

**University of
Northampton**

Research Impact

2021



**Making Family Life
Better for Children
with Autism**

**Creating Resources
for Dementia Locally
and Globally**

**Using the Arts for
Inclusive Politicized
Communities**

Welcome

Welcome to the University of Northampton's Research Impact Magazine. It gives me great pleasure to be able to showcase some of the world-leading research that is being undertaken by colleagues at the University of Northampton. Our research is changing lives around the world. In line with the University Strategic Plan Transforming Lives + Inspiring Change, and building on our Ashoka U Changemaker Campus (awarded in 2013), our ambition is to deliver cutting edge and innovative research that delivers real impact to local, national and global communities. We are a University that is committed to making a difference and undertaking research that has wide-ranging and significant impact within and beyond academia.

Inclusivity is at the heart of the University of Northampton's mission and this is reflected in research that ranges from a focus on educational opportunities for all to creating resources to support dementia. Tackling extremism, using the arts to create inclusive communities, and providing opportunities for young people through a cadet programme have informed some of the research projects highlighted in this publication. Alongside these projects, and in line with the United Nation's 2030 Agenda for Sustainable Development, we have research that is focussed on building business partnerships and international exchange between regions in the UK and China. The pressing environmental concerns of today are reflected in research that enables the sustainable development of waterways and greenspaces locally and explores the pollination of bees. The health and well-being of individuals is at the centre of research focussing on recovery from surgery, stretching before exercise, life skills for prisoners and tackling sexual violence and hate crimes in the UK.

I hope this publication gives you a sense of what drives us as a 21st century Changemaker University. We are working to make a difference and to confront some of the social, economic and environmental challenges and injustices that currently confront societies all over the world. Our expertise is being used to deliver solutions to some of the most complex issues faced currently at a local and global level and we believe that the answers lie in sharing our research expertise with communities, policymakers, industry partners and organisations around the world and working with you to create a better future.



Dr Cathy Smith
Dean of Research

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Promoting Inclusive Education from India to Ireland

Inclusive, equitable, quality education is a key global priority. In 2016 the United Nations conducted an in-depth review of global progress in creating stronger educational opportunities for all as part of their sustainable development goals (Goal 4: Quality Education). The report found that, while there has been “considerable progress on education access and participation”, there was still much work to be done, particularly for “marginalised people in vulnerable settings.”¹

Inclusion is at the heart of the University of Northampton's mission, and our researchers are working to improve educational opportunities for every member of society. Richard Rose, Professor in Inclusive Education, has been leading

major projects in Europe and India focused on ensuring continued progress is made towards providing education for society's most vulnerable and marginalised people. Ireland's National Council for Special Education (NCSE) commissioned Richard, along with researchers at Trinity College Dublin and the Institute of Child Education and Psychology Europe, to conduct Project IRIS (Inclusive Research in Irish Schools), the largest study of special educational needs provision in Europe to date. The resulting report was presented to policy makers and stakeholders in Irish education. It highlighted aspects of successful provision and practice, and included recommendations to address shortcomings that could undermine recent progress in providing inclusive learning environments.

The researchers spent over four years examining how special education is delivered in Ireland, a task that involved over 150 students, parents and staff members in 24 mainstream and special schools around the country.

One of the NCSE's core functions is policy advice, and the report provided a strong evidence base for national policy makers to implement changes. The head of the NCSE called Project IRIS “an important and fundamental piece of research”, stating, “it is rare that an agency can see the link so clearly between research conducted and its impact on policy advice and subsequent policy implementation.”

Lately, Richard has been conducting extensive fieldwork with families with a disabled child in India. In partnership with SAHARA, a leading NGO that provides therapeutic interventions for disabled children, Richard and his team are exploring the experiences of children in the rural community of Mahabubnagar in the Telangana State. In many instances these children have been excluded from formal education, and Richard's research is ensuring some of the most vulnerable members of society have equal access to educational opportunities.



Richard Rose
Professor in Inclusive Education

Research funded by:





Making Family Life Better for Children with Autism

Autism spectrum disorder, or ASD, is a neurological condition impacting social behaviour and communication. It affects 1 in 160 people worldwide, and numbers in Europe are even higher, with 1 in 100 people having a diagnosis.² As society's awareness of autism increases, so has its position on the global agenda, with the United Nations promoting the full social participation of all people with autism as part of their sustainable development goals.

Associate Professor David Preece has been working in Eastern Europe to provide solutions to some of the social and educational challenges ASD presents. His Erasmus+ funded project ESIPP (Equity and Social Inclusion through Positive Parenting) developed parent education programmes in three countries – Croatia, Cyprus and North Macedonia. Working with nine partners throughout Europe, the researchers are actively developing ways to improve the quality of life for children with ASD and their parents.

During the project lifetime:

335

Cypriot, Croatian and Macedonian family members were provided with parent education;

18

professionals from these countries were supported to deliver training in the local languages;

11

workshops were held in different localities across the three countries.

David and his team conducted an in-depth survey that confirmed the significant impact ASD has on family life, and the lack of frameworks for social support. They developed parent education and training programmes specifically tailored to each country, with the goal to improve the skills, knowledge and understanding of parents of children on the autism spectrum.

