Images of Research

Welcome to the Images of Research Exhibition 2023.

The Images of Research competition showcases the research taking place at the University of Lincoln. Participants are asked to submit a unique image, along with a 150 word abstract describing how the image reflects their research. Any staff member or postgraduate student who is undertaking research at the University can participate, with all entries showcased to the public at our special exhibition.
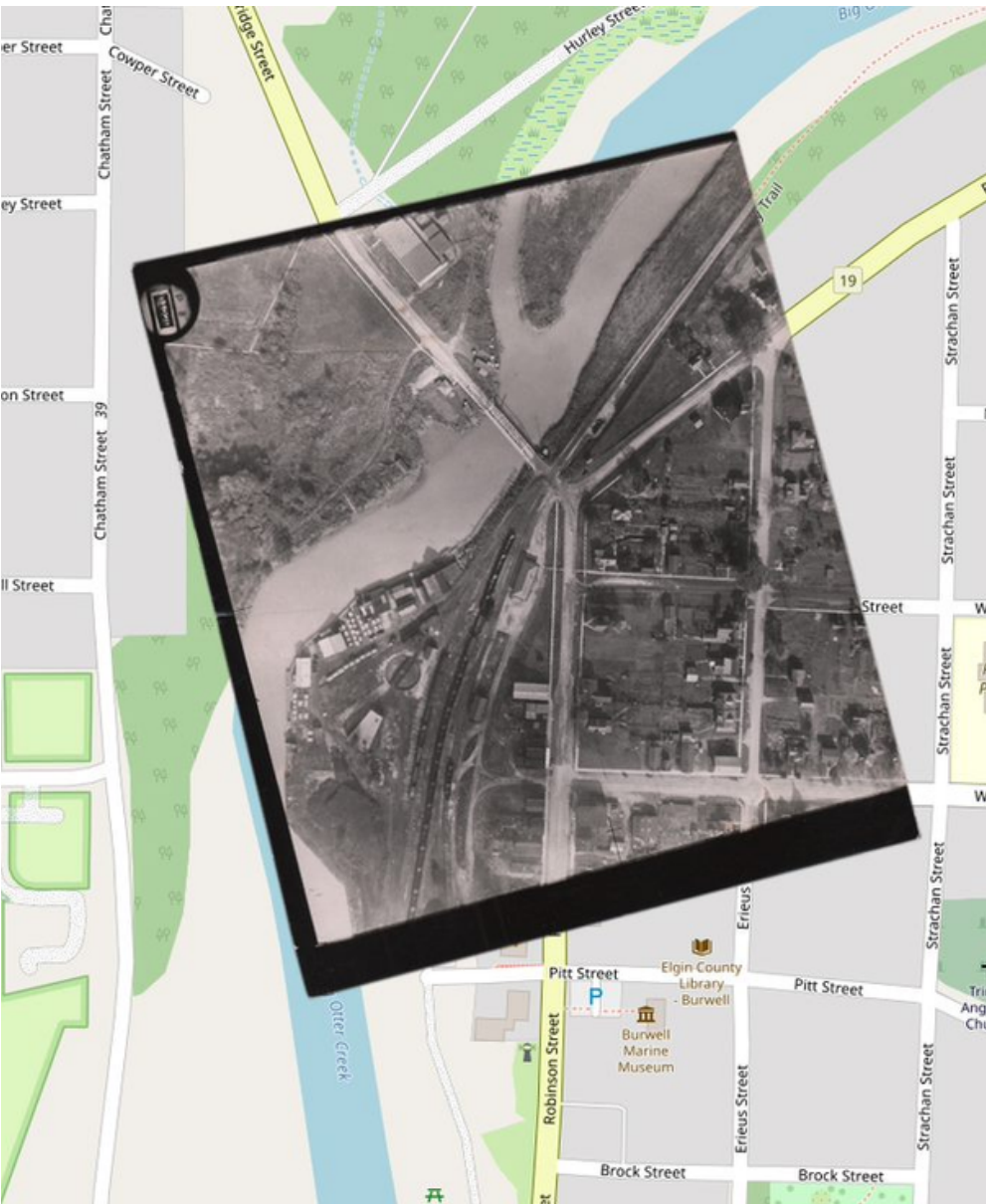
Alessandro Pesaro
Department of Marketing, Languages & Tourism

The power of crowdsourcing

The ethos of the IBCC Digital Archive
(https://ibccdigitalarchive.lincoln.ac.uk) is to promote recognition, remembrance and reconciliation by focusing on people's stories of RAF Bomber Command and the bombing war in Europe, 1939-1945.
This uncaptioned aerial photograph is part of the Arthur William Cushway collection and was taken during his training in Canada. Despite the area covered by the image being one ten-millionth of the country, volunteers working online identified the place as Port Burwell, a tiny hamlet on Lake Erie. The photograph was then overlaid on a map and is now available online.
My research explores how volunteers and professionals can be successfully integrated in a crowdsourced digitisation project. This is especially relevant in a post-pandemic environment, in which new models and ways of working have to be implemented. Facilitating those discussions and providing support and encouragement, particularly on knowledge sharing and mutual support models, will be vital.

