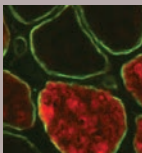


The University of Northampton

Research Review

2015 - 2016

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Vice Chancellor's welcome

I am delighted to introduce the University of Northampton's Research Review for 2015 – 2016. This publication introduces just a small amount of the research that goes on in our University. Having read the submissions for publication in the Review, I know how hard it has been for the editorial team to decide what is included. I congratulate the editors on selecting pieces that highlight the breadth as well as the depth of research that we carry out.

At Northampton we are proud of the relevance of our research to our local, national and international communities. Our Changemaker+ Challenges in health and wellbeing, business and innovation, education, and culture and heritage make a direct connection between our research and having an impact on society. In the Review we explain how the new knowledge we gain when we do research is directly and swiftly translated into improved policy and practice, making a positive difference to the lives of people and the environment.

I hope you enjoy reading it.



Professor Nick Petford
Vice Chancellor
The University of Northampton



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A successful year for research



The University of Northampton has had an excellent year for research in 2015 – 2016. All our goals and targets have been achieved and we have built some strong foundations to ensure continued success in the future.

Researchers in all Schools¹ and many Directorates produced a

record number of high-quality outputs that have had a clear impact locally, nationally and internationally.

We were delighted that the support we give to our post-graduate research students was praised in the University's Quality Assurance Agency (QAA) review. It is essential that we develop the knowledge-generating academics

of the future and I am particularly pleased to see how many of our new Doctors of Philosophy gain jobs in Northampton and in other universities.

I continue to be humbled by the range and quality of research that we do at Northampton, and I am delighted to take this opportunity to thank all of my colleagues that do such fantastic work.

A handwritten signature in black ink that reads "Simon J Denny".

Professor Simon Denny
Executive Dean: Research,
Impact and Enterprise



¹ During the period covered by the Research Review, the University of Northampton was organised into six academic Schools. Since 1 August 2016, it has been organised into four Faculties. In the Review, projects that have been completed are noted as by School, on-going projects by Faculty.

News in brief

RESEARCH CONFERENCE HIGHLIGHTS BRILLIANT APPS, AFRICAN FISH, LAME SHEEP AND RECYCLING RATES

Smartphone apps, lame sheep, scavenging for recyclable waste and fish farming in Nigeria were just some of the topics presented at the Postgraduate Research Student Annual Research Conference 2016.

Eighteen postgraduate research degree students presented their work at the event, which was held at Park Campus on Tuesday 14 June. The event was attended by over 50 people, with over 200 people logging in from devices externally. Entitled 'Research Integrity and Innovation', the conference reflected the University's commitment to building and achieving high quality and outstanding research.

RESEARCHER AWARDED PRESTIGIOUS CHURCHILL MEDALLION



KIM'S SOCIAL WORK SNAPSHOT SCOOPS IMAGES OF RESEARCH FIRST PRIZE



Congratulations to researcher Kim Dodd, who won the Graduate School's third annual Images of Research competition.

The contest invites researchers from across the institution to submit an image, accompanied by 150 words of text, which captures the essence of their work.

This year saw a record 31 entries received, with Kim's image being selected as the winner by judge Roy Wallace, Senior Lecturer in Media Production.

Researcher Alison Ward has been awarded a Churchill medallion to recognise her successful completion of the Winston Churchill Travelling Fellowship.

Alison was presented with the stunning blue cloisonné enamelled silver Churchill medallion by Professor Brian Clarke, at an awards ceremony held at Church House in Central London. Professor Clarke is a world renowned architectural artist, and a 1974 Churchill Fellow himself.

In 2015, Alison was awarded £4,000 by the Winston Churchill Memorial Trust, which she used to travel to Denmark. She explained: "The award allowed me to travel to Denmark to explore the experiences of people living with early stage dementia, through the means of photography and storytelling."



News in brief

RESEARCH INTO WEALTHY MEN'S ATTITUDES TO HIV TESTING COULD INFLUENCE GOVERNMENT HEALTH POLICIES

HIV has long been viewed as a disease of poverty in sub-Saharan Africa. However, data from recent Demographic Health Surveys has shown that this is not necessarily the case, especially in Eastern Africa.

Dr Kevin Deane has teamed up with Dr Joyce Wamoyi and John Changalucha of Tanzania's National Institute for Medical Research to explore the attitudes of wealthier men towards HIV testing, and the barriers to testing they may face.

The study is due to begin in September, and will see a sample of 25 wealthy men in Mwanza city, Tanzania, interviewed by a local research assistant. It is hoped that the findings could help to influence East African governments' policies on HIV testing.

The research is being funded by a British Academy/Leverhulme Trust grant of £10,000. Dr Deane's main area of expertise is the HIV/AIDS epidemic in sub-Saharan Africa, with a focus on migration/population mobility, transactional sex, the roles of wealth and poverty and the developmental impact.



LECTURER WINS PRESTIGIOUS INTERNATIONAL AWARD FOR RESEARCH INTO LUCID DREAMS



Congratulations to David Saunders, Lecturer in Psychology and PhD researcher, who was recently presented with a prestigious award by the International Association for the Study of Dreams.

David received the 'The Ernest Hartmann Student Research Award – Honourable Mention' at the association's research conference in Kerkrade, Holland. While attending the five-day conference, David had the opportunity to present and discuss his doctoral research to attendees from around the world.

"My doctoral research is in the growing field which investigates the disassociated consciousness state of lucid dreaming, or being aware that one is dreaming while remaining within the dream," David explained.

IS THERE A LINK BETWEEN ARSON AND DOMESTIC VIOLENCE?



A new research project has been launched which works with children and young people to investigate the link between deliberate fire setting and a background of domestic violence.

The study is being carried out by researchers from the Institute of Health and Wellbeing, in partnership with the joint Arson Task Force (Northamptonshire Police and Northamptonshire Fire & Rescue Service).

The aim is to interview children and young people aged between 5 and 18 who have been actively involved in arson or fire setting, as well as their parents or carers.

Training students to become researchers of the future



Professor Ian Livingstone, Head of the Graduate School at the University of Northampton, explains how the University is developing future researchers.

In the past, completing a research degree such as a PhD usually led to a career in academia, but recent economic, social and political changes have resulted in career opportunities for researchers in a wide range of sectors including finance, manufacturing, technology industries, health and public administration. Good research-based evidence has become a key driver of change in society. Our students undertaking research degrees are training to be the researchers of the future. The Graduate School plays a

central role in providing university-wide skills development and support for all our research students, whatever their career intentions.

The Graduate School has established a comprehensive programme of skills workshops and development days that are open to all our research degree students and early career research staff. An important goal of the programme is to support and develop independent researchers who take responsibility for their research. The Graduate School also works with regional and national organisations to extend the support available. We showcase the work of our research degree students through annual events that include a conference, a poster competition and our Images of Research exhibition. To ensure that our students receive good quality supervision the University has a long-established programme of development for its research degree supervisors.

Alongside the development work, the Graduate School is central to ensuring the quality and rigour of our research degrees.

At Northampton we offer research degrees² across a very wide range of the subjects taught in the University. Many of the topics grow from the University's commitment to social impact: lots of our research is applicable. Our research degrees include: standard PhDs and MPhils completed by submitting a thesis; PhDs by publication which require the submission of a portfolio of previously published work; Practice-based PhDs in the Arts which require submission of artistic work such as paintings, novels or sculptures alongside a thesis; and professional doctorates in Health and Business which involve some structured learning along with the submission of a thesis.



"In my role I visit universities all around the world and I have to say that the support and structures for research students and research supervisors at Northampton are some of the best I've seen."

Hugh Kearns, International expert on researcher development, Flinders University, Adelaide, Australia.

²If you are interested in studying for a research degree at the University of Northampton, contact pgradmissions@northampton.ac.uk or visit <http://www.northampton.ac.uk/study/research/postgraduate-research-course-information/>

Focus on... our research students

Two of our PhD students, **Pooja Haridarshan** from the Faculty of Education & Humanities, and **Anna Kopec** from the Institute for Social Innovation and Impact (ISII), talk about their research.



Name: Pooja Haridarshan

What is your research about?

My research is focused on understanding the effect of childhood experiences of women in Bangalore, India, upon their aspirations for their children. I want to understand this relationship by examining socio-cultural and academic perspectives. This research also aims at investigating the educational opportunities provided to their daughters as well as differing expectations in respect of the educational outcomes for their sons and daughters.

What does your research hope to achieve?

My research is concerned with exploring the reasons behind the existence of gender bias within a small section of the urban community in Bangalore, India.

