & Engineering
Email: n.sharma2@edu.salford.ac.uk

Supervisor
Dr Olga Umnova – O.Umnova@salford.ac.uk

Abstract

Both the UK Government and the EU Commission recognise the negative impact of environmental noise on health, productivity and the economy. As a result, successive acts of legislation require continuing improvement in noise control. Of the available practices, textiles have been a promising solution as sound absorbents.

Within the textile industry, though there is a significant demand for materials that absorb noise, there is a dearth of true knowledge of the fundamentals and their practicality. The present PhD research work aims to bridge this gap between the acoustic and nonwovens disciplines. The study would involve modelling of these materials computationally, using first principles. These simulations will then enable industries to design optimised material with acoustic absorption properties. This optimization will introduce greater accuracy of performance predictability within the current technology. Finally, it will provide a new generation of acoustically absorbing materials with demonstrable efficacy and economic advantages.

For producing quieter spaces and conveyances, experiments on nonwoven textile materials would study their behaviour as effective acoustic absorbents. An increasing reliance on such materials to curb noise off the industrial, transport and built environments has been the main motive of this study. The development of cost effective fabrics that essentially act as sound absorbents will be a favourable contribution to the much-demanded technological advancements.

Keywords

Noise control, textiles, acoustic absorbents

Geospatial Big Data Analytics Framework for Electricity Distribution Networks

Charith Silva

School of Computing, Science & Engineering
Email: h.c.e.silva@edu.salford.ac.uk

Supervisor
Dr Mo Saraee - m.saraee@salford.ac.uk

Abstract

Utility companies often collect and process vast amounts of data in order to support the day-to-day operations of their networks, although the collected data are not used efficiently to extract intelligence.

These data are not useful unless organizations have the capabilities, capacity, infrastructure and technologies to incorporate them into daily operations. Currently utility companies face an ongoing struggle to maintain efficient, safe, reliable and profitable operations among increasing cost of services, consumer demands and regulatory restrictions.

Predictive analytics with big data can help electricity generate, transmitter and distribution companies to manage electricity production, transmission, distribution, supply and demand. Big Data Analytics open up significant opportunities for improving and forecast. Geospatial big data analytics allow the massive amounts of data generated by grid supply points, smart grid components, smart meters, etc to be stored, analyzed, understood, and effectively utilized. Power distribution system planning, protection and reliability are critical to utility company's survival. Geospatial big data analytics can be used to develop predictive models to forecast the electricity supply point demand and performance. Furthermore predictive model can be used to predict equipment failures and power outages, allowing Distribution Network Operators (DNOs) to optimize their maintenance budgets.

This research presents new geospatial big data analytics framework for geospatial data acquisition, data fusion, data storing, managing, processing, analysing, visualising and modelling and evaluation in Electricity Distribution Networks. Having a good process for data analysis and clear guidelines for comprehensive analysis is always a plus point for any data analytic or data science project. Accurate data analytics and forecasting at the High Voltage (HV) and Low Voltage (LV) network would help DNOs to manage and plan the network configuration and maintenance, including considering the risks of the higher uptake of low carbon technologies in the future.

Keywords

Big Data Analytics, Distribution Network Operators, utility companies

Equity on Demand: Assessing the Effects of Increased Production of Subscription Video on Demand (SVoD) on the Employment of Women Writers of Television

Kirsten Stoddart

School of Arts & Media
Email: k.stoddart@edu.salford.ac.uk

Supervisor
Dr Kirsty Fairclough – K.fairclough@salford.ac.uk

Abstract

Women still account for fewer than 30% of writers of fictional scripted television in the UK and USA. With more and more original content being made specifically for SVoD platforms such as Netflix, Amazon and Hulu, there has been an increase in the amount of original content being produced, but women's representation has seen little to no improvement across the past decade. SVoD platforms offer a new opportunity for more niche-market productions, with series such as The Handmaid's Tale, Jessica Jones and Gypsy placing women characters at the forefront. However, women writers for scripted series television are still outnumbered by their male colleagues. This presentation will outline my research undertaken thus far, which has used the credits lists of SVoD original drama and comedy scripted series from Amazon, Hulu and Netflix, to look at the actual representation of women writers for SVoD series when compared with the more 'mainstream' industry as a whole. It will also look briefly at some of the responses received in qualitative interviews with women writers for SVoD television, identifying key ways in which their experiences at work differ from those of their male colleagues. Finally, it will look at some of the measures taken by women writers to increase their own visibility and wellbeing through public advocacy and social media.

Keywords

Women, television, SVoD, writers, gender, inclusivity

Improving Advance Malware Detection by Identifying Respective Family

Alsa Tabatabaei

School of Computing, Science & Engineering
Email: s.alsadattabatabaei@edu.salford.ac.uk

Supervisor
Dr Mohamad Saraee - m.saraee@salford.ac.uk

Abstract

Malware is a malicious program that is intentionally developed to harm computer systems. The emerging growth of malware with high complexity has opened doors to a confidential and sensitive data breach by hackers on daily bases. This can circumnavigate a lot of security protocols set up to mask or keep safe sensitive organisational data. A big threat in today's cybersecurity era, variant of advanced malware mutates their code by crafting to look different from each other even from the same malicious family to evade detection system. Therefore, to combat malware effectively, it is desirable to identify groups of malware with strong structural similarities and also dissimilarities. To address cases of highly-sophisticated malware, the concept of machine learning and data mining approaches have been utilized by cybersecurity researchers likewise in the health system for cancer detection and prediction.

In order to create an abstract description of each malware family; there is a need for a comprehensive study which consists of several stages such as data preparation. Data preparation in current research includes collecting malware samples, reversing the samples code, discovering for known and unknown frequent sequential patterns and measuring the dissimilarity and similarity between the codes. To create the code integration, the virus code extracted from variants of the same malware family as a primary dataset. To complete data preparation, the network between extracted codes from each individual malware family is generated by association rules. The result considered as secondary dataset which captured the commonalities of all malware samples within a group. To overcome the drawbacks in previous methods, we grouped the samples on the basis of its code influencers which enhance segmentation. Unlike other standard clustering tools, it also explains how the variable and variable levels contribute to the formation of clusters. Hence, if an unknown malware which is advanced in nature crafted by some of the examined patterns; it is possible to detect suspicious behaviour of them on the host in the real-time. On this assumption and motivation, a new model is developed not only to discover relationship and links between code structures but also in order to effectively regroup malware samples to the respective family. The experimental evaluation in this paper was designed to be much more thorough to pave the way toward deployment of the approach for use by cyber-security analysts.

Keywords

Malware, machine learning, data mining, cybersecurity

The Development and Feasibility Trial of a Cognitive Behavioural Social Competence Therapeutic Intervention for Adults with Autism Spectrum Disorder without an Intellectual Disability (SCTI-A)

David Tate

School of Health Sciences
Email: D.Tate@edu.salford.ac.uk

Supervisor
Dr Clare Allely - c.s.allely@salford.ac.uk
Dr Linda Dubrow-Marshall - L.Dubrow-Marshall@salford.ac.uk

Abstract

It is well documented that young adults with Autism Spectrum Disorder (ASD) can have an average or above average IQ and still struggle with the social competencies that effect a number of important life functions. Despite many autistic young adults experiencing significant challenges during their transition into adulthood, there are few evidence-based social skills interventions for this vulnerable population. Although limited, there is some evidence to suggest that cognitive behavioural interventions can reduce the social deficits associated with ASD. The aim of this study was to investigate the feasibility and effectiveness of a newly developed cognitive behavioural social competence intervention for young adults (SCTI-A) with ASD without an Intellectual Disability (ID). There were five participants with ASD without ID in the intervention group and five match typically developed individuals in the control group. Feasibility was support with overall post treatment client satisfaction rates represented at a high level (94%) and overall adherence rates were at also high (90%). Final data collection will take place in April 2018 and analysis of data will be completed in May 2018. For the analysis of treatment effects observational and self-report behavioural assessment scores between the intervention group and the control group will be analysed for change in social competence. Additionally, to investigate neurological change from pre to post intervention, functional near inferred spectroscopy data will be analysed for changes in hemodynamic response during a conversation task. There is a further aim to investigate the association between neurological function in the prefrontal cortex and global and sub-scale social competence scores.

Keywords

Autism Spectrum Disorder, cognitive behavioural interventions, social skills

An Analysis of the Effect of IFRS Adoption in Nigeria on the Quality of Published Financial Information

Sunny Oteteya Temile

Salford Business School
Email: suntemile@hotmail.co.uk

Supervisor
Dr Mohammad Al Bahloul - M.AlBahloul@salford.ac.uk

Abstract

The study examines the effects of the adoption of International Financial Reporting Standards (IFRS) on the quality of published financial statements in Nigeria. The study uses entire non-financial firms listed on the floor of the Nigeria Stock Exchange. To measure value relevance of firms, post IFRS adoption, the study modifies the Müller (2014) model to determine whether the adoption of IFRS has increased the value relevance of accounting information in the sampled firms. The results show that the post IFRS adoption is higher than the pre-IFRS adoption indicating a more value relevance of published financial information after IFRS adoption. On whether there is incremental value relevance, the results show fluctuations, hence results could not ascertain if IFRS leads to incremental value relevance of financial reporting in Nigeria. To measure earnings management, the modified Jones (1995) model is used and the results revealed a significant decrease in discretionary accrual, indicating a decrease in earning management in post IFRS adoption in Nigeria. Conclusively, the different tests carried out provide compelling evidence that the adoption of IFRS in Nigeria has positively and significantly impacted on the quality of published financial information by significantly increasing the value relevance of financial information and as well as significantly reducing earnings mismanagement in Nigeria. This study therefore recommends that the Nigerian government should empower the relevant bodies/ authorities to seek out and incorporate more measures to further improve the quality of financial reporting to increase the quality of published accounting information.

Keywords

IFRS, accounting information, value relevant, earnings management, N-GAAP

Exploring the Influence of Adipokines on Neuronal Function in Alzheimer's Disease

Neha Santoshkumar Tomar

School of Environment & Life Sciences
Email: n.s.tomar@edu.salford.ac.uk

Supervisor
Dr Gemma Lace-Costigan - G.L.Lace-Costigan@salford.ac.uk

Abstract

850,000 people in the UK are affected with dementia and Alzheimer's disease (AD) is the major cause of dementia. AD involves progressive brain cell death. People above age 65 are at a significantly high risk of developing AD. Abnormal fat distribution in the body (obesity) is a major risk factor for AD. Fat cells release useful molecules that have been reported to help the brain cell to improve their function and recent studies have shown some molecules released from the fat cells that can actually protect the brain cells from dying and may lower the risk of developing AD.

However, it is unclear which of these molecules released from fat cells has the most important role. Our research focus is to identify the molecules released from the fat cells that are helping to protect the brain cells. Fat cells and skin cells, which have been transformed into brain cells, will be grown in the lab and studied for changes in their DNA and protein.

Keywords

Alzheimer's disease, abnormal fat distribution, fat cells, DNA, protein

Understanding the Buildings that we Live In. How Housing Associations Value their Tenants' Opinions on the Buildings they Live In and Decide to Refurbish Them and Build New Ones

Petros Tsitnidis

Leeds Beckett University
Email: p.tsitnidis8996@student.leedsbeckett.ac.uk

Supervisor
Not supplied

Abstract
Since the 1960s, we have been trying different ways to understand how our buildings work. Recently, the UK Government, together with relevant professional bodies in the built environment, have made the use of Building Performance Evaluation and Post Occupancy Evaluation methods necessary. Research in the sector has followed suit, trying out different ways to get information from our buildings. Even though these methods have proven their value for our buildings, research and practice has focused mainly on office buildings. Housing has been largely ignored due to the different ways we build our homes and live our lives. In the UK though, the social housing sector is significant enough to have an impact to CO^2 emissions. The presentation will present the results of my research into how housing associations collect the opinions of their tenants and how seriously they consider them in their decisions.