“Unfortunately, autism is still largely unknown and, therefore, all these years I was ‘bombarded’ with incorrect and misleading information... My participation in this project will represent an extra support in the future independence of my son.”³

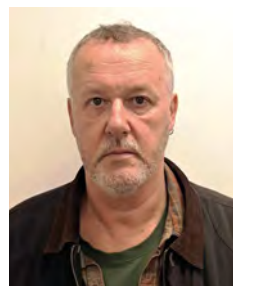
Anisa Trpcevska
A mother of a child with ASD and hyperactivity in North Macedonia

The project team worked tirelessly to embed their work into national practice, establishing parent training programmes across the three countries. They've also created train the trainers programme, to ensure the programme keeps expanding as trainers from the original pilot train participants in other countries.

“What is wonderful is that ESIPP trainers share their knowledge with professionals from our Centre and, afterwards, they have the opportunity to train and be supportive for the other parents. This way we can tell other parents about the project.”

Envira Vidović and Lidija Duilo
Participants in the programme

In partnership with local policy-makers in Croatia and North Macedonia they secured further Erasmus+ funding to develop ASD-EAST (Autism Spectrum Disorder-Empowering and Supporting Teachers). Since 2018, the team for ASD East has been developing training for teachers in mainstream and special schools in Croatia, North Macedonia and Poland. In March 2019, participants from North Macedonia took their training to Kosovo, further cascading the results. Over 250 teachers have been trained as part of the project, promising the research's impact will continue well into the future.



David Preece
Associate Professor in Inclusive Education

Research funded by:



² <https://www.who.int/news-room/fact-sheets/detail/autism-spectrum-disorders>

³ <http://esipp.eu/team/anisa-trpcevska/>



Building Business Partnerships from Northampton to China

The past decade has seen a huge rise in Chinese investment and the development of Chinese corporations. In 2019, Forbes listed 119 Chinese companies in its Fortune 500. That represents a 159% increase since 2000, when only 46 were included. This growth in the market provides opportunities for investment and creates the need for new research, as investors seek evidence to guide partnerships and evaluate best practices for international business relations.

Researchers at the University's China and Emerging Economies Centre have been engaging this growing market, creating new relationships and strengthening existing ones between municipal governments and businesses in Northamptonshire and China. Key to this has been Associate Professor Dr Shaowei He, who has secured major research grants from Leverhulme, the British Academy and the British Council to explore the essential building-blocks of international business relationships between China and the UK.



Shaowei has been instrumental in establishing business partnerships and relationships that will promote development in China, while also contributing to economic growth here in the UK. In 2018 he facilitated a Memorandum of Understanding between Northampton Borough Council and the Dalian Municipal Government of China. This was followed in 2019 by a strategic partnership with Silverstone, the home of British motor sports. The 'Exporting Silverstone to China' programme looks to create new relationships between the regions by combining the networks and research expertise of Silverstone and the University.

"We have achieved an important milestone by signing these MOUs. They will help to strengthen Northampton's civic relationship with Chinese local authorities but also open the door in China for Northampton businesses."

Dr Shaowei He

On request of Dalian local authorities, Shaowei and his team have mapped out the important institutions in Northampton and the surrounding Motorsports Valley, and engaged in frequent knowledge exchange visits between the two areas.

"We are keen to explore opportunities to bring our unrivalled expertise and experience to the Asian market place. The university has helped not only Silverstone Circuit but also the wider Northants community to both identify opportunities and ensure that ongoing dialogue is conducted effectively and in a culturally respectable manner."

Chris Zachar
Former head of partnerships
at Silverstone Circuits

Shaowei was recently appointed the Hunan Provincial Government's Ambassador for International Exchange, facilitating a formal sister-region relationship between Hunan and Lincolnshire in the UK. As the research continues, expect these partnerships to grow.



Shaowei He
Associate Professor in
International Business

Research funded by:



⁴ <https://businessmk.co.uk/university-builds-business-links-with-china-ahead-of-brexite/>



In the UK around 850,000 people are estimated to be living with Dementia.



By 2025, 12,500 more diagnoses are expected in Northamptonshire alone.



Globally the number of people diagnosed with dementia is projected to rise from 50m in to 152m in 2050. An increase of 204%.

Creating Resources for Dementia: Locally and Globally

According to the World Health Organisation, 50 million people worldwide are living with a diagnosis of dementia. Dementia, and other non-communicable diseases such as stroke, Alzheimer's disease or obesity, were included in the UN's sustainable development goals for the first time in 2016, indicating growing global awareness about the challenges these diseases present.

The team at the Northamptonshire Dementia Research & Innovation Centre have been at the forefront of dementia research, working towards solutions at local and global levels. Led by Professor Jacqueline Parkes, they have been innovating methods of education, social care and place-making related to people diagnosed with dementia and their carers. Their research is actively creating tangible change, from regional initiatives to the international development of dementia centres.

At the invitation of the East Midlands Ambulance Service (EMAS), researchers from the university consulted on the

design of dementia friendly ambulances. As a result, all 104 EMAS ambulances across Northamptonshire and Leicestershire are dementia friendly.