India, being a male dominated society, does not always encourage women to go to school or at times even complete schooling. In cases where women are illiterate, they begin to limit their own expectations so that they avoid attending classes. In situations where women rise above traditional ideas, resistance and opposition is often seen from their husbands and parents-in-law which is an obstacle to development of literacy and other critical learning skills. The aim of my research is therefore

to understand the role of women in a particular section of the society and possibly explore avenues for them which would benefit their future.

What have been your achievements so far?

My paper entitled "The impact of differing maternal expectations on the academic achievements of primary school children in Urban Bangalore, South: a comparison between boys and girls" was published in the Support for Learning Journal in 2015. I also had the opportunity to present one of my papers entitled "To make a child with Autism Spectrum Disorder better equipped at communicating, maintaining eye contact and handling emotional responses independently" at the Brindavan Annual Conference in 2014.

In addition to pursuing my PhD and being a full-time mother to a 5-year-old daughter, I have also been working with children with Special Educational Needs at Brindavan Education Trust which is a Remedial Centre in Bangalore, India.

Why did you decide to do a research degree at the University of Northampton?

Gender bias has always intrigued me - it's a mystery that remains to

be solved! Pursuing a Masters in Special and Inclusive Education from the University of Northampton and meeting professors from the Faculty of Education & Humanities enabled me to explore this topic in greater detail. I knew the topic interested me, the supervisory team was beyond excellent - be it in terms of their profile or the support they provided - it was an irresistible combination. I have just had my research proposal accepted by the Research and the Ethics Board and it is only because of their unflinching support and my motivation that has driven me and will continue to do so for the next couple of years.

What are your future plans?

Teaching has become a passion which I would like to continue. I would also like to explore and create avenues for women who are not as fortunate as I am to recognise themselves and be an independent entity in our society. Making them aware of the importance of educating their daughters and providing quality education is of utmost importance to me. Beyond this, I would also like to work on similar research projects to help me develop my skills as well as enhance my knowledge in this particular area.



Name: Anna Kopec

What is your research about?

My research is focused on exploring the role of empathy in the formation and development of social enterprises. I address the link between empathy and human motivation as a possible indicator of social enterprise formation, motivation and success.

What does your research hope to achieve?

My research is concerned with the social enterprise's social mission and how this social mission is empathised with inside the organisation as a whole. Experiences in the workplace are filled with emotions, therefore an exploration of empathy transpires as not only advantageous but necessary in order to explore social enterprise success and sustainability. The aim of my research is to contribute to the topics of: social enterprise, organisational motivations, and organisational sustainability.

What have been your achievements so far?

I was awarded the 'best PhD paper and presentation award' based on the originality of my research topic at the 10th European Conference on Innovation and Entrepreneurship, in Italy. I am grateful to the Faculty of Business & Law Doctoral Research Dissemination Award which funded my travel and attendance.

Following a double-blind review, I presented my paper entitled: 'The role of empathy in social enterprise', which explored the role of empathy in the formation and motivation of social enterprises.

Over the course of my research studies I have enjoyed the opportunity to travel, to receive feedback from international research community and to make valuable contacts. My

supervisory team have been incredibly supportive throughout my studies, and with the help of various University-wide bursaries and awards I was able to apply to attend conferences. Over the last two years I have been invited to present my research at various national and international conferences.

Why did you decide to do a research degree at the University of Northampton?

For many years I worked in Higher Education as I enjoyed being in a learning environment. Before starting my research degree, I spent approximately two years exploring various research areas and reflecting on what I wanted to achieve, as I knew I had to be fascinated and motivated by the research topic. Prior to submitting my application at Northampton, I researched the University's achievements and awards, my supervisory team's academic interests and achievements, and the areas connected to my studies: social innovation and impact at the University. As a result of the University's profile, achievements and ambitions, I was encouraged to apply.

Now that I am in my final year, I reflect that what has continued to drive me throughout my studies has been a combination of my own motivation, the unfaltering and valuable support from my supervisory team, and University-wide assistance (including opportunities for skills development, workshops, seminars and committees) available to research degree students.

What are your future plans?

I would like to get more involved with teaching and research. During the second year of my research degree I was able to gain experience as an Associate Lecturer (part-time), which was very beneficial to me as I enjoy teaching, and encouraging and supporting learning. Furthermore, over the course of my research degree I have had the opportunity to work on some additional research projects which not only helped me to develop my skills, but also broaden my knowledge of my research area. I am interested in the research areas of positive environmental impact, sustainability and social justice, and would like my current and future work to impact on these areas.



Photo: Anna (left) being awarded the best PhD paper and presentation award at the 10th European Conference on Innovation and Entrepreneurship at the University of Genoa, Italy, in September 2015.

Under the microscope

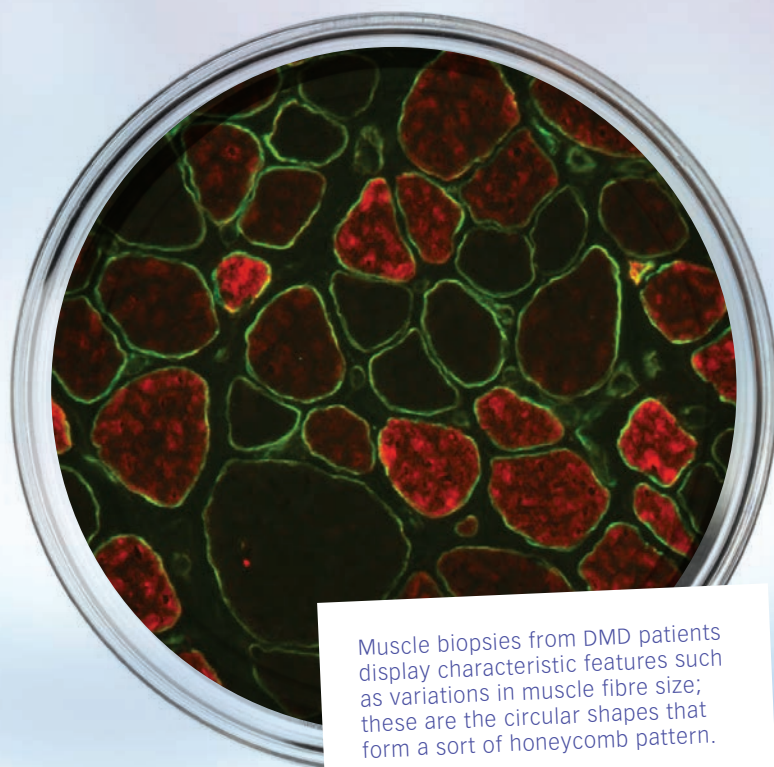
Duchenne Muscular Dystrophy (DMD) is one of the most common fatal genetic disorders affecting children. There is no cure.

The disease is caused by DNA mutations that result in the loss of a protein called dystrophin, which is essential for muscle strength and function. Dystrophin acts like a shock absorber; without it muscles become weak and break down. Most affected children will be in wheelchairs by their early teens, with death typically occurring in early adulthood as a result of complications with the heart and/or lungs.

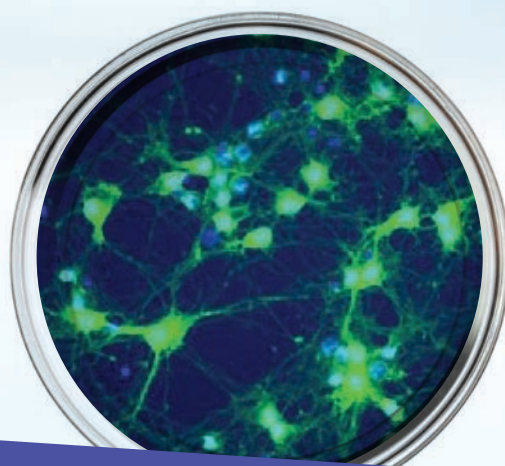
Dr Karen Anthony, Lecturer in Molecular Bioscience, is researching the biological mechanisms of DMD. Karen has played a key role in the early development of an experimental drug called 'Eteplirsen' that can restore the production of dystrophin in muscle. "Being the first to see evidence down the microscope that an experimental drug is working remains a defining and motivational moment for me," said Karen.

This drug acts like a 'molecular patch' and instructs muscle cells to make a new dystrophin protein. Eteplirsen has recently been granted accelerated approval by the United States Food and Drug Administration (FDA).