Keywords
Social housing, Building Performance Evaluation, Post Occupancy Evaluation, housing associations

Demonstration of a Novel Audio Customisation System to Improve Broadcast Accessibility for Hard of Hearing Listeners

Lauren Ward

School of Computing, Science & Engineering
Email: L.Ward7@edu.salford.ac.uk

Supervisor
Dr Ben Shirley – B.G.Shirley@salford.ac.uk

Abstract

Recent technological advances present the opportunity to improve broadcast accessibility particularly for the 11 million people in the UK with a hearing impairment. Taking advantage of this opportunity is important, given the key social role television plays especially for the elderly. The complex audio scenes found in television contain some sounds which are essential for comprehending the narrative (e.g. dialogue and certain sound effects), and others which are designed to create immersive and atmosphere (e.g. background sounds). For those with hearing loss, or listening in noisy situations, these former sounds can aid understanding of the speech, whilst the latter can impair it. This presentation will outline the key results of speech intelligibility research conducted to understand how different broadcast sounds effect understanding for different groups of normal and hard of hearing listeners.

Using recent technological advances in broadcasting, a prototype system allowing the listeners to personalize the level of different audio elements has been developed as part of the ` S3A: Future Spatial Audio' project.

The algorithm behind this system builds on the results on the results of this speech intelligibility research. The interface has a single dial, which allows the user to adjust between 'immersive', the original full broadcast mix and 'narrative', containing only the sound elements crucial to understanding.

This presentation will also outline the function of this prototype and the audience will have the opportunity to try it out. The development of presets and planned user experience testing will also be discussed.

Keywords

Speech intelligibility, broadcast sounds, hearing loss

Understanding the Values-action gap of Graduate Recruitment into Charities, Social Enterprises and Co-operatives

Martyn Willcock

Salford Business School
Email: m.s.willcock@edu.salford.ac.uk

Supervisor
Dr Chris Doran - C.E.Doran@salford.ac.uk

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 Enterprises, Third Sector, graduate employment, Values-action gap

The Nigerian Military and the Fight Against the Boko Haram Sect

Gilbert Yalmi

School of Arts & Media
Email: G.yalmi@edu.salford.ac.uk

Supervisor
Dr Samantha Newbery - S.L.Newbery@salford.ac.uk

Abstract
Various forms of violent activities have besieged Nigeria since the inception of democratic rule in 1999. This has given rise to the emergence of militant and insurgent groups like the Boko-Haram sect.
This notorious group has carried out violent activities in the north- eastern part of Nigeria. The sect carries out its attacks out with sophisticated weapons, directed at the military, police, government institutions, and civilian population. These attacks often results in loss of lives and property. The abduction of 300 school girls in Chibok, a local community in Nigeria sparked international concern. This has put the Nigerian state and government under severe strain. The Nigerian government faced with these challenges, had to come up with counter measures on how to deal with the deadly phenomenon, thus the deployment of the military to the north-east region.
This paper will examine the military's counterinsurgency efforts and its fight against the insurgency in the north-east from 1999-2017. The entire country suffered from one form of attack or another, but the interest of this paper is specifically in the north-eastern region, the main theatre of the crisis.

Keywords
Boko-Haram, Militancy, Insurgency, Counterinsurgency

Semi-active control for independent rotating wheelset in a railway vehicle

Atousa Zaeim

School of Computing, Science & Engineering
Email: atousa.zaeim@gmail.com

Supervisor
Prof TX Mei - t.x.mei@salford.ac.uk

Abstract
This paper presents the study of a novel strategy for the control of independently rotating wheelsets of a railway vehicle using semi-active concepts – an approach that is significant different from the full active control schemes that would require the provision of external energy. In this paper, the concept of active control of independently rotating wheelsets is introduced and the energy flow in the control system is analyzed in different operational conditions such as curved track and random track irregularities. Based on the analysis, a semi-active control approach for the wheelsets is then developed, using variable passive damper initially in a fairly ideal scenario. Simulation results of a two-axle railway vehicle with independently rotating wheelsets are presented to support the feasibility of the proposed approach

Keywords
IRW, MR damper, Active suspension, semi-active

A Study of how Consumer Perceived Brand Authenticity may help Solve the Challenges of Managing Sustainable Products in the Fast Fashion Sector in the UK Female 18-25 Market

Mengyao Zhang

Salford Business School
Email: m.zhang5@edu.salford.ac.uk

Supervisor
Dr Peter Reeves - P.Reeves@salford.ac.uk

Abstract
With seemingly endless updated fast fashion designs and price competitiveness, fast fashion products have been commonly accepted by young female consumers. However, some may assert that the fast fashion industry has been tarnished by unsustainable behaviour by some firms and consumers. Hence, fast fashion companies are increasingly challenged to implement measures to relieve their unsustainable reputation, and maintain a competitive advantage. Unfortunately, environmental-friendly attempts taken by fast fashion enterprises may be considered as "greenwashing". Nonetheless we posit that brand authenticity can provide an effective lens to connect consumer's personal lives and consumption behaviour, so that it enhances consumers' personal characteristics through their acquisition and usage of their favourite fast fashion brands, in a more sustainable manner.
In this research consumer perceived brand authenticity is articulated as a possible solution to support the management of sustainable products in the fast fashion industry. A qualitative research approach will be utilised. The focus group will be chosen as the data collection method which focuses on UK female customers aged between 18 and 25. Thematic analysis of the data will be undertaken to build theory and suggest strategies to the fast fashion industry.

Keywords
Brand authenticity, sustainability, fast fashion, consumer

Poster Presentations

Informal Economies between Identity and Economic Development for Climate Change in Egypt

Nourhan Abdelrahman

School of the Built Environment
Email: n.h.abdelrahman@edu.salford.ac.uk

Supervisor
Prof Hisham ElKadi - h.elkadi@salford.ac.uk

Abstract

Informal Economies are argued to be the invisible majority in cities in developing countries. Jutting and Laiglesia claims that two-thirds (1.8 billion) of the globe's working population work in the informal economy. In the context of vulnerability to climate change, the socioeconomic vulnerability in developing countries is highly prevalent in informal economies, which already contribute to the city's GDP and national GDP with no clear measurable figures. The aim of this research is to explore and measure the socio-economic vulnerability of informal economies in metropolitan cities in developing countries as a result of climate-induced risks, namely sea level rise. In the case study of Alexandria in Egypt, the coastal zones are vulnerable to sea level rise leading to damage to agriculture, trade and tourism resources in human settlements (cities and urban/rural agglomerations). Alexandria has the highest concentration of population density in the north coastal zone in Egypt overlooking the Mediterranean. With figures suggesting 30% loss of the city due to inundation for a sea level scenario of 0.5 m, this research proposes a contextualized framework with spatial geolocation analysis (using GIS), to measure informal economies and the vulnerability to sea level rise in the state of lack of adaptive capacity and action by municipalities. The expected outcome of this research includes the measurement framework as well as provision of currently lacking data and classifications of informal economies in an Egyptian context.

Keywords

Informal Economies, Alexandria, sea level rise

Environmental Scanning and Decision-Making for Business Negotiations in an Environment of Perceived Uncertainty

Abdulla Akarem

Salford Business School
Email: a.akarem@yahoo.com

Supervisor
Prof Sunil Sahadev - S.Sahadev@salford.ac.uk

Abstract

A review of the literature reveals several shortcomings that have limited researchers' understanding of how the environmental scanning and decision-making influence to business negotiation. Moreover, the majority of studies overlooked the impact of classification of business environment context (complex, dynamic and uncertainty) on environmental scanning practices and decision-making processes with its outcomes, with an almost exclusive focus on study the external environment than the internal environment of firm. Therefore, the research aims to analyse approaches and environment scanning practices and decision-making process to improve business negotiation strategies to make informed negotiation decision-making in an environment of perceived uncertainty. A theoretical model integrating the best of environmental scanning practices with decision-making processes was developed.

An integration strategy that combines quantitative (Online questionnaire survey) and qualitative (Email semi -structured interviews) methods was employed. The theoretical model was tested using survey data from purposive sample (263 respondents) within the NOC of Libya. The SPSS was used to analyse the questionnaire data, while the interview data (purposefully selecting 15 interviewees from survey stage) were examined using both within- and cross-case analysis methods.

The final comprehensive theoretical model proposed of research was supported by both quantitative and qualitative analyses methods. Strong relationships among the selected internal and external environment factors, and negotiation decision-making characteristics in an environment of perceived uncertainty conditions were observed. This research further found that theses theoretical model elements played an important role in helping negotiation decisions makers develop effective strategies in the face of perceived environmental uncertainty and improve organisational performance.

Keywords

Environmental scanning, Libya, decision-making, business negotiation

Improving the Construction Industry in the Middle East

Manal Aladwani

School of the Built Environment
Email: M.M.H.M.A.Al-Adwani@edu.salford.ac.uk

Supervisor
Andy Fleming - a.j.fleming@salford.ac.uk

Abstract

In the Middle East, there are huge development plans for the construction industry. However, this region is not without obstacles. Hitherto, it is suffering from significant problems and confronted by numerous challenges. For instance, time and cost overruns, inadequate project management practice, lack of adopting new technology, resistance to change, and low productivity are the most common problems in the construction industry even globally. Furthermore, the productivity of the construction industry has remained flat compared to other industries, such as manufacturing industry, which has grown through the years. Therefore, this study will investigate the most common problems facing the Middle East construction industry and attempt to find an appropriate solution to solve these issues. Thus, proposing a solution that could improve this industry. Additionally, lean construction and Building Information Modelling (BIM) have proven their effectiveness for improving the construction industry in many countries around the world. Lean construction is known as a philosophy management to minimise the waste and add value for the customer, whereas BIM is a process that manages the information through the project life-cycle from planning and designing phases until completing the project. Since there is a lack of awareness in Lean construction and information management in the Middle East, the consideration to use these two strategies is essential to achieve the aim and objectives of the study.

Keywords

Construction industry, Middle East, Lean Construction, Building Information Modelling, construction challenges, time overrun, cost overrun, Information Management

Effect of Omega-3 Polyunsaturated Fatty Acids on Inflammatory Biomarkers in Chronic Obstructive Pulmonary Disease

Amal Al-Haidose

School of Environment & Life Sciences
Email: a.al-haidose@edu.salford.ac.uk

Supervisor
Dr Jeremy Allen - j.t.allen@salford.ac.uk

Abstract

Chronic Obstructive Pulmonary Disease (COPD) is a number of lung-related diseases, including chronic obstructive airways that cause breathing difficulties affecting the quality of life. It is one of common respiratory diseases in UK, with three million people currently thought to be living with the disease. The damage to the lungs caused by COPD is permanent, but treatment can help slow down the progression of the disease. Cigarette smoke is a major risk factor for COPD. The results of previous studies showed that omega-3 fatty acids (O-3) FAs may have beneficial effects on patients with COPD. Dietary supplementation with O-3 FAs therapeutically may reduce airway inflammation in individuals exposed to smoke or other irritants. Several pro-inflammatory biomarkers are thought to be involved in the pathogenesis of COPD. The aim of this project is to determine the plasma level of selected biomarkers in three different groups, to investigate the effect of O-3 FAs on selected inflammatory biomarkers released from Peripheral blood mononuclear cells (PBMCs), and to explore the relationships between these biomarkers, lung function and lipid profile. Patients were recruited from University Hospital South Manchester. Blood samples were collected from 15 COPD patients, 15 healthy smokers, and 12 control groups. Plasma, PBMCs were isolated for biomarkers investigation, while red blood cell separated for lipid profile analysis. Comparisons between data of the three groups were made. The levels of CRP and Fibrinogen were significantly high in plasma of COPD group when compared to those in HNS group ($p<0.05$), while the level of CC16 was significantly lower in plasma of COPD group compared to HNS group ($p <0.01$). The level of IL6, IL8, and TNFα, released from PBMCs was significantly higher in COPD than HNS groups ($p>0.024$). In Contrary the levels of CD31 was significantly higher in HNS group compared to HS group ($p< 0.003$).