"For people with dementia, going into an ambulance can be a sudden, strange and potentially frightening experience, but EMAS have shown with their dementia friendly ambulance - the first of its kind in the UK - that with small adjustments, this can be reduced and lead to a much more positive experience. We look forward to seeing the full fleet in action very soon"

Professor Jacqueline Parks

As well as working closely with a range of local partners on community-focused projects, our researchers have spent years collaborating with international partners. In Denmark, they have worked with the Aalborg Dementia School to develop a model of lifelong learning to support the ongoing cognitive functioning of people diagnosed with dementia.

The lifelong learning model provides people with dementia the opportunity to participate in mental and physical training sessions, and learn creative disciplines, like woodwork, art and music. The classes are based on repetition, which has been shown to support memory, and help improve cognitive function, wellbeing, social activities, daily living and decision making. As one Danish student with dementia said, it is about "being fed with things you have forgotten". The work in Denmark has been a resounding success, with the number of centres in the area increasing from 1 to 12. New trials for schools in Norway and the United Kingdom are also underway.

"Sometimes, it's not just the big things that make a difference in people's lives, but more subtle adjustments and tweaks can cumulatively, make a big impact."

Professor Jacqueline Parks

In 2018, senior researchers Alison Ward and Michelle Pyer set up the Dementia Friendly Organisation Award sponsored by Santander Bank. Northampton Filmhouse won the inaugural award, and dementia specialist Alison Stewart spent ten weeks working with them to improve dementia provision for their customers.

"This has been a fruitful experience and we thank Alison for her thorough work that has helped us become more dementia friendly. It's fair to say we'll see the positive effects of this well into in the long-term."

Jo Gordon,
Chief Executive Officer
of Royal & Derngate



Jacqueline Parkes
Professor in Applied
Mental Health



Alison Ward
Senior Researcher
Northampton
Dementia Research
and Innovation Centre



Rethinking the Riverscape: Towards Sustainable Ecologies

The sustainable development of our natural waterways and greenspaces is essential to the future of our planet. United Nations Sustainable Development Goal 15, Life on Land, directs attention to the necessity to conserve and increase biodiversity of freshwater eco-systems, such as rivers and lakes. The UN's 2019 progress report notes,

"From 2000 to 2015, more than one fifth of the Earth's total land area was degraded, largely due to human-induced processes, such as desertification, cropland expansion and urbanization. During the same period, there were significant productivity declines in land cover, with grasslands incurring some of the greatest losses."⁵

⁵ <https://sustainabledevelopment.un.org/sdg15>

Our researchers mapped and valued the natural capital and ecosystem services in the Nene Valley. Their assessment was that ecosystem services in the Nene Valley are worth £118.7M each year.



One such site was the location of our new Waterside Campus, which sits on the banks of the River Nene in Northampton town centre. Opened to students in September 2018, the campus occupies what was formerly a 58-acre brownfield site, which was home to a decommissioned power station and a disused factory.

During the planning phase of the new campus, researchers from our Environment Research Group made sure the new university would include a diverse landscape, encouraging wildlife and an overall increase in biodiversity. They identified species rich grassland turf, and native trees and shrubs which were essential to the landscaping of the site, and advocated for the creation of new wetlands.

Since the campus opened there has been a noticeable increase in bird diversity and an abundance of other wildlife taking advantage of these new spaces. Hedgehogs and foxes use the site, and otters are regularly spotted in the adjacent River Nene. More than 25 species of bees have been recorded across the campus, as well as more than 150 species of wild plant, including one (the small-flowered catchfly) that has not been recorded in the county for 170 years.

While we love the incredible indoor spaces the new campus provides, we are also enjoying its abundance of natural features, and how they are helping our natural wildlife to thrive.

Professor Jeff Ollerton, Dr Janet Jackson, and Dr Duncan McCollin were instrumental in ensuring the Nene Valley was one of 12 government funded Nature Improvement Areas for England. Our researchers worked closely with the Wildlife Trust for Bedfordshire, Northamptonshire and Cambridgeshire, who led the project, and 20 partner organisations, including the Environment Agency, Northamptonshire County Council, and the Royal Society for the Protection of Birds, on its development and execution. They are continuing this work through the Nenescape Project, a £2.8 million Heritage Lottery funded project whose aim is to "celebrate, protect and conserve the natural and built heritage" of the Nene Valley. The results of their research are being integrated into local policies that will guide planning and development of the region over the next 20 years.



Jeff Ollerton
Professor of Biodiversity



Janet Jackson
Senior Lecturer in Environmental Science



Duncan McCollin
Senior Lecturer in Environmental Science

Research funded by:





Using the Arts for Inclusive Politicized Communities

The arts are vital to society, not only to entertain us, but also to bring us together as communities to share experiences, values and ideas. Arts Council England has released research that links participation in the arts to stronger communities, promoting greater inclusion, better health, and higher levels of social cohesion.⁶

In the last decade there has been an explosion in art that isn't about what you see, but what you experience. A broad field that goes by many names – Social Practice, Live Art, Community Art – one of its key principles is participation. In our Art and Design department, Senior Lecturer Dr Andy Hewitt has been bringing communities together through participatory art works that create space for people to discuss everyday social issues. As a member of the Free Art Collective, and more recently as co-founder of the Partisan Social Club (PSC) (with Coventry University's Dr Mel Jordan), Andy has spent over a decade creating works that push people to engage with political issues at a local, national and international level.