Alessia Vacca
School of Law

Sustainable Fashion

There is a link between climate change and the (negative) impact(s) that the fashion industry has caused on the climate in several ways included through the consumption of plastics. The 'sustainability' and 'sustainable development' concepts are explored in the context of the fashion industry, and also the potential positive impact(s) that such concepts can bring to the fashion industry in order to combat the climate change issues.
The fashion industry is the second-largest polluting industry in the world. In addition, the fashion industry is responsible of about 10% global greenhouse gas emissions, and it is responsible of 20% of global wastewater.
 This will pose the question of both legal and social accountability of the fashion industry to reduce the emission of greenhouse gases and the production/consumption of the plastics, which also causes the emissions of CO_2 and consequently has a paramount importance to tackle climate change.

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"I got myself into a secluded spot and held converse with me. 'The flier who crashes must go up again at once or he is lost' said I. 'There is a door -- go through on the run -- I will count to three --'. I exercised myself. My evil Genii spoke words of alarm: 'As you run, in mid-step you will feel a sudden pain in your guts -- a hot sharp pain, and your legs will refuse to move and you will fall and hold your guts in your two hands and no one will help you -- '. This went on for some time and finally I said 'Oh ---*! (that all-embracing word so dear to the soldier) and made a dash for it. I kept on dashing from door to door, from mound to mound, from pillar to pillar,firing my faithful Sten gun (which I have re-named the Shen Gun) and finally found myself up to the leading men of the unit. We could get no further, as the fire was so close and heavy from both friend and foe that nothing could be gained in advancing.

"The withdrawal to the beach was bad. More were lost then, than at any time. I arrived back in a wet and miserable camp at about 22:30 with the other hundred survivors."

He was mentioned in despatches.

After the war Douglas joined the federal government in Ottawa as an editor, married an English girl, Doris Mascard, bought a poodle and retired, childless, on December 28, 1973, as Assistant Director, Public Relations and Information, Department of Energy, Mines and Resources.

*That word was actually deleted by the censor!

Alex Shenstone
School of Creative Arts

The Queerness of History

This image is a combination of one of my ancestor's accounts of surviving Dieppe in World War II, and the first pride flag I ever bought myself around five years ago. My great-great uncle Douglas was not queer, as far as I can tell, but I very much am. Thanks to him taking down how it felt to be a soldier so close to death, I can display such experiences through the characters of my novel thesis 'Date of Sending'. By combining personal sources like that of Douglas's, and my own desire to write queer representation, it feels like we are working together to create a novel which brings awareness to such a broad spectrum of people. His past and my present are being brought together, to create the empowerment of the future.