Keywords

Chronic Obstructive Pulmonary Disease, COPD, cigarette smoke, O-3 FAs

Customising an Applicable Assessment Method for Sustainable Residential Building in Libya

Abu-Bekr Ali

School of the Built Environment
Email: a.b.m.ali@edu.salford.ac.uk

Supervisor
Dr Anthony Higham - a.p.higham@salford.ac.uk

Abstract

The increasing mainstream of achieving high levels of economic growth and living standards has affected our environment through resource depletion, land degradation as well as air and water pollution. The building industry is considered one of the most influential sectors on the environmental issues, consuming a remarkable portion of energy and natural resources. Sustainable Building has been widely promoted as a response of the need to use more environmentally friendly products aligning with sustainable technologies by which a building's costs can be reduced over its entire life cycle. The main aim of the study is to customise a comprehensive assessment method for sustainable residential building in Libya. The ongoing research has integrated four leading sustainability assessment models through analyses scheme, identified 73 criteria grouped into 7 categories (i.e. Site and Management Quality; Materials and Recourses; Energy Efficiency; Water Efficiency; Waste and Pollution; Location Quality; Indoor Environmental Quality). Acknowledgeable professionals who are involved in sustainable building programmes in Libya have been invited to extract the most reliable criteria that could enable diagnosis of Libyan building performance relevant to sustainability. Scaling each criteria and category through hierarchical analyses will be the last stage to meet the targeted ranking system It is hoped that this assessment model will ultimately accelerate the shift to Sustainable Building through reflecting how well Libyan residential buildings are committed to sustainable development and serving as a decision support system to better design, operate and implement building projects.

Keywords

Libya, sustainable building, residential buildings, environment

SLUG – The New Workforce for Biofuel

Chiamaka Grace Agwubilo

School of Environment & Life Sciences
Email: C.G.Agwubilo@edu.salford.ac.uk

Supervisor
Dr Natalie Ferry - N.Ferry@salford.ac.uk

Abstract

The whole world is searching for an alternative source of energy that is cheap, safe and sustainable. Plant material (biomass) contains lots of complex carbohydrate sugars trapped inside its cell wall. These sugars are used in producing biofuels and biochemicals. Carbohydrate active enzymes (CAZymes) are enzymes used to liberate these sugars for biofuel production. The Black Slug, a common pest, harbours about 2,500 of these enzymes in its guts. These enzymes help it digest plant materials that are difficult to break down. No wonder it can eat up a whole garden if not checked despite its fragile and delicate nature. In this study, I'm exploring three predicted DNA gene sequences that codes for three of these enzymes. I'm exploring their functions, pH, temperature, and conditions at which they work and how best they can be commercialised. These enzymes are of great importance in the industry. They help to reduce cost of production, environmental pollution, and greenhouse gas emission in the production of biofuel, biochemical and animal feeds.

Keywords

Black slug, enzymes, environmental pollution, greenhouse gas emission, CAZymes

A Semantic Model for Event Processing in the Internet of Things

Amer Al-Lahham

School of Computing, Science & Engineering
Email: a.allahham@edu.salford.ac.uk

Supervisor
Prof Farid Meziane - f.meziane@salford.ac.uk
Dr Omar Alani - o.y.k.alani@salford.ac.uk

Abstract

In today's Internet, billions of objects interact together to exchange data. This paradigm known as the Internet of Things (IoT) is characterised by an ever-increasing number of Things embedding sensing, actuating, processing and communication capabilities. The interactions between these connected things could help reach specific goals in various domains. The data generated by these things originate from numerous heterogeneous sources, each sensing a part of the environment.

In order to deal with the high heterogeneity in this environment, we propose a knowledge representation model (an ontology for IoT) that defines the core concepts and the interactions between things in an IoT domain. Moreover, to facilitate real-time decision-making in such a dynamic environment, the model uses the defined ontological concepts to continuously query sensors' data and thus establishing a link between ontology-based data access and higher level event processing using a more sophisticated event processor tool called ESPER. By doing this, the event processor would have to deal with data of a known format based on the ontology. This also helps to filter the data before it is forwarded to the event processor by eliminating redundant data and aggregating data to produce more useful information.

This poster presents a Semantic Model for event processing in an IoT environment. The model uses ontologies to enrich raw sensor data and produce a standardised format to present it. The model's main aim is to establish a link between ontology-based data access and reasoning, and higher level event processing in an IoT domain.

Keywords

Internet of Things, IoT, ESPER, ontology

The Influence of National Culture on Health and Safety Performnce in Kuwait Oil and Gas Sector Construction Projects

Mohammad Almutairi

School of the Built Environment
Email: m.almutairi1@edu.salford.ac.uk

Supervisor
Dr Gerard Wood - g.d.wood@salford.ac.uk

Abstract

Construction is a multifaceted industry incorporating several modes of work, techniques and resources. Wide-ranging and often precarious construction initiatives bring considerable risks; evidence suggests that construction workers are five times more likely to become occupational fatalities than their counterparts in different industries. In fact, construction is considered one of the most dangerous industries. According to international statistics, more than 80% of all work-place accidents are attributed to unsafe behaviours. Several studies have reported that Individuals' behaviours are affected by group norms. Cultural backgrounds affect how people react to risky actions and situations; these characteristics embody the cultural standards that are learnt by people in their social environments. A central challenge in Kuwait is managing the culture-related problems prominent in the construction sector, which is considered the most hazardous industry in the country. These problems include a heterogeneous labour force (expatriates comprise 95% of the construction workforce) and linguistic diversity. The aim of this research is to understand how the safety behaviours of construction workers in Kuwait are affected by national culture. The findings will be valuable in promoting the development of safe occupational environments in the Kuwaiti construction industry. This study aims to produce guidelines for enhancing safety; its results could be used by Kuwait petroleum and construction companies. By focusing on Kuwait, a country whose cultural safety norms have not yet been studied, this study will contribute to the existing body of literature on the relationship between national culture and safety behaviour.

Keywords

Construction, Kuwait, petroleum, safety

Low Salinity Water Flooding as a Method for Enhanced Oil Recovery: Effects of Salt Concentration on Displacement Efficiency

Athari Alotaibi

School of Computing, Science & Engineering
Email: a.al-otaibi@edu.salford.ac.uk

Supervisor
Dr Abubakar Abbas - a.j.abbas@salford.ac.uk

Abstract

The increasing demand for fossil fuels as energy resources for the growing world population has forced the adaptation of newer and more efficient methods to extract additional recovery from existing reservoirs. Due to the decline in the natural energy required to drive the oil and gas from the reservoir to the surface, several methods of additional recovery have been adopted. Low salinity flooding as a method of enhanced oil recovery has been in use for decades. Despite having shown remarkable promise, improving its efficiency cannot be overemphasised. It is a cheaper method compared to other chemical injection methods given that the same natural underground water composition is used to prepare the smart fluid for injection. This also addresses the environmental consequence.

In this research, a systematic low salinity flooding was carried out using core flooding procedure in the laboratory on sandstone core sample at simulated reservoir conditions to investigate the effectiveness of the technique. The sequence of injection of the smart water takes the pattern of high salinity water injection followed by low salinity water injection and the subsequent displacement efficiency at a constant flowrate. The oil recovery factor was evaluated at each step. Evidently, from the plots of dP (differential pressure) against the pore volumes of the displacing fluid injected, it can be seen that there was substantial flow stability during the low salinity flooding compared with the high salinity which means higher recovery and smoother flow. The two fluids (oil and injected saline water) flow as a single unit, invariably confirming one of the displacement mechanisms (interfacial tension reduction) as playing a significant role in the oil displacement from within the pore spaces of the containing reservoir.

Keywords

Low salinity flooding, oil recovery, flow, oil displacement

The Role of the Project Management Office (PMO) in Promoting Knowledge Management (KM) in KSA Construction Companies

Ayedh Alqahtani

School of the Built Environment
Email: sarry_2003@hotmail.com

Supervisor
Dr Anthony Higham - a.p.higham@salford.ac.uk

Abstract

Current researchers into the project management offices (PMOs) has highlighted the PMO's functions as knowledge brokers between project and top management and between different projects under the same organisation. Nonetheless, current literature of PMOs does not provide sufficient evidence to increase awareness of the Kingdom of Saudi Arabian (KSA) construction firms to establish this office. The adoption of PMOs is not without challenge. The biggest challenge currently facing the KSA's construction firms is the introduction of immigration controls, which state only a maximum of 50% of employees can originate from outside the Kingdom. The KSA's construction firms are now facing a skills and knowledge drain as project management staff members leave both the organisation and country. Ultimately this leak of specialist knowledge and experience must be countered before it becomes a serious risk to both project delivery and organisational survival.

One possible solution is to implement Knowledge Management (KM) via a PMO to capture the explicit and tacit knowledge these professionals hold before they depart. Thus, this paper suggests that as people hold knowledge and new knowledge is created at every phase of a project, if this knowledge is captured, it can flow seamlessly through the organisation if centrally stored and disseminated by the PMO. To test and evaluate the research aim, a large-scale survey was carried out with KSA construction firms. Approximately 340 questionnaires have been distributed randomly to the PM department. The findings shown that 80% of respondents concur with the central thesis that a PMO should be established to coordinate and disseminate the project knowledge.

Keywords

Kingdom of Saudi Arabia, KSA, project management offices, construction, knowledge management

A Lost Human Resource? The Experiences of New Graduate Nurses in Saudi Arabia

Awatif Alrasheeday

School of Health and Society
Email: a.m.alrasheeday@edu.salford.ac.uk

Supervisor
Dr Joan Livesley - j.livesley@salford.ac.uk

Abstract

It has been established that the experience and process of transitioning from studying as a student nurse to practicing as a qualified nurse is an alteration in more than name. It encompasses new demands and requires much adaptation. The literature indicates that during the first year subsequent to graduating, newly graduated nurses (NGNs) tend to feel inadequate and incompetent. This study aims to explore, describe and interpret the experiences of NGNs at one hospital in Saudi Arabia. It also examines the extent to which culture and social attitudes contribute to their experiences and how they make sense of such experiences. It is particularly important for people to understand the experiences of NGNs in the early stages of their professional career, particularly in Saudi Arabia. It is of paramount importance to consider how the cultural and social factors affect nursing transition, as this knowledge will help those in authority to understand the major issues that nurse's face in their roles in the workplace, which will facilitate recommendations to improve the nursing profession in Saudi Arabia. Data collection consisted of over 50 hours of fieldwork observations with formal and informal conversations. This data informed one-to-one focused interviews with the participants. This work highlights the struggle and challenges that NGNs face in the context of Saudi culture and the drive to modernise the Saudi nursing workforce. The NGNs feel and are treated differently as they struggle to find their place in the structures that frame their working lives.

Keywords

Saudi Arabia, newly graduated nurses, nursing transition

Energy Saving and Reliability Improvement for Wireless Body Sensor Networks (WBSN)

Hisham Alshaheen

School of Computing, Science & Engineering
Email: h.s.s.alshaheen@edu.salford.ac.uk

Supervisor
Prof Haifa Takruri - Takruri-Rizk@salford.ac.uk

Abstract

In healthcare and medical applications, the energy consumption of biosensor nodes affects the collection of biomedical data packets, which are sensed and measured from the human body and then transmitted toward the sink node. Nodes that are near to the sink node consume more energy as all biomedical packets are aggregated through these nodes when communicated to sink node. Each biosensor node in a wireless body sensor networks (WBSNs) such as ECG (Electrocardiogram), should provide accurate biomedical data due to the paramount importance of patient information. We propose a technique to minimise energy consumed by biosensor nodes in the bottleneck zone for WBSNs, which applies the Coordinated Duty Cycle Algorithm (CDCA) to all nodes in the bottleneck zone. Superframe order (SO) selection in CDCA is based on real traffic and the priority of the nodes in the WBSN. Furthermore, we use a special case of network coding, called Random Linear Network coding (RLNC), to encode the biomedical packets to improve reliability through calculating the probability of successful reception (PSR) at the sink node. It can be concluded that CDCA outperforms other algorithms in terms of energy saving as it achieves energy savings for most biosensor nodes in WBSNs. RLNC employs relay nodes to achieve the required level of reliability in WBSNs and to guarantee that the biomedical data is delivered correctly to the sink node.

