



Images of Research 2023

Competition Brochure of Entries

Viewing and voting

- There are 20 fantastic entries in this year's Images of Research competition. Please view all 20 submissions below and keep a note of your two favourites, along with the entry number. To register your vote for the People's Choice, [please go to the Blog post here](#).
- Voting will close on June 25th at midnight. Please register your vote only once.
- The winner of the People's Choice will be announced on June 28th at the UON Research Conference.
- If you have any questions, please contact [Simone Apel](#) and/or [Lina El-azhab](#)

Enjoy the Images of Research below!

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Entry 1 – Amy Cortvriend

Around the world in many conflicts

This photograph was taken on site, doing research in a charity working with migrants, many of whom were refugees. This part of the research was situated in a women's group ran by volunteers, all of whom were retirees. This particular week was the week of Remembrance Sunday, and the well-meaning volunteers talked about their own experience of deceased family members who had been to war.

What they had not considered was that the women may have fled conflict and persecution, and some of the service users became upset after being reminded of their recent experiences. In particular, one woman's nephew had been a journalist who had recently been killed by the Assad regime. One of the things this research highlighted was the potential for unintentional harm resulting from activities planned by volunteers, and the need to develop training to address and avoid insensitivity such as this.



UON Images of Research 2023 ©Amy Cortvriend

Entry 2 – Andrew Ballantyne and Anne Lama

There's something fishy going on! Sustainable exploitation of waste skins from the fishing sector

Around 6 million tonnes of fish skin are produced by the global fishing community, of which most hold no value and are disposed into landfill. It is key that we develop more sustainable approaches that maximise the use of wastes that are generated from industrial and farming sectors. Collaborating with researchers from the University of Stirling our MSc student, William Lohay, has investigated waste Nile Perch and Salmon skins for use in leather production and evaluated the viability of a commercial fish skin tannery.

The image shows a repeating diamond pattern on the surface of a Nile Perch leather, generated when the fish scales fall out during the leather making process. In addition to creating a usable material from a waste product, these leathers possess a unique appearance, similar to that of exotic leathers, offering application in high value couture fashion.



Entry 3 – Charlotte Marshall

The fluidity of being an academic

Barad (2007) argues that boundaries are social constructs, and we are guilty of assuming there is an 'inside' and an 'outside'. They invite us to think in terms of movement, of intra-action between agencies, and step away from notions of fixed boundaries. As I explore what it is to 'be' a student in tertiary education, understanding the porous nature of boundaries and identities is important. Part of the PGR process is to supply one's professional experience to contextualise the study. I did so in a written chronology but to illustrate the porous nature of my 'being' a student I created a watercolour painting to present my professional experience. You cannot determine where the purple, pink, white and blue start and end; if you add more water the colours will shift in nature again. The fluidity is undeniable in this medium and fully illustrates the fluidity of my becoming (Braidotti, 2013).



Entry 4 – Corrine Gretton-West

Restoring faith in yourself

I took this image using a 170-year-old photographic process called Wet Plate Photography. The process involves collodion and silver nitrate created on a glass plate, called an Ambrotype. This photograph is an ode to Spirit Photographers in the 19th Century, such as William Mumler, who, by using the same photographic process, convinced the world that he could photograph the afterlife.

Victorian Spirit Photography is an important element of my research, as it played a part in restoring faith in Victorian times.

My research project overlaps my interest in photography and parapsychology. Through the development of a photographic project, my doctoral research aims to allow the artwork viewer to appreciate how first-hand exceptional human experiences are perceived. Exceptional Human Experiences include seeing apparitions and experiencing a sense of presence. I hope my project will provide an effective communication tool for people with these experiences.



Entry 5 – David Biggs

The rise of the casual worker

Casual staff are a classification of temporary worker who have an explicit or implicit contract of employment which is not expected to continue for more than a short period. Between 1998 and 2002 casual workers represented just over 1% of all employees equating to around 300,000 workers (Biggs, et al., 2006). However, in 2023 this figure had increased to approximately 1.3 million casual workers in the UK economy (ONS, 2023). In academia, some departments, especially in pre-92 Universities, have up to 60% of teaching staff on casualised contracts, although typically the rate of casualisation is between 20-40% (Ambler et al., 2022). Casual workers are afforded basic employment rights and protection. However, they have less rights of equivalency to permanent positions compared to other temporary workers such as agency workers and fixed term contractors. The painting represents the plight of the casual worker trying to get into an organisation that opens its doors at 9:00 am.

The first inline will get picked and those at the back of the queue won't work that day. The shadow of the organisation represents the hard work and toil of casual staff who give their all to work for the day in order to survive.

