



Images of Research 2017-18.

1 image plus 150 words.

Illustrating research diversity at the University of Northampton.

Exhibition Catalogue.

Guidelines for voting.

Please vote for your top three favourites. You can vote online on the Research Support Hub from 1st February 2018 or in person at the exhibition, which will travel between campuses.

- **1st-23rd February 2018 in Avenue Gallery corridor, Maidwell Ground Floor, Avenue Campus.**
- **Late Feb – April 2018 in Rockingham Library Ground Floor, Park Campus, followed by Avenue Library entrance.**

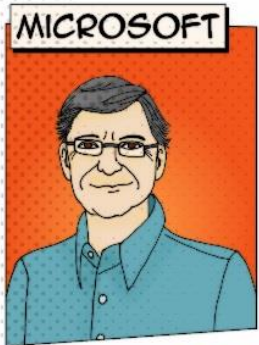
Images of Research is essentially about making research accessible. *The Images of Research* competition offers researchers a chance to illustrate or represent their research using a unique image, along with an abstract of up to 150 words describing how the image reflects their research. As a guide, a winning image would be one that:

- 1. Is visually appealing AND**
- 2. Has an accompanying abstract which is well written, clearly connects with the image and ensures viewers, who know nothing about the research topic, will understand and find interest in the research presented.**

So please vote taking both the image and the abstract into account. You can also vote online at <https://tinyurl.com/UoNloR2018>.

Voting closes on 13th April 2018.

Learn Computing Like a **PRO!**



Learn computing like a pro!

*Aleksandra Dziubek, Postgraduate Researcher, Computing.
Faculty of Arts, Science and Technology.*

Bill Gates, Mark Zuckerberg, Larry Page and Sergey Brin... who doesn't know their names? They became rich and famous because they changed the world using their computing skills. But none of them was born a genius. They all started as children, who were just curious. In times when computers play such an important role in our everyday life and the demand for computer professionals is rapidly growing, we still struggle to teach young people computing. Very often this discipline is seen as intimidating and many children don't even understand what the term 'computing' truly means. The aim of my research is to find out what are the problems contributing to poor computing education in the United Kingdom and how we should teach computing to eliminate these problems and make computer science something that everyone can learn in a friendly way.



Closing time.

Amanda Ash, Postgraduate Researcher, Sports, Exercise and Life Science. Faculty of Health and Society.

Duchenne muscular dystrophy (DMD) is a fatal genetic childhood disorder known for its muscle wasting symptoms, but it also affects other areas including the heart, lung and brain. My research is aimed at exploring cell migration in the brain and whether the loss of a protein (dystrophin) could be involved. Scratch assays are a way of measuring cell growth, particularly migration, as the cell's goal is to heal the wound. These patient cells contain the main type of dystrophin in the brain which is thought to contribute to cognitive symptoms. The yellow outlines depict

the cell free area after 24 hours post scratch, which is measured and compared to controls. This is important as deviations in cell growth, whether that be migration or proliferation, can have a significant effect within the body.



Algeria between representations and misrepresentations.

Amatu Allah Soumeiya Slimani, Postgraduate Researcher, English and Creative Writing. Faculty of Education and Humanities.

This drawing describes major incidents from Maria Martin's *History of the Captivity and Sufferings of Mrs. Maria Martin* (1807), Jules Verne's *Invasion of the Sea* (1905), Assia Djebar's *Fantasia, An Algerian Cavalcade* (1985), and Yacine Kateb's *Nedjma* (1956). It mainly addresses the representations and the misrepresentations of Algeria and its inhabitants in these four literary works. In fact, this drawing sheds light on how Verne's novel which is about the Algerian

desert and the natives and Martin's faked capture by the Turkish officer in her narrative are all misrepresentations of the country which are based on the echoes of what they have read or heard in the Western canon of literature about the "Orient". It also demonstrates an unfamiliar image of Algeria and its inhabitants in Kateb's and Djebar's novels, hence these literary works reflect the idea of Algeria as a multicultural country. These novels are about the Algerian history, the identity and values, the religion and traditions; the notable elements through which the Algerian inhabitants define themselves.



chetakshots

Parapsychology and Buddhism.

Chetak Nangare, Postgraduate Researcher, Psychology. Faculty of Health and Society.

I captured this image with my camera in September 2017 at Killarney National Provincial Park, Canada. I visited this memorable place for camping and canoeing. It was the evening time when we set up our camp site at Gail lake and nature rewarded us with this mesmerizing, reflective view. Immediately I saw this I thought of my PhD research – the utter silence brought so many words into my mind. Parapsychology and Buddhism is my research topic where I am doing a comparative study of Buddhist

understanding of psychic phenomenon with modern parapsychology. Throughout my research I have found that both these disciplines are very reflective, exactly as these clouds are replicated in the still water. I found that in order to induce 'psi' one needs a serene and stable mind, only then does the other realm of consciousness become visible, which this shot also confirmed, meditatively.



Infrastructure – what does it mean for housing?

*Cresencia Uleme,
Postgraduate Researcher,
Architecture and 3D
Design. Faculty of Arts,
Science and Technology.*

Housing has been declared an essential part of the right to an adequate standard of living since 1948. But due to various complexities, the governments in developing

countries struggle to provide enough houses, resulting in the proliferation of slums. The prominent issues are the housing condition and tenure security. Lately, the approach to slums has shifted from a whole housing provision to the provision of communal basic services and infrastructures, leaving the improvement of houses to the residents. This comes with the assumption that the houses are solely occupied by the owners who lack tenure security and when infrastructure is provided they would feel more secure and do more in terms of housing improvement. However, there is a drift away from owner-occupancy towards landlord and tenant relations as regards slum houses. Therefore, this research seeks to understand how landlord and tenants go about housing improvement after infrastructural development.



The road to higher education.

Ecem Karlidag-Dennis, Researcher, Institute for Social Innovation and Impact. Research, Impact and Enterprise.

It was 11th of October, 2017 when I took this picture while walking with two of my colleagues from the ISII team. We were on our way to Avenue Campus to discuss the National Collaboration Outreach Programme (NCOP) activities that aim at supporting the most disadvantaged young people (i.e. ethnic minority students and students with low-income families) in England to access Higher Education. Whether we like it or not, England is still a class-based society and young people that come from disadvantaged backgrounds struggle to access as many opportunities as their peers do (as the recent report from the Social Mobility Commission has demonstrated). This particular road, walked by thousands of university students every day to go to their classes, symbolises the challenges certain students go through to get a better education (and hence a better future). I felt that this is an image reminding us that the road to higher education is long and difficult and it is crucial for the government to introduce initiatives like NCOP to support disadvantaged young people to gain access to higher education.



Little rays of light, writing up a thesis.

*Fiona Barchard, Postgraduate
Researcher, Nursing. Faculty of
Health and Society.*

My thesis title is “Nurses understanding of the meaning and use of courage”. In the preceding months, I have been writing up my thesis, alongside my full-time job. The image invokes my experience: often dark, difficult and lonely, but rewarded with occasional rays of light as the theory emerged. My thesis used a social constructionist Grounded Theory approach, (Charmaz 2014). Ethical approval was granted, and 16 interviews undertaken. An iterative

analytical process resulted in emergence of a co-constructed, theoretical model of courage. Courage is a complex, multi-layered phenomenon. Nursing cannot easily separate itself from its history, as a socially constructed, gendered female, caring occupation, influenced by socialization and gender, prior to, and during, a nurse’s career. Additionally, a conducive, organizational culture is essential. If the organizational culture gives precedence to other priorities, for example targets, staff well-being, or does not favour integrity, then courage will continue to be challenging for nurses.



How much is that dragon in the window?

Helen Tedds, Postgraduate Researcher, Environmental Science. Faculty of Arts, Science and Technology.

This photograph, taken in haste during data collection, made me wonder how many people pass by these creatures during a fleeting moment every day in pet shops throughout the country? What will make someone choose this particular Bearded Dragon (*Pogona vitticeps*) as their pet? As he appears to wait expectantly at his enclosure door to be chosen, how long will it be before someone buys him? Will he be chosen for his apparently friendly nature? Or maybe because he looks cool?! What will then happen if someone does buy him? Will he see out his full lifespan with that same owner? 10-15 years is a long time. Or will this be cut short due to insufficient care? My PhD aims to answer some of these questions about the state of the UK reptile trade, what is driving this industry and what the subsequent consequences to animal welfare are.



The magic's in the meaning.

Jacqueline Batchelor, Postgraduate Researcher, Sociology. Faculty of Health and Society.

Humans learn to communicate from birth, allowing them to express what they need or want. Infant communication involves a mixture of noise, gesture and expression. The ability to communicate is more important than content and deaf people continue to use visual languages. As a deaf adult, communication method would have been established, therefore it is the hearing language that needs to adapt. British Sign Language was formally recognised as a language in 2003. It is a natural response to adjust communication methods to find

commonality with people with a different native tongue. This might involve gestures such as pointing, shaking of the head and drawing diagrams. There is no magic involved, humans need to communicate for a sense of self, belonging and community. Adjustments are readily made for other languages so it would be logical to receive the same contribution for deaf people. The only magic this requires is learning the language!



Metaphors in oak.