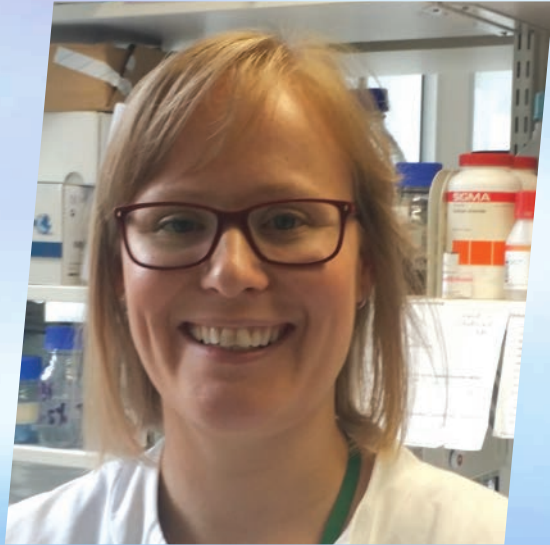
Although DMD is primarily a muscle disorder, approximately 30 per cent of individuals with DMD display significant behavioral and learning disabilities highlighting an important, yet largely unknown role for dystrophin in the brain. Karen has begun a research project to investigate these neurological functions as we look towards a whole body treatment approach for DMD.



Muscle biopsies from DMD patients display characteristic features such as variations in muscle fibre size; these are the circular shapes that form a sort of honeycomb pattern.



Cortical neurones can be grown 'in a dish' in order to study the cellular function of proteins involved in neurological disorders.



Biography:
Dr Karen Anthony

Dr Karen Anthony is a Lecturer in Molecular Bioscience at the University of Northampton. Her research is focused on unravelling the biological mechanisms of neurological disorders. Karen has worked on pre-clinical and clinical studies to develop experimental gene therapy approaches for types of dementia and neuromuscular disorders. As a STEM ambassador, Karen is committed to inspiring young people, particularly women, into science. Karen incorporates research into her teaching on the BSc (Hons) in Human Bioscience programme and leads a dedicated science communication module.



Children who cope with domestic violence

Children who experience domestic violence and abuse at home are not just passive observers; they find complex and creative ways to cope.

Jane Callaghan, Professor in Psychology, has recently led the world's largest qualitative study of children's experiences of domestic violence, the Understanding Agency and Resistance Strategies (UNARS) research project.

This two-year project, funded by the European Commission, involved researchers in Greece, Italy, Spain and the UK interviewing 110 children and young people who experienced domestic violence. The researchers investigated how children found ways to manage their experiences.

The research found that children who experience domestic violence between their parents, or other adults at home, are not just passive observers; they are greatly impacted by the violence and coercive behaviour at home. They find complex and creative ways to manage and cope with these experiences.

"From our research, we have found that children's experience of domestic violence is a little like a double helix, with the twin strands of coping and damage very closely interlinked. Children's capacity to be strong, agentic, and resilient can only be read in the context of the actions that function to undermine their development of agency and resilience, forms of relating that characterise violence, abuse and coercive control," said Jane.

Jane explained: "Consider, for instance, the examples of children hiding away in cupboards, hidey holes and dens. In some senses this looks like an accession to abuse and control. But if we only see this painful and difficult aspect of the child's behaviour, and don't try to make

sense of the meaning they attach to it, we do not see how it is also resistant and resilient. Children are not just frightened, they are not just hiding. They are creating spaces for themselves, where they can feel just slightly safer, just a little more secure and in control."

Using the insights gained from the research, a group-based therapeutic intervention was developed to support children as they build on their existing strengths and develop coping strategies. This intervention aims to help young people develop resilience and a positive sense of self, as they recover from living with domestic violence.

The project has been published in leading journals around the world, including *Clinical Child Psychology and Psychiatry*, the *Journal of Interpersonal Violence* and *Geographies of Children and Young People*.





Biography:

Professor Jane Callaghan

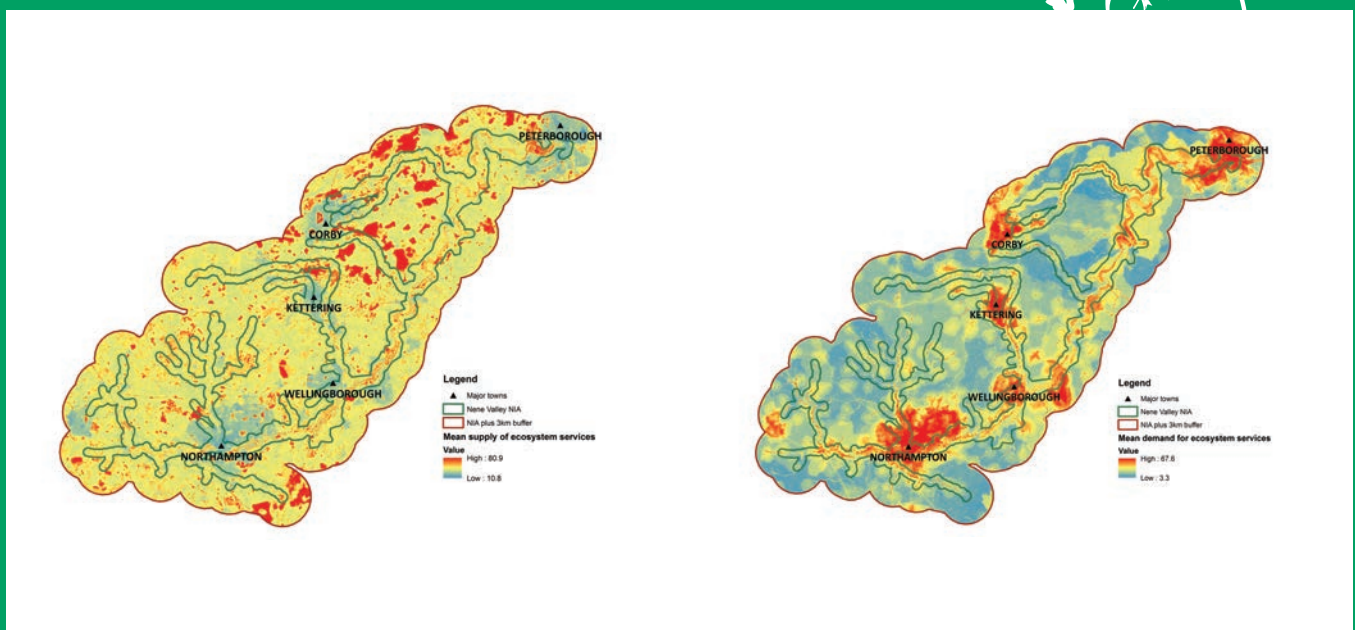
Jane Callaghan is a Professor in Psychology at the University of Northampton. Jane also leads the Social and Cultural Research in Psychology Group, and the Centre for Family Life in the Institute of Health and Wellbeing. Jane's interests include the study of violence, childhood, family life, mental health, gender, professional identities and issues of social justice and inequality.

Beyond the University, Jane chairs the American Psychological Association's international committee for the Society for Qualitative Inquiry in Psychology. She is Secretary to the British Psychological Society's (BPS) Psychology of Women Section, and sits on the Ethics Committee, as well as the Research Board of the BPS.

She is editor of the *Journal of Gender Studies* and *Psychology of Women Section Review*.



Valuing the natural environment in the Nene Valley



The natural environment offers people a wide range of essential benefits known as ecosystem services. These benefits include food, timber production, regulation of flooding and climate, and pollination of crops. The natural environment also offers cultural benefits such as aesthetic value and recreational opportunities.

Dr Jim Rouquette, Associate Lecturer of Environmental and Geographical Sciences, is examining ecosystem services and the biodiversity that

underpins many of these services in relation to the Nene Valley Nature Improvement Area (NIA). The Nene Valley NIA is a government-funded flagship nature conservation initiative to promote landscape-scale conservation across the Nene Valley from Daventry to Peterborough. "By identifying, mapping and valuing ecosystem services and biodiversity within the NIA, we are improving our understanding of the interdependencies between the natural environment, people and the economy. Our aim is to make the Nene Valley a better place for both people and wildlife," said Jim.

Some of the benefits that were mapped included local climate regulation, noise regulation, carbon storage, water purification, air purification, pollination, agricultural production, accessible

Maps showing the overall average supply (left) and demand (right) for ecosystem services in the Nene Valley. In both cases red colours indicate high levels of supply or demand and blue indicates low levels.

nature, tranquillity, and green travel. In addition, nearly 300,000 species records were mapped from six wildlife groups to highlight important wildlife hot-spots.

The maps above show the average supply and demand for all the ecosystem services that were mapped across the Nene Valley.



The ecosystem services in the Nene Valley NIA are valued at £104.2 million each year, with the vast majority of this derived from the value of recreational visits. On average, each hectare of land delivers £2,277 of services per year. This assessment included only those services for which it is possible to calculate a monetary value, such as soaking up carbon dioxide, agricultural production, pollination of crops and orchard fruits, and the money spent on recreational visits. The value of all ecosystem services will be considerably higher.