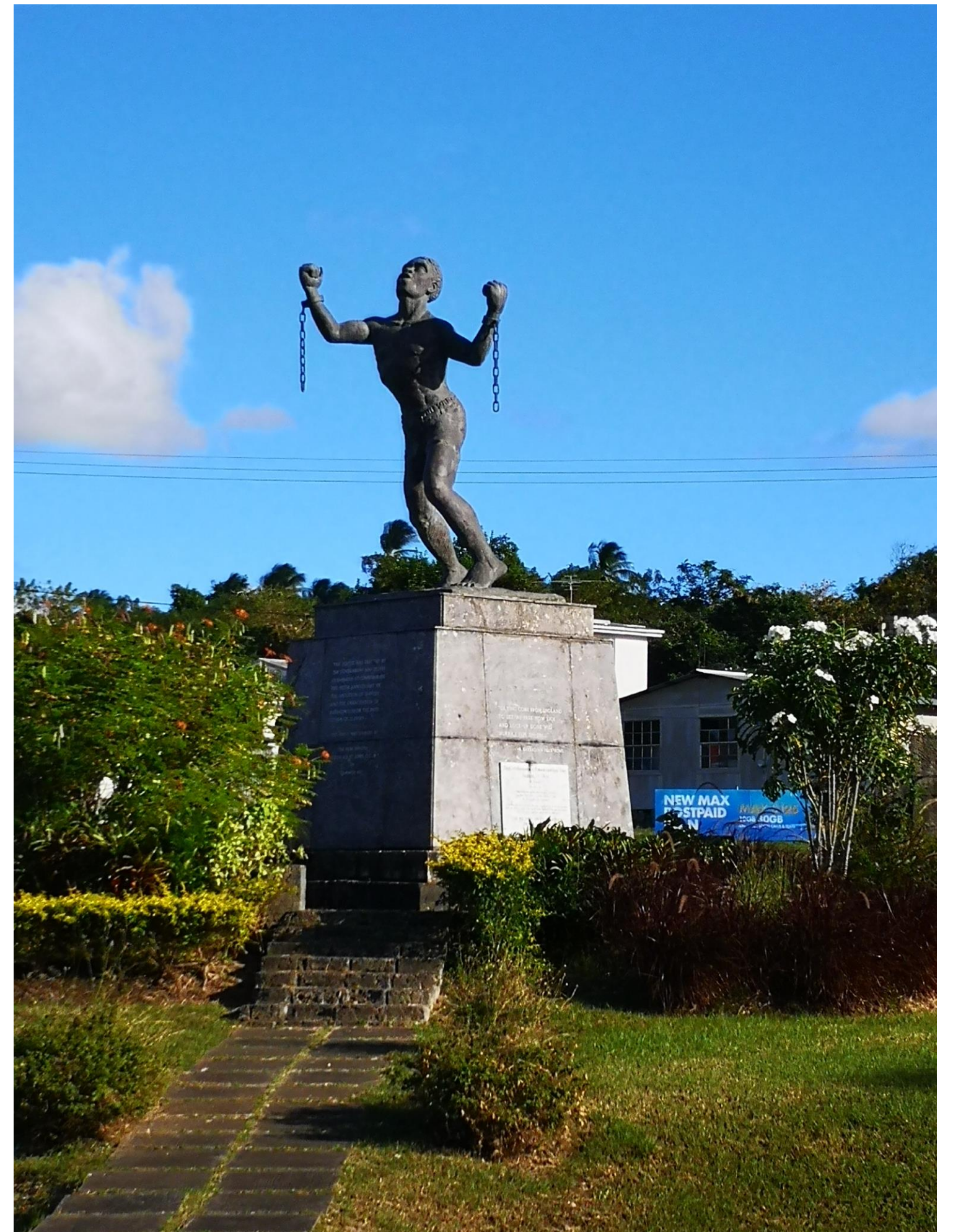


UON Images of Research 2023 ©David Biggs

Entry 6 – Emel Thomas

The Emancipation of the Context

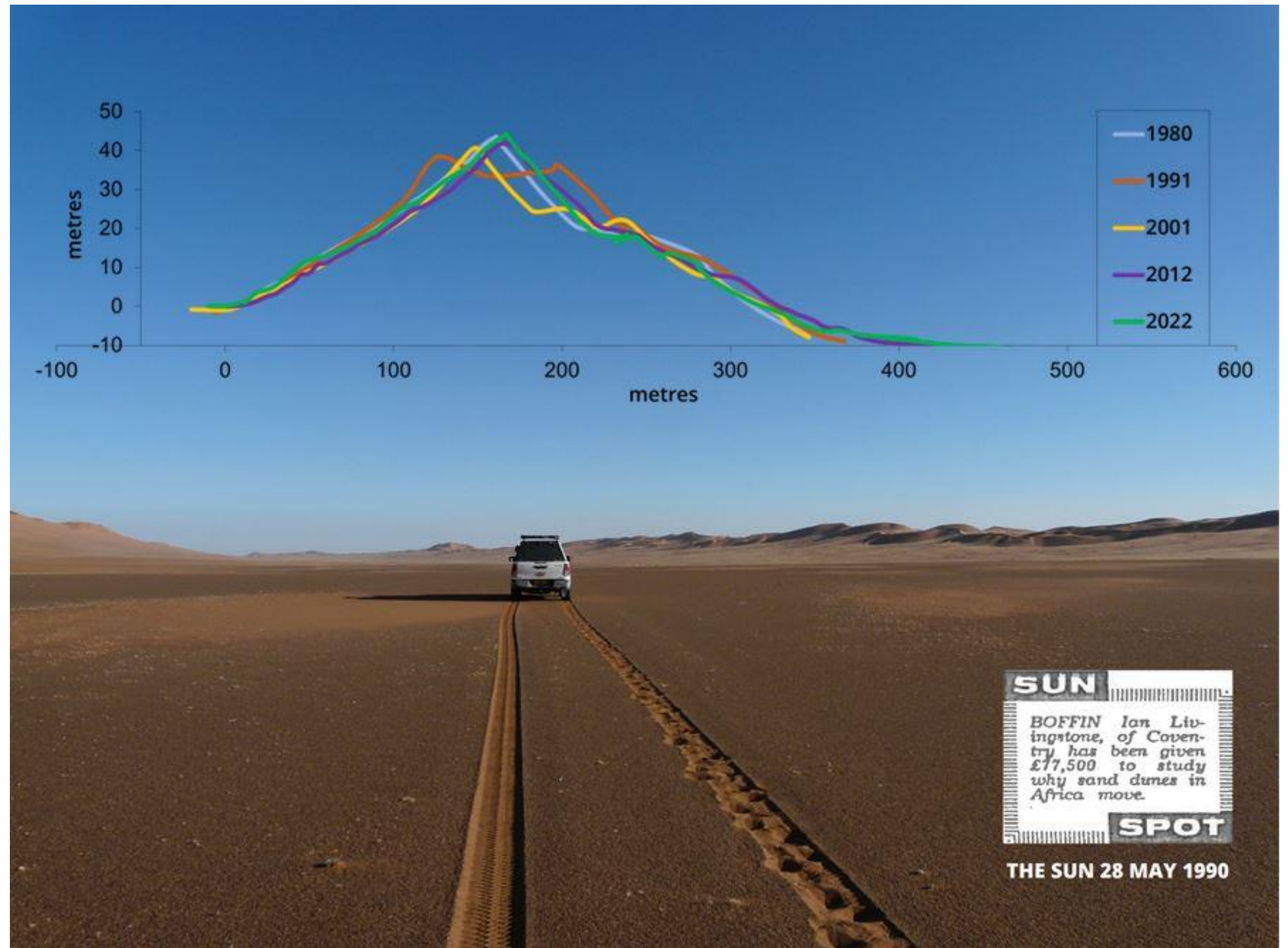
This image is of the West African hero Bussa at the centre of a major Barbadian roundabout. Everyday hundreds of individuals see Bussa. In 1816 Bussa inspired a movement against slavery within the Caribbean Island of Barbados. For a current PURB@N research project, that seeks to showcase the voices of on campus international postgraduate (PG) students, this image illustrates the importance of recognising the legacy of the past and the interplay of situational context. UON international PG students arrive at the Waterside campus with varying expectations and experiences of education/learning. Many international students arrive from countries that have historically elevated the English educational system. It is hoped that this research will inspire and unleash the perspectives of a highly ambitious student community. Hence this research is likely to hold valuable lessons for UON staff on their pedagogical practice of student 'development' and 'progression'.