*Professor Jeff Ollerton,
Environmental Science. Faculty of
Arts, Science and Technology.*

This photograph was taken on a recent field trip to Cannock Chase in Staffordshire. I was drawn to the colours and textures of this fallen oak branch as a piece of natural art, but also to its ecological significance. The bark has been attacked by insects then decomposed by fungi and bacteria, leaving behind the wooden core of the branch, which has subsequently been colonised by lichens and mosses. Decay, recycling, colonisation, biodiversity: fundamental ecological patterns and processes. But, with a little imagination, there are also metaphors for research to be seen in

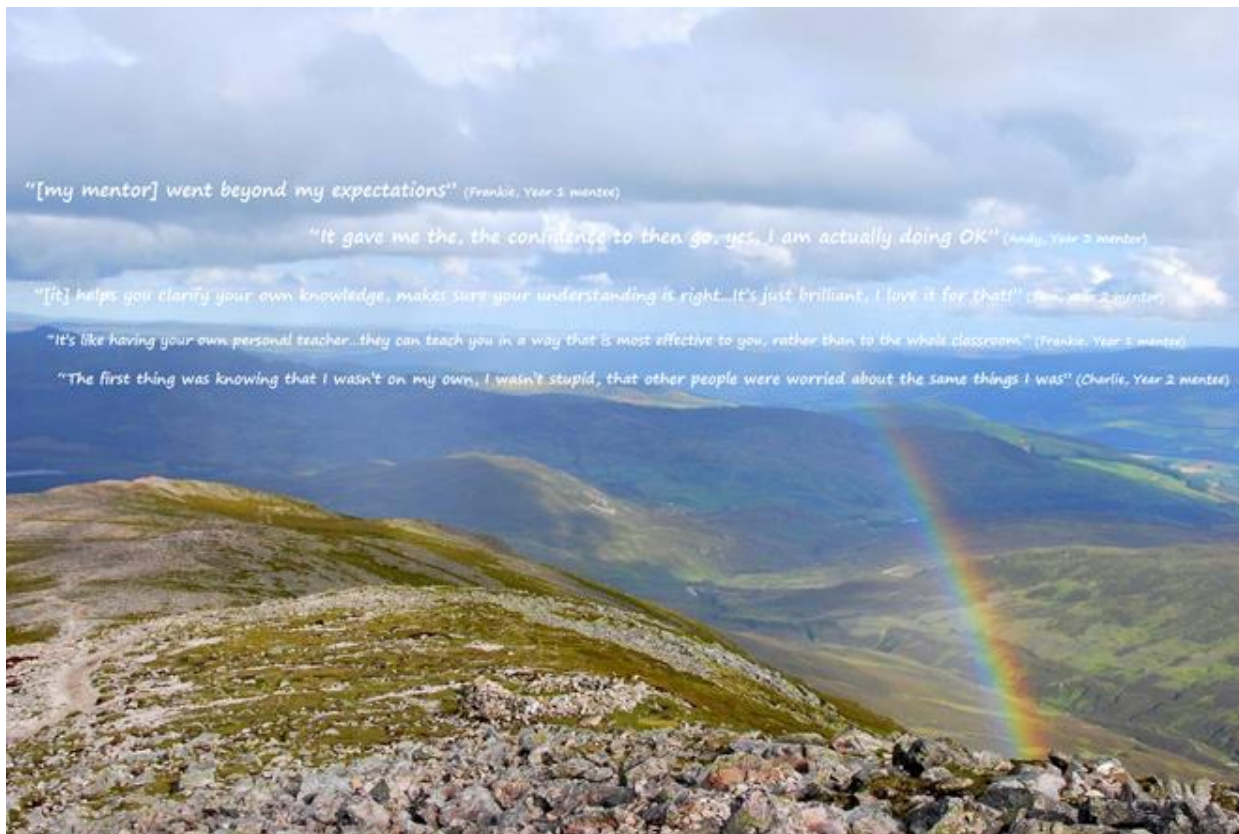
this picture. The growth patterns of the wood seem to flow, and in it we can envision a journey of both smooth waters and turbulent times. The diversity of organisms captured in the image reminds us of the varied experiences we can expect during research, not all positive, but all adding to the colour and texture of our lives. What does this image say, and what metaphors does it reveal, to you?



Just out of reach: accessing wealthy men in a study on attitudes towards HIV testing in Tanzania.

Dr Kevin Deane, Senior Lecturer in International Development. Faculty of Business and Law.

Whilst conducting fieldwork in Tanzania, each morning I walked past a new house that was being constructed. This emerging 3-storey house is typical of housing developments in sub-Saharan Africa, with an expanding middle and upper middle class increasingly expressing their wealth in this way. The golden pillars, just visible in the background behind the high walls that protect the compound, suggest this is no normal dwelling, though this degree of luxury is well beyond the vast majority of the local population. This view from the road became a metaphor for the challenges I was facing in my research, which aimed to understand attitudes towards HIV testing amongst wealthy men. Accessing potential participants was challenging, especially given the sensitive nature of the topic. We had to overcome numerous barriers and jump institutional hurdles to persuade wealthy men to participate in the study, and frequently they felt 'out of reach'.



“We were all understanding it together”: evaluating the UoN Psychology Stats Mentor Project.

Dr Rosalyn Collings, Senior Lecturer in Psychology and Statistics; Dr Kimberley Hill, Senior Lecturer; Natalie Azoulay, Research Assistant, Psychology, Faculty of Health and Society.

This project aimed to reduce statistics anxiety and enhance confidence and curiosity. Year 2 and Year 3 student mentors assisted Year 1 and Year 2 students respectively in one-to-one and group sessions. A dual, mixed methods approach

evaluated project impact. Students viewed the scheme positively, particularly for SPSS, statistical concepts and broader academic guidance (e.g. time management and assignment feedback). Identified barriers included time, mentor availability, confidence in mentors and students' own anxiety in asking for help. Mentors found mentoring intrinsically rewarding, with empathy being a source of altruistic motivation. Many developed problem-solving and context-dependent skills around pedagogical flexibility, which enhanced confidence levels both within and beyond their degree. Due to an underlying pressure to be “the expert”, mentors often over-prepared, but this solidified statistical knowledge. There are great benefits of the scheme within HE, but more work is required to understand mentee expectations and to clarify the mentor role.

The UoN Psychology Stats Mentor blog can be found at: <https://mypad.northampton.ac.uk/statsmentor/>

Facebook Updates: <https://www.facebook.com/groups/924026244303775> Twitter Updates: #UoNPsychStatsMentor



Safe New Spaces: safeguarding students from violence and hate.

*Dr Melanie Crofts, Senior Lecturer in Law;
Ms. Rebecca Barrick, Lecturer in Law.
Faculty of Business and Law.*

*Dr Kimberley Hill, Senior Lecturer in
Psychology; Dr Evangelia Prokopiou,
Lecturer in Psychology. Faculty of Health
and Society.*

This HEFCE-funded project is addressing on-campus concerns about sexual violence, abuse, harassment and hate. Research suggests that these incidences are prevalent within Higher Education (HE), but limited research focuses on HE institutions within the UK. Through a range of collaborative activities

and the creation of best practice, our New Spaces project aims to understand perceptions of on-campus spaces by those using them. Staff and students are contributing to this research through a range of creative methods, for example, through photo-elicitation, as demonstrated in these images. This project will enhance and extend existing safeguarding policies and practices, including staff and student resources, training and more effective reporting, investigation and support mechanisms. Our work is informed by and created in partnership with students and will provide recommendations for our safe new campus context.

If you would like to participate in this project please contact one of the researchers above.



Floating into the Unseen World.

Dr Cal Cooper, Lecturer in Psychology. Faculty of Health and Society.

This image shows me (Dr Cal Cooper) floating in a sensory isolation tank. This work is being carried out by Dr David Saunders and me through the Psychology Division's Centre for the Study of Anomalous Psychological Processes (CSAPP). The purpose of this study is to investigate whether the hallucinatory images seen in the tank are psi-conducive. In other words, can we experimentally demonstrate that when someone thinks of an image, or views a video clip, while thinking of the person in the tank (who is in an altered state

of consciousness, drifting between sleep and awake), can they accurately perceive the target? This is one of several parapsychological experiments being carried out within CSAPP.

Comparing volunteering models in law enforcement across six countries.

Dr Laura Knight, Director, Institute for Public Safety, Crime and Justice. Research, Impact and Enterprise.

This image captures the pride and kind gestures of volunteer law enforcement officers in the US, Canada, UK, Singapore, Caiman Islands and the Bahamas. Brought together by the Volunteer Law Enforcement Officer Alliance annual conference, held in Dallas in November 2017, colleagues participated in interviews and discussions with me about the

varying models, policies and practice across countries. This is one project of a wider programme of research exploring citizen involvement in policing, which is currently examining initiatives including the 'mini police', Police Volunteer Cadets, the Special Constabulary and police support volunteers. The IPSCJ is currently working with 24 police forces in England and Wales and is further developing international comparative research with our Visiting Fellow, Professor Ross Wolf at the University of Central Florida.





Impact of dance on sociability skills of children with complex needs: a step towards inclusion.

*Maitreyee Buragohain,
Postgraduate Researcher, Special
Education Needs and Inclusion.
Faculty of Education and
Humanities.*

This image of participation in an inter-school dance competition gives the viewer a rosy picture. What it hides is the hours of practice and hard work put together by the