Ann Draycott & Victoria Bellandini
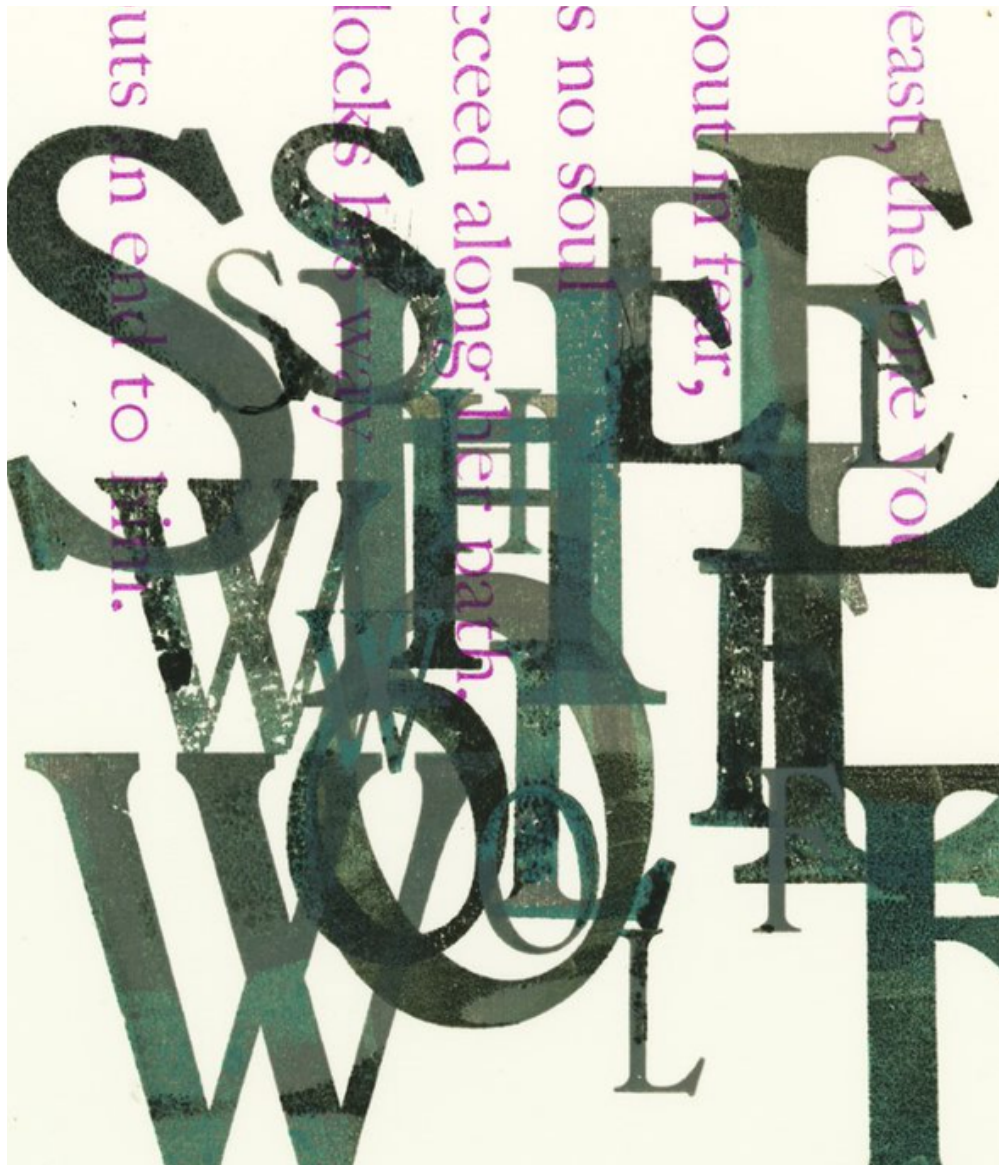School of Design

Project S: Creativity, Stitched and Unpicked

Since the COVID-19 pandemic, academics teaching fashion have noticed a sharp decline in student inventiveness, confidence, and engagement. Additionally, the range and quantity of students with learning differences have grown significantly. To encourage students to explore creatively and flourish in a studio environment, this research attempts to uncover effective teaching and learning practices, building confidence and fostering a sense of community.

To fill the many experiential gaps caused by lockdowns, distance learning, and minimized social interaction, a more process-led approach was taken, resulting in engaged, confident students and enhanced creative outputs. The project concluded with a public exhibition and student as producer activities supported rewriting the module handbook format.

The selected image serves as a symbol of project S's success. It illustrates the level of creativity attained by the students in level 1 on Fashion, and the increase in self-assurance and creative abilities of one of our autistic students.

Image taken by Reece Angel.

Barrie Tullett
School of Design

Inferno – Canto I: The She Wolf

The Typographic Dante is a series of typographic illustrations created as a response to the unfolding narrative of Dante Alighieri's The Divine Comedy.
Written between 1308 and 1320, the poem The Divine Comedy describes Dante's journey through Hell, Purgatory, and Paradise, and, at a deeper level, represents the soul's journey towards God.
Each book is illustrated using a different commercially 'obsolete' design technology – the 34 Cantos of The Inferno are realised using the wood and metal type of letterpress printing, the 33 Cantos of Purgatory are created on typewriters, and the 33 Cantos of Paradise will be visualised with Letraset.
This is an ongoing project that will eventually produce three illustrations for each of the 100 Cantos of Dante's Divine Comedy, plus topographic maps.
The accompanying letterpress illustration is from Canto I of The Inferno, and it shows Dante's path to Mount Purgatory being blocked by the She-Wolf of avarice.