Entry 7 – Ian Livingstone

Do Sand Dunes Move?

In September 2022 (after two years' delay caused by Covid) I was able to return to sites on dunes in the Namib Desert that I first surveyed in 1980. Despite the apparent scepticism about the value of research on dunes expressed in a popular national newspaper (see inset), this work continues to provide a unique record of dune movement. These dunes extend for 10s of km, are over half a km wide, and are typically 50 to 100 m high. The diagram shows a sequence of cross-profiles at one of four sites over the past 42 years. These surveys help us to understand the development of these linear dunes over time. Although the crest of the dune has shifted, the height has remained much the same, and the base of the dune is still where it was when the surveys started. Plenty of sand moves on the dune, but it maintains its form.



Entry 8 - Iyanuoluwa Odetunde, Amin Hosseinian-Far, Oluwaseyi Omoloso, Dilshad Sarwar, Chijioke Uba, and Ebenezer Laryea

Responsible Production in Action using Waste as a Base Resource.

The FRESHPPACT Hub team based at the University of Northampton's Centre for Sustainable Business Practices visited a Swiss-based company named HPW factory based in Ghana to assess sources of plastics pollution in the Company's supply chain. Although the focus of the visit was around plastics pollution mitigation, the team noted an additional sustainability initiative being applied by the company, that provides a significant amount of factory's energy requirements. As a dried fruit manufacturer, the company deals with substantial amounts of fruit waste produced at the factory. The image outlines a biomass boiler that receives such fruit waste and generates energy for the Company's operation.

The Fresh Produce Impact (FRESHPPACT) Hub is being implemented by Blue Skies who have been awarded a UKAid grant to launch the hub to find solutions to sustainability issues and challenges. The University of Northampton serves as the Coordinating Research and Project Management partner.



Entry 9 – Jacqueline Batchelor

Focus

Being focused on what we want and know often results in the finer details being missed. We take for granted the ability to communicate with the world around us and be recognised or blend in as we choose. Deafness is categorised as a disability which is often hidden with no indication to its presence or severity until additional information such as presence of a hearing aid or signed communication is used. The ability to hide or show what we want about ourselves is a personal choice. However, being seen when we choose to is key to ensure the development of self-identity and a sense of belonging within our surroundings. Humans seek out where they feel comfortable and blend into the environment. The opportunities for Deaf people to blend are, as for hearing people, purely individual with the additional challenge of communication difference. Environments can be found only when they are available and accessible. Increasing Deaf awareness and providing resources to support access will continue the support for Deaf people to feel that they belong in the community, not only to blend in but to stand out and be accepted. Support doesn't need to be seen to be recognised.



Entry 10 – Jeffrey Ansong

Working Through the Mess: Examining the Inefficiencies in Manual Inventory Management Systems

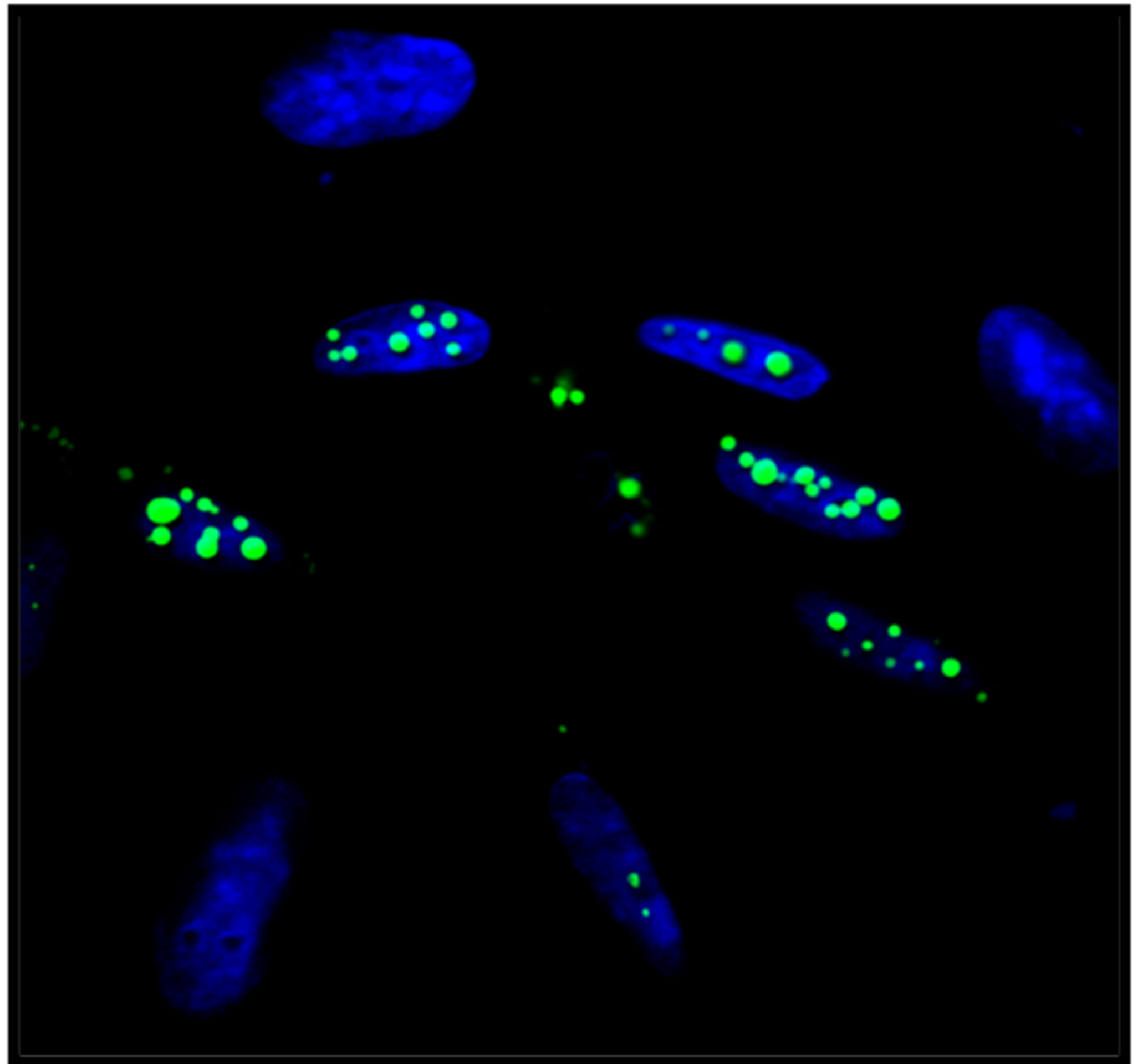
In developing economies like Ghana, inventory management systems are characterized by the extensive use of manual processes, primarily within the wholesale business sector. Wholesale businesses risk losing about 5% to 10% of annual sales to inefficiencies like disorderliness, inventory record inaccuracies, theft, damages and expired products. The significant monetary investment tied to inventory, minimal lead times and excessive human involvement in manual inventory management systems presents a considerable burden in terms of cost that leads to loss of revenue and a reduction in operational efficiency and customer service level. This participatory case study assesses the efficacy of manual inventory management systems using a synergy of Stufflebeam's CIPP model and systems thinking tools. Ultimately, the study seeks to understand inventory problems and how they impact operational efficiency, customer satisfaction and firm performance.