Keywords

Wireless body sensor networks, Electrocardiogram, biomedical data

Risk Management in SMEs Construction

Siraj Alyami

School of the Built Environment
Email: s.s.m.alyami@edu.salford.ac.uk

Supervisor
Dr Anthony Higham - A.P.Higham@salford.ac.uk

Abstract

The field of construction is rapidly developing in the Middle East. They partake in various projects to ensure the fulfillment of their vision. Risk is persistent in a majority of the rewarding prospects of life. Therefore, to ensure that one benefits from their prospects, it is necessary to manage the risks appropriately. The field of construction of is necessary for development. Similarly, it faces numerous risks thus the essence of a risk management approach. Indulging in construction risk management facilitates the success of projects. Also, it addresses challenges facing the field including balancing the gap between the prospects and reality. Saudi Arabia's traditional methods do not match with the international standards of analysis. Therefore, the department has to revise its techniques to ensure they compete on the international market. The paper aims to conduct an investigative research on risk management framework. It deals with SMEs in the context is the construction industry in the kingdom of Saudi Arabia. It will entail review of the common risk management approaches in the industry. Additionally, it compares their approach to the globally recognized models. Moreover, possible points of improvements in the currently used framework will be identified as represented by the observed gaps in the operational efficiency. Subsequently, the evaluations will then be utilized to develop a different approach. The resultant framework will integrate the approaches currently in use and international models. It will be directed at bridging the gaps, and also will be tailor-made to accommodate emerging risk concerns.

Keywords

Construction, Middle East, risk management, SMEs

Optical Activity by Nanostructure Planar Chiral Metamaterials

Huda Alzahrani

School of Computing, Science & Engineering
Email: h.alzahrani1@edu.salford.ac.uk

Supervisor
Dr Tiehan Shen - T.Shen@salford.ac.uk

Abstract

The sense of the handedness (right and left handed) can be found among artificial materials known as Chiral Metamaterials. Chiral material is described as a substance that cannot be superimposed on its mirror image under any rotational or translational operation. Chiral material and its reflected form are known as enantiomers. The word enantiomers is a Greek word, meaning opposite. In some cases, enantiomers behave differently under the same physical conditions. For example, the interaction of light with the two enantiomeric (left or right) forms of the structure yield different polarization changes since chiral materials have the ability to rotate the polarized light. This phenomenon is called optical activity and has applications in optical devices. The variations in behaviour have consequences in several scientific fields, including chemistry, physics, biology and pharmacology, to the extent that acquiring greater knowledge and understanding about the chirality of substances. This knowledge will have a significant impact on the development of novel materials in modern optical applications.

In the present work, we have conducted numerical simulations on the nature of the chirality, where chirality was investigated as a function of the change of the pattern shapes, for instance, triangular patterns of various angles have be investigated, based on some established models. Furthermore, the direction and the degree of the polarization rotation will be examined experimentally to identify the correlation with the chirality of chiral shaped elements.

Keywords

Chiral Metamaterials, enantiomers, optical devices, chirality

Analysis of Employee Satisfaction with Performance Measurement System in Real Estate Sector of Pakistan

Muhammad Asdullah

Salford Business School
Email: m.a.asdullah@edu.salford.ac.uk

Supervisor
Prof Hassan Yazdifar - H.Yazdifar@salford.ac.uk

Abstract

Performance Measurement System is the topic of growing research since very recent. These are found to significantly influence the organizational performance. Keeping in view this fact, the current study has been aimed at investigating whether employees of Housing Societies of Pakistan are satisfied with performance measurement system implemented in their organizations. The study will target the Real Estate sector of Pakistan. Random sampling technique will be considered for this study as it is an unbiased way of sample collection in which sample is selected from total population with no prior prediction. The data from nearly 100 employees of different housing societies will be collected using a 5 point likert scale questionnaire and will be analyzed using SPSS with the help of different statistical techniques. The study will make important contributions theoretically by adding advanced research on real estate sector of Pakistan and will contribute practically by highlighting and suggesting ways to housing societies for the improvement in their performance measurement systems.

Keywords

Performance Measurement System, Housing Societies of Pakistan, real estate, performance measurement systems

Supply Chain Risk Management and the Role of Organisational Culture: Case Study of Libyan Ports

Mohamed Atig

School of the Built Environment
Email: m.atig@edu.salford.ac.uk

Supervisor
Andrew Fleming - a.j.fleming@salford.ac.uk

Abstract

Diverse types of risks challenge the success of the supply chain process, and these risks rooted in economic and political instability are increasing. Several kinds of approach can identify the nature of risks, and their identification may help to manage and mitigate risks across supply chains. Whether these risks arise from strategic or operational perspectives, is still under debate in Libya and in other Arabian countries. Taking into consideration the nature of risks and strategies of managing them may be quite different from the challenges encountered in more developed economies. Researchers examined areas of relationship between supply chain risk management and organisational culture. These researchers however, have not been found over any Arabian contexts. The current study argues that managing culture of organization enhances the effectiveness of risk management and the supply chain. Businesses need to create an environment in which supply chain risk management is a core part of business activities.

This proposed PhD research intends to examine the nature of risks of supply chain and strategies which are utilised in Libya. Furthermore, the study examines barriers encountered in the adoption of risk management, and relationships between organisational culture, and supply chain risk management. This is based upon using a qualitative research methodology with a case study strategy. Interviewing around 20 employees and managers in two different ports in Libya will be the strategy for collecting data.

Keywords

Risk management, supply chains, Libya, organisational culture

Slimy Solutions to Save the Environment: The Story of the Black Slug (*Arion Ater*)

Stephen Austin

School of Environment & Life Sciences
Email: s.c.austin@edu.salford.ac.uk

Supervisor
Dr Natalie Ferry - n.ferry@salford.ac.uk

Abstract

The slug gut microbiome may well contribute to the production of biomaterials and biofuel. In order to do this, considerable assistance from enzyme-producing microbes that breakdown complex plant cell wall superstructures (cellulose, hemicellulose, and lignin) is essential. As yet, significant research is needed to better appreciate the fundamental and applied aspects of plant cell wall superstructure breakdown by these enzymes. The efficient breakdown of plant cell wall material into simple sugars has several industrial applications. With the biomaterials and biofuels industry, both worth billions, the race for efficiency in production of enzymes is key to success.

In this study genes for enzyme-producing microbes were screened and potential genes selected. Multiple copies of these genes were produced and analysed for enzyme activity. Future work will be carried out to test the activity of these enzymes on different substances such as; wood and agricultural wastes.

Keywords

Slug gut microbiome, biomaterials, biofuel, enzymes

On Matching a Far-Field Oseen Flow to a Near-Field Euler Flow

Kiran Chalasani

School of Computing, Science & Engineering
Email: k.chalasani1@edu.salford.ac.uk

Supervisor
Dr Edmund Chadwick - e.a.chadwick@salford.ac.uk

Abstract

The classical methods for manoeuvring problems in inviscid flow theory (aeroplanes, ships, submarines, rockets) start by building up a solution for the velocity from a linear superposition of simple fundamental solutions, a bottom-up approach. The literature on boundary element methods in fluid dynamics mainly focuses on near field Stokes flow and far field Oseen flow. To improve existing designs we need to concentrate mainly two issues. One is D'Alembert paradox and other is Kutta condition. The definition of Eulerlets by using green integral representation from Euler theory helps us to overcome both D'Alembert paradox and Kutta condition. So, we are hoping a new theory will help us to define better manoeuvring vehicles with low energy usage. This theory is tested against results in the literature for uniform flow past a circular cylinder with good agreement. Additionally, we want to compare this theory against experiments for the wake profile.

Keywords

Fluid dynamics, Stokes flow, far field Oseen flow

Real-Time Use of Prostheses in Sport by Adolescents with Upper Limb Absence

Natalie Chinn

School of Health Sciences
Email: n.m.chinn@edu.salford.ac.uk

Supervisor
John Head - j.head@salford.ac.uk
Prof Laurence Kenney - l.p.j.kenney@salford.ac.uk

Abstract

Participation in sports has numerous physical and psychological benefits, particularly in children and adolescents for whom participation in sport may positively impact on their health and esteem in later life. For those affected by limb absence, sport participation levels may be influenced by availability of specialised resources and facilities, including sports-specific prostheses. However, there is little information regarding the levels of sports participation or the role played by provision of sports-specific prostheses amongst young people with limb absence. This study aims to:

- Capture real-time upper limb activity data, including prosthesis wear and usage patterns in adolescents with upper limb absence.
- Develop an understanding of how this usage relates to sports participation.
- Identify sports engaged in by these adolescents.
- Record reasons for use/non-use of different types of prostheses.
- Record upper limb activity patterns in a group of anatomically intact participants.
- Draw conclusions regarding possible barriers to sports participation in the upper limb absent group.

We will recruit 12 UK based adolescents, aged 10-19 years with unilateral upper limb absence who participate in sport at least once per week. An age-matched group of 12 able-bodied individuals will be recruited for comparison. Both groups will maintain an activity diary and wear two wrist-mounted AX3 activity monitors for 3 weeks. Wear time (for prosthesis users) and symmetry of upper limb activity will be measured. The upper limb absent group will also participate in semi-structured interviews where qualitative questioning will be informed by the quantitative data. This will be analysed using a thematic approach.

Keywords

Sports participation, limb absence, prostheses, children, adolescents

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

Hamad Dailah

School of Health and Society
Email: H.G.H.Dailah@edu.salford.ac.uk

Supervisor
Prof Alison Brettle - A.Brettle@salford.ac.uk

Abstract

Globally, asthma is one of the major non-communicable diseases with 235 million people currently suffering with asthma. In Saudi Arabia, asthma is prevalent with 4% of adult population in this country suffering with the disease. Education is important to help suffers mange the disease.

A systematic review was conducted and showed that patient-centred asthma self-management education was effective and can improve patient outcomes through education and training. This study aims to develop and test the impact of a culturally specific patients' self-management education programme in Saudi adults with asthma management are not available in Saudi Arabia.

A mixed methods sequential design was adopted for this study and encompassed quasi experimental part using a pre-test post-test comparative design followed by face-to-face interviews with patients. The intervention was an educational program developed and delivered for patients in the experimental group over two days. Nurses and other professionals helped develop the program and were trained on how to deliver the intervention. The program included topics on the nature of asthma, asthma in different patients' groups, the importance of self-management of asthmatic attacks, and action plan on enabling patients to use measures to control asthma independently such as peal flow reading, taking medication, using inhalers and other devices. Well known instruments were translated and piloted to evaluate the impact of the program and assure validity of study findings.

A pilot study tested the instruments and showed that patients with asthma lack knowledge on how to manage their asthma and use medications properly. They also showed their willingness to self-manage the disease. This would assume that education may provide the necessary knowledge and consequently activate their role in managing the disease and its complications. The study is in the intervention and data collection stage. It is expected to end with an education program which will suit asthmatic patients in Saudi Arabia to manage their disease and improve their health outcomes.

Keywords

Asthma, cultural values, patients' education, Saudi Arabia

The Impact of Obesity in Childhood Leukaemia

Toni Jane Dewhurst

School of Environment & Life Sciences
Email: t.j.dewhurst@edu.salford.ac.uk

Supervisor
Dr Caroline Topham - c.h.topham@salford.ac.uk

Abstract

The charity Cancer Research UK has reported that obesity is the second highest risk factor for developing cancer after smoking. Studies suggest that almost three quarters of people are expected to be overweight by 2035, with up to 700,000 new cases of obesity related cancer expected over the next 20 years.