Hollie Walsh
School of Social and Political Sciences

Space and time to grow

The images of the same tree-lined path are taken months apart. On the right, a reminder of the beauty of a crisp, clear spring morning, bare branches and bright daffodils. The left, a variety of summer shades of green in full glow, specks of pollen dancing in the sunlight.
In my PhD research, I'm completing life history interviews with people with lived experience of accessing welfare services. An especially creative and eloquent participant drew a tree. The roots representing the support that the local community offered, the trunk her skills and branches sprawling widely onto the page; showcasing the opportunities and confidence developed.
The contrast between the images serves as a reminder, that as in nature, no human can bloom all year round; we all need space and time to grow. In an uncertain world, it is vital that our welfare services provide compassion, promote resilience and offer belonging.
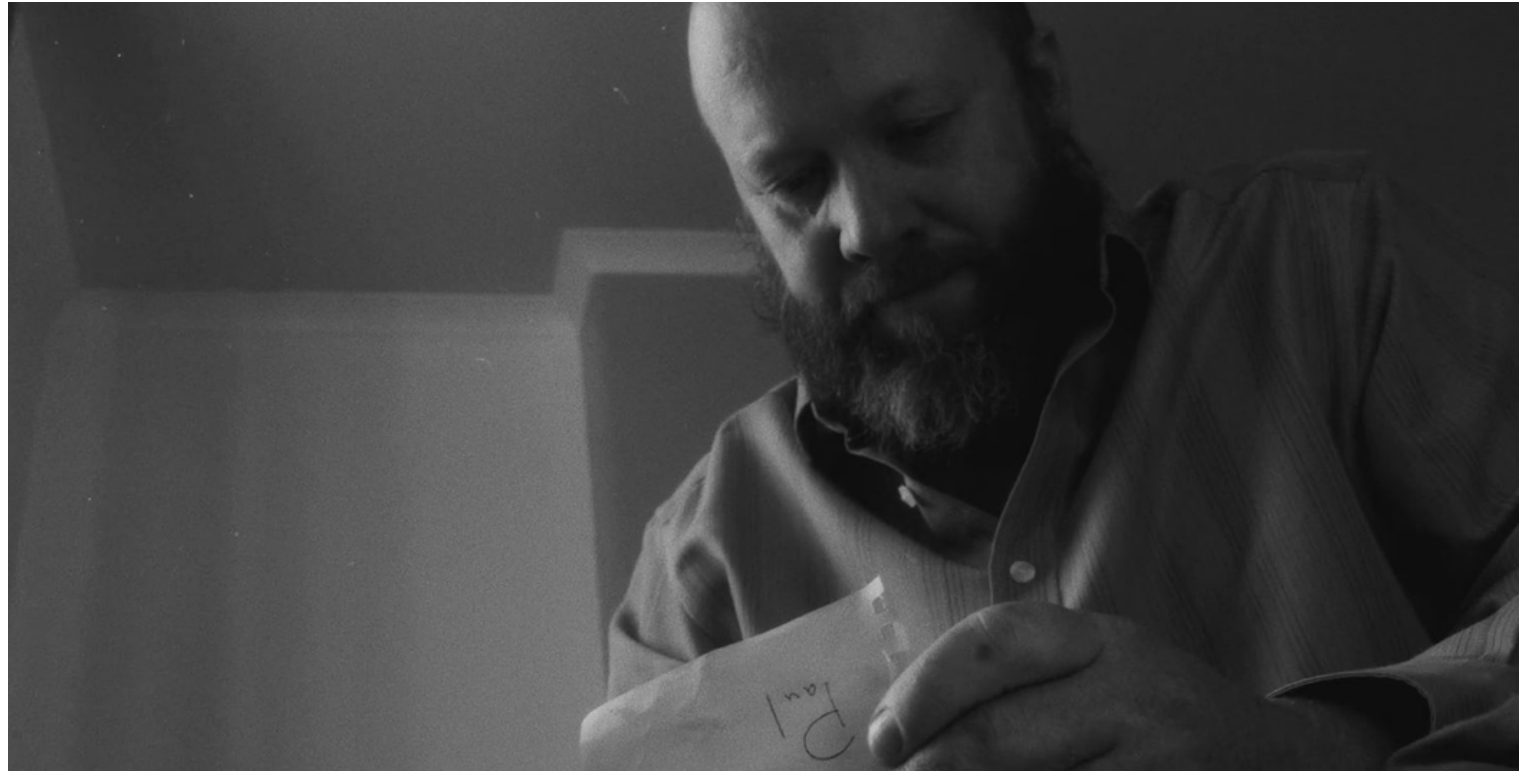
Jack Shelbourn
Lincoln School of Film, Media and Journalism

Use of Natural Light in Mind-Set (Murray, 2022)

