



THE UNIVERSITY OF  
**NORTHAMPTON**  
Graduate School

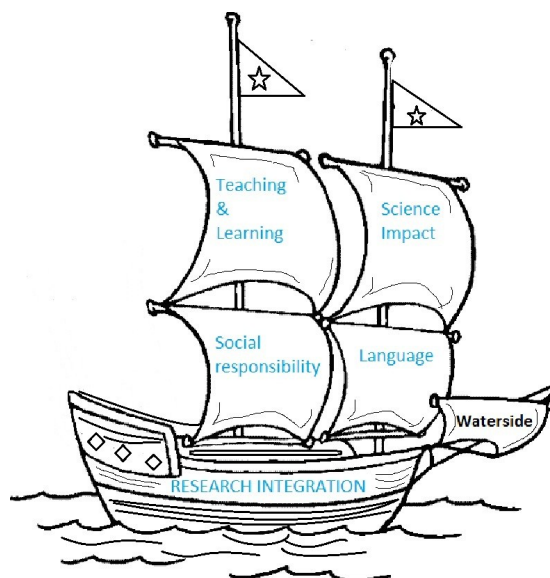
**Annual Research Conference 2015**  
**For Postgraduate Research Degree Students**  
**and Early Career Researchers**

***Research Integration***

**Hosted by the Graduate School**

**Wednesday 17th June 2015**  
**at**  
**Holdenby Lecture Theatre 3**  
**Park Campus**

This year's PGR and ECR conference is themed around **Research Integration**, presenting innovative research across disciplines and schools. The speakers are grouped under four broad themes, namely *Teaching and Learning*; *Science Impact*; *Social Responsibility*; *Language*, embracing a mix of research practice and different methodologies, many presenting clear research impact and the potential for further collaboration.



The broad themes of the conference sessions also echo the Changemaker campus values of the university; innovation, social responsibility and creativity, an ethos we take with us as we prepare to move forward to Waterside.

Each presentation will last for ten minutes, with five minutes allocated for questions. We do hope you enjoy the day.

*PGR & ECR Conference Working Group: Anna Crouch, Anna Kopec, Rebecca Rickaby, Oyindamola Olajubu, Simone Apel. Reserve Chair: Alex Berry.*

### ALL SESSIONS IN HOLDENBY LECTURE THEATRE 3

09:00	Registration & refreshments
09:30 <b>WELCOME</b>	<b>Professor Simon Denny, Director of Research, Impact and Enterprise</b>
	<b>Announcement of winners of the Images of Research competition</b>
09:45 <b>Teaching &amp; Learning</b>	<b>Chairs: Anna T. Crouch &amp; Oyindamola Olajubu</b>
James Blackmore-Wright	Decisions, Decisions: Will a change in MBA recruitment strategy help the Mid-Size sector?
Alexandra Berry	Exploring the understandings of recovery for people with anxiety and/or depression.
Josh Judd	The affect of invitation on spectator expectation in participatory post-dramatic theatre.
Melinda Spencer	Becoming and doing a young maternal grandmother: Lived experiences and meanings.
Remi Odunsi	Teachers' knowledge of Autistic Spectrum Disorders (ASD) in mainstream primary schools in Nigeria.
11:00 <i>Refreshments</i>	

11:30 <b>Science Impact</b> <b>Chair: James Blackmore-Wright</b>	
Nedjoua Houda Kholadi	A multi-agent approach for segmentation of brain tumour MRI Scan.
Marwan Al-Dabbagh	Employing VANETs technology to alleviate road congestion in real time.
Thomas Ehrl	Design for ride quality – knowledge transfer of advanced dynamics of passenger transportation systems in buildings for a multi-cultural/multi-discipline R&D environment.
Naktal Edan	Design and evaluate a resilient prototype for m-health information systems.
12:30 <i>Lunch</i>	

13.30 <b>Social Responsibility</b> <b>Chair: Remi Odunsi</b>	
Jennine Evans	Sediment pressures in UK rivers: Developing a monitoring and mitigation strategy for the South Downs National Park Authority.
Nicola Smithers	The legal, ethical and clinical justifications for withholding and withdrawing treatment from critically ill neonates.
Mark Kirkham	Post-conflict reconstruction within fragile states: Learning from the Ottoman experience of state-building.
Louise Atkinson	The role of community influences on socially responsible activity within SMEs.
Liam Fassam	Supply chain food crime & fraud: A systematic literature review of food criminality.
14:45 <i>Refreshments</i>	

15:15 <b>Language</b> <b>Chair: Mark Kirkham</b>	
Ameer Al-Sadi	The management of the future Internet.
Lucy Atkinson	Input enhancement, multi-modality and rule presentation; their impact on second language learners of English.
Meriem Lamara	The gothic in twenty first century young adult fiction.
Oyindamola Olajubu	Requirement specification with domain specific languages.
16:15 <i>Close</i>	

**Marwan AL-DABBAGH**

Postgraduate Research Student in the School of Science and Technology.