Being overweight not only increases your risk of developing cancer, it also effects the outcomes of treatment i.e. the chances of being cured of cancer and the risk of adverse side effects in later life. These risks are also present in children with cancer; children with leukaemia who are obese at diagnosis are less likely to respond as well to standard cancer treatment, and it is also more difficult to achieve a complete recovery in overweight children.

This research is focused on improving outcomes for children with leukaemia who are obese, or become obese with treatment. We aim to achieve this by studying how leukaemia cells communicate with fat cells, in order to understand how this may interfere with treatment. It has been shown that fat cells can create a protective environment for tumour cells to survive and evade chemotherapy.

By understanding how this is possible, we intend to design new treatments to reverse it, and hopefully lead to improved survival rates in childhood Leukaemia patients. The outcomes of this work will benefit obese children with leukaemia, and may also contribute to understanding how obesity impacts other cancers.

Keywords

Cancer, obesity, leukaemia, fat cells

Antibacterial Activity of Poly-unsaturated Fatty Acids Associated with Wound Infections

Mohamed Eshlak

School of Environment & Life Sciences
Email: M.S.Eshlak@edu.salford.ac.uk

Supervisor
Dr Chloe James - c.james@salford.ac.uk

Abstract

Wound infections present major health problems worldwide. They involve polymicrobial biofilms with Multidrug-resistant organisms. To overcome the limited therapeutic options, polyunsaturated fatty acid (PUFA) compounds including Eicosapentaenoic acid (EPA) and Docosahexaenoic acid (DHA) offer both immunomodulatory and antimicrobial properties that could enhance wound healing.

The Minimum Inhibitory Concertation (MIC) and Minimum Biofilm Eradication Concentration (MBEC) of PUFA compounds were evaluated against different isolates. The activity of sub-inhibitory concentrations of PUFAs (50 mg ml-1 and 100 mg ml-1) on growth of a clinical wound isolate of S. aureus (SA3). RNA was extracted in triplicate after 0, 6, 12 and 24 h exposure and c DNA was synthesized for use in RT-PCR studies. The global genes expression in virulence for S. aureus 3 isolate were measured. Results -The MIC of both EPA and DHA for S. aureus and Enterococcus faecalis were 156 mg ml_1 and 39 mg ml-1 for Pseudomonas aeruginosa isolates and Escherichia coli. EPA and DHA killed E. faecalis at slightly different concentrations (MBC 1250 and 625mg ml-1 respectively), and both PUFA compounds were most efficient at killing P. aeruginosa 14 (MBC 625mg ml-1). Both PUFAs showed the highest bactericidal effect on S. aureus isolates biofilm (MBEC781 mg ml -1).

The MIC and the MBEC for PUFA compound shows bacteriostatic activity against planktonic cells and biofilm formation of S. aureus, E. faecalis and P. aeruginosa. Growth at sub inhibitory concentration was considerably slower for the first 6 hours but recovered after 12 hours.

Keywords

Wound infections, PUFA compounds

Exploring Innovation in Campus Outdoor Spaces: Lessons from Leading US Universities

Mohammed Mahmoud Gabr

School of the Built Environment
Email: M.Gabr@edu.Salford.ac.uk

Supervisor
Prof Hisham Elkadi - H.Elkadi@Salford.ac.uk

Abstract

Physical spaces - not necessarily indoors on its own - are manifestations of innovation in education, technology, sustainability, etc. Rather, the diverse forms of innovation requires creative integration of both open and closed, public and private, indoor and outdoor settings. More specifically, how far different Campus Open Space (COS) patterns support knowledge exchange and innovation? How engaging with COS contributes to the empowerment of the students - by encouraging them to discuss, produce and share new ideas?

This poster presentation shows the impact of Campus Open Space (COS) on student innovation through a three-layered process. First, reviewing innovation initiatives and extensively classifying Higher Education system (university ranks, campus types and forms, size by space and enrollments). Second, analyzing COS to identify best innovation practices (ex. ideas that spark curiosity, creating ideas and brainstorming) and to distill 7 morphological key-features: 1-context; 2-landuse; 3-compactness; 4-connectivity/accessibility; 5-configuration; 6-greenness; 7-landscaping. Third, depicting common campus features (from the above list) that support innovation in multiple development scenarios (interactive constructive, communal-social, instructive-academic, or energetic-dynamic COS). The third and final stage is examined in 20 significant university documents and campus plans – in the worldwide most wanted destination country and top leading Higher Education system: USA. Findings lead to conclude that the following factors should be prioritized:

1. Livability - meeting student needs;
2. COS location – town-gown relationship;
3. Environmental friendly sensing weather condition - sun, rain, hot/cold, and wind;
4. Diverse COS;
5. Identity and sense of community;
6. Learning environment;
7. Connectivity;
8. Flexibility/adaptability.

Keywords

Campus Open Space, Higher Education, USA

The Contribution of Active Commuting to Total Daily Moderate to Vigorous Physical Activity

Abolanle Gbadamosi

School of Health Sciences
Email: a.r.gbadamosi@edu.salford.ac.uk

Supervisor
Prof Malcolm Granat - m.h.granat@salford.ac.uk

Abstract

Active commuting (AC) can be defined as travel to and from place of employment by walking or cycling. Walking and cycling have been shown to be associated with health benefits, including reduced weight. Although the use of public transport does not involve the same amount of physical activity (PA) as walking and cycling, there is evidence to show that using public transport for commuting reduces obesity. Despite these benefits, most people commute primarily by car. AC, with the inclusion of the use of public transport, can be used as a health promotion tool by employers for increasing total physical activity in workers. This study looked at how commuting contributed to total daily PA and compliance to PA guidelines. PA was measured using a body-worn sensor and a daily activity diary used to record travel information. Twenty-three office workers took part in the study, of whom 13 people travelled by car, 3 people by walking and the rest by more than one mode of transport to work. The overall compliance level of participants to the PA guidelines was low and the modes of transportation affected the amount of PA accumulated. Most participants achieved the minimum recommendation of 30 minutes of moderate intensity walking per day; however, only a few participants walked continuously for 10 minutes as stated in the guidelines. In general, those participants who had an active commute were more likely to meet the guidelines. Commuting may serve as a unique opportunity to increase PA levels of a population.

Keywords

Active commuting, cycling, health, physical activity, obesity

Isolation of Antibiotics from Micoorganisms Isolated from Terrestrial Invertebrates

Hesham Ghanbour

School of Environment & Life Sciences
Email: h.a.ghanbour@edu.salford.ac.uk

Supervisor
Prof Howard Foster - h.a.foster@salford.ac.uk

Abstract

Microorganisms have long been of interest due to their diversity of chemical constituents and biological activities. *Streptomyces* is considered to be the largest antibiotic-producing genus in the microbial world and several well-known antibiotics, for example, chloramphenicol, streptomycin and tetracycline are produced. Development of antibiotic resistance among pathogenic microorganisms makes research programs looking for new antibiotics that are effective against drug resistant pathogenic bacteria extremely important. Because soil microorganisms have been extensively studied, attention has focused on unusual sources for the organisms. In this study terrestrial and aquatic invertebrates were screened for the presence of antibiotic producing microorganisms and to isolate the organisms. Forty-seven antibiotic producers were isolated from terrestrial and aquatic invertebrates using media designed to isolate *streptomycetes*. Identification by PCR and sequencing of 16S and 18S rRNA showed that the majority were in fact fungi, mainly *Penicillium spp.* and only 5 were *Streptomyces spp.* 3 isolates, *Penicillium spp. La1a, M1 11* and *Es1* that had strong activity against Gram-positive and Gram-negative bacteria including MRSA were chosen for further study. The organisms were grown in liquid media and on agar and the active components were extracted with ethyl acetate and fractionated by HPLC. The purified fractions were chemically characterised by NMR, FTIR and MS. The results showed that the active components were novel flavones and isoflavones.

The results showed that the invertebrates were indeed a source of antibiotic producing organisms.

Keywords

Streptomyces, invertebrates, drug resistance, antibiotics

The Development and Psychometric Testing of the Evaluation of Daily Activity Questionnaire (EDAQ) for Stroke Survivors to Quantify the Limitations of Activity of Daily Living

Nazemin Gilanliogullari

School of Health Sciences
Email: N.Gilanliogullari@edu.salford.ac.uk

Supervisor
Dr Yeliz Prior - Y.Prior@salford.ac.uk

Abstract

Stroke occurs when blood supply to the brain is affected and can result in one-sided weakness of the body or paralysis. Even after rehabilitation, around 1.2 million stroke survivors (SS) continue to need help with Activities of Daily Living (ADLs). Main bodily functions such as movement, sensation, speech, co-ordination, memory/cognition, and vision can be impaired after stroke, resulting difficulties in common ADLs e.g. reaching, walking, transferring or dressing. Patient Reported Outcome Measures (PROMs) are commonly used by therapists with patients at initial assessment to identify targets for rehabilitation and later to re-assess patient's progress to evaluate treatment outcomes. Therefore, having a valid, reliable and comprehensive PROM for SS is the key to the provision of effective rehabilitation. However, currently there is a lack of comprehensive, sensitive and reliable PROM to use with SS to optimise therapy outcomes. Such PROMs exist for other long-term conditions, such as the Evaluation of the Daily Activity Questionnaire (EDAQ) for musculoskeletal conditions. The aim of this PhD project is to test the use of EDAQ with SS to assess functional limitations in ADLs. This will include linguistic and cultural adaptation of EDAQ for SS. This project will also involve the use of an activity monitor (ActivPal) to determine the objective measure of SS's physical activities compared to the functional limitations measured by self-reported PROMs.

Keywords

Stroke, ADLs, outcome measures, EDAQ

How to Use Social CRM in Business

Wagdi Hadidan

School of the Built Environment
Email: W.Hadidan@edu.salford.ac.uk

Supervisor
Andrew Fleming - a.f.fleming@salford.ac.uk

Abstract

In the past few decades, there has been a revolution in computing and communications, which has not only changed human lives but also has improved the way modern businesses are conducted. In today's era of Information and Communication Technology (ICT) advancement and the growth of social media, marketing processes have gone beyond the simple development, supply and sales of goods or services, to the continuous development of after sales services tailored towards developing long lasting relationship with the customers. This advancement has created new channels for organisations across different industries for exploiting customer relationship through tools such as social customer relationship management (social CRM) systems – which are tailored towards enhancing customer satisfaction, developing and managing long-term customer relationships, increasing potential sales, and retaining loyal customer.

However, despite the numerous benefits, many organisations including those in the telecommunication industry, is still at the early stage of the adoption and implementation of social CRM. The lack of understanding of the transition and re-engineering of business operations and processes has been a major setback to the implementation of social CRM. In addition, insufficient research work in this domain has grossly lamented. In addressing the research gap, this thesis is aimed at developing and evaluating a framework for establishing how social CRM can help telecom organisations enhance their brand reputation and customer loyalty. To fulfil the main objective of the research, and to provide a comprehensive view of social CRM adoption and its impact on performance outcomes, data from both organisational and customer perspectives was gathered using the mixed method of research. The qualitative research approach was employed in gaining insight on the firms' adoption of social CRM and the challenges, while quantitative research approach was used to measure how the organisational approach to social CRM are been translated to customer outcomes.