My research is focused on the use of natural light in the art of cinematography. Specifically in the sustainable nature of favouring natural light over film lighting that requires electricity and often Diesel generators. This image is a still from the feature film Mind-Set (2022), directed by Mikey Murray. I was the cinematographer and this shot contains natural light only. We were shooting around the summer solstice and the room was north facing. This meant we had a narrow timeslot to shoot. Often projects would use a high-powered light, 10KW+, to achieve this shot. We decided to shoot natural light and the team was on set for 4am to prepare and shoot when the sun's in the right spot. This gave us both the look we wanted and helps confirm my research as we did not use high powered lights or polluting generators to achieve the shot.
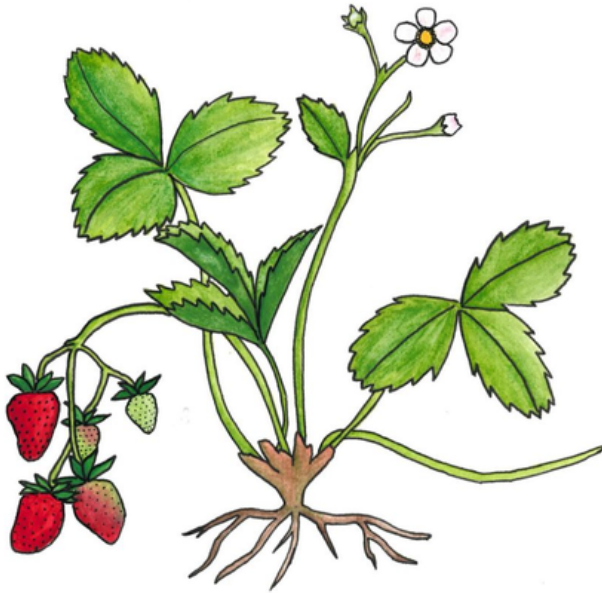
Katherine James
School of Computer Science

The anatomy of a strawberry plant

A watercolour of a strawberry plant is probably as far as you can go from the enormous 3D point clouds used in research towards automated plant phenotyping (measuring observable characteristics). However, before diving into the world of annotation, 3D perception and plant modelling, it is important to understand what organs the plant is composed of. This painting captures the core organs of a strawberry plant, showing important development stages and when labelled, provides a useful resource for translating the lingo from the biological to the computer science world.
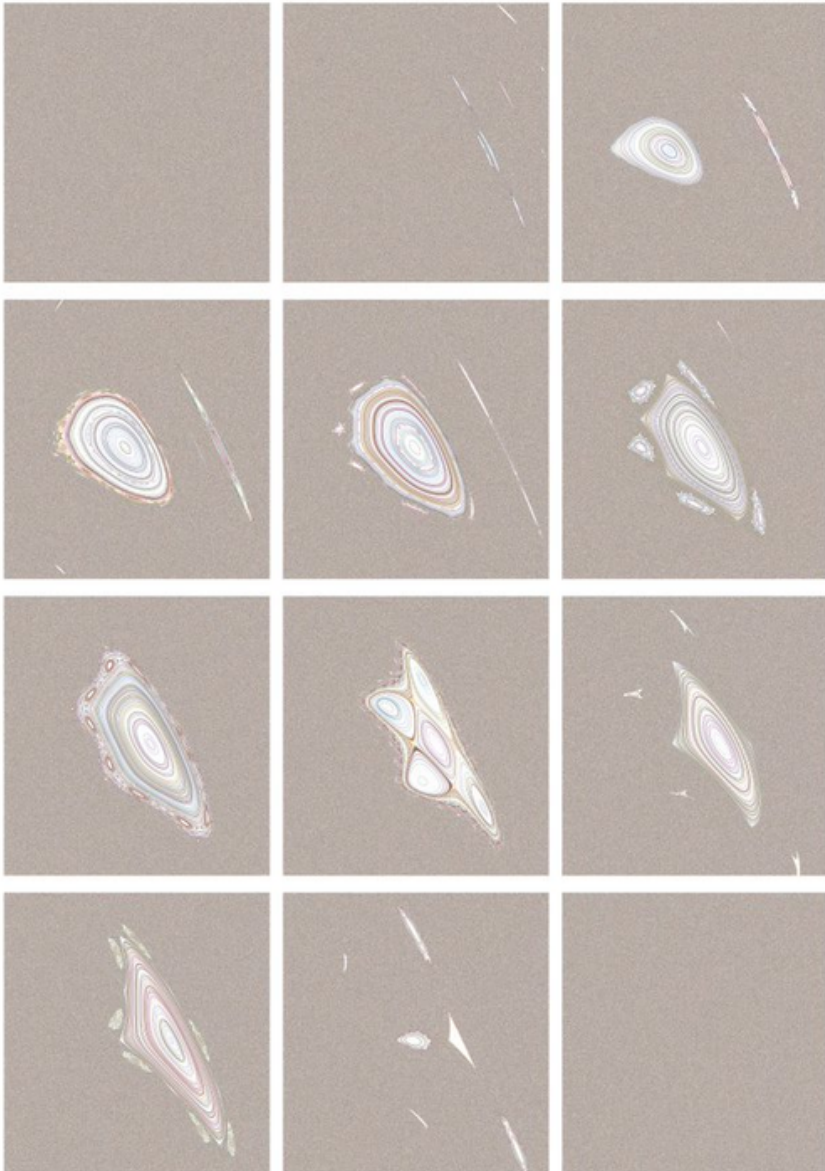
Khaled Yaghi
School of Psychology

Whispers from the past and echoes from the present abyss of the eternal void

Meaning in life, composed of coherence, significance, and purpose, is negatively correlated with attachment insecurity through mindfulness. This is interpreted to be due to attachment system hyperactivation/deactivation associated with insecure attachment orientations which deplete cognitive resources needed to extract coherence, significance, and purpose from daily experiences, and prevent individuals from being mindful.