Entry 11 – Karen Anthony

Nuclear threat

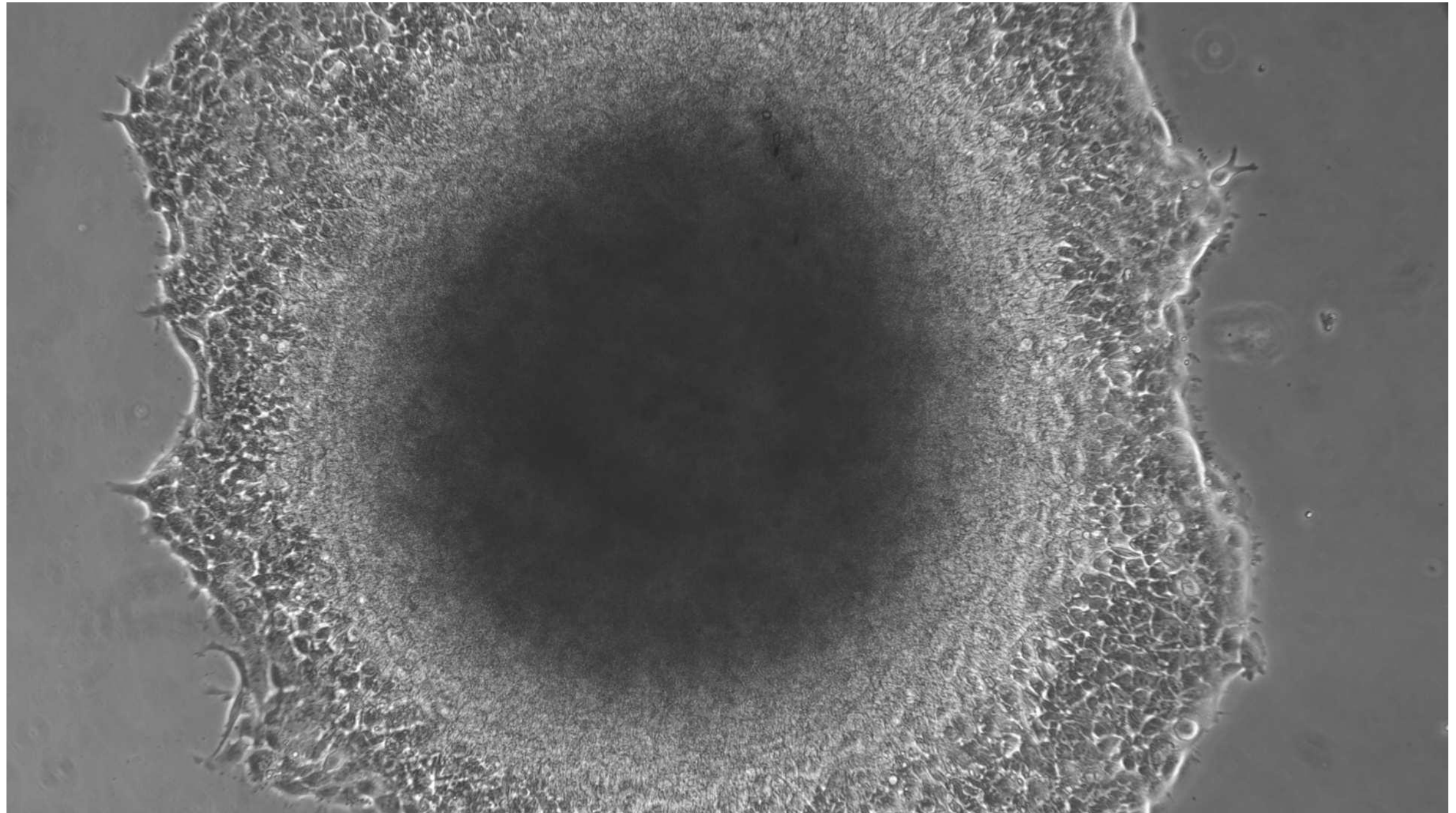
The image is a representation of a genetic disorder called spinocerebellar ataxia type-1. This disease progressively affects the nervous system and causes problems with movement and coordination. The green balls you see in the image are aggregates of a protein called ataxin-1. Normally, this protein is found in small amounts throughout the cell, but in people with spinocerebellar ataxia type-1, it clumps together in the nucleus to form large toxic aggregates. Prof. Karen Anthony is leading on an international project (funded by Ataxia UK) to develop a new type of gene therapy to treat this disease.



Entry 12 – Leanne Jones

An egg-stravagent spheroid experiment to determine eggs-actly how DMD is involved in Head and Neck Cancers (HNC).