Keywords

CRM, ICT, telecommunication, customer outcomes

Improvement of Semi-Active Suspensions based on Gain-Scheduling Control

Husam Hammood

School of Computing, Science & Engineering
Email: h.f.h.hamood@edu.salford.ac.uk

Supervisor
Prof TX Mei - t.x.mei@salford.ac.uk

Abstract

This study presents the development of a non-linear control strategy for semi-active suspension controller using gain-scheduling structure control. The aim of the study is to overcome the constraints of the conventional control strategies and improve the semi-active suspensions to achieve the performance close to that of the full active control. Various control strategies have been investigated to improve the performance of semi-active vibration control systems. A wide range of semi-active control strategies have also been experimentally tested for enhancing the semi-active suspensions performance. However, the findings published in the literature indicate that there appears to be a ceiling on performance improvements with the control strategies that have been proposed, which is about the half of what could be achieved with the full active control. The main constraint for semi-active devices such as MR dampers are only capable of providing the active control forces by dissipating energy, i.e. in its active mode, and they are switched to work as simple passive dampers, i.e. in the passive mode, when energy injection is demanded by the control laws. The split in durations of time between the active and passive modes for the conventional semi-active control strategies is typically around 50:50. This study will focus on the development of a novel semi-active control strategy that aims to extend the duration of the active mode and hence reduce the duration of the passive mode for semi-active suspensions by using a gain-scheduling control structure that dynamically changes the demanded control force according to the operating conditions. The proposed control method is applied to both vertical and lateral suspensions of a railway vehicle in this study and the improvements in the ride quality are evaluated with several different track data. For the purpose of performance comparison, three state of the art suspension configurations are chosen for comparison: a passive suspension, a skyhook full-active and a conventional semi-active are used as the benchmark and are used as a reference case for assessment of the proposed design. The numerical simulations are carried out to assess the performance of the proposed gain-scheduling controller. The obtained simulation results illustrate the performance improvement of the proposed control strategy over the conventional semi-active control approaches, where the ride quality of the new controller is shown to be significantly better and comparable with that of full active control. Potentially, this approach can be used to deliver the level of the performance that is currently only possible with fully active suspension without incurring the associated high costs and power consumption.

Keywords

Railway vehicles, suspension, semi-active control strategy

Air Pollution Among Different Members of Society in North West England

Rebecca Houghton

School of Environment & Life Sciences
Email: r.houghton@edu.salford.ac.uk

Supervisor
Dr Andrew Clark - a.p.clark@salford.ac.uk

Abstract

This study examines variations in concentrations of key air pollutants experienced by different groups of society in the North West region of England. It has been shown that people who live in more deprived communities are exposed to higher air pollution concentrations, leading to a higher risk of experiencing health problems that are linked with air pollution. Particulate Matter (air pollutant) of a diameter of 2.5 and 10 micrometres were selected as the focus as it has been found they have many negative health effects such as asthma and increased risk of lung cancer. The North West was chosen as a study area as the cities of the region have similar economic and social backgrounds and are therefore comparable. The Index of Multiple Deprivation (IMD) was used to define the deprivation levels of each study area. Particulate Matter concentrations from the past five years were analysed with more detailed investigation into the months March, June, September and December for a link between IMD rankings and pollution levels. A mapping of pollution concentration was undertaken to determine linkages between land use characteristics and pollutant concentrations. This allowed a detailed interpretation of the pollution concentrations informing comparisons between IMD characteristics and pollution exposure. It was found that the more deprived areas were linked with higher pollution concentrations and scored higher in poor health effects as well. This means that more work needs to be done to ensure the reduction of pollution in deprived areas to ensure a healthier way of living.

Keywords

Air pollutants, Index of Multiple Deprivation, health, pollutant concentrations

Using Graphene Based Carbon Fibres Comprised of Single Walled Carbon Nanotubes to Increase the Efficiency of Small Antennas

Andrew King

School of Computing, Science & Engineering
Email: a.king1@edu.salford.ac.uk

Supervisor
Dr John E Proctor - J.E.Proctor@salford.ac.uk

Abstract

Antennas are generally made from conductive materials such as copper or aluminium. The size of traditional antennas are determined by the frequencies they broadcast at; antennas used to broadcast at low frequencies are usually required to be very large. Using new materials, such as graphene, antennas could be dramatically reduced in size and still broadcast efficiently at low frequencies. With traditional materials, the quality of the signal is significantly reduced the smaller the antenna gets. Likewise, power consumption is increased. This is primarily due to the inbuilt electrical resistance of the conductive materials used. The smaller antennas get the more electrical resistance they display. Graphene and related high-quality nanofibers should display significantly lower electrical resistances compared to materials currently used. Using graphene and related materials to dramatically reduce antenna size should enable longer battery life for mobile phones, higher resolution images of outer space from radio telescopes, and a host of other enhancements for devices that use antennas. These new materials, combined with work progressed over the past 20 years in antenna design should alleviate the issues mentioned and allow efficient physically small antennas with low power consumption.

Keywords

Antennas, graphene, electrical resistance, power consumption

Strategies for Improving the Viability of the Biofuel Market

Henry Kenechukwu Madubuike

School of Environment & Life Sciences
Email: h.k.madubuike@edu.salford.ac.uk

Supervisor
Dr Natalie Ferry - N.Ferry@salford.ac.uk

Abstract

Environmental hazards posed by the continuous utilization of fossil fuels are of great concern hence an alternative energy source is urgently needed. Alternative energy sources with renewable characteristics are globally considered and biofuels may be able to meet the requirements. In order to produce liquid biofuels, biomass (made up of lignocellulose) must be broken down to sugars which are then fermented to a biofuel. The term 'lignocellulose' refers to the major polymer constituents of plant secondary cell wall which are cellulose, hemicellulose and lignin. However, these polymers interact in an intricate network resulting in the recalcitrant (difficult to break down) nature of lignocellulosic biomass.

In order to breakdown lignocellulose to sugars, specific enzymes need to be able to access the polymers. The recalcitrant nature of lignocellulose poses a hurdle in achieving market viability for biofuels. An additional step (of pre-treatment) incorporating physical, chemical, biological mechanisms has been adopted to overcome the hurdle of biomass recalcitrance. However, these pre-treatment mechanisms have various drawbacks including cost, corrosiveness and environmental concerns. Biological pre-treatment presents an option with zero environmental and cost concerns. It is apparent that optimizing biological pre-treatment would be a worthwhile route in achieving market acceptance for biofuels.

In order to find suitable enzymes to meet this need, understudied environments have been screened. Investigating the gut bacteria of the common black slug identified 2500 catalytic apparatus (enzymes) with activity in plant-cell-wall deconstruction. The aim of my research is to characterize and optimize the activity of these enzymes for cost-effective biomass utilization.

Keywords

Biofuels, black slug, lignocellulose

Conservation of the Vernacular Architecture in Libya

Mohamed Milod

School of the Built Environment
Email: M.Milod66@yahoo.com

Supervisor
Dr Claudia Trillo - C.Trillo2@salford.ac.uk

Abstract

The survival of Vernacular Architecture (VA) in Libya, and particularly Vernacular Dwellings (VDs) in Nafusa Mountain Region (NMR), is under threat due to rapid modernization, urbanization, socioeconomic transformation, loss of its characteristics resulting from changes and development, and misinterpretation of its typology as well as serious issues of abandonment and neglect. Most VDs of NMR, in some cases over five hundred years old, are unprotected and are becoming neglected and derelict. The vernacular architecture value of these VDs and their preservation for future generations are therefore threatened. To date, little research has been undertaken into the challenges posed in the conservation of VDs in NMR, Libya from the perspectives of VDs owners and professionals, and how the changing patterns of their form, fabric, and function have shaped the challenges of preserving them. To explore this from a more holistic approach, existing local heritage legislation that protects VDs of NMR in particular or Libyan VA in general, and international charters were reviewed, as also successful cases of preservation of similar heritage. This research employs a multi-method qualitative approach by examining as a purposive sample selected three types of VDs. The research methods consisted of semi-structured interviews with dwellings owners and conservation experts, on-site survey of the VDs' changing patterns. Interview data will analyse using thematic analysis. This research will assist policy makers in Libya, when setting strategic national plans for VA conservation, and will provide a useful point of reference for future academics and researchers.

Keywords

Vernacular Architecture, Libya, Nafusa Mountain Region, heritage, policy

Effect of Tube Current-Time on Image Quality and Radiation Dose during Paediatric Pelvis Radiography

Ali Mohammed Ali

School of Health Sciences
Email: a.h.m.a.mohammedali@edu.salford.ac.uk

Supervisor
Dr Andrew England - a.england@salford.ac.uk

Abstract

Within X-ray imaging, radiation dose and image quality (IQ) play vital role in determining patient outcome. In digital radiography (DR), there are many factors affecting both radiation dose and IQ. One of them is the X-ray tube current-time (mAs) that has direct effect on both visual and physical IQ as well as radiation dose. Higher mAs increases the amount of radiation reaching the patient and the image detector. Since x-rays are ionising radiation, clinical practice should balance between diagnostically acceptable image quality and keeping the radiation dose as low as possible, this is called dose optimisation. In pelvic radiography, there are a number of sensitive organs that are exposed to radiation. In addition, children have longer life expectancy that would make them overall more sensitive to ionising radiation.

The study aim was to evaluate the impact of mAs on both IQ and radiation dose in order to try and help optimising dose in clinical practice. This study evaluates IQ and radiation dose across a range of mAs values (whilst including other exposure combinations including tube Kilo-Voltage, source-to-image-distance and filtration). In the study 2,016 X-ray images were acquired using pelvis phantom representing a 5-year-old child. It was found that the mAs has a positive linear effect on IQ and radiation dose. Therefore, mAs is not considered, to be a confounding factor when choosing appropriate exposure combination.

Keywords

Radiation, X-ray imaging, dose optimisation

Heavy Metal Dynamics in Soil-Plant System of a Multi-Contaminated Site in the Greater Manchester Region

Obinna Elijah Nworie

School of Environment & Life Sciences
Email: o.nworie@edu.salford.ac.uk

Supervisor
Prof Chu Xia Lin - C.Lin@salford.ac.uk

Abstract

Today, heavy metal pollution is recognised as a big environmental issue because of the difficulty associated with their elimination from the environment in comparison to other pollutants that can be removed by chemical or biological means and as result, tend to remain indestructible alongside with their deleterious effects cumulating for a long period of time. Soil contamination by heavy metals, uptake and translocation by plants is linked to food chain contamination and this could equally present a wide range of potential health consequences to humans and animals and also causes disruption in the natural ecosystem. It has been reported that investigations of available metal pools, extraction process and the mechanisms through which metals migrate and accumulate in soil-to-plant are relevant in understanding metal dynamics in soil-plant systems and for the effective management of metal polluted soils especially in the context of urban and industrial activities. This research which is being conducted at the mutli-contaminated landfill site at the Greater Manchester, United Kingdom, seeks to explore factors influencing behaviour and changes in heavy metal concentrations within the context of soil-plant system in a multi-contaminated landfill site. This research employs both field and laboratory methods to achieve its set aim and objectives. The field method essentially involves monitoring of heavy metal concentrations in both soil and plant tissues at the site while laboratory method involves the use of ICP-OES to determine metal concentrations in the collected samples. The findings of this research study will be useful in making appropriate recommendations for environmental risk management of heavy metal contaminated lands, particularly, the Moston Brook site. This research also hopes to bridge the knowledge gap and provide information necessary to establish a basis for monitoring predictable short and long-term changes in soil and plant quality.

Keywords

Soil metal contamination, metal dynamics, plant uptake, human health effects

Reconsidering Political Public Relations: How Communication and Engagement Can Reconcile Community Relationships

Sarah Okour

University of Chester
Email: 1526406@chester.ac.uk

Supervisor
Dr Simon Roberts - simon.roberts@chester.ac.uk

Abstract

This thesis is an exploration of the positive role political PR can play in the emerging fields of social integration and extremism. The research problem occurs at a time where Britain is facing issues in managing social cohesion and resolving extremism with the importance placed by many British social and political voices on exploring new and 'soft' techniques for countering terrorism, building public trust, reconciling relationships in the society and contributing a better insight into social integration. All this, together with the increasing demand made by PR scholars to examine political PR in untraditional fields, have motivated this research. It may seem even more interesting to investigate further as the literature provides evidence that the government's anti-radicalization strategy, Prevent, has failed to enhance inclusivity. This study lays emphasis on reconsidering political PR from a corporate-oriented perspective. It is where the social and cultural responsibility of PR can be practiced in non-corporate and challenging environments addressing multiculturalism and inclusivity in Britain. The objective here is to reconsider the function of political PR and provide a theoretical framework of how it can be employed to enhance social integration and counter extremism. Therefore, this study applies a methodology that based on a triangulation research design of a questionnaire and semi-structured interviews to consider an answer.