Jim explained: "The ecosystem services maps are being used to identify the links between biodiversity and ecosystem services, and locate land which is delivering many different services. This enables targeting of areas to conserve and areas to manage better, or differently. We are writing an introduction to ecosystem services for planners and developers, and have worked with local planning authorities to fully embed the idea and principles behind ecosystem services into planning policies, such as the new North Northamptonshire Joint Core Strategy. We are also working with Northamptonshire County Council who are interested in publishing the ecosystem services maps on their interactive mapping portal."



Experiencing nature in the Nene Valley. Photo credit: Chris Porsz

Jim continued: "Kathryn Harrold, a PhD student associated with the project is examining the landscape-scale habitat requirements of insect pollinators in the Nene Valley. Insect groups such as bees, bumblebees, and hoverflies are vital in pollinating many important agricultural crops, as well as pollinating the majority of wild and garden plant species. The overall aim of the project is to produce a series of habitat suitability models that can be used for planning scenarios, conservation planning and further scientific study."

The Nene Valley NIA is a partnership between the University of Northampton, the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire, Natural England, River Nene Regional Park, Northamptonshire County Council, a number of borough councils, RSPB, and the Environment Agency.



Bumblebee, an important pollinator. Photo credit: Lisa Rowley

Biography:

Dr Jim Rouquette

Dr Jim Rouquette is a Visiting Researcher and Associate Lecturer of Environmental and Geographical Sciences at the University of Northampton. Jim is also a Director of Natural Capital Solutions Ltd, an environmental consultancy. His primary research interests are in the interactions between people and the environment and the implications for policy and practice. His research focuses on modelling, mapping and valuing the natural environment and the benefits that it provides, exploring human preferences and values for biodiversity, and practical issues in ecology and conservation biology.



Exploring Primary and Secondary school staff wellbeing

Workplace wellbeing and poor work-related health outcomes are recognised as important policy challenges in present times. Workplace wellbeing, particularly for teachers, has been identified as a positive emotional state that happens when a supportive environment is provided which attends to staff needs and meets their expectations.

Improving school staff wellbeing is the aim of the Staff Wellbeing project, commissioned by Northamptonshire Public Health Directorate, and led by Judith Sixsmith, Professor of Public Health Improvement and Implementation. The project explores and determines factors that influence positive and negative wellbeing among both teaching and non-teaching school staff across Northamptonshire.

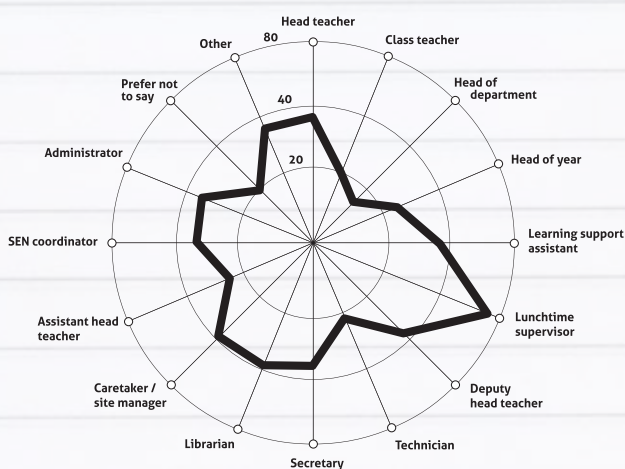
“A school seen as a ‘happy’ and productive place to be can make a difference to teaching and learning outcomes for children, as well as making education an enjoyable experience for school pupils. Therefore, understanding staff wellbeing in schools can have very beneficial outcomes,” said Judith.

Judith continued: “People spend a lot of time at work where productivity and efficiency are prioritised. However, wellbeing at work is critical to effective working and can have an impact on the retention and recruitment of staff. This project is vitally important in understanding wellbeing across all school staff, including teaching and non-teaching staff in Northamptonshire, as it provides insight into levels of wellbeing, how and why poor wellbeing occurs and what can be done to improve it.”

The research team designed and conducted a school wellbeing survey, semi-structured interviews and focus groups. Findings from the research highlighted that morale is low among school staff, particularly for teachers. Wellbeing in the primary sector was found to be generally higher than that in the secondary sector.

It was also found that in order to achieve positive wellbeing outcomes for staff, effective structural and organisational changes are required. School staff felt more stressed when they felt undervalued, overworked and with little control of their work lives. Poor leadership was also problematic. Strong social support in schools, positive contact with pupils and socially-connected work environments enhanced positive wellbeing.

The research concluded that when promoting wellbeing across staff groups in schools, it is important that interventions are directed towards strengthening the staff voice, providing social support mechanisms, ensuring strong, effective and fair leadership which manages staff workloads well and fosters good relationship with the local community.



This figure indicates overall wellbeing by profession, measured using the 5-item *World Health Organization Well-Being Index (WHO-5)*. Scores are accumulative (0 – 100). The higher the score, the higher the perceived wellbeing of the individual.



Biography: Professor Judith Sixsmith

Judith Sixsmith is Professor of Public Health Improvement and Implementation, and the Director of the Institute of Health and Wellbeing at the University of Northampton. Judith is also Professor of Public Policy at Simon Fraser University, Vancouver, Canada. Her research interests lie in the areas of public health and social care. Judith has directed several research projects on issues of ageing and technology, ageing-in-place, healthy ageing, dementia, and social inclusion.

She has published widely in the fields of ageing, health and community/ environmental psychology, alongside publications concerning the use of visual methodologies and participatory processes. Judith also acts as an expert evaluator for the European Commission.

The life and times of Hasan al-Turabi

The late Hasan al-Turabi was a highly controversial figure, the engineer of the first Islamist revolution in the Sunni Muslim world. Many of his supporters hailed him as a democrat and pioneering intellectual, yet for others he was a totalitarian thinker whose legacy was tainted by the repeated human rights abuses perpetrated by the regime he brought into being in 1989.

While his ideas and politics are frequently explored in texts on Islamism in Sudan, no monograph focusing solely on Hasan al-Turabi himself exists. Dr Willow Berridge, Lecturer in Global History, is working on a research project that aims to provide a more comprehensive account of Hasan al-Turabi's life, political career and writings. The research is funded by a British Academy Small Research Grant.

"I was inspired to undertake this research by my previous book 'Civil Uprisings in Modern Sudan: the 'Khartoum Springs' of 1964 and 1985'. Hasan al-Turabi was a pivotal figure in the 1964 October Revolution in Sudan, and I wanted to understand how a man regarded by many now as a traitor to Sudanese democracy could have helped shape its first democratic revolution," said Willow.

The research touches on a number of controversial and impactful issues, such as the conflict in Darfur, the Islamist perspective on human rights, interpretations of *jihad* doctrine, and the potential for Islamists to participate in democratic governments.

Willow continued: "I hope it will shape the views of diplomats, policy makers and a future generation of students dealing with these issues. In the final stages of writing the book at present, I hope I have presented a picture of Hasan al-Turabi that avoids caricature, and yet is not uncritical."

The research highlights the impact of Hasan's colonial upbringing on his ideas and worldview, demonstrating that Hasan's ideology was not simply the product of a rejection of 'modern' values but rather his own particular

fusion of Western and Islamic philosophies. It also demonstrates that Hasan's views on matters such as democracy and *jihad* were frequently reformulated to suit the political environment in which he found himself, as Sudan underwent multiple transitions from democracy regimes to military authoritarianism and back again.

Willow added: "This research is all the more relevant as analysts debate the significance of Hasan al-Turabi's passing for the future of Islamism and democracy in Sudan. I recently published my own obituary of Hasan on the Royal African Society's African Arguments blog³."

Biography: Dr Willow Berridge

Dr Willow Berridge is a Lecturer in Global History at the University of Northampton. Willow's research deals with topics such as Post – Colonialism, Islamic Radicalism, and Post – Islamism. Willow has written extensively on Islamism and its relationship with civil protest as well as state authority. She is also under contract to write a textbook entitled Islamism in the Modern World for Bloomsbury, based on her third year teaching. Other interests include the history of colonialism in Egypt and particularly Sudan, including a focus on the role of prisons and police forces in the colonial order.¹



³You can view the blog at: <http://bit.ly/2cciesc>

Printmaking research opens portals to the past

Catriona Leahy, Lecturer in Printmaking, is researching into the notion of 'Temporal Dissonance', a phenomenon usually associated with music.

The term Temporal Dissonance represents a palpable collision of times or overlapping of simultaneous but different temporal strands. It manifests itself in instances where time is displaced and out of joint, where anachronistic objects or architecture appear incongruent in their surroundings, and act as portals into the past. To this end, Catriona's focus and research lies mainly in declining or redundant industrial sites or 'modern ruins'.