Department of Computer Science

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**TITLE:**

**Employing VANETs technology to alleviate road congestion in real time.**

**ABSTRACT:**

Nowadays, road traffic jams are considered one of the most serious problems facing large groups of people. Drivers die or are exposed to serious injuries because of road accidents that occur due to poor driving behaviour, road congestion, disobeying the rules of the road or bad traffic system management. Development of the deployment of traffic road information to reduce road accident and to make the journey safer was the main motivation behind the improvement of Vehicular Ad Hoc Networks VANETs. VANETs are a special category of Mobile Ad Hoc Networks (MANET), which were considered the cornerstone for Intelligent Transportation System (ITS), used to established communication among vehicles on a road using an infrastructure-less network. In this study we will design a novel algorithm, or modify the existing algorithms, for Intelligent Transportation System (ITS) using VANETs. The research aims to predict traffic congestion and provide an action list via a control room to determine alternative itineraries, which will be sent to relevant vehicles through Road Side Units (RSUs) devices.

**Ameer AL-SADI**

Postgraduate Research Student in the School of Science and Technology.

Department of Computer Science

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**TITLE: The management of the future Internet.**

**ABSTRACT:**

The future internet is a huge cloud of assisted living and smart applications that serve the user by providing remote communication and management of specific resources. It contains numerous fixed and movable devices, sensors, and actuators. These require very fast and dynamic communication, performed by a novel network paradigm that comprises central management Software-Defined Networks (SDNs). SDN provides a faster, cheaper and more efficient network. In addition, it strongly supports Network Function Virtualization (NFV), which enables us to write network programmes for executing the network functions that were previously performed only by physical devices. The proposed project develops the algorithm and the software, which will be responsible for determining how the software and hardware elements of SDN networks could provide optimal performance. The proposed algorithm will optimize the distribution and use of the network resources.

**Louise ATKINSON**

Postgraduate Research Student at Northampton Business School (NBS).

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**TITLE: The role of community influences on socially responsible activity within SMEs.**

**ABSTRACT:**

Increasingly SMEs (Small Medium Enterprises) are engaged in CSR (Corporate Social Responsibility) activity either strategically or instinctively. This study seeks to observe how contrasting demographic trends within local communities may influence the nature and extent of SME engagement in CSR activity and to what effect.

CSR in SMEs is a relevantly underdeveloped area of literature and whilst the community is acknowledged as important in many studies, there is little direct focus on the relationship between communities and SMEs. This study will explore SMEs in both affluent and deprived communities, and considers; what activities SMEs are engaged in that can be classified as CSR; the connection between these activities and the communities around the SME; as well as the perceived impact this has on the SME and beneficiary's of CSR activity.

**Lucy ATKINSON**

Postgraduate Research Student in the School of Social Science, Division of Psychology.

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**TITLE: Input enhancement, multi-modality and rule presentation; their impact on second language learners of English.**

**ABSTRACT:**

*Background, Context and Research Questions*

This research examined the effect of a teaching intervention used in second language classrooms: visual input-enhancement (enhancing a target grammar form using the font: bold, underline etc.). Aims of the research were to explore ways to better direct learning resources such as attention and working memory to the second language. This experiment investigated the effects of visual input enhancement amongst Chinese learners of English in their home country with consideration of individual differences in motivation and attention.

*Future Research*

Future research will be the introduction of a second study due to run in 2015 with Chinese Pre-Sessional Academic English students. The concentration is on input enhancement and varying modalities: visual and auditory. This study will focus on whether modality has an impact on acquisition of the chosen structure – through input enhancement (visual), explicit rules and aural enhancement (audio).

**Alexandra BERRY**

Postgraduate Research Student in The School of Health.

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**TITLE: Exploring the understandings of recovery for people with anxiety and/or depression.**

**ABSTRACT:**

The concept of recovery has been widely debated in the field of mental health since the early 1990s, with distinction being drawn between clinical recovery ('recovery from') and personal recovery ('recovery in'). However, this research has been centred on severe and enduring mental health problems and the concept of recovery has not been applied to common mental health problems. My paper addresses this gap with specific attention paid to the different attitudes to recovery of service users and mental health professionals using data from focus groups. I will argue that whilst service users tend to talk about personal recovery and professionals more about clinical recovery there is some shared understanding. I will also discuss further research, using Q methodology, not yet analysed fully which focuses on perceptions of barriers to and helpers of recovery. In conclusion, this research explores the under-researched area of common mental health focusing on attitudes towards recovery.