Insecure attachment orientations are installed from past relationships experiences with various attachment figures. Therefore, past relationships have the potential to deprive individuals from having self-esteem (significance), sensical experiences (coherence), purpose, and meaning in life.

The abandoned house and stairs symbolise the psyche and past of insecure attachment, while the dark aesthetic represents the absence of meaning, purpose, and feelings of stuckness and loss due to the lack of mindfulness and preoccupation with hypervigilance, suppression, and fear. The presence of light symbolises hope and the possibility of finding meaning, mindfulness, attachment security, emphasising that it is not final. The horror aesthetic reflects the shared fear states: anxious attachment fears abandonment, avoidant attachment fears closeness/intimacy, and disorganised attachment fears attachment figures

Lorena Hall
School of Health and Social Care

Health Inequalities for People With Learning Disabilities in Acute Care
(HILDA)

Health inequalities for people with learning disabilities are widely
documented. This project focuses on acute care, often first point of
contact in emergency, but equally planned care. Participatory action
research offers substantial opportunity for research to be coproduced
people who share a common interest in the topic. The groups in this
study will comprise people with learning disabilities and their families
who access acute care, and the staff who work in acute care.
 The research will:
 ·consider stories reflecting experiences of being a patient in acute care
or working with people with learning disabilities in acute care (including
examples of good practice and challenges/suboptimal experience)
 ·identify areas for further research and investigation
 ·identifying further research and/or potential goals / actions to
improve or change current practice.
It is hoped that the research will provide valuable opportunities for
meaningful participation research and may contribute to enhancing
communication and care.

Matthew Booth
School of Mathematics and Physics

Ports in a storm

This series of images represents the dynamics of the chaotic system known as a kicked rotator – a rotating object that is periodically given a 'kick'. Each panel is generated from the same basic equations, with only slight differences in the strength of the kick.
The top left panel shows the weakest kick. The entire panel is filled with noise, indicating chaotic behaviour: although the motion of the rotator is not strictly random, it is effectively unpredictable.
As the strength of the kick is systematically increased, regions of order begin to appear like islands in a sea of chaos - ports in a storm. These islands become increasingly structured, with smaller islands emerging out of the larger ones, and with intricate patterns created at the boundary between stability and chaos. Eventually, for the strongest kick (bottom right panel), all the islands have disappeared again.
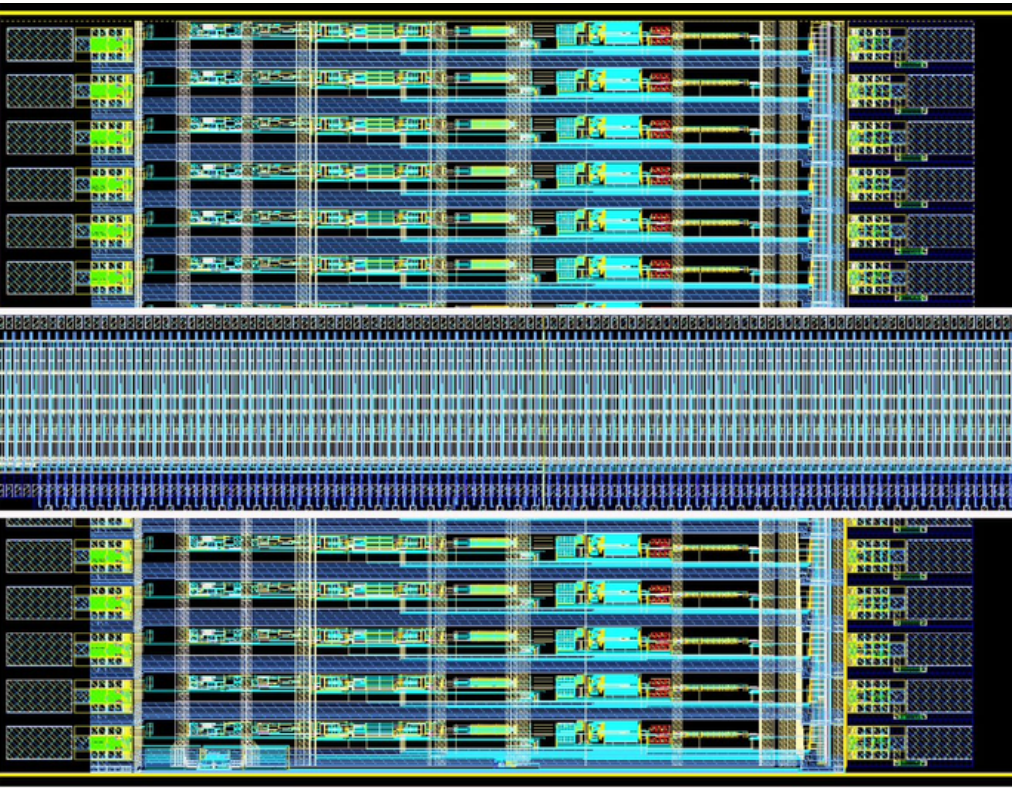
Nigel Allinson
School of Computer Science