Catriona explained: "A recent residency at FLACC (Workplace for Visual Artists), located near the now defunct mining site of Cmine in Genk, Belgium, was significant in developing my ideas around time, memory, place and history. These sites represent the epitome of Temporal Dissonance – its past and short-lived flirtation with the mining industry has left a lasting impression on the contours of the landscape.

Manifested most obviously as spoil heaps, these sudden obtrusions appear incongruous against the otherwise flat homogeneous landscape and represented for me a rupture, not only geographically but also temporally. During my time at FLACC, I set out to explore through an expanded approach to printmaking, the lasting impact of the recent industrial past, and the legacy the mining heritage had and continues to have

on Genk's landscape. What remains of this industrial heartland provided a contextual backdrop for the work."

For Catriona's exhibition, *Latent Afterglow* and *The Folds of Time*, photographic archives of the landscape of Genk found in the City's Emile Van Doeren Museum were sourced and appropriated. Catriona explained: "Manipulating these images through a process of both digital intervention and adapted traditional printing methods, I was, in a sense, excavating not the landscape but the image itself to reveal something of its content, history and anachronistic potential. Fragmentation of the image is an important conceptual device within my practice and is evident in *Palindrome*, a 5.6 metre-long panoramic image of a fragmented mining landscape. With a nod to printmaking attributes, a subtle intervention of doubling and mirroring of the image, suggests the unrelenting repetitious daily grind of the miners. However, we are also reminded of the finite nature of this non-renewable resource. This body of visual research attempts to expose how, in a landscape constantly in flux, it is only much later that the reverberations of a mining industry can be truly determined and that the residues of the past continue to hold influence over the present."

Catriona's work was presented at the Rijksmuseum Twenthe in Enschede, Holland, as part of the 3rd International Printmaking Symposium at Kloster-Bentlage, Germany in 2015, a symposium aimed at reappraising the position and practice of printmaking within contemporary art.

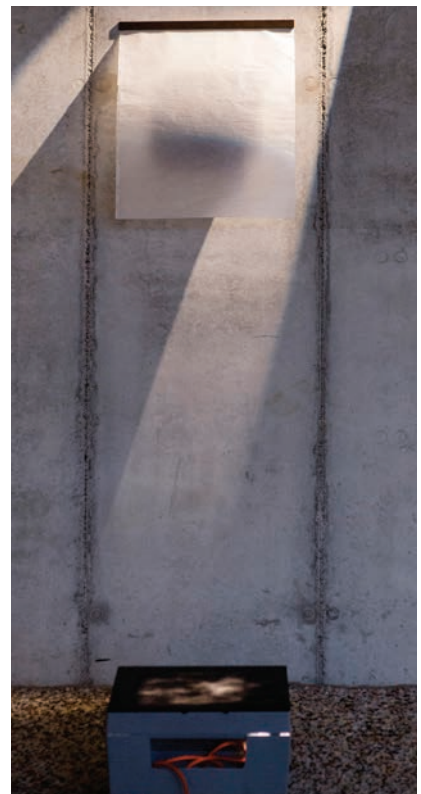


Biography: **Catriona Leahy**

Catriona Leahy is Lecturer in Printmaking at the University of Northampton. She has received numerous awards from the Arts Council of Ireland (2009, 2011, 2012, 2013), Culture Ireland 2011, Arts Council England Grants for the Arts 2015/16 and an A-N Artists Travel Bursary for her participation in the Triennial Contemporary Art Festival, Coupe de Ville in Sint-Niklaas Belgium 2016.

Catriona has embarked on numerous international research and production residencies throughout her career, such as with Frans Masereel Centrum, Belgium, 2009 & 2014; Institute of Contemporary Art Moscow, 2012; WARP, Belgium 2013; FLACC Workplace for Visual Artists 2014; and most recently with the Florence Trust, London 2015/16. Such extended periods spent in a particular site inform her process of excavation of a site's layered history, both socially and geographically.

Often inspired by a particular location, Catriona's work acts to reveal the unseen, drawing attention to the redundant or obsolescent aspects of a location.



Big impact from Big Potential Programme

Dr Richard Hazenberg, Principal Researcher and Research Leader of the University's Institute for Social Innovation and Impact, is leading on research evaluations for the Big Potential programme.



Funded by the Big Lottery Fund and delivered by the Social Investment Business, the Big Potential programme seeks to increase the investment and contract readiness of the Voluntary, Community and Social Enterprise (VCSE) sector.

Big Potential is split into two distinct programmes: Big Potential Breakthrough (BPB) and Big Potential Advanced (BPA). Richard is assessing the efficacy of the programmes over the next five years in relation to how successful the programmes are in supporting VCSEs to secure investment and contracts, scale up their ventures (and social impact), and improve their business planning and knowledge.

The BPB programme has a £10 million fund that offers VCSEs the opportunity to access grant funding of between £20,000 and £75,000.

The BPA programme seeks to support larger VCSEs to become investment and contract ready and assist them to win investment over £500,000 and contracts in excess of £1 million.

The research project for both programmes is worth over £125,000. Richard explained: "Aside from the income secured to deliver this research, more importantly, the project provides the University with access to a nationally leading and high impact project that is socially innovative. The Big Potential programme provides significant support to the VCSE sector to allow it to increase its investment readiness, secure investment and contracts and hence deliver greater social impact."

The Year 1 evaluation report⁴ of the BPB programme

⁴The Year 1 evaluation report for BPB is available online at: <http://bit.ly/2dawBAI>, whilst the Year 2 evaluation report (and the Year 1 BPA report) is scheduled for publication in September 2016. More information on the Big Potential Programme can be found at <http://www.bigpotential.org.uk>

presented some interesting findings in relation to the efficacy of the programme, the nature of VCSE applicant organisations and the current state of the VCSE sector in relation to investment readiness. The data captured showed that the BPB has been largely successful in its engagement with the VCSE sector and has had the following impact on the sector:

- 3,898 VCSEs registered on the BPB website
- 13,454 'visitors' engaged with the website
- 351 VCSEs directly engaged through the regional events. These regional events (one-day workshops) have had a significant impact on VCSE knowledge of social investment
- 283 VCSEs completed the online diagnostic tool
- 162 VCSEs completed the '1:1 Support Advisor Session'
- 71 VCSEs submitted grant applications, of which:
 - 32 have been successful. 13 are still pending
 - 26 have been rejected
 - Average grant value is £31,248 per organisation
- Nearly £1 million of grant awards have been made.

However, there remain some engagement issues most notably:

- Disability-led VCSEs are not being engaged sufficiently
- The engagement of women-led VCSEs is slightly below the national average
- VCSEs in the South East, East Midlands and East of England regions are under-represented.



Biography: **Dr Richard Hazenberg**

Dr Richard Hazenberg is a Principal Researcher and Research Leader in the Institute for Social Innovation and Impact (ISII) at the University of Northampton. Richard's research interests lie in the areas of social innovation, social finance, public service innovation and social impact measurement. He has published research in international, peer-reviewed academic journals, has presented research papers at conferences in Europe, Asia and America, and has contributed to international and national government policy through papers and roundtable meetings (including the European Commission, Cabinet Office, and HM Treasury).

Richard is on the editorial board of the Social Enterprise Journal and is a reviewer for a number of international peer-review journals including Policy and Politics, Public Management Review, Public Money and Management and the Journal of Social Entrepreneurship.

Richard is the University of Northampton's leading academic researcher in the field of social investment, public service spin-outs, social innovation and social impact measurement.

Coping with extreme conditions

The Empty Quarter, or Rub Al Khali, is the largest sand desert in the world. It covers some 650,000 square kilometres of the Arabian Peninsula in Saudi Arabia, Oman, Yemen and UAE – an area of sand bigger than France, Belgium and the Netherlands combined. It is a hot, dry, desolate and inhospitable place.

In 1930, a small team of men made the first ever recorded crossing of the Rub Al Khali desert, walking for nearly 1,000 kilometres from the coast of Oman, through the Kingdom of Saudi Arabia, to the coast of Qatar. This year, 86 years after the first crossing, the challenge has been repeated by two Omani nationals and a British explorer, Mark Evans.

Dr Nathan Smith, Lecturer in Sports Psychology, conducted a science project as part of the recent expedition to investigate how the participants coped with the journey's extreme conditions and challenging environment. "Ever since reading the stories of Wilfred Thesiger, the Empty Quarter desert has been a place of fascination for me," said Nathan.

Nathan continued: "There is a longstanding British connection to Oman and the Empty Quarter and Bertram Thomas's journey in the 1930s was a historic moment in British exploration history."