**James BLACKMORE-WRIGHT**

Senior Lecturer (Marketing) & Early Career Researcher at the Northampton Business School.

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**TITLE: Decisions, Decisions: Will a change in MBA recruitment strategy help the mid-size sector?**

**ABSTRACT:**

Much has changed in over a century since the launch of the first MBA. Competition for applicants has increased and the requirements of critical business sectors are more dynamic than ever. Despite this level of change, Business School recruitment strategies have remained static. The requirements of the critical mid-sized sectors are often ignored and, with the plethora of ranking systems available, much is made of an applicant's desire to improve their earning and employability prospects.

With overall applications decreasing and the economy looking to the mid-sized sector for growth, the researcher asks whether recruitment teams are making the right choices and whether we are equipping practicing managers to make the right decisions. The project examines the decision-making dynamics for MBA students and explores the recruitment messages of leading Business Schools and the skills required in the mid-sized sector.

**Naktal EDAN**

Postgraduate Research Student in the School of Science and Technology.

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**TITLE: Design and evaluate a resilient prototype for m-Health information system**

**ABSTRACT:**

Mobile health is defined as the provision of healthcare services through the use of information and communication technologies (ICT) in order to maintain good quality welfare. Recently, the use of m-health has been picking up momentum within research communities, medical companies, and governments. The term m-Health refers to the ability to access patients' records or status from mobile & immobile units such as an ambulance, home, and office etc. via mobile devices. This research focuses on designing and developing a resilient prototype for m-Health systems using Mobile/Wireless networks protocols (i.e. SIP, RTP and IEEE 10730) and to find out an appropriate Real Time signalling protocol. The system should provide autonomous exchange of data between a patient and emergency department in the hospital from mobile & immobile units.

**Thomas EHRL**

ThyssenKrupp Elevator Innovation GmbH, Germany.

Postgraduate Research Student in the School of Science and Technology.

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**TITLE: Design for ride quality – knowledge transfer of advanced dynamics of passenger transportation systems in buildings for a multi-cultural/multi-discipline R&D environment.**

**ABSTRACT:**

This research study combines two comprehensive subjects. Advanced machine dynamics knowledge & its suitable preparation for the academic education of engineering staff.

The project includes a comprehensive analysis of influencing design factors to the perceived performance of a Passenger Transportation System and the transfer into a 'Design for Ride Quality' Guideline. Based on relevant machine dynamics models, the project enlightens the complexity of dependencies of machine and building components.

The focal area of the research looks into the concepts of knowledge transfer. Research activities aspire the substantial examination of higher engineering education principles and applied problem solving strategies of adult learners. The research looks into pedagogic learning models, the impact of learning styles and the implication to the concept of a Master of Science course at The University of Northampton.

With a new learning model, the research findings may have an implication to the future concept design of learning courses to enhance Higher Engineering Education in a multi-cultural/multi-discipline R&D environment.



**Jennine EVANS**

Postgraduate Research Student in the School of Science and Technology.

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**TITLE: Sediment pressures in UK rivers: Developing a monitoring and mitigation strategy for the South Downs National Park Authority.**

**ABSTRACT:**

In the UK, some rivers are failing to meet the criteria for Good Ecological Status (GES) set out in the European Union Water Framework Directive. Current failures across the UK are reported to include a range of chemical failures and / or have excessive sediment pressures, leading to the burial of gravel bed rivers. The Environment Agency and South Downs National Park Authority have identified sediment pressures as a key issue for the River Rother, a 350 km<sup>2</sup> river catchment in the South Downs National Park in Southern England.

While fine sediment (which is known to transport nutrients and pollutants) has been identified as a key variable likely to prevent the attainment of GES in the Rother, the specific sources and causes of the problem have yet to be fully evaluated. Within this project we will explore potential sources and causes using a combination of primary and secondary data

**Liam FASSAM**

Senior Lecturer Supply Chain Management & Early Career Researcher at the Northampton Business School.

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**TITLE: Supply chain food crime & fraud: a systematic literature review of food criminality.**

**ABSTRACT:**

*Purpose of this paper design/methodology/approach:*

The paper focuses on considering the variables known to affect the two domains of food crime and food fraud within a supply chain context. Comparing and contrasting known research through a systematic literature review (SLR) (Denyer and Tranfield, 2006) to navigate through and provide a gap analysis from multidisciplinary sources of literature to aid understanding of Food Supply Chain Risk Management (FSCRM) needed to deliver UK Government policy in the food supply chain criminality arena (House of Commons International Development Committee, 2013).