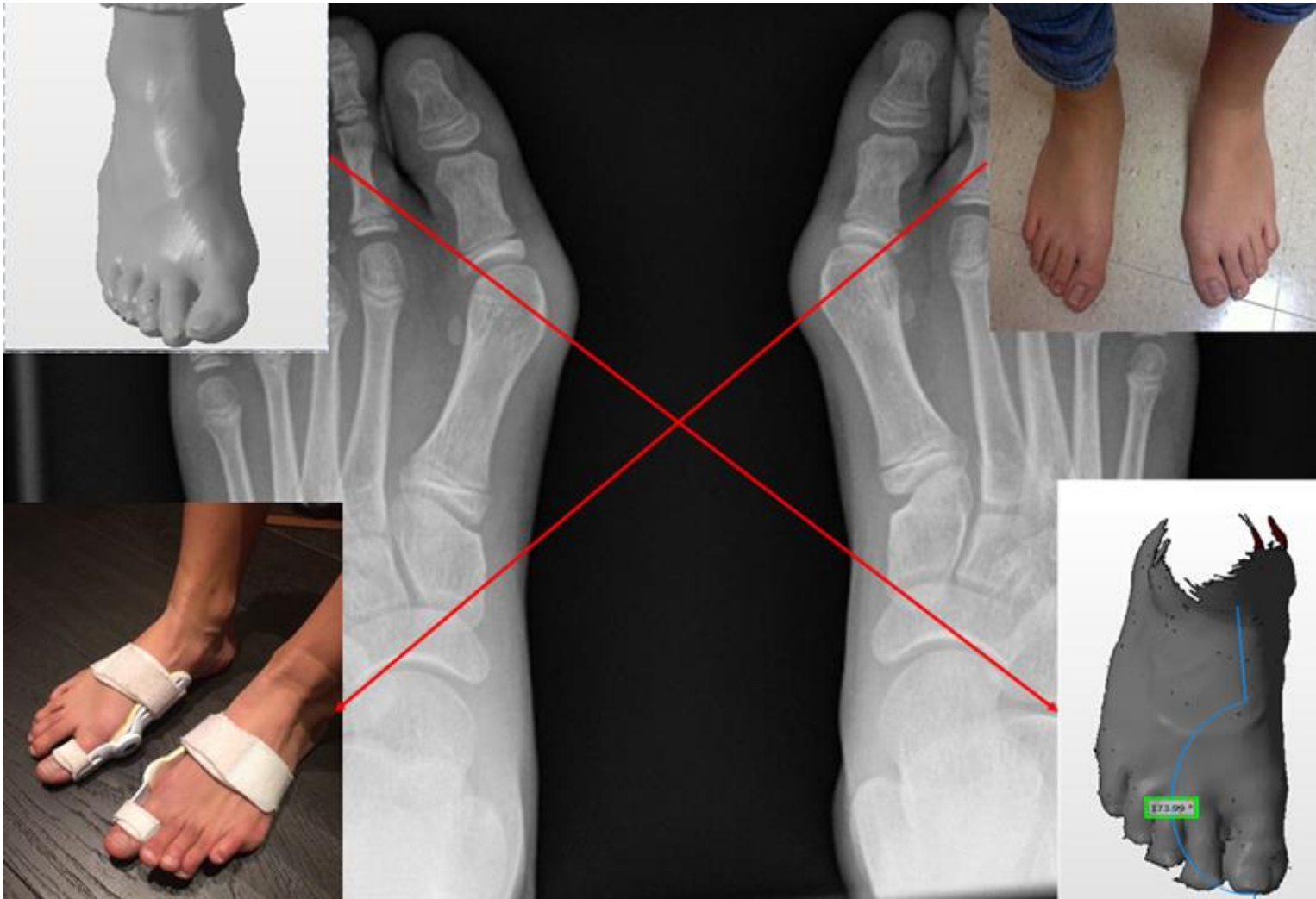
children and the dance teacher, and the complex needs that the children deal with every day. Children with complex needs struggle with two or more needs affecting their physical, mental, social or financial wellbeing. Needs range from mental health issues to poverty, learning disability, physical disability, relationship difficulties and social isolation. I have worked as a special educational needs teacher and a dance teacher with the children in this image. And my years of working with children with complex needs made me realise that dance is a positive influencer in the development of age appropriate social skills. Dance activities offer a structured outlet for physical release of feelings and emotions. It gives children with complex needs a sense of belonging. Dance has helped my students become more sociable and enabled them to cope with emotional difficulties. Children with complex needs deserve to experience the joy and power of dance as much as their non-disabled peers. I believe in inclusion and feel that participation in dance can be a step towards that direction. And that is what my research is all about.

A dynamic juvenile Hallux Valgus splint: design and anthropometric 3D analysis.

Manju Mital, Postgraduate Researcher, Podiatry. Faculty of Health and Society.

Bunions (also known as “Hallux Valgus”) occur when there is a foot deformity, in which the big toe is angled towards the second toe. Children diagnosed with this condition (Juvenile Hallux Valgus) have a more severe deformity than one that starts in adulthood. Diagnosing and treating this condition early

in childhood can lead to fewer problems in later life. The condition is currently diagnosed by podiatrists and consultants after clinical examination and use of X-rays. The problem with X-rays is that they expose the child to radiation. I propose to design a splint that can be worn during the day. The splint may offer a better clinical and cost effective solution for the NHS by reducing the child's need to have surgery later. The 3D laser scans used for designing the splint could also be used to measure the condition and replace the need for X-rays.

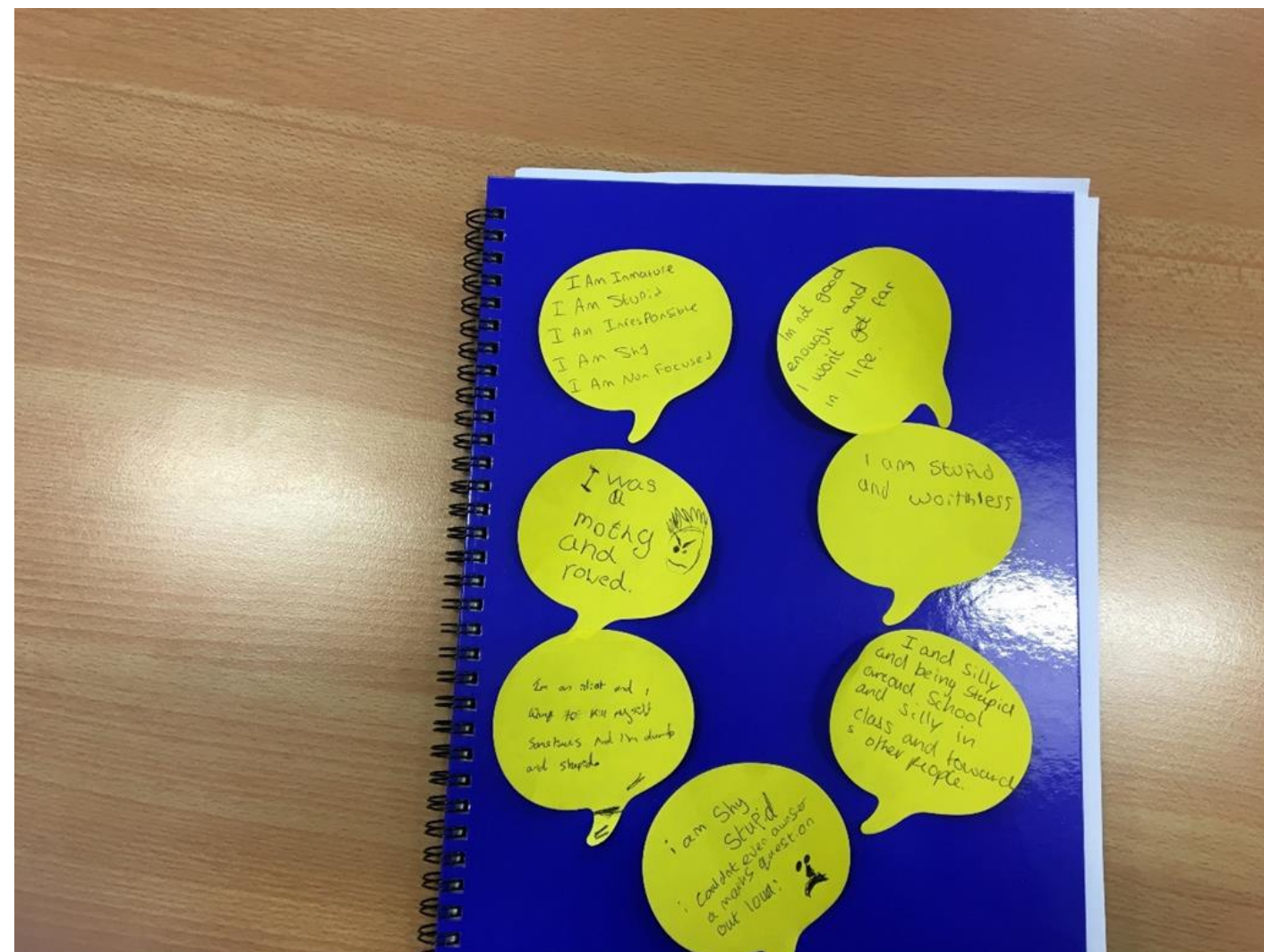


Supporting young people to make positive choices.

Dr Matthew Callender, Senior Researcher, Institute for Public Safety, Crime and Justice. Research, Impact and Enterprise.

This image captures a key moment within an intervention with young people at risk of permanent school exclusion and future criminality where they shared their internal self-limiting beliefs. It shows how, whilst on the outside they were strong, aggressive and deviant, on the inside they constructed a more fragile and vulnerable identity in need of support and compassion.

The intervention was delivered as



part of a wider Early Intervention programme in the county, which aimed to reduce the likelihood of and prevent young people entering the criminal justice system. The behaviours of the young people at times were inexcusable but this exercise marked a key moment for me as a researcher in seeing these young people for who they were on the inside and why early intervention is critical. This is one of many projects being undertaken by the Institute for Public Safety, Crime and Justice which brings together academics and professionals to make a positive social difference.



Transforming lives through transport.

*Liam Fassam, Associate Professor Supply Chain Geography;
Dr Pouria Liravi, Institute Research Fellow;
Jacquie Bridgman, Research Assistant. LIST Institute / SOCIETAL Travel CIC.*

SOCIETAL Travel CIC is a social enterprise, created to tackle transportation challenges by analysing travel data and applying transformative innovative solutions. Expanding on work carried out by the University of Northampton LIST (Logistics, Infrastructure, Supply and Transport) Institute for the UK government (DfT)-funded Total Transport initiative, SOCIETAL's founding partners are the University of Northampton and



www.societal.org.uk

@SOCIETALTravel / info@societal.org.uk

Northamptonshire County Council. SOCIETAL aims to further the University's social impact: targeting the social benefits within its work, delivering empowerment through mobility, well-being from clean air/ reduced congestion and healthy transport options, and improved access, generating employment opportunities in key local areas. SOCIETAL has been formed at a critical period for transport systems: not only transport modes - private/ public, personal/shared, car, bus, rail, cycle, walking - but the integrity and sustainability of their operation model is under increasing scrutiny. Both financial and environmental accountability inform SOCIETAL's research, leading to methodologies that can have local and global impact.



Putting the Heart into C♥nsent.

Dr Kimberley Hill, Psychology. Faculty of Health and Society.

Dr Melanie Crofts, Law. Faculty of Business and Law.