My research investigates the potential role of the DMD gene within HNC. Migration is one of the hallmarks of cancer, whereby, individual cells detach from the primary tumour into the surrounding area. I have conducted an experiment known as spheroid production to determine whether DMD expression affects cell migration. I produced spheroids by leaving cell droplets with and without the DMD gene inserted, upside down until they formed a 3D model that is close to a solid tumour. These are formed of a ball of both dead and inactive cells but when left over time in yummy media the individual cells can detach from that necrotic core and move into the surrounding area. This image was taken 48 hours after forming spheroids.



UON Images of Research 2023 ©Leanne Jones

This egg-cellent research aims to understand how DMD may be involved in HNC development, which could lead to better patient stratification and improved survival outcomes.

Entry 13 – Matthew McCormack

Making Georgian shoes

I am conducting a history research project entitled 'Shoes and the Georgian man'. Most of the research is based on historic shoes in museums, but I also wanted to find out what they are like to wear. I therefore commissioned some replicas from the shoemaker Andy Burke, who makes shoes to an eighteenth-century pattern for re-enactors and film productions. I spent time with Andy in his workshop in Bridgend, so I could observe the shoes being made and learn about the process. The image here is of one of the uppers, which has been stitched together from three pieces of leather and dyed black. Note the two long straps, for fastening the shoes with a detachable buckle. Once the shoes were finished, I wore them for an extended period and documented the process, tweeting my experiences at #georgianshoes.



Entry 14 – Michael Daw

Seeing the Future?

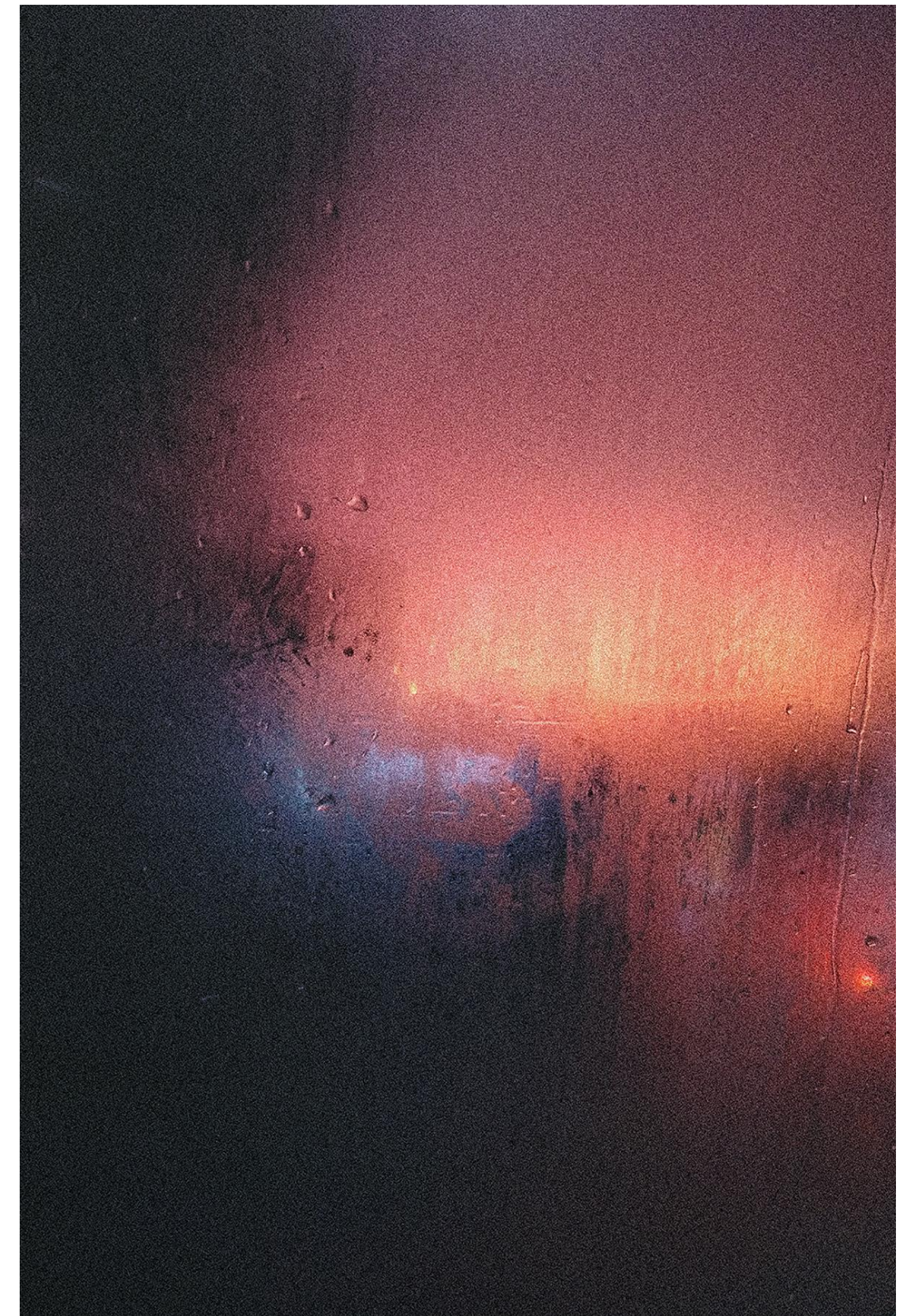
This image shows one of my participants immersed in the 'Ganzfeld' to test whether she can perform ESP (extra-sensory perception) in the lab and whether this ability is affected by her diet. Her mind is in a receptive state brought on by red light diffused by a specially-constructed mask and she is listening to white noise. She reports images and sensations that occur to her. Afterwards, she will examine a photograph of a physical location. This place – which could be anywhere in the world – is randomly selected from a pool of images only after the session is over. Did what she report correspond to the place that she only got to 'visit' in her future? And might she do better at this ESP task if she's vegetarian, has a healthy diet, and/or engages in fasting?



Entry 15 – Rosie Zielinski

The Surface Between

Have you ever looked through a window on a bus and been distracted by the reflections, shadows and marks on the pane of glass that disrupt your view of the outside world? My research investigates how imagery can be distorted and disrupted through interacting and permeating through different surfaces such as the banal windowpane. I explore this within my practical work, which I push further into abstraction via analogue printmaking processes. Sometimes the surface that interrupts our view of what lies beyond can perhaps be intrinsic in how we interact with the world around us. This photograph was taken through a bus window following a heavy storm, and will become the basis of a new body of prints.