As the PSC, Andy and Mel invite community members to "join the club" and create programming for cultural spaces on their own terms. At London's Beaconsfield Gallery, the PSC brought together students, local residents and gallery stakeholders for a series of workshops as part of the Arts Council funded exhibition *On Being Together: memberships, collectives and unions* (2018). The workshops were initiated by the researchers, but subsequently designed and delivered by club members. Together the club explored the concept of membership and created artworks sited in the public outdoor and indoor spaces of the gallery. The project has changed the way Beaconsfield Gallery thinks about audience development and public participation, and has increased their focus on creating partnerships with the community.

A recent residency with Edinburgh Printmakers gave the PSC the chance to consider how to make printmaking 'public'. For 'Social Montage: Speak-Act-Print-Publish!' they worked with artist

and technician Anupa Gardner to screen-print eight new slogans onto four sides of 130 cardboard boxes. They then brought together members from the community to explore the political ideas that animated the boxes. At a nearby brownfield site, the participants created obstacle courses and other playful interventions, momentarily reinvigorating the site and bringing a quality to the politically charged boxes.

Andy's research is creating opportunities for creative engagement with some of the most pressing political issues of the day, and importantly, spaces in which people can agree to disagree. His artistic interventions are creating a space where difference can bring us together, creating a more civil and engaged political discourse.



Andrew Hewitt
Associate Professor
in Art and the
Public Sphere

Research funded by:



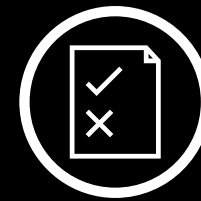
**Edinburgh
Printmakers**

Citizen Ship, Free Art Collective
with Sean Griffiths (Modern Architect),
Milton Keynes 2017.
Commissioned by MK Gallery.

⁶ https://www.artscouncil.org.uk/sites/default/files/download-file/The_value_of_arts_and_culture_to_people_and_society_an_evidence_review.pdf, p. 8



over 300
interviews with
cadets, parents,
school staff and
volunteers;



over 3,050
surveys
from cadets,
volunteers and
school staff;



data from participating
schools on attendance,
behaviour, and the risk
of exclusion, especially
amongst those with
special educational
needs and disability

The Cadets: An Expanding Force for Social Change

The University of Northampton's Institute for Social Innovation and Impact (ISII) is dedicated to measuring, evaluating and supporting the economic, social and environmental impacts of business, governmental agencies and third-sector organisations. The Institute is dedicated to making clear the economic benefits of social impact, and has worked with HM Treasury, the European Commission and Big Issue Invest, among others, to demonstrate social impact's value in a wide range of contexts.

"Our research into social impact is highlighting the impactful work of third sector organisations and shows what can happen when public and third sector organisations partner."

**Institute Director,
Professor Richard Hazenberg**

The armed forces are an essential part of our national culture and history, helping to protect and promote the UK throughout the world. For over 150 years, cadets have been embedded in schools, bringing the culture and values of the armed forces to young people. In 2012, the government confirmed its commitment to this historic tradition with the Combined Cadet Force Association's launch of the Cadet Expansion Programme, which provides more opportunities for young people to participate in the cadets. By March 2015 there were already 100 new cadet units in English state-funded schools, and the government committed £50 million to continue this expansion to 500 units by 2020.

To ensure they were getting a return on their investment, the Ministry of Defence commissioned Dr Meanu Bajwa-Patel and Professor Richard Hazenberg of the University's Institute for Social Innovation and Impact to evaluate the programme. Their research demonstrated the powerful impact the Cadet Forces have on educational inclusion, resilience and wellbeing, through the creation of a distinct environment within which socially excluded young people can personally and socially develop:

"So many young people have had their life chances improved by being a Cadet; the school staff and parents we have spoken to are very clear about the benefits in terms of improved behaviour, physical and mental wellbeing and attitudes to learning."

Dr Meanu Bajwa-Patel

The research provided essential evidence to the government, demonstrating that the social impact of the programme is "vastly greater than the annual cost of the cadet programme to the defence budget."⁷ During proceedings in the House of Commons, former Minister of State for the Armed Forces, Mark Lancaster, confirmed its importance:

"The University of Northampton's research into the social impact of cadet forces, including those in state schools, suggests that membership can increase social mobility and help children reach their potential because of the activities they undertake. That is precisely why this has been such a successful process."

The Institute's work with the cadets is a perfect example of how innovative approaches to social problems can help to create change for society's most vulnerable members.



Richard Hazenberg
Professor of
Social Innovation

The Searchlight Archive: Documenting Far Right Extremism

Northampton is a digital (and paperless) university, but we're still committed to making an impact with physical archives filled with material that can't be found anywhere else. In 2012, the University of Northampton and the anti-fascist organisation Searchlight embarked on a partnership to create the Searchlight Archive. Officially opened in 2013, the archive's unique materials include magazines, fanzines, internal bulletins, leaflets and other ephemera collected from the early 1960s onwards that document far right groups in the UK and internationally.