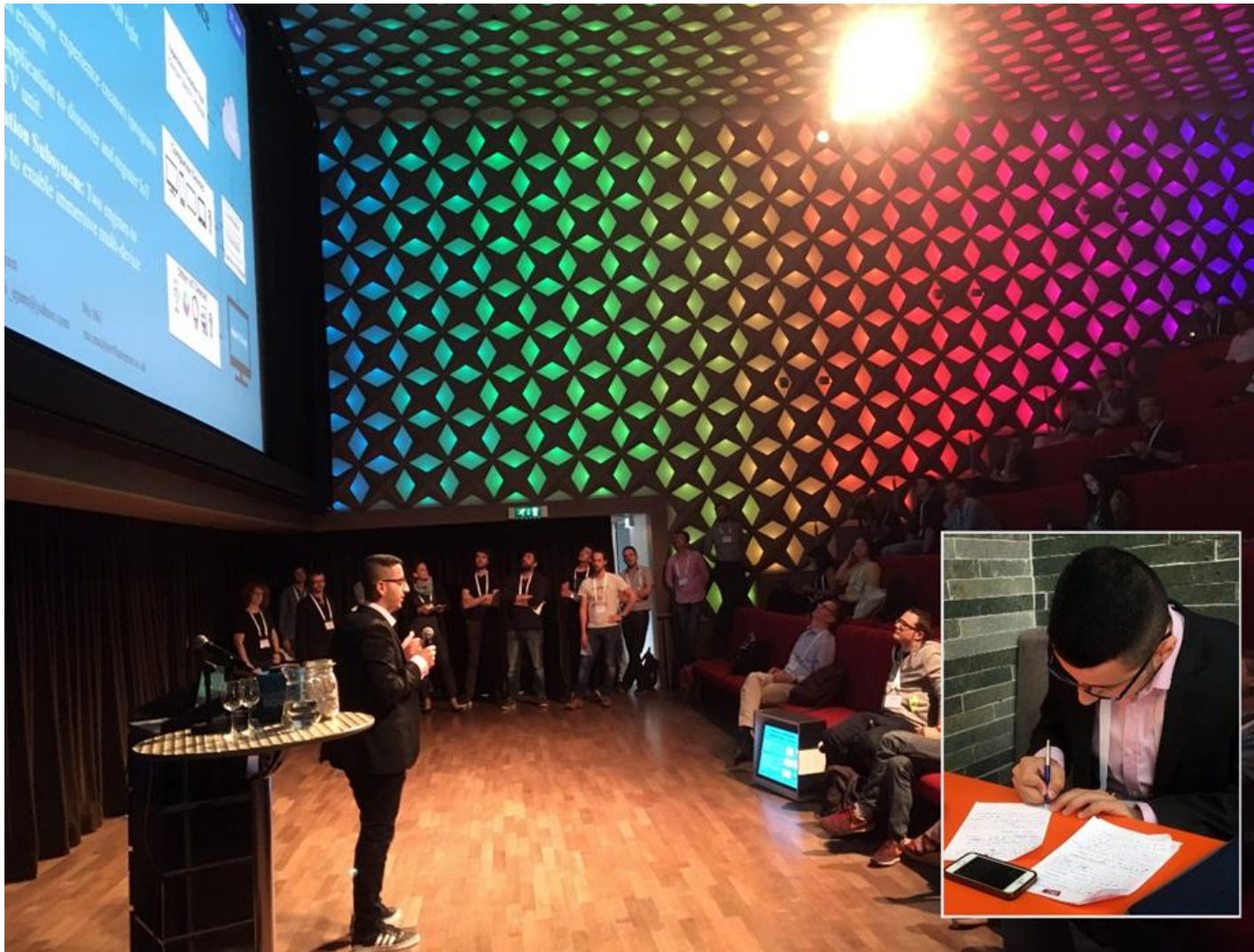
Inter-disciplinary researchers from Law and Psychology convened a local 'I Heart Consent' week of action to raise awareness. 171 students participated in a survey which focused on their understanding of consent-related issues, reporting preferences, knowledge of support services and attitudes around sexual activity when alcohol is involved. Sexual violence is prevalent within higher education, but many do not know where to seek advice, with many more likely to approach a trusted tutor, than friends, parents or external support services. Students witnessed these incidences occurring, but often did not report them. Reasons included stigmatisation, safety concerns, not being believed and because sexual violence is seen as a normal part of student life. Participants had strongest attitudes about statements related to sexual assault and alcohol, but were less clear about the legality of intoxication & rape.



We live in a Gothic world.

*Meriem Lamara, Postgraduate Researcher,
English and Creative Writing. Faculty of
Education and Humanities.*

My PhD research focuses on the development of the Supernatural Gothic in contemporary young adult literature and one of my aims is to deepen our understanding of the genre as an interconnected tradition and a global aesthetic. A question that I get asked quite often by fellow researchers and academics is, "is there a Gothic in Algeria?" This question has always generated mixed feelings in me, for while the answer is "the Gothic is everywhere", I am aware that it is challenging to underpin the transnational nature of the Gothic; and this has always worried me as a researcher. It was during one of my many walks in Mexico City while I was attending the 13th Biennial IGA conference that I took this picture: an example of the many manifestations of the Gothic across cultures. This mural was to me a moment of relief: we live in a Gothic world...we always have.



Cool performance in the Madness Session.

Dr Mu Mu, Senior Lecturer in Computing. Faculty of Arts, Science and Technology.

The image captures a moment of cool performance from my MSc Computing student Mr Hussein Ajam during the “Madness Session” of a flagship international conference ACM TVX, held at the Netherlands Institute for Sound and Vision (NISV), the Netherlands in June 2017. At the centre of a fantastic and futuristic theatre room, Hussein delivered a great talk on transforming TV viewing experiences using immersive technologies. As a chair of the session, I took the opportunity to snap a picture on stage with a unique angle! You can also see other speakers

from the BBC, Nokia Research, Samsung, and University College London in a queue behind Hussein. Hussein’s secret to success: Be prepared. See Hussein working hard prior to his lightning talk in the picture-in-picture.



The sober rave project: investigating the acceptability and personal experiences of alcohol- free dance events.

*Dr Kimberley Hill, Senior Lecturer in
Psychology. Faculty of Health and
Society.*

Our research is an innovative, European-wide collaborative investigation into the benefits of alcohol-free events, otherwise known as 'sober raves'. Much of the existing behaviour work which focuses on preventing and regulating maladaptive

alcohol misuse suggests individuals act rationally in choosing to consume alcohol. However, intentions and other cognitive mediators often fail to map onto actual behaviour and do not explain why individuals continue to carry out health-risk behaviours, despite being aware of the associated risks. Substance use is also often driven by the pursuit of pleasure, rather than by the avoidance of harms. For example, many young people get social pleasures from drinking alcohol, but due to limited alcohol-free socialising opportunities non-drinkers can feel stigmatised. Our research is focusing on the perceived acceptability, attitudes and perceptions of a range of alcohol-free events for young people across Europe. Following the first stage of this research project, we hope to explore how these types of events could be used as a means of reducing alcohol consumption in young people.

This a collaborative project with Dr Emma Davies, Oxford Brookes University; Dr Kyle Brown, Birmingham City University; Dr Mattias Johansson, Örebro Universitet and Joanne Smith, MRes, Northumbria University. Students interested in participating in the project can do so here: <https://t.co/BXh92EFW5t>



Colour from chromium.

Thomas Garwood, Postgraduate Researcher, Institute for Creative Leather Technologies (ICLT). Research, Impact and Enterprise.

Chromium has been used to tan leather for over one hundred years. For many applications it has advantages over other tanning agents and now constitutes the main tanning agent used by industry. The public perception of chromium is poor due to publicised formation of chromium (VI). This form of chromium is harmful to humans and the environment and, despite its unlikely formation within leather, is routinely tested for. Part of the work undertaken in this PhD is to critically evaluate the internationally recognised method that tests for chromium (VI) in

leather, identifying whether it is fit for purpose at the low concentrations defined in legislation. The picture shows how the alteration of one variable (pH) can significantly affect test results. The method uses colour intensity (pink/purple) to deduce chromium concentration: the samples pictured contain the same quantity of chromium (VI) however each produces a different result.



On the breadline: the wall of shame.

Natasha Bayes, Research Assistant and Faculty Ethics Officer. Faculty of Health and Society.

Definition: a staple food for sustenance.

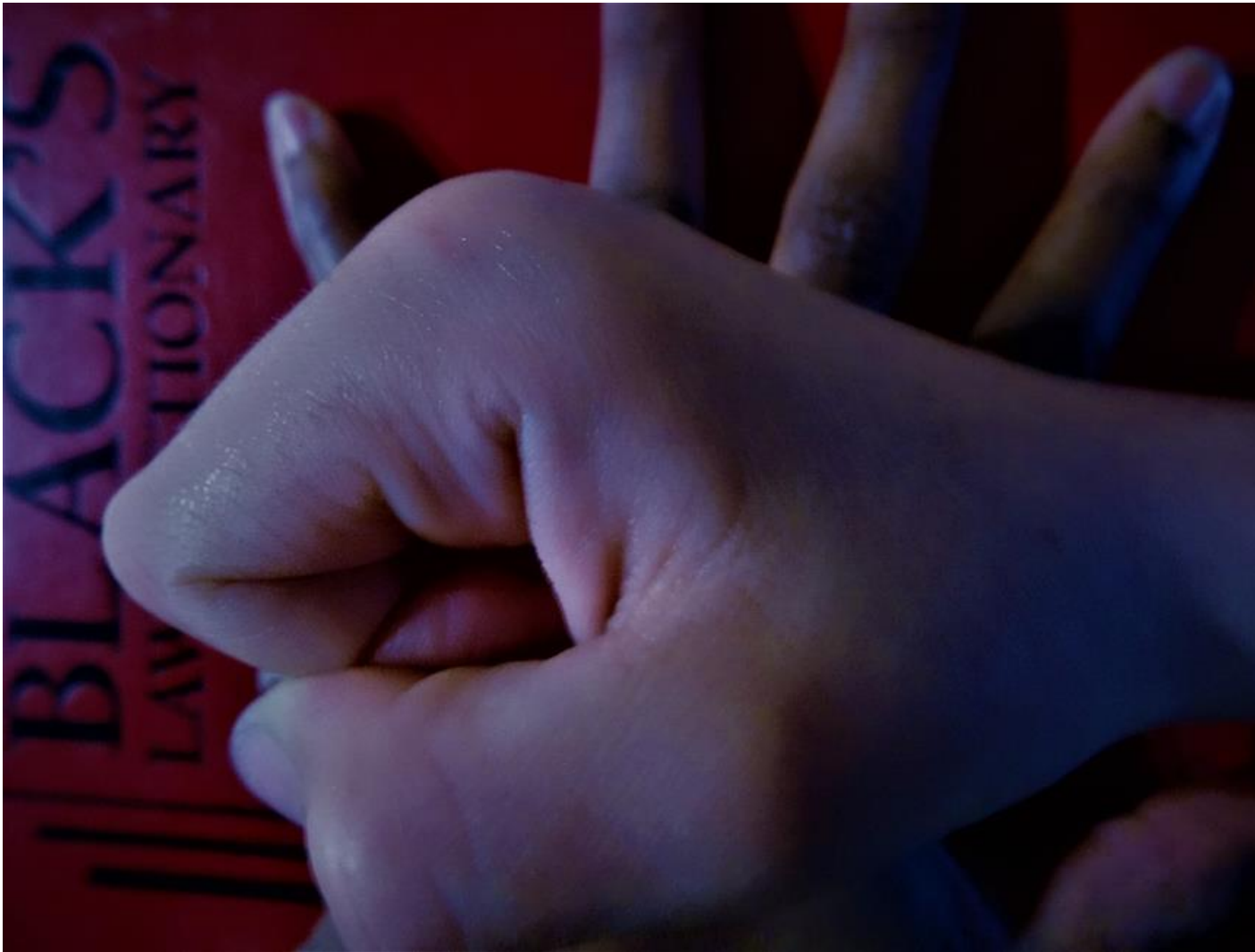
Slang: for money.