*Findings:*

The analysis of the literature found demonstrates divergence in views across different research areas (particularly in terms of articles versus peer reviewed research), and in doing so identifies areas for future research within the Food supply chain risk management sector.

**References:**

Denyer, D., Tranfield, D. (2006) 'Using qualitative research synthesis to build an actionable knowledge base', *Management Decision*, 44 (2). [Online] <http://www.emeraldinsight.com.ezproxy.northampton.ac.uk/doi/pdfplus/10.1108/00251740610650201> (Accessed: 6<sup>th</sup> January 2015)

Elliott, C. (2014) 'Elliott Review into the Integrity and Assurance of Food Supply Networks – Final Report', *HM Government*, July 2014, [Online] Available from [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/350726/elliott-review-final-report-july2014.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/350726/elliott-review-final-report-july2014.pdf) (Accessed: 13<sup>th</sup> November 2014)

House of Commons International Development Committee (2013) 'Global Food Security: Government Response to the Committee's First Report of Session 2013-2014', (HC 626, 2013-14), [Online] Available: <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmintdev/176/176.pdf> (Accessed: 12th February 2015)



**Josh JUDD**

Postgraduate Research Student, School of the Arts.

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**TITLE: The affect of invitation on spectator expectation in participatory postdramatic theatre.**

**ABSTRACT:**

My research is interested in the affect of the invitation to participate in postdramatic theatre on an audience member's expectation of their role as spectator. I believe that when invited to participate the audience member experiences a state of authenticity as a result of a brief suspension of expectation formation. To investigate this phenomenon I will use Gob Squad's Western Society as an example of the specific performance conditions my inquiry will focus on and then devise my own performance to gather substantial data of this spatial-temporal point of authenticity/invitation and the surrounding situation. I intend to build on the work of Bergson and synthesize his theory of durational temporality with the phenomenological tradition (Husserl, Heidegger and Sartre) to construct a workable model of expectation that when combined with a history of participatory art plotted from the work of Boal, Bishop and White to produce a framework of participatory spectatorship.

**Nedjoua Houda KHOLLADI**

Visiting research student in the School of Science and Technology.

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**TITLE: A multi-agent approach for segmentation of brain tumour MRI scan.**

**ABSTRACT:**

MRI is the first review to be carried out to detect a brain tumour precisely, locate, measure its size and evaluate the consequences, hence the need to segment into different parts for a better understanding of the image.

Indeed, the interpretation of medical images is one of the most encouraging areas of research, given that it provides facilities for diagnosis and therapeutic decision of many diseases. Several methods exist for image interpretation which largely fall into two main categories: region or edges. The definition, however, remains vague, imprecise and not uniform for all types of images. In the context of image segmentation, parallelism attribute of software agents can be considered to achieve the fusion of simultaneous pairs of neighbouring regions regardless of their position in the image. Interaction between agents can lead to a new behaviour by splitting or merging regions and extending or dividing edges using cooperation protocols.

**Mark KIRKHAM**

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**TITLE: Post-conflict reconstruction within fragile states: Learning from the Ottoman experience of statebuilding.**

**ABSTRACT:**

This paper analyses current literature on hybridity by authors such as Paul Jackson, Oliver Richmond and Audra Mitchell. Hybridity conceptualises the idea that in order to create new democratic states which are legitimate in practice, they first must create a structure which incorporates traditional governance methods with new ones. Existing religious / community-based mechanisms in contexts such as Iraq are sometimes some of the few institutions still left functional as a result of intervention. Yet if a new form of governance is to be created, new institutions must be seen at the very least as semi-legitimate if they are to wield authority and to produce long lasting reforms, trust and sustainable change. One example of how transition could be eased is through the Ottoman millet system which provided this exact mechanism to create a transitional arrangement between the Ottoman state and the people in a newly conquered territory. Through religious institutions, the new states formed were seen to be empowering to local elites rather than exclusionary. What has been found is that the Ottomans focussed less on regime change in the early stages after intervention, encouraged continuity of existing power structures but this also ensured that the central state had the final say on matters of national importance. This paper concludes that despite the historical differences between the management of diversity in an empire and the political objectives of intervening powers in contemporary conflicts, a hybrid transitional period inspired by the Ottomans could provide democratic governments with a blueprint to inclusive government in the short term.

**Meriem LAMARA**

Postgraduate Research Student in the School of the Arts.