Entry 16 – Simon Sneddon

The Great Electric Car Greenwash

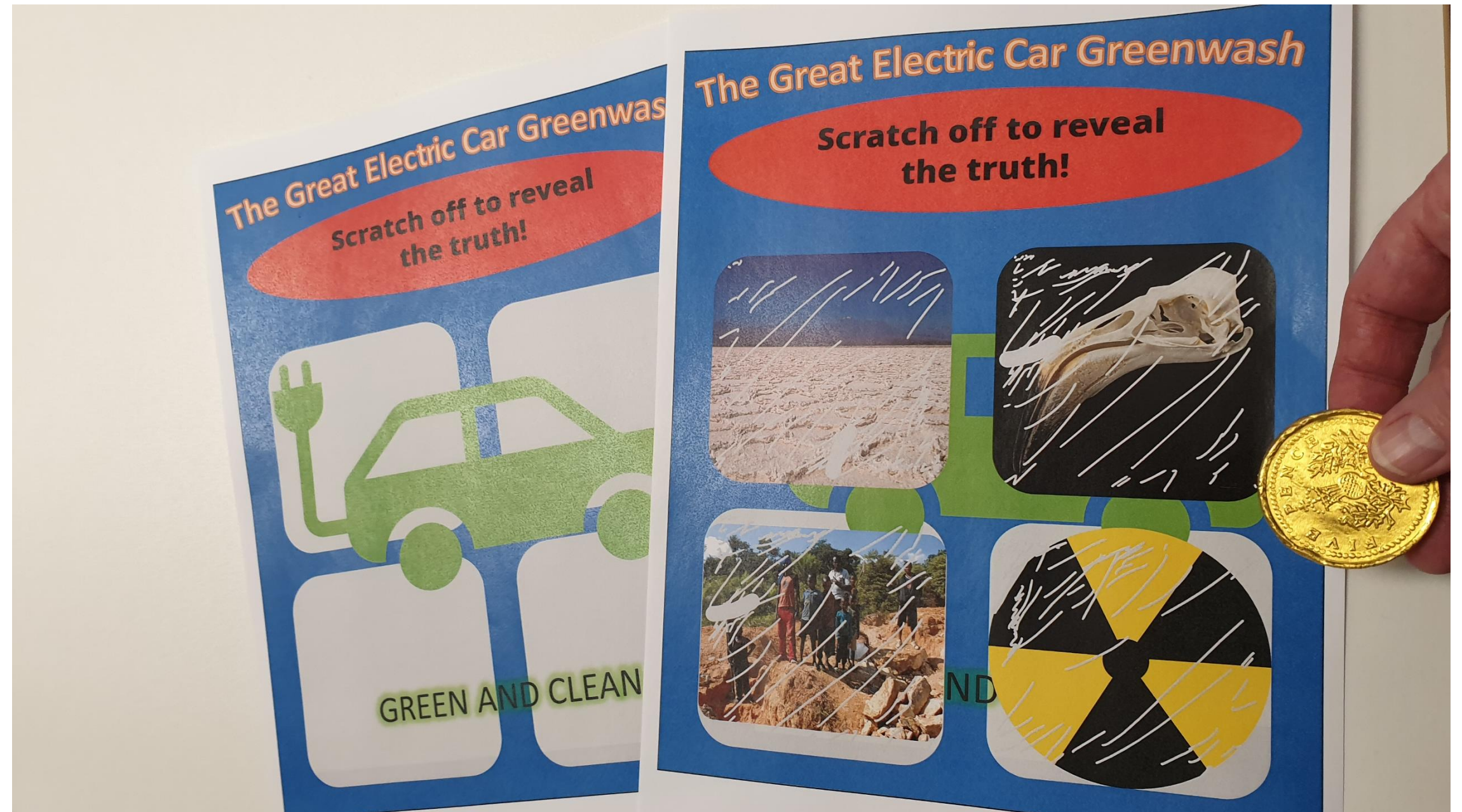
The Death. Disease. Despair. Desertification.

Not words which appear on the poster for electric vehicles, which prefer images of trees, wind turbines and happy families.

And yet... and yet...

My research demonstrates that mineral extraction for the L-Ion batteries used in electric cars is directly linked to environmental damage and injustice.

The first “scratch cards” shows the image portrayed by manufacturers – “clean and green” machines. The second shows the true the effects of mineral extraction.



Clockwise from top left:

- Increased desertification in the Salar de Atacama in Chile (already the driest place on Earth) causing ancestral settlements to be abandoned;
- Increased deaths of flamingo in the Reserva Nacional Los Flamencos (a wetland of international importance);
- Radiation caused by manganese mining in Gabon;
- Children used for mining cobalt in the DRC.