Idioms:

1. Breadwinner
2. Earn one's bread
3. On the breadline

It recently occurred to me how bread shrewdly epitomises the political and social structures of

our society. It comes in a variety of shapes, sizes and colours, representing diversity. A person's ability to buy, consume and provide sustenance is influenced by their socio-economic standing: 'earning one's bread' is a symbol of affluence, while being 'on the breadline' a representation of poverty. It reminds me of participants in my ethnographic research on the experiences of people accessing foodbank services. In sharing their stories with me, they spoke of their feelings of shame, stigma, fear and loss of autonomy resulting from their hardship circumstances and the need to access the foodbank. This photo represents the inner experiences of many foodbank clients: feeling like rotting discards, hanging shamefully on the breadline with no alternative choice. In reality, they are brave, strong and resilient people, totally at odds with how they internalise their hardship as a personal failing. Keep strong, have your bread.



Dominance and subordination in learning and teaching.

Nick Cartwright, Postgraduate Researcher. Faculty of Business and Law.

My research focuses on (dis)empowerment in learning and teaching and shows how this relates to race and gender. Specifically it looks at dominance and subordination in the roles assumed in Team-Based Learning and records how white, male students tend to assume dominant identities while Black and minority ethnic students, especially female students, assume subordinate identities. The photo

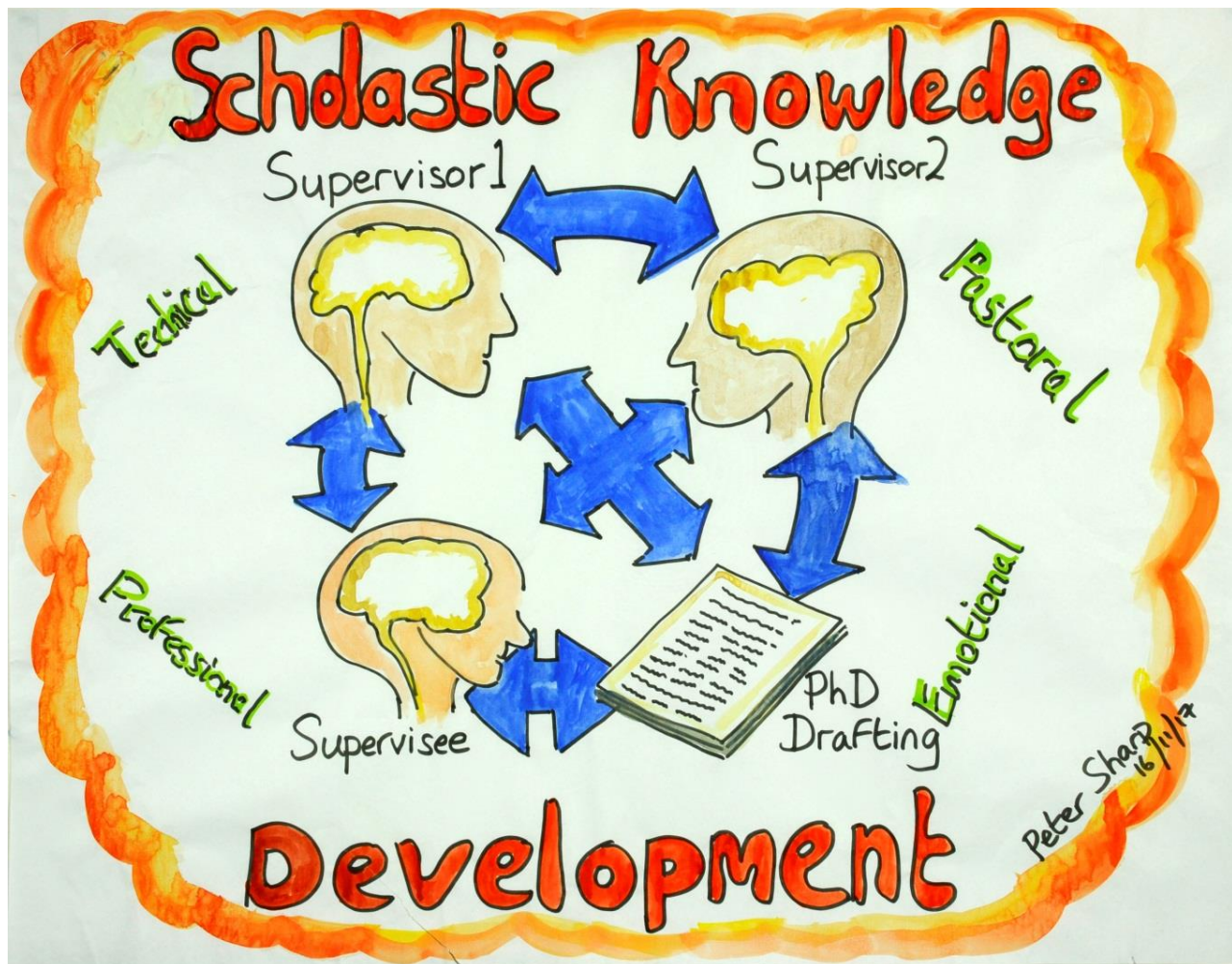
depicts the Black female identity being dominated by the white male identity, the intersectionality that is evidenced in my research. My research also investigates the views of staff at our university and identifies that racism and sexism are often viewed as historic wrongs. The clenched fist refers to the history of the Black civil rights movement but by reversing the identities questions this assumption that racial dominance is historic. The title of the book ironically references the colour of the hands.



Parents' experiences of decisions to withhold or withdraw treatment from their critically ill baby.

Nicola Smithers, Postgraduate Researcher, Law. Faculty of Business and Law.

The legal and ethical issues around withdrawing life sustaining treatment were played out publicly in the recent case of Charlie Gard. As the parents and medical team reached an impasse over his treatment, the courts were left to decide his fate. The case evoked much debate about the role of parents in these decisions and the weight that should be attached to their views. My PhD considers both the legal justifications for such decisions and the retrospective experience of parents who have made these heart-breaking choices. Their stories illuminate the reality behind decision making and provide an opportunity to offer recommendations for enhanced communication between parents and medical professionals, which may help avoid future recourse to the courts. It is often extremely premature babies to which these decisions relate and I am grateful to one parent who allowed me to take a photo of and share her son's first nappy.



Scholastic knowledge development: make best use of doctoral supervisory meetings.

Dr Peter Sharp, student of the Postgraduate Certificate of Research Degree Supervision at UoN, Regent's University, London.

This image represents the dynamics of the creative knowledge development activities in a Doctoral Supervisory Meeting. This research entailed examining how to make best use of doctoral supervisory meetings. The literature review led to a classification of four areas where doctoral supervisors assist a supervisee in the development of the PhD work. These areas include sharing technical and professional knowledge, and providing emotional and pastoral advice.

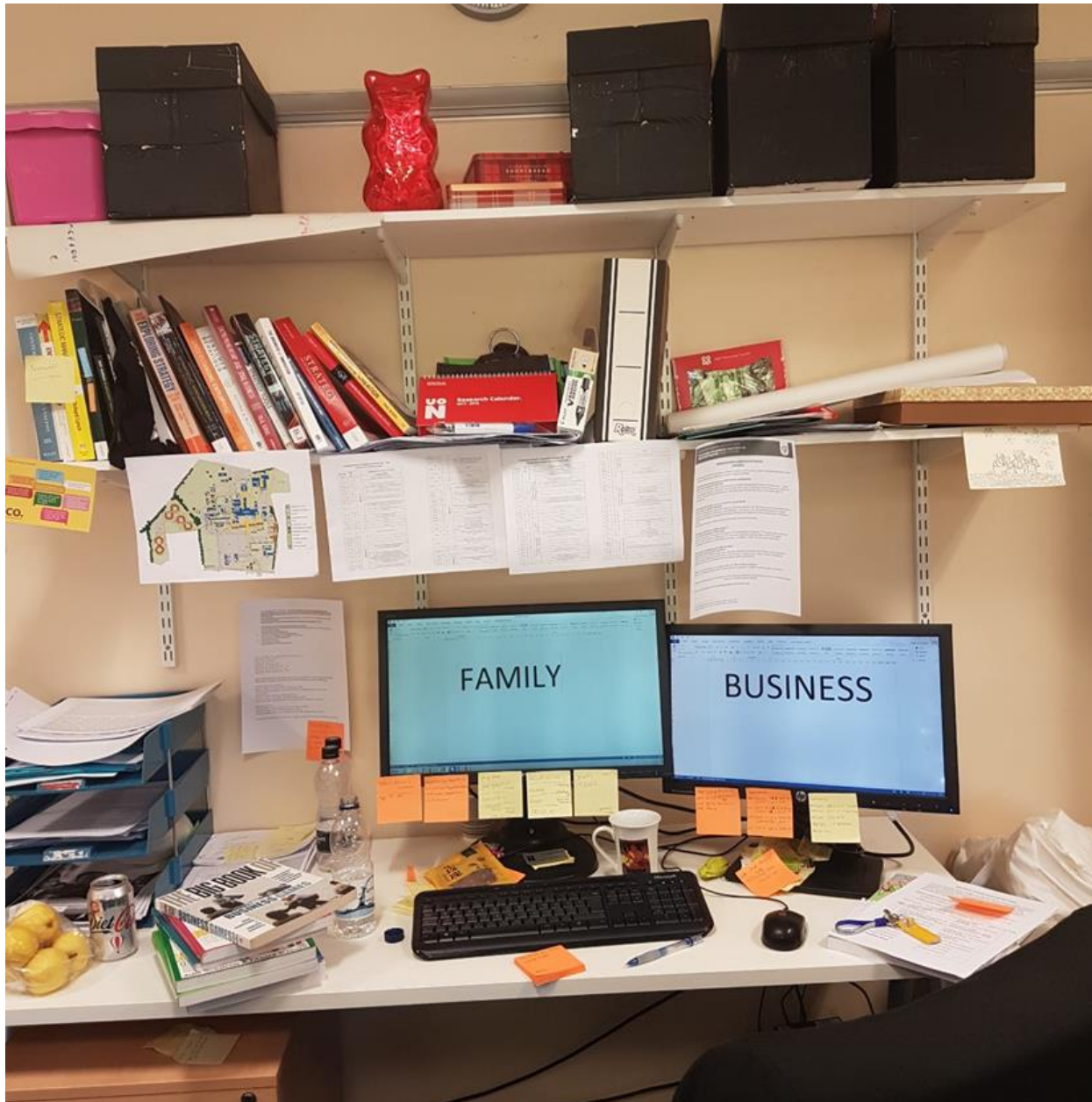
Also, the author conducted observations of doctoral supervisory meetings and interviewed the supervisors and supervisee. This research led him to see how much the doctoral learning process involves mutual exchange of ideas and thinking. He found that all parties gain knowledge and scholastic enjoyment from the exercise and drafts of written work by the supervisee help this process. Although writing drafts of work can put a supervisee under pressure, all parties recognised benefits of drafting early in the doctoral research process.