Associate Professor Dr Paul Jackson was essential in bringing the archive to Northampton, and uses it extensively in his research on the far-right. Paul stresses that the far right has often created transnational links, even in the pre-Internet era, and the archive's holdings (and his resulting research) are not only focused on the UK. Archival documents show clandestine exchanges with international groups including the American Nazi Party, as well as the role of neo-Nazi networks like the World Union of National Socialists.

Paul has used the archive to deal with one of the most pressing issues in national security: the rise of extreme right violence. Working with local and national government, including the Home Office, he has offered historical context to policymakers on the impacts of the far right on issues ranging from tensions created by Brexit to lone actor terrorism. He has designed training-packages for police forces, hate-crime workers and other professionals delivering the Prevent Agenda, including bespoke packages for the West Midlands Police and Portsmouth City Council. His unique sessions draw out the historical development of the far right, as well as develop a deeper understanding of contemporary contexts.

The archive has become an invaluable resource for research at our own university and thanks to a partnership with Gale Cengage – one of the world's leading educational publishing companies – we have been able to expand the reach of the archive internationally as well. Material from the Searchlight Archive is a centrepiece of Gale's online collection, 'Political Extremism & Radicalism in the Twentieth Century'. Part of their award-winning suite of primary source archives, it is the first digital archive documenting far-right and far-left extremism.

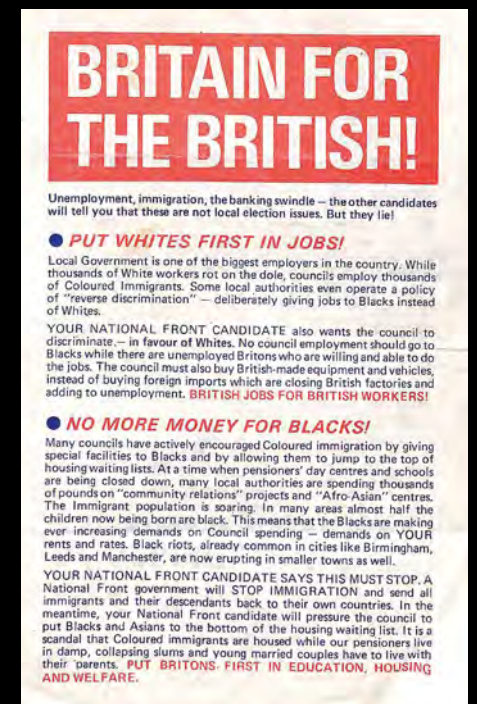
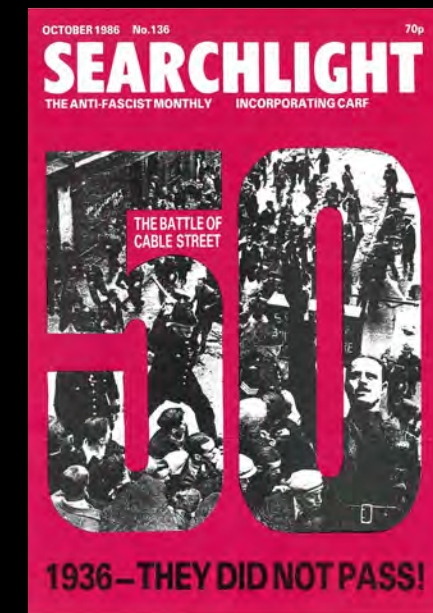
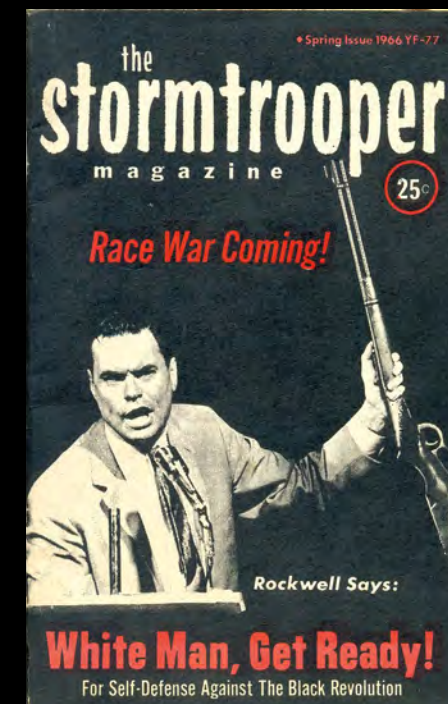
"We are always looking for new partners who can find a good use for this rich, unique collection of material. It has not only enhanced my undergraduate teaching and research, but has become an important asset that puts the University of Northampton at the heart of on-going work tackling the threats posed by far-right extremism."

Dr Paul Jackson

Paul's expertise is sought after by a wide range of groups, from local councils to police forces and policymakers. Journalists in particular have made extensive use of his research, which has been cited in national and international press. He has featured as an expert for the BBC, France 24 and Channel 5, and contributed to articles in The Sunday Times, the Independent and Al Jazeera, among others. He has also written articles for the Guardian and the Huffington Post, bringing his research to audiences worldwide.