Keywords

Public relations, social cohesion, extremism, Prevent, multiculturalism, Britain

Comparison of the Epidemiology of *Escherichia Coli* from Patients from Salford Royal Hospital in the United Kingdom and Fort Portal Hospital in Uganda

Yuanyuan Ren

School of Environment & Life Sciences
Email: y.ren2@edu.salford.ac.uk

Supervisor
Prof Richard Birtles – r.j.birtles@salford.ac.uk
Dr Chloe James – c.james@salford.ac.uk
Dr Ian Goodhead - i.b.goodhead@salford.ac.uk

Abstract

E. coli is a well-studied bacterium that has increasingly become a public health concern in all parts of the world. This is due to its abundance, the ability to cause diseases, and its profound antimicrobial resistance profile. So far, 60 isolates extracted from blood (28), wound (2), and urinary tract infection (30) have been collected from Salford Royal Foundation Trust Hospital. Clinical phenotypes have been tested using disk diffusion assays, and they have been typed phylogenetically using Polymerase chain reaction (PCR) method. Ten of the samples were sequenced using Illumina whole genome sequencing.

Results show that, the incidence of AMR against ciprofloxacin (40%) is higher than that of the national average (between 9% and 23.7%), and more than a third of the strains were multi-drug resistant. Moreover, in the samples collected, 70% of them belong to the phylo-group B2, which is commonly found in pathogenic *E. coli*.

This study has helped gain interesting insight into the local antimicrobial resistance profile of clinical *E. coli* strains from Salford Royal Hospital. Further work is required to identify more samples from both study sites. The genetic basis of these pathogenic strains will be depicted using the whole genome sequencing data in future studies.

Keywords

E. coli, antimicrobial resistance, genome sequencing

Developing Socio-Technical Factors of Community Low Carbon Energy System

Ibrahim Abubakar Sadiq

School of the Built Environment
Email: I.A.Sadiq@edu.salford.ac.uk

Supervisor
Prof William Swan - w.c.swan@salford.ac.uk

Abstract

Energy systems across the world are becoming a major issue as a result of depletion of fossil fuels, air pollution, energy inequality, and climate change. There is increasing concern about energy generation systems and their use of energy, which need a radical change in focus. There needs to be an increase in the development of low carbon distributed energy systems that are managed by local communities to increase sustainability. The purpose of this paper is to examine the community based low carbon distributed energy systems available to local communities. The local community could actively participate in providing reliable energy systems which would raise the range of social and economic affluence within these communities.

Critical literature reviews favour current energy trends and issues but also this needs to change to encourage social, technological and institutional reshaping in order to promote the development of community-based distribution of low carbon energy systems. Research from the literature has identified that good governance in providing investment and technical support along with expert assistance and other external factors influence the success of community-based energy projects. Currently, there is a lack of a sense of local responsibility, community vision and spirit and available networks and infrastructure plans within the community. This lack of vision and resources could lead to the failure of community-based low carbon distributed energy systems and energy sustainability.

Keywords

Sustainability, low carbon distributed energy systems, local responsibility, community

Identifying New Therapeutic Approaches for Treatment of Children Brain Cancer

Nazila Safari

School of Environment & Life Sciences
Email: n.safari@edu.salford.ac.uk

Supervisor
Dr Gianpiero Di Leva - g.dileva@salford.ac.uk

Abstract

Medulloblastoma (MB) is the most common malignant tumour of the brain in children. Despite a cure rate of approximately 70–75% among children older than 3 years, MB survivors still suffer the long-term consequences of their treatments.

Currently, all affected children with different MB tumours are treated with the same therapies that include radiation to the entire developing brain followed by highly toxic chemotherapy, ensuing deleterious effects on the developing nervous system. This highlights the need for a more effective and less toxic therapy.

A well-defined genetic feature of MB is the presence of abnormalities in the gene that codes for a protein named MYC. This protein has malignant activity and is difficult to drug. With the goal to stop the malignant activity of MYC protein, this research aims to evaluate the preclinical efficacy of newly developed inhibitors, named transcriptional Cyclin-Dependent-Kinase (CDK) inhibitors, on a set of MB cell types and the possibility to use them as new therapeutic tools. Findings of the research will help to define a better understanding of medulloblastoma biology and guide a targeted development of curative, relatively non-toxic, and subtype-specific therapies.

Keywords

Medulloblastoma, chemotherapy, MYC protein, Cyclin-Dependent-Kinase inhibitors

How Bacteria and the Human Host Interact in Ventilator-Associated Pneumonia

Alexander Henry Tompsett

School of Environment & Life Sciences
Email: A.H.Tompsett@edu.salford.ac.uk

Supervisor
Dr Joe Latimer - j.latimer2@salford.ac.uk

Abstract

Ventilator-associated pneumonia (VAP) is a common hospital-acquired infection. It is associated with bacterial growth on tubes used for assisted breathing and has a high mortality rate. Patients in intensive care are at high risk of developing VAP as they frequently require mechanical support to breathe.

Currently, treatment is limited by delays in diagnosis, leading to best-guess antibiotic therapy. This contributes massively to the development of antibiotic resistance in hospital-acquired infections. In a time where fears of resistant 'superbugs' continue to grow, this is particularly worrisome.

We have characterised four isolated bacterial species associated with VAP-patients using DNA sequencing technology. We are also adapting a pig lung model of VAP to understand how bacteria identified in VAP-patients affect the lung. Finally, we will recruit mechanically ventilated patients and take samples of their lung washes to see which bacteria are present and whether they develop VAP. We will also check lung washes for unique patterns of inflammatory molecules in the blood which will help better identify VAP-causing bacteria.

Improved understanding of the interactions in VAP may improve diagnosis in intensive care. This would have a massive impact on antibiotic use in intensive care and patient outcomes.

Keywords

Ventilator-associated pneumonia, antibiotic resistance, superbugs, DNA

An Investigation of the Critical Success Factors for Firm-Level Innovation Persistence During Economic Crisis

Azubuike Anthony Ugwuoke

School of the Built Environment
Email: a.a.ugwuoke1@edu.salford.ac.uk

Supervisor
Prof Carl Abbott – c.abott@salford.ac.uk

Abstract

Innovation is viewed by many as a driving force for sustainable economic and social change. Indeed, it has often been argued that continuous innovation is critical for sustainable developments in the construction industry. However, previous studies have found that economic crises often produce certain factors that affect the ability of firms to continue with innovations during economic crises. As a result, firms seeking to persist with innovation implementation during economic crisis must first understand the inadequacies of their current innovation management strategy and actively seek to re-design a management approach that addresses these constraining factors that emerge during economic crisis. This work seeks to identify the critical success factors for innovation persistence during economic crises.

This paper provides an overview of the literature on innovation, economic crisis, and innovation persistence. This is supported by case studies, interviews and surveys within innovation persistent construction based firms.

The presence of an effective innovation system that enables extensive inter firm collaborations, a culture of market orientation and an ability to maintain strategic flexibility are identified as the critical success factors that enable innovation persistence during economic crisis. These identified critical success factors address the constraining factors that emerge during economic crisis.

The paper creates value by combining literature on innovation and economic crisis, with obtained empirical data to extend and strengthen the theoretical support for innovation persistence and highlights areas for further research.

Keywords

Innovation, Economic Crisis, Innovation Persistence, Construction contractors, Management Approach, Critical Success Factors, Constraining Factors

Artificial Textile Wastewater Treatment using Duckweed-Based Systems

Dina Yaseen

School of Computing, Science & Engineering
Email: dinaali1981@yahoo.com

Supervisor
Prof Miklas Scholz - m.scholz@salford.ac.uk

Abstract

The wastewater discharged from textile industries is linked to many water pollution problems, since it contains a mixture of different contaminants such as dyes, chemical oxygen demand, suspended solids, total dissolved solids, nitrogen, phosphorus and metals, which cause serious environmental damage. Green technology using Duckweed-based treatment systems are recommended as a cheap, simple, effective and environmentally friendly technique to treat diverse contaminants. The aim of this research is to investigate the performance of simulated wetland pond systems planted with Duckweed (*Lemna minor L.*) for treating highly concentrated wastewater cotaining four dyes (acid blue 113, reative blue 198, basic red 46 and direct orange 46). The experiment is conducted under controlled conditions by preparing artificial textile wastewater containing a high load of nutrients and organic matter. The results indicate that the system is able to remove some of the pollutants from artificial textile wastewater, improving the main water quality parameters including chemical oxygen demand and nitrogen, but not phosphorus. Findings also show that higher average dye removal (85%) was noticed for Duckweed-based ponds treating the dye basic red 46. Only reactive blue 198 and basic red 46 removals were significantly higher in Duckweed-based ponds compared with the control ones.

Keywords

Wastewater, pollution, duckweed, textile industries

Three Minute Thesis™

Informal Economies between Identity and Economic Development for Climate Change in Egypt

Nourhan Abdelrahman

School of the Built Environment
Email: n.h.abdelrahman@edu.salford.ac.uk

Supervisor
Prof Hisham ElKadi - h.elkadi@salford.ac.uk

Abstract

Industry-based cities in the Global South exhibit a significant industry or craft embedded in the culture and livelihood of its community. These cities' economic structure (typically informal in nature) is almost entirely related to this industry and passed down from one generation to the next. Such contexts embrace a complex entanglement between the community's identity, inherited culture, sense of belonging and economic gain. The craft/industry in this sense is described as Porter's cluster economy as well as a measure of collective identity and social construct. This research draws on Porter's Competitive Advantage theory, Anthropological Perspectives of Identity and McClelland's Theory of Needs to classify and measure tangible and intangible aspects of industry-based informal economies, to achieve a theory-based data-driven alternative for socioeconomic development.

The case study; Damietta- Egypt, embodies a community that has been reliant on furniture-making as a craft and industry for generations. The skilled labour of Damietta has attracted customers from all around Egypt through the years. However, recent strategic plans in Egypt are establishing a controversial multi-corporation megaproject for wooden furniture industry situated outside the old city, which will drain the city's economy and entrepreneurial identity, in addition to the project's location on lowlands, vulnerable to sea level rise and complete loss within the next 50 years. The research proposes quantifying the old city's community empowered socioeconomic identity as an approach to establish a grounded alternative for sustainable evolution of the city while preserving its identity.

Keywords

Informal Economies, Egypt, sea level rise, identity, sustainability

Slimy Solutions Will Save the Environment: The Story of the Common Black Slug (*Arion Ater*)

Stephen Austin

School of Environment & Life Sciences
Email: S.C.Austin@edu.salford.ac.uk

Supervisor
Dr Natalie Ferry - n.ferry@salford.ac.uk

Abstract

Sustainability is becoming increasingly important in almost every industry and chemistry is no different. Green chemistry aims to minimise the environmental impact of the chemical industry. This includes shifting away from oil to renewable sources where possible. Making chemical compounds, particularly organic molecules (composed predominantly of carbon and hydrogen atoms), is the basis of vast multinational industries from perfumes to plastics, farming to fabric, and dyes to drugs. In a perfect world, these would be prepared from inexpensive, renewable sources in one environmentally benign chemical reaction.