She feels.. yet reconciles.

*Pooja Haridarshan, Postgraduate Researcher,
Special Education Needs and Inclusion. Faculty
of Education and Humanities.*

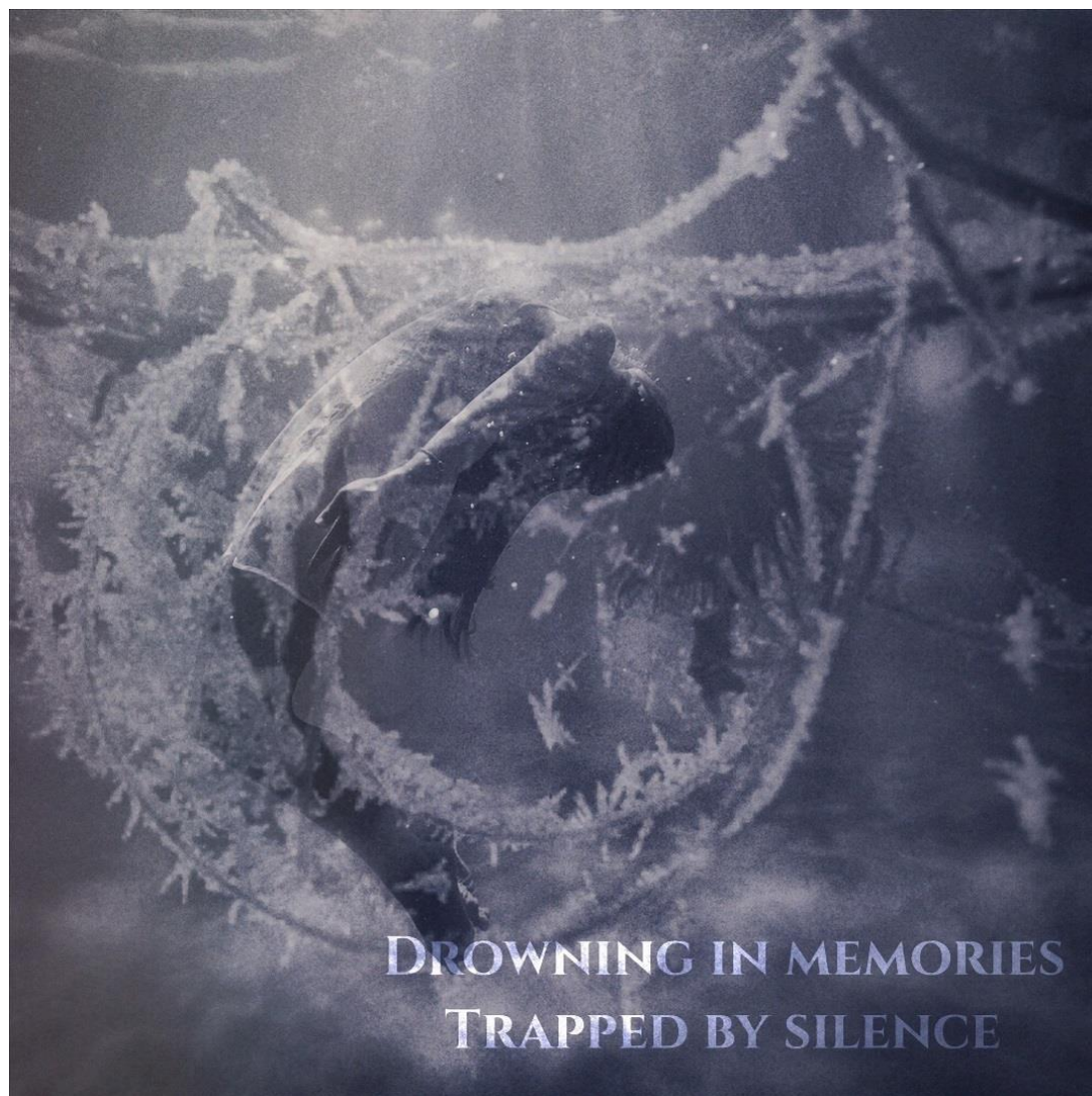
A 110-year-old, quaint, ancestral home in a small village nestled in Tumkur district of Karnataka, India, turned the clock backwards making me oblivious to the speed with which the world continues to move forward. Contrary to the predominant nuclear family culture in Indian society, this house bustles with activity as 20 people, primarily women and children, reside together, with the men preferring to live away from home and earning, while the women work tirelessly running the household. Having undergone no renovation, retaining its inherent character and simplicity, it instilled in me a stronger belief in my research which focuses on women's rights and education. Women here are quite unaware of their rights to education and independence and still struggle to live life with dignity as most women in India. There could have been no better element for my research than this house, steeped in rich history, yet struggling to break away from these very shackles and move forward for the betterment of its residents.



Family business.

*Dr Rebecca Fakoussa, Senior Lecturer,
Marketing and Entrepreneurship. Faculty of
Business and Law.*

My research looks at family businesses, from governance to gender, from birth to board, philanthropy to planning (succession). While families are all about longevity, support and stability, business is about short-term competitive advantages, developing and changing dynamics as well uncertainty. These systems try to work together creating the unique fusion that is family business. My research currently is around family business education, especially governance structures and how this can be used to further support small and medium sized businesses. This picture shows the computer system surrounded by paper and book system - two colliding systems which, like family business, create a unique fusion and can work harmoniously if both are used to their full potential.



Drowning in memories, trapped by silence. The impact of Alexithymia in the child abuse and non-suicidal self-injury relationship.

Dr Rosalyn Collings, Senior Lecturer in Psychology and Statistics. Faculty of Health and Society.

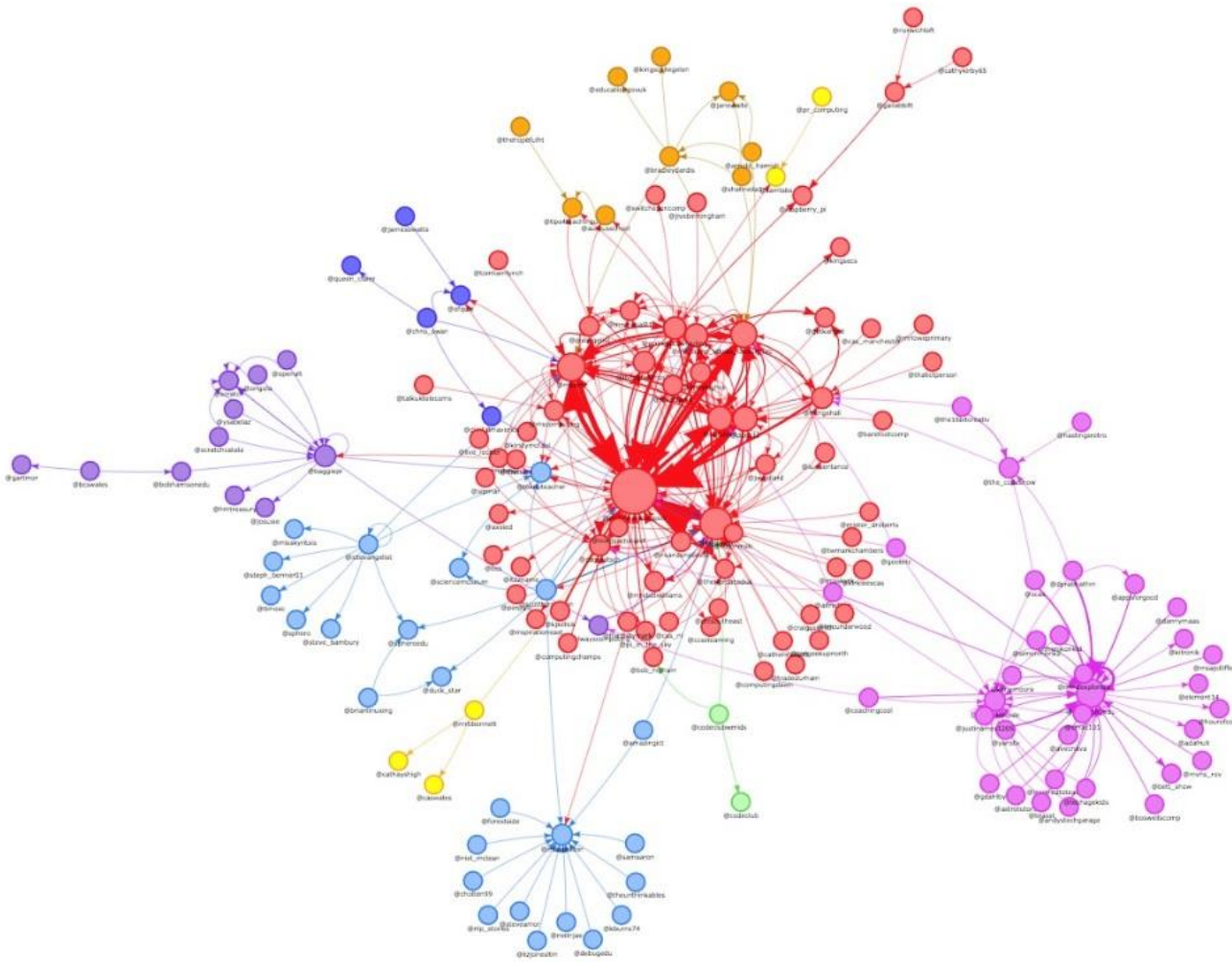
Research has continuously shown strong relationships between experiences of childhood abuse trauma and Non-Suicidal Self-Injury (NSSI). Explanations behind the relationship remain unclear, however, extensive research has focussed on emotion regulation, communication and self-punishment. Interviews with individuals who engage in NSSI highlight the functional element of “demonstrating distress”: that those individuals are unable to talk in words so they do so with wounds. Alexithymia, the inability to identify and describe one's emotions and feelings, has been found to strongly relate to all types of abuse, and also to NSSI, with strong effect sizes in our most recent research.