Paul Jackson
Associate Professor
in History



The Impact of Covid-19

The COVID-19 pandemic has had an unprecedented global impact and has mobilised the international research community. The University of Northampton is no exception, and has been actively contributing resources and expertise to aid the crisis. This includes infrastructure support, such as turning part of our Waterside Campus into a walk-in Coronavirus assessment centre, or offering accommodation on our sites for healthcare professionals working at local hospitals, as well as contributions to international research efforts around the virus and its physical, social and economic effects.

Lecturer in Molecular Bioscience, **David Young** led a team with Augustus Lusack, Northampton General Hospital's head of Pathology, that included UON doctoral researcher, Charlotte Brookes, to develop a PCR test to detect Covid-19 at the hospital, and set up additional testing facilities in the labs. In our Life Sciences department, **Dr Jamal Nasir** has been focused on the underlying causes of Covid-19. Working with researchers at Stanford University to analyse DNA sequences from over 100,000 individuals, Jamal is looking specifically at ACE2, the receptor protein that the virus uses to enter the body. It is widely believed that genetic variation in the ACE2 receptor protein contributes to disease susceptibility and progression, and Jamal's research is focusing on variants within ACE2 that may either reduce or increase the risk of disease.

“For me – like any scientist – the whole point of being ‘in science’ is to use your knowledge, expertise and skills to help people. I cannot see a better use of my free time than aiding in the identification of critically ill patients in need of vital treatment.”

David Young

Researchers in our Psychology department have been looking at the psychosocial impact of quarantine and lockdown. **Dr Kimberley Hill**, in collaboration with researchers at Coventry University, is running a study looking at coping strategies and social support during the pandemic, particularly in relation to risk-taking, substance-use, and physical and emotional wellbeing. Likewise, **Dr Karishma Jivraj** is leading members of the Psychology team in a research project focused on mental health and wellbeing for students and staff in academia. This research team hopes to help prepare future academic cohorts with the best resilience strategies for coping with the stressors caused by the pandemic. **Dr Josephine Chen-Wilson** is the UON lead on ‘Food, Mood and You’, an international research project with the University of Wolverhampton (UK), and the University of Jyväskylä (Finland) looking at eating and emotions during the pandemic in twelve countries. All of these projects hope to provide simple interventions that might increase social support and offer additional coping mechanisms to those experiencing lockdown.



The lockdown has also resulted in an emergency shift to online teaching, the impacts of which researchers across departments are investigating. At the University's Institute for Social Innovation and Impact, **Dr Ecem Karlidag-Dennis** is exploring how resettled refugee youth in England are adjusting to the changes. Her research aims to identify the key barriers these students face when accessing education, such as digital deficits and language challenges, and the longer-term impacts of the current disruption of their access to education, including transitions into higher education. In the Education department, **Dr Cristina Devecchi** and **Dr Tereza Aidonopoulou** are looking at how the crisis has exacerbated educational inequalities for children with special educational needs and disabilities (SEND). Working with children, parents, teachers and local policymakers, the research will explore the impact of the lockdown and provide solutions for creating more digitally accessible schools.

Technology has also been essential to the University's response. In our Computing department, **Dr Mu Mu** is exploring how anonymous WIFI networking data, geospatial analytics and machine learning can be used to trace the movements of connected devices and evaluate the population density of physical areas. This data-driven approach will allow organisations to reduce unnecessary human-to-human contact through the improved workforce scheduling and space allocation, thus reducing transmission of the virus. At UON's **Institute of Logistics, Infrastructure, Supply and Transport**, Institute Director **Liam Fassam** has been working with industry to introduce technological solutions to mitigate a variety of challenges in the global food supply chain brought about by the crisis. These include fresh food going to waste, increased fraud and staffing shortages.

“These are trying times for all, but to protect the social value that the food supply chain gives in delivering local jobs, skills and economic contribution to a nation's GDP (local and global) two things need to happen. The message needs to be reinforced that the food supply chain is excellent at coping with significant change, whilst upstream actors, such as farmers and manufacturers, need to be protected, not just with cash, but with sustainable routes to market.”

Liam Fassam in The Grocer



The Graduate School

The Graduate School oversees all the doctoral researchers at the University of Northampton. We have over 300 postgraduate researchers working in subject areas across the university, and much of the research they do has a significant impact.

Our postgraduate researchers study via a range of routes. Most are taking the familiar route of a supervised project leading to a substantial research thesis, and the university also offers students in the creative arts the opportunity to carry out practice-based research. A growing number are studying on our Professional Doctorate programmes, which are popular with students who wish to build on their prior career experience in healthcare or business.

As well as administering doctoral research at the university and providing quality assurance, the Graduate School plays an important role in developing the skills and careers of our postgraduate researchers. We run an annual programme of events that support every stage of the PhD journey. We hold the university's annual research conference and a range of competitions, including Images of Research and the Research Poster Competition, which our partners outside the university help to judge. These development events also offer advice on career options, including contributions from members of the Northampton PhD alumni community.

The success of the Graduate School is highlighted by our success in the annual Postgraduate Research Experience Survey (PRES). In 2020 our postgraduate researchers rated the University of Northampton 2nd in the UK for overall satisfaction. We also came top for resources and responsibilities, and were rated in the top 10 nationally in all categories. This confirms that our doctoral programmes are some of the best in the sector.