Thea's Layout

Thea is a large custom integrated circuit designed at Lincoln. She is capable of reading and processing the output of 128 sensors and will form part of the OPTIma system to produce three-dimensional images of patients undergoing proton beam therapy for the treatment of cancers. By using protons to image and to treat, OPTIma will greatly reduce the uncertainties of treatment by allowing difficult tumours to be treated, shorter treatment programmes and reduced side effects. OPTIma will contain 144 Theas and be able to track nearly a billion protons per second.

Obinamuni de Silva
School of Computer Science

A Robot's Eye View of a Robot's Journey Through Crop Rows

Witness the extraordinary synergy between technology and nature as the lens takes flight above the vibrant sugar beet fields of University of Lincoln's Riseholme campus. Captured from a drone's eye view, this captivating image unveils an autonomous crop row following robot, an innovation poised to redefine modern farming. Soon, these diligent robots will become an integral part of the farmer's arsenal, ensuring sustainable crop growth while minimizing resource usage. This image unlocks a glimpse into a future where robotics and nature unite, promising a greener tomorrow.

100 μm
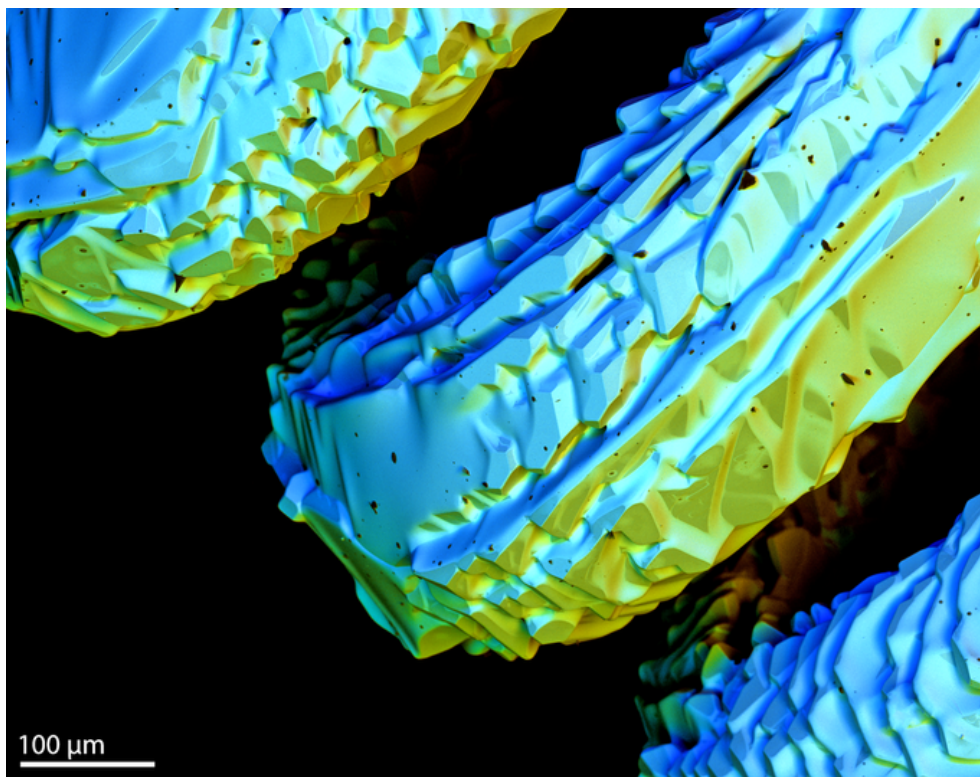
Peter Eaton
School of Chemistry

Let there be light

At The Bridge, we used advanced microscopes to answer questions in materials science. Sometimes, we use one microscope to look at a component of another microscope. This image shows the filament of a halogen light bulb from a light microscope,after being used for hundreds of hours. When new, the filaments are made up of very smooth wires. In use, the tungsten in the filament is evaporated at high temperatures, the tungsten gas atoms combine with the halogen gas molecules in the bulb and are then redeposited back onto the filament, eventually forming these intricate patterns on the surface of the bulb filament. This redeposition mechanism is why halogen light bulbs last many times longer than normal incandescent light bulbs. This image was recorded using the scanning electron microscope at The Bridge.