My research focuses on screening the natural environment searching for enzymes that degrade (break down) plant biomass, a perfect renewable resource. Plant biomass is composed of long polymers that if broken down yield sugars and chemicals useful for industry. To date, harsh chemical treatment has been used to release these sugars. The common black slug (as found in your garden) has bacteria in its gut (the gut microbiota) that break down plant biomass. We have used molecular biology approaches to identify all of the genes that code for these bacterial enzymes. We then clone these genes and make the enzymes in the lab. Ultimately we wish to assemble our enzymes on nanoparticles and test how well they break down agricultural waste and biomass. If we are successful we will have developed a 'green' method to break down a sustainable source of chemical compounds that may be converted into high value molecules

Keywords

Green chemistry, sustainability, black slug, bacterial enzymes

Understanding Stakeholder Views on Success in Project Management – An Industry Collaboration Zones Project Case Study

Kelechi Iheanacho Chuku

Salford Business School
Email: K.I.Chuku@edu.salford.ac.uk

Supervisor
Chris Procter - c.t.procter@salford.ac.uk

Abstract

Contemporary researchers have shown that stakeholders have different perceptions of the success of a project, suggesting that in many cases project success is a matter of opinion rather than fact (e.g. Cavarec 2012, Brady and Davis 2010). This research focuses on stakeholder perceptions of success, examining the impact of the interpersonal skills of a project management team on these perceptions. It examines the extent to which the project manager influences stakeholders' views of the success of the project, discussing the method of a case study research to date. This can include their communication, leadership, teamwork and other 'soft' skills. The outcome of this research can have a significant effect on our understanding of the competencies required of project managers as well as an impact on organisational culture, enhancing the perceived success and productivity of our projects.

Keywords

Project Success, Stakeholder Perception, Interpersonal skills

A Feminist Study of Women's Adoption and Use of Mobile Phones in Nigeria for Individual and Collective Development

Camilla U. Ndukwe

School of Health and Society
Email: ndukwecamille@hotmail.com

Supervisor
Prof Garry Crawford - g.crawford@salford.ac.uk

Abstract

The purpose of this study is to explore how Nigerian women have adopted and are using mobile phones as tools for their individual and collective empowerment. This is ongoing research that adopts a feminist approach to study. Empowerment in this study, to a large extent, reflects the kinds of networks the participants have built for themselves. The study which is qualitative in nature used interviews to gather the experiences of the mobile lives of 21 women resident in Zaria, Kaduna state in Nigeria. Preliminary results obtained are analyzed using Theme Template Analysis Approach. Three key themes have emerged from the results of preliminary analysis – the social benefits of using mobile phones, factors affecting the ownership and use of mobile phone, and distraction. In particular, some participants use the mobile phone as tool for socialization as well as a tool for promoting and engaging in businesses. The findings suggest that mobile phones have made it easy for the women to engage in other business ventures beyond their regular jobs, which in turn has led to increased income for them and their family. The mobile phone has made it easier to expand their social and business networks. However, despite the expressed benefits of owning and using a mobile phone, the women also expressed fears on how the mobile phone can pose a distraction for women and potentially cause them to neglect their duties as wives and mothers.

Keywords

Business engagement, empowerment, mobile phones, social benefits

Gold Nanomedicine: Novel Multimodal Theranostics Tools

Michael Greenwood

School of Environment & Life Sciences
Email: M.Greenwood2@edu.salford.ac.uk

Supervisor
Dr Zeljka Krpetic - z.krpetic@salford.ac.uk

Abstract

Radiation therapy is amongst the most common and effective treatments offered to patients suffering from cancer. Unfortunately, large doses of radiation used during such treatments required to eradicate tumours often leave surrounding healthy tissues damaged and can even instigate the formation of subsequent tumours around the body. At Salford NanoLab we are using cancer nanotechnology approaches in the design of gold nanoparticles aimed to improve anticancer X-ray radiation treatments. Cancer nanotechnology is a branch of nanotechnology based on the design and application of nanoparticles for nanoparticle-based theranostics or cancer diagnostics and treatment. Gold nanoparticles (GNPs) are well known as drug delivery vehicles, diagnostic sensors of infectious diseases, and have been used as X-ray contrast agents. The advantage of using nanoscale gold arises from the fact that at the nanoscale, gold nanoparticles can target tumours specifically if functionalised with targeting biomolecules such as antibodies, proteins, or drugs, and can be programmed to perform different tasks from cancer detection to therapy. Our novel approaches investigate the multimodal effects of rationally designed GNPs as nanomedicine using them both as radiation dose-enhancers and chemotherapeutics simultaneously. Gold is capable of focusing the radiation beam, lowering the dose of radiation required to successfully eradicate tumours. Radiation dose enhancement studies are planned in collaboration with the Centre for Applied and Interdisciplinary Radiation Research at Queen's University Belfast, where the effects of nanoparticle size and shape on the radiation dose response will be systematically investigated.

Keywords

Gold nanoparticles, radiation therapy, X-ray, cancer treatments

Investigating the Impeding Factors on Effective Internal Control and Fraud Prevention Measures in Small and Medium Enterprises and the Implications on Financial Performance

Elma Jane Lamba

Salford Business School
Email: E.J.Lamba@edu.salford.ac.uk

Supervisor
Prof Hassan Yazdifar - H.Yazdifar@salford.ac.uk

Abstract

Occupational fraud and internal control inefficiencies are costing small businesses thousands of pounds. According to the Fraud in Small Business report (2016), 30% of fraud cases occurred in small businesses that year and these businesses suffered the same median fraud loss as organizations with more than 10,000+ employees. The report further states that sixty percent of small-business fraud victims did not recover any of their losses. Smaller companies lack sophisticated internal financial controls to prevent occupational fraud and this means employees handle many duties, which makes it easier to cover up and/or destroy the audit trail that would reveal fraud. Unlike larger corporations, smaller companies don't have hotlines in place for employees, vendors and customers to report observed instances of fraud. Such mechanisms, such as hotlines, have a significant impact on fraud detection, yet they are often not utilized. This may be a symptom of the higher level of trust that exists in smaller businesses which is too often violated. This study seeks to investigate the factors that hinder effective internal controls and fraud prevention measures in small and medium enterprises.

The research aim is to investigate the factors impeding effective internal control and fraud prevention measures in SMEs and their implications on financial performance. The study will adopt more of a qualitative approach in data collection making use of surveys and oral interviews as the research instrument. The population of the study will include employees of selected small and medium enterprises in the United Kingdom. The study will adopt a sample of 300 small and medium enterprises operating in the United Kingdom. Although many studies have been conducted on financial fraud in many parts of the world, especially in the United States of America, no comprehensive study has been done to focus on effective internal control and fraud prevention measures in the United Kingdom. Where any information exists, they are only narrow. Thus, this is the first attempt of such. It is therefore anticipated that this exploration will contribute significantly to the existing body of knowledge in forensic accounting and occupational fraud generally in the United Kingdom.

Keywords

SMEs, occupational fraud

Construction and Implementation of a Low Cost Paediatric Pelvic Imaging Phantom for Dose Optimisation Studies

Ali Mohammed Ali

School of Health Sciences
Email: A.H.M.A.MohammedAli@edu.salford.ac.uk

Supervisor
Prof Peter Hogg - P.Hogg@salford.ac.uk
Dr Andrew England - a.england@salford.ac.uk

Abstract

Imaging phantoms can be cost prohibitive and a need, therefore, exists to produce low cost phantoms fit for the purpose. Consequently, this work outlines the development and validation of a low cost dose / image quality pelvis phantom for a 5-year-old child.

Materials simulating paediatric body tissue for bone and soft tissue, namely, plaster and PMMA were utilised, respectively. PMMA was cut to match the bony anatomy taken from a CT scan of a 5-year-old child to create cavities for plaster infusion. Phantom validation included physical and visual measurements. The physical used CT density (HU) to compare between a CT scan of a 5-year-old male and the phantom, a Signal to Noise Ratio (SNR) comparative analysis of AP DR phantom x-ray images against a commercially anthropomorphic phantom. Visual analysis used a psychometric image quality scale.

For HUs, the percentage difference between soft tissue and cortical bone and their equivalent tissue phantom substitutes were 86.1% and 88.4% respectively. The SNR recorded a strong positive correlation between the two phantoms for the responses ($r>0.95$ all kVps and $r=-0.21$ at 20 mAs). This decreased as mAs increased ($r=-0.21$ at 20 mAs). Psychometric scale results produced high reliability with Cronbach's Alpha of almost 0.8.

Visual and physical measurements recommend the low cost phantom has appropriate anatomical characteristics for X-ray imaging. The method generates a low cost phantom can be used in dose and image quality optimisation studies.

Keywords

Imaging phantoms, visual analysis, image quality

Improving Advance Malware Detection by Identifying Respective Family

Alsa Tabatabaei

School of Computing, Science & Engineering
Email: s.alsadattabatabaei@edu.salford.ac.uk

Supervisor
Dr Mo Saraee - m.saraee@salford.ac.uk

Abstract

Malware is a malicious program that is intentionally developed to harm computer systems. The emerging growth of malware with high complexity has opened doors to a confidential and sensitive data breach by hackers on daily bases. A big threat in today's cybersecurity era, variant of advanced malware mutates their code by crafting to look different from each other even from the same malicious family to evade detection system. Therefore, to combat malware effectively, it is desirable to identify groups of malware with strong structural similarities and also dissimilarities. To address cases of highly-sophisticated malware, the concept of machine learning and data mining approaches have been utilized by cybersecurity researchers likewise in the health system for cancer detection and prediction. In order to create an abstract description of each malware family; there is a need for a comprehensive study which consists of several stages such as data preparation. Data preparation in current research includes collecting malware samples, reversing the samples code, discovering for known and unknown frequent sequential patterns and measuring the dissimilarity and similarity between the codes. To create the code integration, the virus code extracted from variants of the same malware family as a primary dataset. To complete data preparation, the network between extracted codes from each individual malware family is generated by association rules. The result considered as secondary dataset which captured the commonalities of all malware samples within a group. To overcome the drawbacks in previous methods, we grouped the samples on the basis of its code influencers which enhance segmentation. Unlike other standard clustering tools, it also explains how the variable and variable levels contribute to the formation of clusters. Hence, if an unknown malware which is advanced in nature crafted by some of the examined patterns; it is possible to detect suspicious behaviour of them on the host in the real-time. On this assumption and motivation, a new model is developed not only to discover relationship and links between code structures but also in order to effectively regroup malware samples to the respective family. The experimental evaluation in this paper was designed to be much more thorough to pave the way toward deployment of the approach for use by cyber-security analysts.

Keywords

Cyber-security, malware, machine learning, data mining

A Strategy for Stakeholder Engagement in Urban Infrastructure Provision in Nigeria

Bello Nagogo Usman

School of the Built Environment
Email: B.N.Usman@edu.salford.ac.uk

Supervisor
Prof Peter McDermott - peter.mcdermott@ccinw.com
Dr Chika Udeaja - c.e.udeaja@salford.ac.uk

Abstract

The global population is increasing and at the same time, there is movement of people from rural area to the urban area. It is estimated that by the year 2050, three quarters of the world population will be living in urban areas. The trend of urbanisation comes with various challenges and benefits. Various scholars in this field of study have highlighted that the rate of urbanisation in Nigeria is rapidly increasing but the country has been unable to tap into the benefits of urbanisation due to existing poor infrastructure and inability to meet the increase in demand for new ones.

There is growing adoption of the concept of Public Private Partnership (PPP) to galvanise resources to bridge infrastructure deficit and improve efficiency of service provision of existing stock by many countries around the world. Nigeria has also keyed into the concept of PPP but with little success due to various problems chiefly among them include; political will, technical knowhow, lack of clear coordination between the government and the concessionaire and the negligence of community/public engagement in Urban Infrastructure (UI) PPP processes.

Despite the identification of the absence of a structured Stakeholder Engagement (SE) process as a critical success factor that has led to the failure and slow growth of PPP in Nigeria, no existing study has addressed the issue of proposing a strategy for SE in UI provision in the country. This thesis intends to bridge this knowledge gap by proposing SE strategy for PPP UI provision in Nigeria.

Keywords

Urbanisation, Stakeholder, Public Private Partnership, Infrastructure, Nigeria