The strength of our doctoral research community is therefore a key asset of the University of Northampton. As the stories of our featured postgraduates show, our doctoral students are great examples of how research at the institution can have a valuable impact beyond it.

Kim Stuart recently completed a Doctorate of Professional Practice in End of Life Care and Frailty with a thesis focussed on healthcare professionals' decision-making in the care of frail older people at the end of their life. Since graduation, Kim has continued her research and practice as senior commissioning manager for the Clinical Commissioning Groups for Nene and Corby, a role in which she is developing a 5-year strategy to support people in Northamptonshire living with frailty. Kim has noted the importance of applying her research to real world solutions, stating, "I have been determined to make sure my doctorate is more than a proudly framed achievement on the wall, putting into action what I have spent time researching, making connections across Northamptonshire and understanding the systems already in place and how they can be augmented to achieve the most."

Daniel Jones is taking full advantage of UON's Searchlight Archive during his time at the Graduate School. In addition to serving as a primary source for his research, British far right and anti-fascist media's construction of identity: Searchlight and Spearhead, 1964 – 1982, Daniel is also employed as the Searchlight Collections Officer (ensuring he has ample time in the archive). His project examines how far right and anti-fascist magazines created and spread their respective cultures, and the historical context from which current movements arise. Throughout his time at the Graduate School, Daniel was active in taking his work to the public, presenting at venues such as the Centre for Analysis of the Radical Right and writing for outlets such as the United States based Fair Observer. After successfully defending his thesis in 2019, Daniel is looking to see where his research will take him.

Chetak Nangare is a postgraduate researcher in Psychology, exploring psychic experiences in Buddhist works and parapsychological research. For Chetak, parapsychology and Buddhism have strong parallels, and in considering one of the world's most ancient spiritual traditions in relation to modern science, he hopes to improve society's understanding of the human mind. As part of his research, Chetak founded UON's Meditation Society, which was awarded Best Hobby and Interest Society at the National Union of Students' National Society Awards in 2018. The Meditation Society works with the motto of "change comes from within" and promotes the idea that good deeds or merits improve the conditions of the human mind and lead to higher levels of consciousness. As the society's president he offers free meditation to improve mental wellbeing to University staff, students and anyone else in Northampton who wanted to join.

UoN Alumna Making a Buzz

There's a new species of bee, and its named after an alumna of UoN's Graduate School: Dr Stella Watts. Stella's contributions to research on the pollination of bees was essential to the work of Israeli bee taxonomist Achik Dorchin who has named a new species of bee after her: *Eucera wattsi*. Stella's thesis was on Plant-flower visitor interactions in the Sacred Valley of Peru, and we are thrilled she has been able to continue her research in such an impactful way!



Professor Matthew McCormack
Head of the Graduate School



News in Brief



Ankle Problems? Our research is helping patients get back on their feet faster after surgery

William Ribbans,
Professor of Sports Medicine

Professor of Sports Medicine, Bill Ribbans, has been involved in the medical care for elite sports people since 1981. Working with a fellow orthopaedic surgeon, Professor Gordon Mackay (Stirling University), Bill has brought his expertise in foot and ankle surgery to the clinical evaluation of the InternalBrace, a surgical product Mackay invented. The InternalBrace is a surgical suture tape that helps to support ligament repair. Bill's findings demonstrated that the surgical technique works well for ankle ligament repairs, with an accelerated recovery compared to other traditional techniques. Bill and Gordon's novel application of the product contributed to shorter recovery time from surgery, reducing anticipated time to return to sport (RTS) from five to three months. They have worked closely with the product's manufacturer, Arthrex, conducting large educational workshops on the technique, particularly in Europe. This has led to the adoption of the InternalBrace as an accepted technique for a common surgical problem worldwide.



To Stretch or not to Stretch?

Stretch before a workout or not? Dynamic stretching, static stretching or PNF stretching? If you read health blogs or magazines you will know this is a lively debate. You might have also seen some of our researchers' work cited, which has considered this very question. From the New York Times Wellness Blog to Men's Health and the Daily Mail, Professor Tony Kay's research on stretching has been cited around the world. Tony's research found that stretching made people feel better prepared for exercise and had a protective effect against injury, though it didn't actually increase their physical performance. He is now developing a new approach to the most effective type of stretching, PNF, which is usually done with a partner or clinician. Tony's innovations will allow the stretches to be completed by solo practitioners, and it promises to be a gamechanger.



Improving Rehabilitation for Prisoners through a Life Skills Programme

Michelle Jolley's research has been helping to tackle the significant problem of re-offending rates for prisoners in the West Midlands through a process of life skills development. Working with the founder of Chrysalis Lite, Michelle conducted an empirical study of the life skills programme offered in a Category C prison. Her study demonstrated that the Chrysalis Lite programme helped participants develop life skills, including greater self-awareness, problem-solving, critical thinking and interpersonal skills. Based on Michelle's research, the efficacy of Chrysalis Lite programme was confirmed, directly leading to its expansion to two further prisons in the area. Michelle is now conducting further research into how the programme can help reduce prison violence.