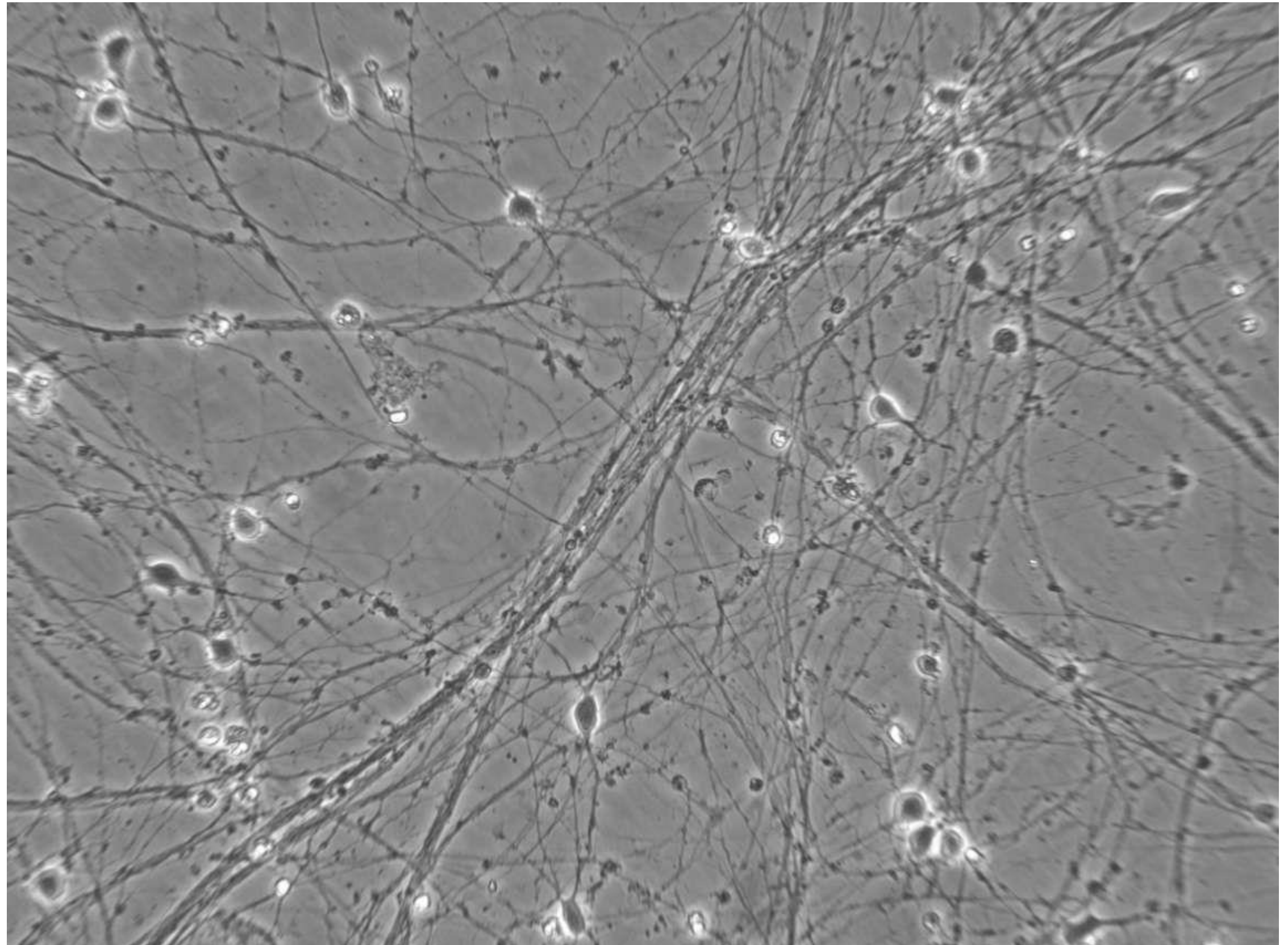
The horrors that lurk below the surface cannot be simply covered up with a thin veneer of greenwash.

UON Images of Research 2023 ©Simon Sneddon

Entry 17 – Sonika Divakar

Networks of Excitation!

They may look like water droplets on a cracked glass surface, but these are 2-week-old glutamatergic neurones (brain cells) grown in the Anthony/Machado lab at the University of Northampton. These neurones play a crucial role in transmitting signals to one another through the extensive networking that is visible in the image and are involved in various functions including learning, memory and physical movement. They are considered the life of the party in the brain as these dynamic neurones love to dance to the beat of excitation and keep the mind lively with their quickfire signalling. Whether it's learning a new skill or creating a masterpiece, these neurones are always ready to bring the excitement!

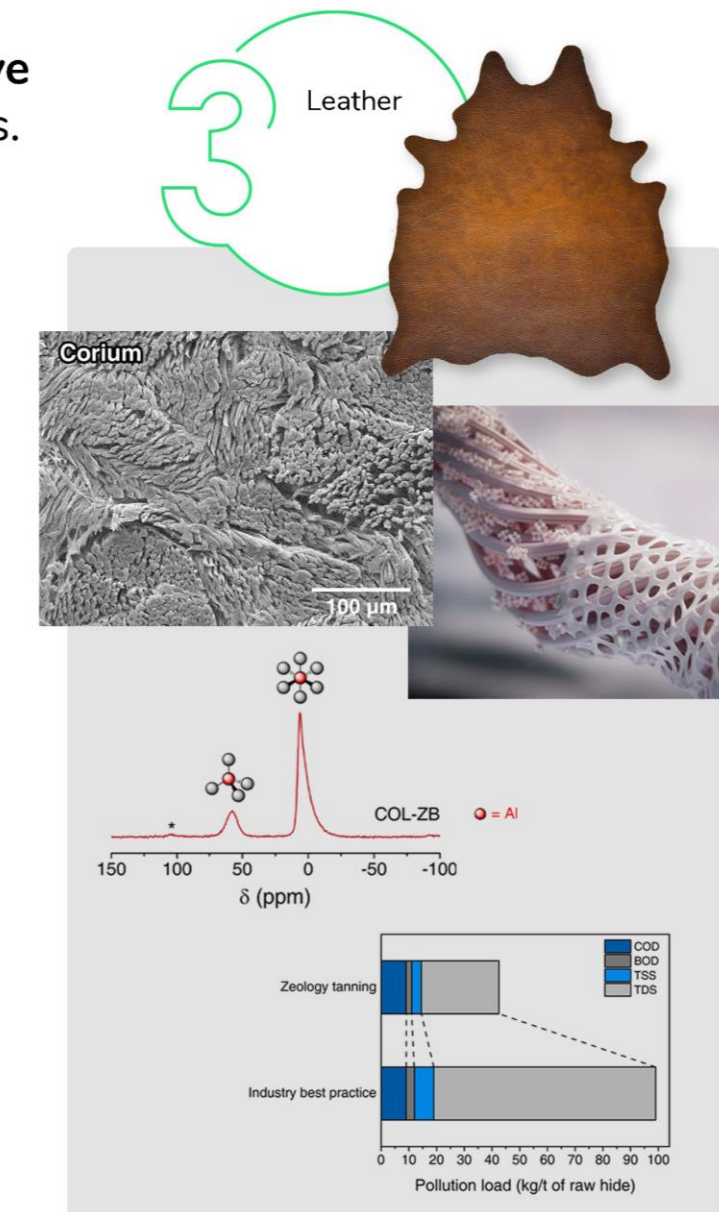


Entry 18 – Stefan Davis

The Application of Zeolites as a Sustainable Approach to Tanning Chemistry

A new composite material based on collagen and zeolite is gaining industrial significance where the approach utilises simple, abundant, and benign chemistry, which provides leather with the physical properties needed for a range of possible applications. The treatment of animal hide collagen with zeolite is achieved using established processing technologies, commonly used in leather tanning processes, without the need for further specialised apparatus. Small Angle X-ray Scattering (SAXS) shows unique changes in the scattering profile revealing zeolite and collagen interactions, which relate to a combination of covalent and electrostatic mechanisms. The impregnated zeolite forms a 3D network structure covering collagen fibres, improving protein stability against hydrothermal denaturation and creating material strength. Zeolite tanning shows a positive influence on reaction uptakes, similar to industry best practice, wastewater impact and positive biodegradability results. This work demonstrates the merits of a new stabilisation approach with the possibility of further expansion into other applications.