Alexithymia was also an explanatory factor in the abuse – NSSI relationship. This image captures how participants describe their feelings when the inner turmoil is so great, yet there is no release for the pressure. It can often be described as “silently screaming”.

Chatty Communities.

Dr Scott Turner, Associate Professor and Principal Lecturer in Computing. Faculty of Arts, Science and Technology.

Twitter Chats are a growing Social Media method that some professionals are embedding into their professional development, as well as for networking. The image uses a Social Network Tool, SocioViz, to show the communities that form within a particular chat. In this image, taken from a chat about Computing in Schools - #caschat - two large groups can be seen; largest around the general chat (shown red) and a smaller group focusing on a device called the BBC Microbit (shown in purple on the right). There are a number of small groups, shown with the other colours that are subgroups of the larger (red) group.

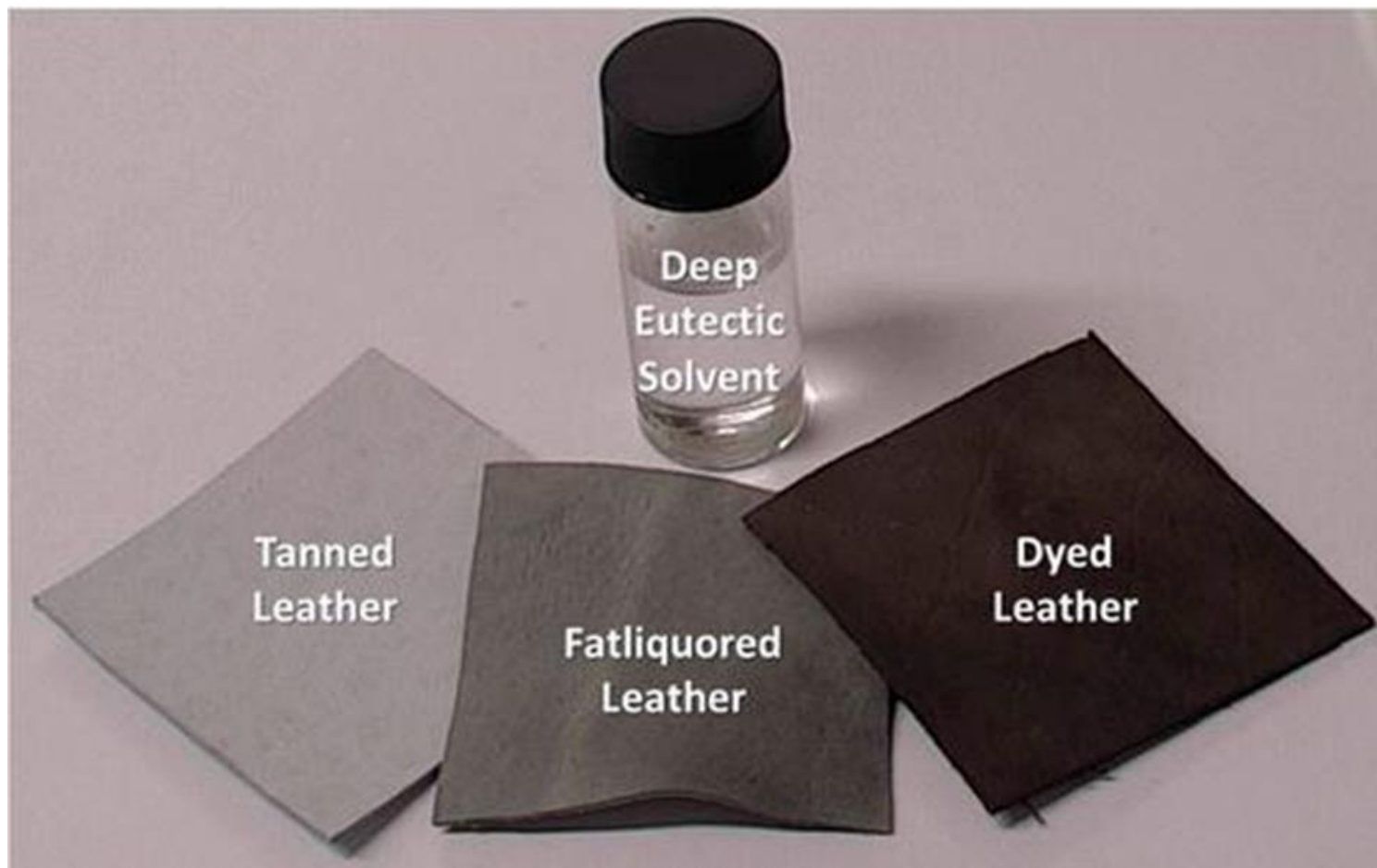


Sex, drugs and Orang-utans.

Dr Simon Sneddon, Senior Lecturer in Law, Faculty of Business and Law.

My research focuses on trafficking by Transnational Organised Crime (TOC) Groups. While national, regional and international legislative and law enforcement efforts focus on the trafficking of individual commodities (Narcotics, Weapons, People, Wildlife, etc.) there is a growing understanding that the routes, and increasingly the groups, are common for the different commodities trafficked. Using Dwight Smith's visualisation of TOC being part of the wider spectrum of enterprise (Smith, 1980:371), it can be demonstrated that TOC is a demand-led operation, and for any goods or services that cannot be supplied legally (at a cost the consumer will bear), it will do so illegally. The image represents the overlap of many of the commodities that are trafficked: the illegal wildlife trade is represented by the Orang-utan; human trafficking for sexual exploitation by the blonde wig; small arms and light weapons by the pistol; narcotics by the baggie and rolled up £20 note.





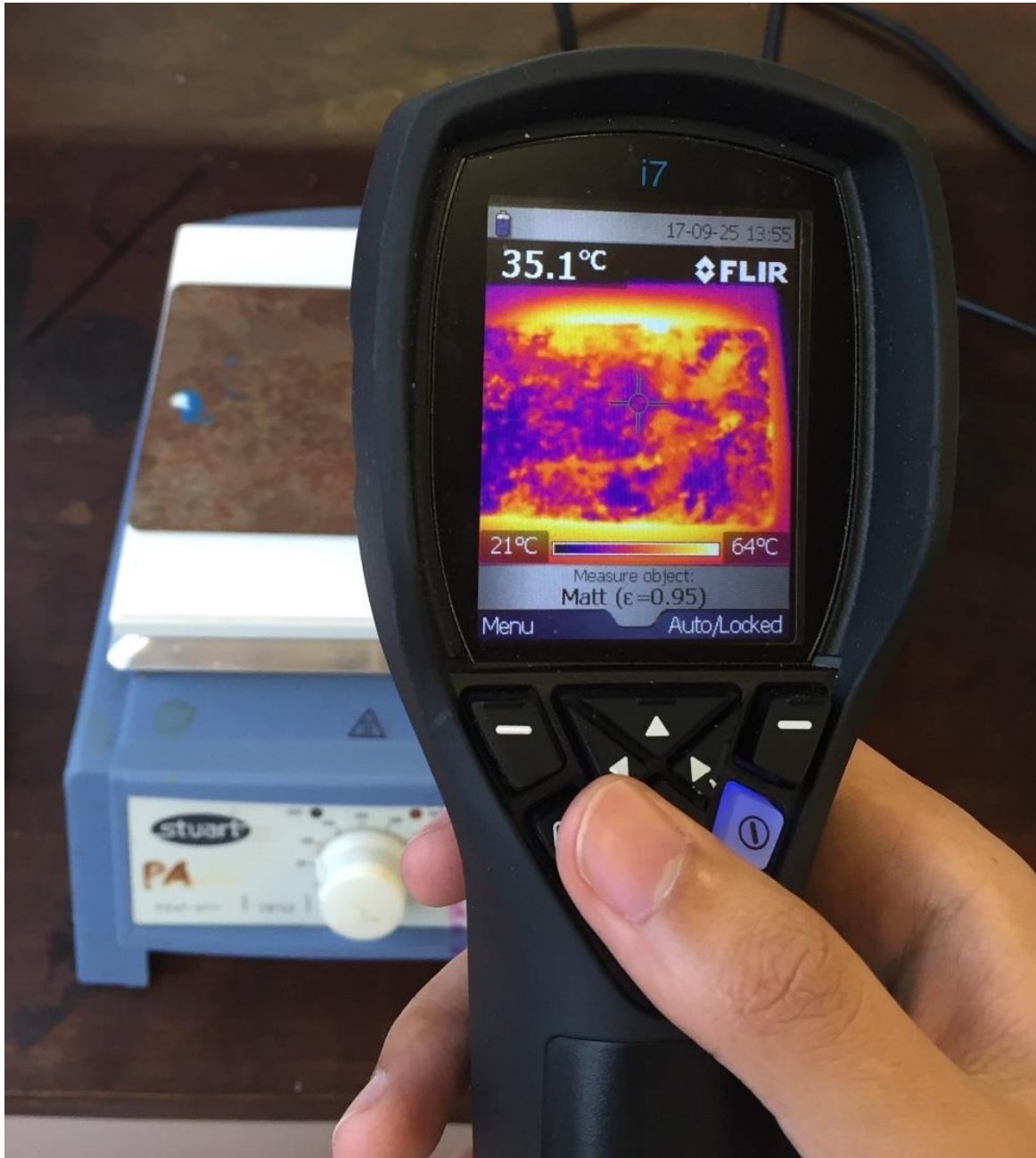
Processing of leather using deep eutectic solvents.