Abstract Art – Its Eye Tracking

What happens when you look at a work of art? Researchers in our Computing department are trying to find out, through the combination of abstract painting, VR and innovative eye-tracking technology. Dr Mu Mu and artist Alison Goodyear have been creating virtual artistic environments where spectators can literally enter into Alison's paintings. Mu has been working to develop ways to understand where people look when they are in immersive environments, and he and Alison are plotting ways to make adaptive-paintings that adjust to how the audience looks at them. We're sure exciting things are to come as the research and technology continue to develop.



Ultrasonic – Advanced Technological Training in India

In the Engineering department, Abdeldjalil Bennecer's research into non-destructive testing methods using manual ultrasonic testing has been making waves in foundries across India. For those of you who aren't engineers, MUT uses high-frequency sound waves to test materials without destroying them. Abdeldjalil worked with 17 Micro Small and Medium Enterprises in southern India to help them develop the skills to perform non-destructive tests. The research project facilitated the development of these skills through training programmes and the development of a training manual. 126 engineers, supervisors and technicians participated in the programme, enabling them to meet the high standards of the automotive industry through the use of advanced technologies. The training manual developed during the research was written in regional language, Tamil, to encourage continued use and expansion of these techniques.



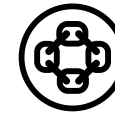
Getting Creative with Leather Technologies

In September 2019 we opened a new state of the art building for our Institute for Creative Leather Technologies (ICLT). ICLT is a unique research and education centre, the only one of its kind in Europe. The centre's research will help to expand the possibilities of how leather can be used and create knowledge around new and traditional leather processing techniques. Through research into the scientific and technological needs of the leather supply chain in everything from the automotive and medical industries to fashion and footwear, the centre's work holds exciting possibilities for a wide range of partners. The cutting-edge work of our leather researchers is already creating impact for our partners in global chemical companies, tanners and brands. There are more partnerships on the horizon, ensuring the centre will be creating impact far into the future.



Tackling Sexual Violence and Hate Crimes in the UK

Senior lecturers in psychology, Dr Kimberley Hill and Dr Evangelia Prokopiou are collaborating on research addressing sexual violence and hate crimes on UK campuses. The University of Northampton was one of 60 institutions awarded funding by the Higher Education Funding Council for England's Catalyst fund, as part of wider initiatives to address these issues within the UK higher education sector. 'New Spaces: Safeguarding Students from Violence and Hate' was a student led, cross-collaborative project that resulted in a list of recommendations for raising awareness, providing support, adjusting policies, and creating safe and secure spaces for students on campus. Locally, the University has adopted institutional policies and procedures based on recommendations from the research team's report. Nationally, the project's findings are being implemented into HEFCE's wider work throughout the UK concerning sexual violence and hate crime. Internationally, the dissemination of these findings is bringing greater attention to a limited area of research.



Creating Links between Research and Industry

Do you have an idea for your business but not all the in-house expertise needed to develop it? A Knowledge Transfer Partnership, or KTP, may be the answer. KTPs create a dynamic three-way collaboration – between a business or not for profit organisation, a UK university or research organisation, and a suitably qualified graduate – to help realise a strategic innovation project, bring about transformative change and embed new capability. One recent example is our two-year partnership with Lightpoint Medical, a leading surgical device company. Three University of Northampton academics from the disciplines of Product Design and Medical Physics shared their expertise and knowledge with Lightpoint to enhance their product design capabilities to be more user friendly and highly responsive to the complex demands of modern cancer surgery. Upcoming projects include an interdisciplinary collaboration between our Health and Computing departments to develop an innovative digital tool to support cognitive decline in ageing populations, and academics in our Engineering department who are working with industry partners to develop a new product to address the dangers of fire during the installation, modernisation, or servicing of lifts. Interested in participating in a KTP? Contact Charlotte Patrick, Key Sector and Knowledge Transfer Manager (charlotte.patrick@northampton.ac.uk)

Work With Us

The University of Northampton's Research Institutes and Centres work closely with external partner organisations, locally, nationally and internationally to create social change. All the research we undertake, and the work that we do to generate new knowledge, is designed to make a positive social impact and improve people's lives and the environment.

As an internationally designated Changemaker University, our research makes a positive difference to the four key areas that we identify as our Changemaker Challenges: Health and Wellbeing; Education; Culture, Heritage and the Environment; Enterprise and Innovation. Through these challenges we strive to improve Northamptonshire as a place to live, work, and visit. We work with partners in industry, the public sector, and community sectors to deliver impact both locally and internationally towards the United Nations' Sustainable Development Goals, using our unique position to bridge the local to the global and leverage knowledge for a sustainable future for all.

We create impact through a range of Knowledge Exchange activities and services, including consultancy solutions for businesses looking for advice and support from experienced professionals, business support, Knowledge Transfer Partnerships, CPD programmes, and access to academic expertise and events. Areas in which support is offered include arts, business and management, education and children's services, health, wastes management and creative leather technologies. If you would like more information, or would like to work with the University of Northampton on research or knowledge exchange, please contact us using the email details below.

Knowledge Exchange and support contact:
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Research and innovation contact:
cathy.smith@northampton.ac.uk



Wray Irwin
Director for Enterprise
and Employability

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