Throughout the 60-day journey, Nathan and the wider collaborative team, including colleagues at the University of Northampton and international partners (Professors Gro Sandal and Gloria Leon), examined the role of personality, stress and coping in relation to the emotional responses of the expedition team members. A daily log was completed to examine their changes in mood, and the strategies used to manage stress during the journey. The researchers also considered the ways participants integrate back into normal life, and the personal growth they gained from the experience.

A number of questionnaire scales were used in order to collect the psychological data. The questionnaires selected have been used previously to assess the psychological characteristics of various extreme environmental personnel which were measured against specific variables. The psychological characteristics under examination were: Personality, Personal Values, Interpersonal Strengths, Coping Strategies, Affect (emotion), and Mood.





Photo Credit: John C Smith/Crossing the Empty Quarter Expedition
www.photonz.net

Nathan explained: "Findings from the research reflected an expedition group that was well adjusted for operating in extreme environment conditions. Interestingly, the members of the group had a personal value profile consistent to that of Mars simulation participants, mountaineers, military patrol individuals and Antarctic over-winterers studied in earlier projects. All of the expedition members also demonstrated an appreciation of the natural environment and beauty of the world."

The findings were consistent with other extreme environment studies (Antarctic over-winterers, submarine operators, astronauts), where expedition members relied on active coping approaches and reported relatively low scores on depressive reactions.

A particularly unique finding of the current project was that daily reports of stress and coping were predictive of daily changes in positive and negative emotions. Such findings are promising and highlight possible areas for training to help other individuals cope and maintain psychological health in other extreme environmental conditions.



Biography: **Dr Nathan Smith**

Dr Nathan Smith FRGS, is a Lecturer in Sport Psychology at the University of Northampton. He is currently engaged in a number of research projects related to human resilience in extreme environments. In addition to presenting and submitting papers from previous extreme environment work, Nathan is preparing to study a group undertaking a long-duration Arctic sailing expedition and is co-authoring two chapters for the new textbook *Space Safety and Human Performance* – one on human resilience and the other on space analogue settings.



Problems in rivers

Ian Foster, Professor of Geomorphology, has been investigating the benefits of field scale soil protection measures in order to understand their impact at the landscape scale.

“The UK, along with other EU Member States, is required by law to enforce what is known as the European Water Framework Directive (WFD). The Directive provides a degree of protection for our rivers from further environmental degradation and is designed to improve the ecological health of them for future generations,” said Ian.

Ian explained: “Our river systems in the UK are under pressure from several external influences including encroachment of development on floodplains, intensification of land use, application of fertilisers, insecticides and farmyard manures to fields that occasionally pollute water courses, and increasing water supply demand for potable water and for irrigation. Intensification of agriculture in both grassland and cultivated systems has degraded many of our soils and has increased the potential (along with more intense rainfall) for the delivery of sediment to rivers. Fine sediment, and contaminants that are associated with that fine sediment, is becoming a major reason why our rivers are failing to meet the requirements of WFD.”

The focus of much of Ian’s work is therefore investigating where the sediment comes from, how it (and other contaminants) gets into the water courses and how to reduce the risk by manipulating landscape connectivity. Ian has been working with his research students on a range of externally supported research projects such as:

- Mattie Biddulph, a PhD student, has been working on a 3-year project funded by the Department for Environment, Food & Rural Affairs (DEFRA), investigating the benefits of field scale soil protection measures in order to understand their impact at the landscape scale. Mattie has been investigating whether changes to farm management systems (such as surfacing farm tracks, installation of wetlands and ponds, and planting of riparian woodland and grassland) can help improve water quality by trapping sediment and contaminants before or after they enter the river. Data collection for this project ended in November 2015, and Mattie is at

the exciting stage of evaluating which (if any) of the interventions might be successfully rolled out across the UK. This project is one of many funded by DEFRA under the Demonstration Test Catchment Scheme attempting to evaluate a whole range of mitigation options in different UK agricultural settings.

- Jen Evans, a PhD student, is investigating sediment pressures in the River Rother (Hampshire and West Sussex). The Rother lies within our most recently designated National Park and Jen’s work is funded by the South Downs National Park Authority and supported by them and the Arun and Rother Rivers Trust. The project is looking at present day pressures and attempting to establish when these pressures began to appear. The latter is tackled by collecting sediment from the bottom of local reservoirs to establish if and when sediment accumulation rates began to increase. Jen is in the middle of her data collection programme so it will be at least 12 months before the real story of sediment dynamics in the Rother begins to emerge.
- Ruth Copeland-Phillips is a member of staff at the University of Northampton and is completing her PhD part-time. The focus of Ruth’s research is on the effectiveness of a Sustainable Drainage System (SUDs) installed at Upton, Northampton in reducing run-off and mitigating the transfer of sediment and associated contaminants to the river Nene. As well as assessing effectiveness it will evaluate the additional management requirements for maintenance of system effectiveness. Ruth has set up a range of monitoring equipment for measuring water levels in different parts of the SUDs system during storm events and is collecting sediment entering the SUDs from different source in order to determine heavy metal, nutrient and radionuclide activities (to assess pollution levels).



Photo: Retrieving sediment cores from Lurgashall Mill Pond (after the water level was drawn down to repair the dam wall). The pond has filled with over 5m of sediment since around 1600 AD and the upper 1.5m has accumulated in the last 60 years or so. This data will help Jen Evans (right of picture) to investigate changes in sediment character through time. Jen's external supervisor, John Boardman from Oxford University, is in the background.



Biography: **Professor Ian Foster**

Ian is a Professor of Geomorphology and a member of the Environment Research Group at the University of Northampton. For more than 40 years he has worked on issues of water quality, erosion, land degradation and reservoir sedimentation in many parts of the world including the UK, the circum-Mediterranean area, the Middle East and South Africa. He has expertise in catchment monitoring, sediment source tracing and in reconstructing the history of erosion from sediments accumulating in lakes and reservoirs. At Northampton he runs gamma spectrometry, environmental magnetism and particle size laboratories. He has published over 120 scientific papers in international peer reviewed journals and is currently a visiting Professor at Rhodes University (South Africa) where he has been researching erosion and land degradation for the last 13 years.



Aspiring to be among the best in education by 2020

Local Authorities in England have a responsibility to ensure that there is high quality schooling from early years until the end of compulsory schooling.

Northamptonshire County Council's (NCC) aspiration to be among the highest performing local authorities by 2020 means that supporting educational initiatives is of utmost importance to enable children and young people in the County to fulfil their academic potential, have high aspirations and employability skills.

The University's Institute for Social Innovation and Impact (ISII) has been commissioned by NCC to evaluate the social impact and effectiveness of initiatives and projects that are funded as part of the Race To The Top (RTTT) programme in schools across the County. Dr Meanu Bajwa-Patel and Dr Saneeya Qureshi from ISII are leading on the research evaluation.

RTTT is a set of bespoke school-based interventions that enables school staff to deliver high quality teaching and learning, as well as champion the needs of vulnerable groups and ensure that there is enough high quality provision for the learners in their area.

The ISII is developing a Social Impact Matrix© as part of the evaluation, which will allow for a more holistic view of impact to be measured. The Matrix© reflects the complex nature of education and the centrality of its role in society.

The research will report on a wide range of indicators including work readiness, emotional resilience, attainment, and attendance.

'The Bridge' is an example of one such project, where the RTTT programme is being implemented within the Hospital and Outreach Pupil Referral Unit (PRU) in Northampton town. The Bridge initiative is designed to try and address the needs of some of the most vulnerable young people (aged

11-16), mostly boys, in the County. The students, 15 of whom have been diagnosed with Autistic Spectrum Disorder, have extreme anxieties which meant that they were unable to leave their bedrooms. For them, The Bridge represents "a safe, autism-friendly environment where young people... access education appropriate to meet their needs. Not only their educational needs but also their social and emotional needs..."

Attending an educational establishment and obtaining some academic qualifications, alongside developing social skills and self-confidence can mean the difference between becoming a young person who is Not in Education, Employment or Training (NEET) and becoming a young person in Further Education, work, training or an apprentice. The average cost of being NEET between the ages of 16 to 18 year is estimated to be at least £56,000 in public finance costs and £104,000 in resources costs (lost labour market potential). Initial results indicate that The Bridge is having a positive impact on a small group of young people in Northamptonshire; it is a much needed resource that could mean a successful route back into education for some of the more vulnerable students that have been failed in mainstream education. Just two young people gaining academic qualifications, as well as the additional mental and physical benefits, could mean a saving to society of over £200,000.

Meanu explained: "The RTTT programme could have a significant effect on the educational outcomes of many young people across schools in the County. Our research will allow for a comprehensive evaluation of how improved outcomes could make a difference to the lives of these young people and their local communities and enable RTTT to be continually improved."