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**TITLE: The Gothic in twenty first century young adult fiction.**

**ABSTRACT:**

This project examines the Gothic in twenty first century young adult fiction. The twenty first century Gothic witnessed a significant shift in the perception of the supernatural; what was once rejected has become welcomed and embraced. In the examination of a selection of contemporary YA Gothic texts and traditional Gothic texts, this study investigates the development of the Gothic and focuses primarily on two aspects of the genre; the supernatural and the gothic heroine as they are represented in twenty-first century YA Gothic literature. I will firstly analyse the most enduring and significant figures of the supernatural, including vampires, werewolves, deities, demons, and angels, and secondly, will look at the portrayal of young female characters, their perception of the supernatural and their response to it. The research will offer a comprehensive genre analysis of this hugely popular twenty-first century genre, and broaden the area of Gothic research into YA fiction.

**Remi ODUNSI**

Postgraduate Research Student in the School of Education.

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**TITLE: Teachers' knowledge of Autistic Spectrum Disorders (ASD) in mainstream primary schools in Nigeria.**

**ABSTRACT:**

*Background:* The knowledge of ASD by teachers in classrooms is very crucial in the inclusion of school age-children with ASD who have not been diagnosed. The process of inclusion involves the identification and removal of barriers to the participation and learning of all children with additional needs.

*Research focus:* The current study was undertaken to assess the level of ASD knowledge among teachers in mainstream primary schools in Nigeria. The primary school teachers are likely to be the professionals that the children will have contact with outside their homes.

*Research methods:* Cross-sectional quantitative research using a questionnaire that has already been used for nurses and medical students in Nigeria. The SPSS v 20 is being used for the analysis of the data.

Preliminary findings suggest that there is low level of knowledge of ASD among primary school teachers.

**Oyindamola OLAJUBU**

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**TITLE: Requirement specification with Domain Specific Languages.**

**ABSTRACT:**

Requirements, in the context of software engineering, are definitions or descriptions of what a software should do. Ambiguous requirements could lead to waste of time and effort, therefore requirements have to be specified in a concise manner. These requirements are usually specified in Natural Language or Formal mathematical based notations. Natural Language requirements are ambiguous while Formal notations, although precise are difficult to understand usually requiring expert knowledge.

Models are representations of some aspects of a system. Software development with models as primary artefacts has been shown to improve productivity[1]. Domain Specific Languages (DSLs) are modelling languages that are developed for a specific purpose to increase expressiveness[2]. In this research project, the two concepts are combined by developing a DSL for concise model based requirement specification. Requirements specified with the DSL are also models, to be used to automatically generate tests to verify that the system is implemented as intended.

1: J. Hutchinson, "An empirical assessment of model driven development in industry," Lancaster University, 2011.

2: A. Raja and D. Lakshmanan, "Domain Specific Languages," International Journal of Computer Applications, vol. 1, no. 21. pp. 105–111, 2010.

**Nicola SMITHERS**

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**TITLE: The legal, ethical and clinical justifications for withholding and withdrawing treatment from critically ill neonates.**

**ABSTRACT:**

The research will seek to illuminate the reality behind the decision making process and attempt to understand why and how the decision to withdraw or withhold treatment is made. With the changing benchmarks that have been used in law and medical practice to make decisions which seem to permit the deaths of critically ill infants, empirical research is needed to identify and describe the important ethical issues facing neonatal units today. This is an issue which has not been addressed to any great extent in over ten years. However, a contemporary examination of the interrelationship between medical practitioners, parents and the law is needed in order to assess how ethical issues are resolved in real life and what consequences the management of these issues will have for future generations of infants with severe abnormalities.

**Melinda SPENCER**

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**TITLE: Becoming and doing a young maternal grandmother: Lived experiences and meanings.**

**ABSTRACT:**

In the last 40 years, grandmotherhood has become an increasingly popular area of study. This growing interest, particularly in the US, Britain and Europe, is a direct result of the vast changing demographics being experienced throughout contemporary western societies. However, the timing and transition to grandmotherhood remains relatively unexplored. This paper will present preliminary findings from a progressing doctoral study which aims to explore and interpret the lived experiences and meanings of becoming and doing a young maternal grandmother in England and to consider the impact of the transition on everyday life. Employing semi-structured interviews with the use of photo elicitation and an interpretative phenomenological analysis (IPA), the study takes on a collaborative working approach between the grandmothers and researcher. The researcher will reflect on this inductive and idiographic method which results in an insightful exploration of the diverse experiences and meanings of young maternal grandmotherhood.

NOTES



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