Zeolite as sustainable alternative
to traditional tanning chemistries.



Entry 19 – Tim Curtis

When children show the cops the crime

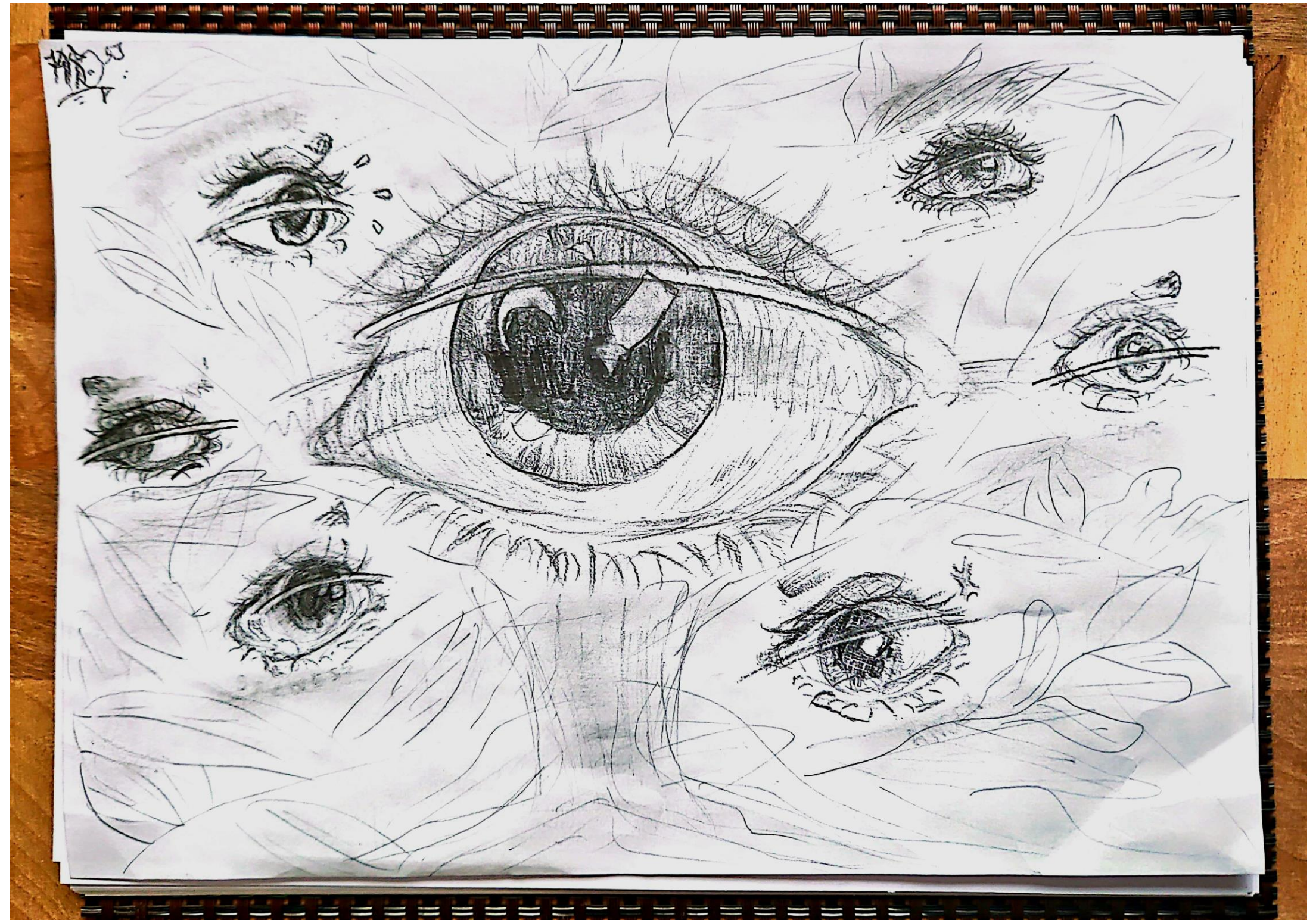
In my PhD research, my co-researchers and I created hundreds of drawings using a technique called Rich Picturing from Checkland's (1981) Soft Systems Methodology. These pictures help to make visible the perceptions that different people have about a common problem situation. This picture is one 9 year child's experience of a crime ridden neighbourhood, and significantly helped dozens of police officers and community workers understand the mindset and experiences of someone that law enforcement officials would rarely consider to be a consultee in a public engagement process. This picture shows the power of drawing at expressing the real world experience of co-researchers in social innovation projects, drawing them in to understanding the problems and contributing time and energy to the solutions.



Entry 20 – Valentina-Denisa Diaconu

To be, or not to be seen

Cutting-edge research on visual attention in classroom using the latest technology in ambulatory eye-tracking. This study explores how teachers allocate their visual attention (i.e., gaze) within the classroom, in conjunction with children's relationships with peers, and incorporating elements of peer group status. The aims are to discover how teachers allocate their focus of visual attention within the classroom and find possible links to children's peer relations and subjective social status. The participants will be volunteering KS2 Teachers and children in their classrooms (year 5 & 6) from schools across Northamptonshire and vicinity. Teachers will wear the Tobii 3 Pro eye-tracking glasses during a typical session. This will allow detailed measurements of teacher's visual focus. Peer relations and children's subjective social status will be measured using questionnaires. The data will be investigated using various statistical analyses. The results of this study can highlight the importance of visual attention in classroom, inform practice and policymakers, support educators' decision-making processes, and improve children's/teachers' experiences and interaction.





Images of Research is an annual event run by The Graduate School. For any queries, or to give feedback, please contact simone.apel@northampton.ac.uk and/ or lina.el-azhab@northampton.ac.uk