Biography:
Dr Meanu Bajwa-Patel

Dr Meanu Bajwa-Patel is a Senior Researcher at the Institute for Social Innovation and Impact (ISII). Since joining ISII in 2014, Meanu has undertaken a number of projects, both national and European, working with a range of partners, social enterprises and entrepreneurs. As well as her work on social impact and social enterprise, Meanu has extensive experience of education and senior leadership; she has experience of teaching at secondary school, undergraduate and postgraduate levels. She is a member of the British Educational Research Association (BERA) and regularly reviews for them.



Biography:
Dr Saneeya Qureshi

Dr Saneeya Qureshi is a Researcher in the Institute for Social Innovation and Impact (ISII). Saneeya has over 14 years of experience in primary, secondary and higher education institutions in the UK, Kenya and Pakistan. Saneeya's research interests include inclusive education, educational management, research methods, social innovation and social impact. She is a member of the Editorial Board of the University of Northampton's first undergraduate online journal, URICA (Undergraduate Research: Inspire Challenge and Achieve) and a reviewer for a number of international journals. Saneeya is also the 2016-2020 Link Convenor for Emerging Researchers, and a co-opted member of the EERA Council.



Movers and shakers: how we're changing the way people and goods travel

Liam Fassam, Senior Lecturer in Supply Chain Management, is working on two major projects that span across the UK and Europe.

Transforming the provision of public and community transport across Northamptonshire

In January 2015, the Government announced a new £4 million Total Transport Pilot Fund from which local authorities in England could bid for resources to implement a cross-sector approach to the delivery of supported public road passenger transport services in their area.

The purpose is to integrate transport services currently commissioned by different central and local government agencies and provided by different operators. This will allow existing resources to be allocated and coordinated more efficiently, resulting in services to passengers that are more effective at meeting their needs. Northamptonshire County Council, jointly with Buckinghamshire County Council, was awarded £750,000 funding for the two-year period of March 2015 to March 2017. This was the largest award made from the fund to any project.

The Total Transport funding has been used to launch the 'Network Northamptonshire' project in June 2015, coordinated by Northamptonshire County Council. Liam Fassam, Senior Lecturer in Supply Chain Management, is the project lead and is providing an analytic review of the cross functional service provision of transport services within Northamptonshire across organisations in the public, voluntary and private sector. The aim is to create an innovative approach to holistic service provision that will permit service improvements, better 'value for money' and increased usage.

The University and the County Council are working with partners to set out a policy approach on how to deliver a 'total transport' solution within Northamptonshire and

consider issues which are in the public interest, such as the promotion of public transport, how to encourage accelerated modal shift away from the use of the private motor car, and the optimum use of resources.

Liam explained: "Key to the success of the approach is the creation of a suitable delivery body that can, on behalf of the partnership, implement 'total transport'. Again there are a number of ways that this might be achieved but the Network Northamptonshire team is examining the creation of a social innovation or enterprise company. Creating a corporate body is thought to be essential in order to implement 'total transport', with the inclusion of 'social' objectives in its Articles of Association guaranteeing that it can act in the public interest."

Liam continued: "Both the County Council and the University of Northampton have considerable expertise in developing and using the social innovation and enterprise model which would make them appropriate members of the new company or body."

The initiative is a partnership between Northamptonshire County Council (and its various departments that commission transport), the University of Northampton, the University of Hertfordshire, local Further Education colleges, the University Technical Colleges and schools, the various NHS Trusts, the voluntary sector, and some major industrial organisations.



Biography: Liam Fassam

Liam Fassam is a Senior Lecturer in Supply Chain Management and a Director of Centre of Excellence Logistics and Supply (CELAS) at the University of Northampton.

Liam has over 24 years' experience within the logistics and supply chain arena and has delivered services to clients such as Apple Inc, European Commission (EC), Hilton, HP, Musgrave group, Lloyds pharmacy and Sodexo. Liam is currently engaged as an expert adviser to the European Commission's Horizon 2020 project in the areas of Supply Chain and Food Security, a member of the European Regional Research Innovation Network (ERRIN) for transportation, and is also a Specialist Adviser to the All Party Parliamentary resource group on sustainable supply chains.

Helping to improve the way Europe transports goods

The University of Northampton is playing a key role in the development of a multi-million pound project which aims to revolutionise the transportation of goods across Europe.

Seeking to improve the overly complicated and fragmented information process, the European Road Transport Telematics Implementation Coordination (ERTICO ITS Europe) set up a Europe-wide consortium of partners including lead logistics organisations, global leaders in manufacturing, and leading academic institutions including the University of Northampton.

The consortium proposed a project which was awarded €16.2 million of European Commission funding. The project is called Architecture for European Logistics Information Exchange (AEOLIX), which aims to establish a cloud-based collaborative logistics system to enable each organisation involved in logistics – including shippers, transport companies, warehousing firms, retailers and customers – to access, exchange and use information, and to better manage, (re-)plan and synchronise facilities and resources in the supply chain. This digital business ecosystem will create visibility across the supply chain, enabling more sustainable and efficient transport of goods across Europe.

"We envisage the ecosystem will enable the integration of supply chain related transport business processes through logistics software solutions for cloud-based connectivity and interaction, in order to support more efficient collaboration in the logistics supply chain than exists today," said Liam.

Liam explained: "The AEOLIX project will facilitate information exchange in an easier and more efficient way, enable larger-scale implementation, increase the degree of system interoperability and focus on flexible relationship management of logistics actors. AEOLIX is driven by addressing data gaps, therefore by the specific needs and requirements of each user. This will help any party to communicate with any other party within and across the

supply chain. It should be emphasised that AEOLIX can especially strengthen SMEs in the virtually integrated and trusted business environment. AEOLIX will improve the overall competitiveness of goods moving in the supply chain, while simultaneously targeting sustainability from environmental, economic and social perspectives."

Liam continued: "The logistics sector is very fragmented and lacks a collaborative environment, which is further compounded by the lack of supply chain visibility. Improving communication between all parties would unlock huge potential for pan-continental logistics to be much more efficient and sustainable."

The University's involvement is focused around facilitating innovation through optimisation of the supply chain, by adopting a living lab methodology with four UK supply chain actors with global operations, and constructing an end-to-end supply chain (manufacturer, retailer, logistics 3PI/4PL, multi modal transportation). The UK living lab location (Northamptonshire) was selected due to its central locality, true multi-modality in terms of logistics solutions of Daventry International Rail Freight Terminal (DIRFT) connecting by rail the ports of Felixstowe, Thames Gateway, Tilbury and Southampton, M1 and A14 (Ten-T corridor) arterial overland routes and close locality to the air hubs of Birmingham, East Midlands airport, London Heathrow and London Stansted. This area hosts a concentration of the largest logistics operations within the UK.

The objective of the UK living lab is to enhance network efficiency and effectiveness by reviewing the cross-chain capacities that bring about optimal employment of assets and services to realise an overall holistic supply chain cost reduction.

Liam added: "The AEOLIX digital business ecosystem will create visibility across the supply chain, enabling sustainable and efficient transport of goods across Europe."

Positively impacting on people with profound and multiple learning disabilities

The Carousel Project arose as a direct response to a major need for improved services for people with profound and multiple learning disabilities. This low incidence population are recognised to experience significant inequalities in the services that they receive and are amongst the most isolated and marginalised in modern society, and by default so are their families.

Funded by a grant from Guys and St Thomas' Trust, the three-year Carousel Project was designed to fill a gap in services for people with profound and multiple learning disabilities (PMLD), a very vulnerable group which face many barriers and social isolation. The Carousel Project, which has supported 68 people with PMLD since 2012, has the aim to improve the health status of this population by providing a range of community based activities in the Lambeth area of London. This Project is run by the Lambeth Mencap, a London-based charity which provides support to people with learning disabilities and their families.

Annie Fergusson, Senior Lecturer in Special and Inclusive Education, was commissioned to carry out an evaluation of the project from 2012-2015. The findings were presented in a research report⁵, which showed that the Carousel Project has achieved 'extremely positive and wide ranging outcomes and influences'. It was also found that the Carousel Project's specialist group activities – such as swimming and sensory storytelling – have reduced social isolation and led to health benefits for service users. These benefits include improvements in posture and mobility, communication, engagement and emotional wellbeing. The report praises the Carousel Project for raising the profile of people with PMLD, as well as delivering additional benefits for the carers and health professionals who support them.

Annie explained: "Stakeholders involved in Lambeth Mencap's Carousel Project were unanimous in their acknowledgement of the improvements and positive impact on people with PMLD. These positive differences ranged from the emergence of very small and subtle changes through to transformative and life changing breakthroughs, where one individual was enabled to meaningfully and enjoyably participate in a group opportunity, for the first time in their life.