Dr Stefan Davis, Lecturer.

Dr Will Wise, Senior Lecturer, Institute for Creative Leather Technologies (ICLT). Research, Impact and Enterprise.

Leather manufacture has a historical reputation as a chemically and energetically intensive process that produces large volumes of aqueous waste. Saline pollution combined with heavy-metal and dye waste streams make leather production an ecologically sensitive industry.

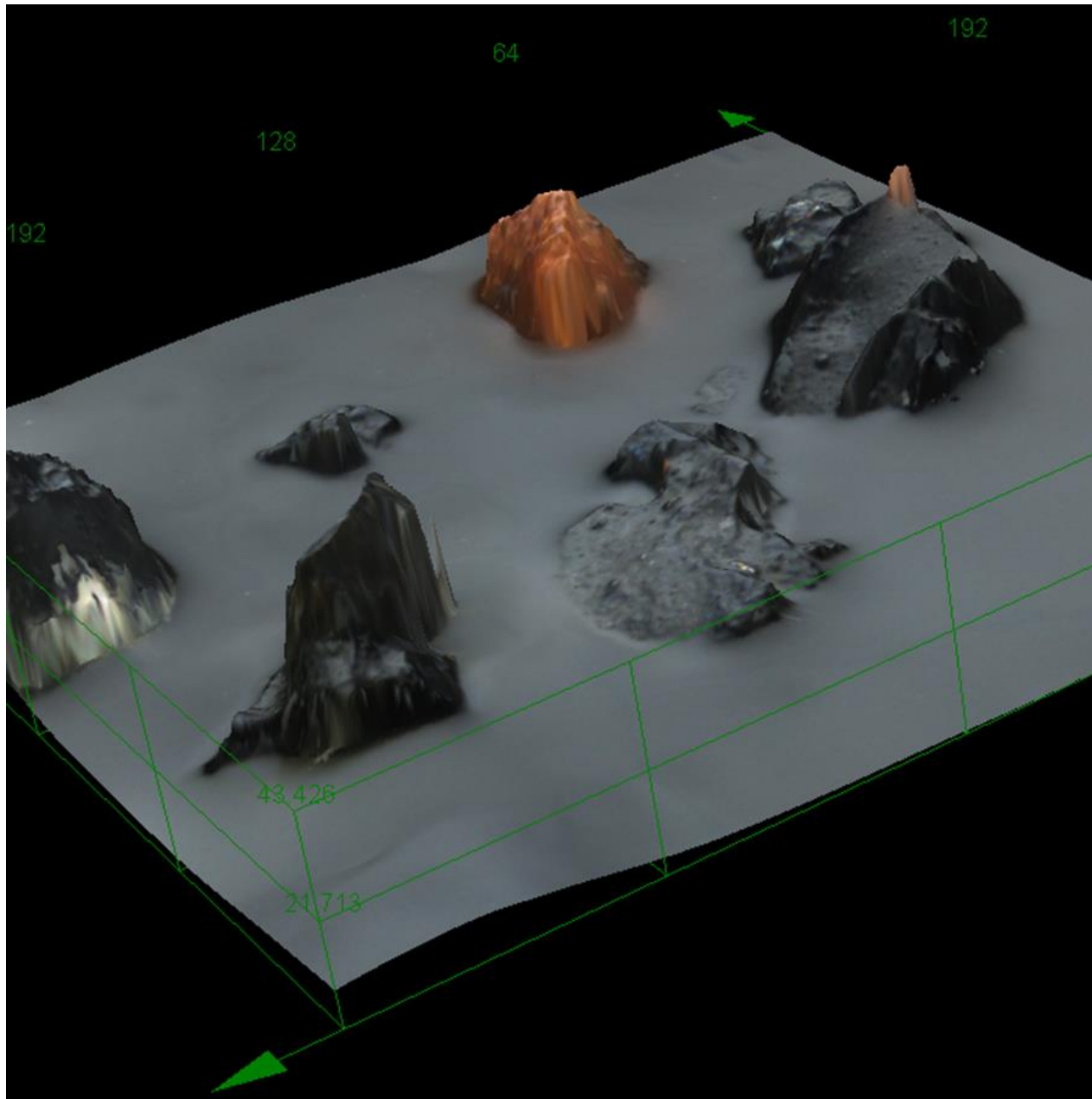
This study has shown that deep eutectic solvent (DES) formulations may be used for tanning, dyeing and fatliquoring of animal skins. The samples are shown to have similar tanning agent content to the currently used aqueous process; however, the waste metal content is shown to be significantly reduced. There is significant scope to improve the hydrothermal stability of tanned leather by using DESs to optimise the binding of the tanning agent to the collagen matrix. DESs enable non-ionic dyes to be absorbed, which do not bleed from the finished leather. DESs also appear to act as fatliquors and lubricate the fibrous structure of the collagen. The use of DESs could offer advantages in terms of waste minimization by applying a liquid active-ingredient directly to the pelt surface.



IR camera examining a heated rusty carbon steel panel.

Tianyang Lan, MSc Engineering Student. Faculty of Arts, Science and Technology.

Corrosion Under Insulation (CUI) occurs on the metal (normally steel) substrate underneath a heat insulating material. It is a problem in a wide range of engineering applications. Part of this MSc project is about use of an Infrared Thermography Camera to detect CUI. Before moving to the “real world” of hot pipes and real insulation, a lab simulation experiment was conducted with corroded carbon steel panel playing the role of corroded pipe. As shown in the picture, when external heat is applied, the IR camera detects infrared radiation released from the rusty carbon steel panel. The thermal image indicates that the corroded area shows higher radiation (orange and red colour) than the non-corroded area (dark blue). Assuming the coating does not attenuate the signal it should be possible to detect the rusty area and this was indeed what was shown as long as the coating was less than 150 μm in thickness. The next step will be applying this in field situation.



Volcanic ash particles in 3D.

*Professor Nick Petford, Vice Chancellor,
University of Northampton.*

The image is from a novel high resolution confocal scanning laser microscopy study of the 3D surface structure of volcanic ash particles from the 2010 Eyjafjallajökull eruption, Iceland. The majority of particles imaged are less than 100 μm in size and include PM10s, known to be harmful to humans if inhaled. Previous studies have mainly used 2D microscopy to examine volcanic particles. The aim of this study was to test the potential of 3D laser scanning confocal microscopy as a reliable analysis tool for these materials and if so to what degree high resolution surface and volume data could be obtained that would further aid in their classification. Results were obtained using an Olympus LEXT scanning confocal microscope with a $\times 50$ and $\times 100$ objective lens.

Image size (microns) 256 x 256 y 43 z.

Reference: Wertheim D, Gillmore G, Gill I and Petford N. High resolution 3D confocal microscope imaging of volcanic ash particles. *Sci Total Environ.* 2017 Jul 15; 590-591:838-842.



Historic leather tanning in Old Islamic Cairo.

Lucy Skinner, Postgraduate Researcher, Institute for Creative Leather Technologies (ICLT). Research, Impact and Enterprise.

As part of my PhD research, I have been visiting traditional leather tanneries in Africa and the Middle-East to see whether any of the ancient Egyptian leather working traditions live on, today. This photograph is of two tanners (one wearing flip-flops) in Cairo, Egypt who are processing camel hides. The fresh hides arrive

outside the door in the morning and they begin the tanning process, starting with the removal of hair. The tanners' centuries-old home of Magra Al-Ayoon in Old Islamic Cairo, which runs along the city's ancient aqueduct, will soon be closing and moving to a modern facility outside the city. This comes with mixed feelings... there is always regret, seeing historic craft workings disappear; but overcrowding and a lack of effluent treatment facilities mean that the old tanneries of Magra Al-Ayoon are a real health hazard, so there's an element of optimism for the tanners' future too.



Understanding 'Brexit': a psychological evaluation of the UK's decision to leave the EU.

*Dr Kimberley Hill, Senior Lecturer in
Psychology. Faculty of Health and
Society.*

Our research is exploring the psychology behind the UK's decision to leave the EU. While some research is beginning to emerge around 'Brexit', limited work focuses on psychological factors related to these recent events. Our large-scale, UK-wide survey focuses on attitudes towards voting preference, how participants might vote now and a range of other factors including sense of

control, social dominance orientation, prejudice, decision-making styles, social self-esteem and interpersonal reactivity. Over 350 participants have responded to our study so far and preliminary results will soon be available, including findings related to voting preference and correlations between various personality and attitudinal measures. Our research will contribute to the growing picture forming around UK's decision to leave the EU, while providing an insight into the important psychological processes behind collective decision making.

*This is a collaborative project with Dr Rebecca Semmens-Wheeler, Birmingham City University. Project updates can be found at:
<https://www.researchgate.net/project/Attitudes-towards-Brexit>.*

All images printed by the University of Northampton.

Special thanks to James A. Smith in Photography and Suzanne Stenning in the Art Gallery.

©Copyright of the image and accompanying abstract belongs to the researcher. Permission to use any image and/or abstract requires authorisation in writing from the individual copyright holder.

For more information, or to contact the copyright holders, please email simone.apel@northampton.ac.uk in the first instance.



Feedback on IoR to simone.apel@northampton.ac.uk

www.northampton.ac.uk/graduateschool

Research Support Hub: <http://researchsupporthub.northampton.ac.uk/>

facebook UnGradSchool twitter @UNGradSchool in ungraduateschool