Rebecca Hawkins
School of Sport & Exercise Science

Not so SMART now?

The SMART acronym (e.g., Specific, Measurable, Achievable, Realistic, Time-bound) is a well-known, prominent strategy for setting goals in physical activity. However, the scientific foundations of the SMART acronym have recently been brought into question. Building on these questions, my research has examined the effects of alternative types of goals, most notably open goals, for insufficiently active adults in physical activity. Open goals, which are often framed as exploratory statements such as "see how well you can do", have emerged as a promising new approach in goal setting. Specifically, my research has evidenced that open goals produce more positive psychological experiences (e.g., greater enjoyment, lowered perceptions of pressure and challenge, and greater perceptions of confidence/self-efficacy) and equivalent performance outcomes in physical activity tasks when compared to SMART goals. This research therefore suggests that open goals may offer a viable, and in some instances more effective, goal-setting approach for insufficiently active adults.

Rebekah Leggatt
School of Education

Fortnite for Languages

This image is a screenshot from one of my gaming participants videos, where he is trying to learn a modern foreign language through the entertainment game 'Fortnite'. Fortnite is a widely known battle royal game, where players try and be the last person standing.
 This image reflects what my research is about, learning languages through the medium of gaming. Gaming is fun, motivational and enjoyable, something that we find learning languages lack!
Therefore, what better way is there to try and use the benefits of gaming to it's full potential, and use it as a language learning tool.

Samantha Miles
School of Creative Arts

Through her bones

Nestled atop the windswept cliffs of Whitby stands the dramatic ruins of Whitby Abbey. Framed here by Whitby's famous Whale Bone Arch, the Abbey ruins sparked inspiration for Bram Stoker's 1897 gothic novel Dracula. Although many are familiar with the story charting the famous vampire's voyage to Whitby, Stoker initially conceived this idea as a stage play titled The Undead.

With a research focus on gothic theatre, I am considering how female gaze theory can be communicated through the craft of contemporary playwriting. Whilst Stoker's Dracula explores themes surrounding the corruption and consumption of man (quite literally), how might a playwright experiment with form, structure, and language to explore the ignition of sexual liberation within the novel's female characters? Using autoethnographic research and feminist theories on the gendered gaze, I hope to transfer classic gothic tropes such as the vampire from graveyard ruins to uncanny stage. Breathing life into the undead.

Tom Deller
School of Social Science

Parchment to Pixels: A Critical Evaluation of the Impact of Digital Technologies on Literacy and Literature.

This study examines the implications of digital technologies on attitudes in modern UK classrooms towards reading and the impact on literacy. It considers the evolution of storytelling – from oral narratives to the printed word, novel and the evolution of texts on screens. It also questions whether reading for pleasure has always historically been problematic (Stadolnik, 2023). Central will be the writings of Selwyn (2013) who considers the impact of technology on the educational landscape and the scepticism towards the introduction of technology into classrooms (Selwyn, 2014). This study aims to understand how technology can reengage students in reading (Arduini & Chiusaroli, 2019) and whether audiobooks, films and VR are a more natural storytelling medium for modern teenagers. Attention will be given to Chinese classrooms where AR provides meaningful classroom experiences (Shen, 2012) (Zhou, 2021).
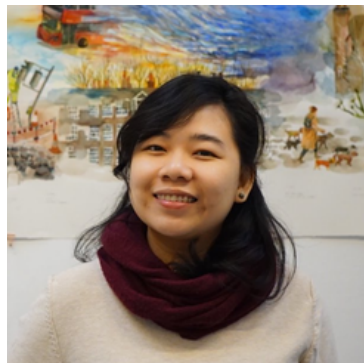
Vina Puspita
School of Creative Arts

Hands-on: Participatory mural with young people in Indonesia

This image depicts the participatory mural process developed with young people in Indonesia. As seen in the photo, young people were arranging their drawings and discussing the composition for the mural they would paint on their community space walls. Some highlighted topics include violence against children, intercommunity brawls, and bullying.
 By exploring participatory mural methods, My PhD practice-based research invited young people at risk of violence living in urban kampung Jakarta, Indonesia, to take an active role in decision-making and democratic art-making. The research project involved young people, from identifying and discussing youth issues to planning and making the mural. The mural then became a means for youth advocacy. It sparked conversations in the community and with local leaders about creating a better and safer environment for children.
This research project is connected to the international project Mobile Arts for Peace: Informing the National Curriculum and Youth Policy for Peacebuilding in Kyrgyzstan, Rwanda, Indonesia, and Nepal (2020-2024).

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