Annie continued: "It is vital that the innovation afforded by this unique and effective project is acknowledged for its leading-edge model and approaches. The Carousel Project offers an inspirational model of delivery and I hope that it not only survives but thrives, and leads to more services such as this to be developed in the future."

The Carousel Project has already been nominated for a number of national awards. Annie is involved with the Carousel Project team in disseminating the principles and outcomes of this work.

⁵The report can be viewed or downloaded from the following website: <http://bit.ly/28WZJat>. You can also watch a short video about the Carousel Project here: <https://bit.ly/2ccjZWi>



Photo: Hand massage



Photo: Storytelling session

Biography: **Annie Fergusson**

Annie is a Senior Lecturer in the SEN & Inclusion team at the University of Northampton, teaching undergraduate and postgraduate courses, especially those relating to severe, profound and multiple learning disabilities.

Her research interests relate to person-centred working, meaningful participation and the voice of the individual, particularly as an influence to promoting positive mental health and wellbeing. She has recently secured funding for research including young people with profound and multiple learning disabilities in preparing for change.

Annie is a long-standing member of the Editorial Group for the journal PMLD Link, hosted at the university (www.pmlmlink.org.uk). She is a family member of the national Learning Disabilities Mortality Review Programme Advisory Group.

Public perceptions and experiences of crime in Northamptonshire



According to the Public Perceptions Annual Report (2016) from the University of Northampton's Institute for Public Safety, Crime and Justice (IPSCJ), one in four people in Northamptonshire who have experienced victimisation in the last 12 months have chosen not to report it.

The impact of victimisation on daily lives, feelings of safety, mental and physical health, emotional wellbeing and risk of re-victimisation is extensive. From an economic and broader societal perspective, victimisation creates disadvantage for specific groups and can prevent access and attainment to full educational and employment opportunities.

The IPSCJ was commissioned by the Office of Northamptonshire Police and Crime Commissioner (PCC) to measure public perceptions of policing and crime, particularly seeking to develop understanding of factors affecting confidence in policing, priorities for police resources, experiences of victimisation and accessibility of policing services. Understanding the perceptions and experiences of the residents of Northamptonshire in relation to anti-social behaviour, crime and policing is fundamental to the role of the PCC. This research provides reliable measures of public perceptions across the county, through on-going public surveys across demographic groups. Findings from data collected throughout the previous year show that one in 10 residents in the county have experienced a crime in the last year and one in four of those chose not to report it to the police. Confidence in policing has reduced in comparison to the previous year due to factors including reduced visibility of police on foot patrol and austerity causing limited policing of minor incidents.

Dr Berni Doran and Kath Cahalin from the IPSCJ led this work, bringing in expertise and several years' worth of experience working in policing and with police data.

The IPSCJ was also commissioned by the PCC to develop understanding of victim experience in the county, conducting surveys across a broad demographic of almost 2,500 victims of burglary, vehicle crime, violence, anti-social behaviours and hate crime incidents. The findings were presented in a Victim Experience Annual Report which highlighted the key areas that need to be addressed by the Northamptonshire Police.

The key findings include:

- 90% of victims are satisfied with the way they were treated by police officers and staff
- 77% of victims are satisfied with the overall service provided by Northamptonshire Police, showing a significant reduction of 7% over the last 12 months
- One in four victims describes the impact of victimisation on their daily lives and wellbeing as 'high'
- Four in 10 victims are 'repeat victims', having experienced a similar crime or incident in the last 12 months, and this group is more likely to report 'high' impact of victimisation on their daily lives and wellbeing and to report lower satisfaction with police services.

Berni explained: "Developing understanding of the impact of victimisation on individuals and communities and experience of services is vital to designing and commissioning policing, justice and support services which are effective in supporting recovery and wellbeing."



DO NOT CROSS

A number of recommendations were presented in both reports, including the need to develop a longer term strategy for improvement of communications with victims; the need to integrate awareness and skills training for police officers and staff addressing empathy, emotional intelligence, and interpersonal communication skills; the need to develop long-term strategy in order to achieve a 'single point of contact' aspiration for victims.

In May 2016, Stephen Mold became the new Police and Crime Commissioner for Northamptonshire, bringing with him an increased focus on early intervention, domestic violence, online crime, and children's safety. The IPSCJ is now undertaking research with children and young people about their experiences of victimisation and the support they have received. Furthermore, the survey of victims of crime is being extended to victims of domestic violence this year, with all the necessary safeguarding measures in place to enable those individuals to share their experiences safely and via a method that best suits them.



Biography: **Dr Berni Doran**

Dr Berni Doran is a Senior Researcher in the Institute for Public Safety, Crime and Justice (IPSCJ).

Berni is a Chartered Psychologist and has a PhD in Psychology from the University of Liverpool. She has an MSc in Investigative Psychology graduating with distinction. During this time she received a Chief Constable's Certificate of Merit from Kent Police for work which "made a significant contribution to frontline policing".

Berni has published in journals including the Journal of Experimental Psychology: Applied, and has spoken at national and international conferences on criminal justice related matters.



Biography: **Kath Cahalin**

Kath is a Research Assistant in the Institute for Public Safety, Crime and Justice (IPSCJ) and has over 15 years' of experience in conducting, leading and advising on research and analysis in the Criminal Justice field.

Kath started her career at the Home Office where she co-authored a number of publications on research findings and statistics relating to the prison population. She has also worked as a researcher for Northamptonshire Police and the Office of Northamptonshire Police and Crime Commissioner.

Kath has an MSc in Social Psychology from the University of Surrey.



POLICE LINE DO NOT CROSS

POLICE LINE DO NOT CROSS

Revolutionising the leather industry

For thousands of years, leather has been made using water. It is the medium by which chemicals have been transported into animal skins to prepare them for tanning and conducting the tanning processes themselves.

However, the research that is being undertaken at the University's Institute for Creative Leather Technologies (ICLT) is demonstrating that a new class of solvents called Deep Eutectic Solvents (DES) can be used for traditional leather making processes, but also are applicable to new chemistries, leading to new biomaterials. Given current environmental concerns, this is a revolution for the industry.

Up to the end of the 19th century, nearly all leathers were made with plant extracts called vegetable tannins - this process took 'a year and a day.' A hundred years ago the process took a couple of months, today the process to make leather for shoe soles still takes a month or more. By harnessing the better solvation properties of DESs (illustrated in Figure 1), the process can now be shortened to a couple of days or less.

Because the DESs exhibit such a wide range of solvating properties, unusual chemicals can be applied in leather making, even chemically inert compounds, as shown in Figure 2.

This scientific basis for new technology can be extended, to use the chemical we want to deliver into the skin as a component of the DES (illustrated in Figure 3), rather than dissolving it into a separate solvent. In this way, the modern process of tanning with chromium can be transformed.

This approach to leather constitutes a new paradigm, a new approach to collagen stabilisation and the creation of desired properties and performance of leather. Due to the vast quantity of DESs available, the applications are practically endless. Moreover, the technology is ecological and economical.

Dr Will Wise explained: "This research demonstrates a paradigm shift in the processing of skin into leather. Without ground breaking research such as this work carried out at the University of Northampton, the progression of leather into a more sustainable and environmental material would stagnate."



Figure 1: Pure vegetable tannin (centre), in water (left) and in a DES (right).



Figure 2: Leathers treated with graphite in water (left) and ionic liquid (right)



Figure 3: Solid tanning salt + solid urea makes a DES, a deep eutectic solvent.



Biography: Dr Will Wise

Dr Wise is a Senior Lecturer in Leather Science and works within the Institute for Creative Leather Technologies (ICLT). Having taken undergraduate and postgraduate degrees at the School of Chemistry at the University of Leicester, followed by postdoctoral research in the field of ionic liquids and deep eutectic solvents, he continues the tradition of applying pure science principles to the development of new leather technology and moving industry forward by pushing the boundaries of what is currently possible.

Looking forward



The University of Northampton will continue to undertake a wide range of high-quality and impactful research projects at local, regional, national and international levels that change the lives of people for the better.

All our research is about having an impact. We will continue to have this impact by building on our collaborations with partners, such as charities, companies, and other educational institutions, to further generate new knowledge through original work and by testing ideas and theories.

While the Brexit vote has probably made it harder to get research funding, we are confident in our ability to deliver our research goals. We have been delighted to see increased evidence of budget holders in the UK directly funding research.

Of course, all research active staff at the University of Northampton need to ensure they have the skills and apply the necessary behaviours to gain research funding from business, philanthropy and trusts, as well as the well-established research funds. During 2016 - 2017 we will be working with colleagues throughout the University to develop and enhance the required skills.



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