Excursions
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Cover photo: Students in Bangladesh protest 7.5 per cent VAT on their tuition fees, 10 September 2015. © Nahid Sultan / Wikimedia Commons / CC BY-SA 4.0.

Various Artists, ‘Research Image Competition’


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Tug of Fun

At the end of the school day, young girls at Durumi Camp for Internally Displaced Persons (IDP) stay back to have a go at the game called, tug of war.
Forcefully ejected from their homes in Nigeria’s Northeastern Borno state—where Boko Haram has abducted hundreds of girls from schools in the last couple of years, these girls now live in IDP camps with their parents, some of them brutally orphaned by the terrorist group. Yet, they brave the odds to get an education and look forward to resettlement, adequate security, safer schools, and ultimately, a bright future. My research seeks to photographically capture contemporary approaches of representing the children from the Global South, devoid of the stereotypes and oversimplification noticeable in the fundraising appeals of western aid organisations and in the media.
Winner: Nephtali Garrido-Gonzalez
University of Sussex, School of Mathematical & Physical Sciences

A Pale Red Dot

A cloud of cold Rubidium atoms (bright yellow dot on the upper-right side) inside a high-vacuum chamber at Sussex's Quantum Systems and Devices Lab. The atoms are cooled down to a temperature only a few millionths of degree above absolute zero using a combination of laser light and magnets into a so-called ‘Magneto-Optical trap’ (MOT). Inside this trap, individual atoms are able to absorb and re-emit light several millions of times per second, which makes the cloud fluorescent and allow us to observe it using electronic cameras. In this state, the MOT becomes easily manipulable. My research focuses on using the atoms within as a probe for sensing magnetic fields, gravitational fields, electrical fields, and rotations to an extremely high level of precision, making way for the next generation of sensors based on Quantum Technology.
Runner Up: Theresa Gooda
University of Sussex, School of Education and Social Work

Fostering A Collaborative Reading Community

Teachers in a secondary school English department in Sussex use theoretical lenses on reading, and current research; with the aim of creating a long term shift in reading pedagogy in order to stop 'murdering the books' as represented here by the archway of text. My doctoral research explores the way changes in reading teaching approaches may help foster collaborative reading practices in the classroom and enable secondary students at all levels to break through reading barriers, depicted here as smashing through the classroom ceiling.
**Runner Up: Martin Jung**

*University of Sussex, School of Life Sciences*

Going back in time with Satellites to Assist Biodiversity Conservation

In my PhD I investigate how past land changes continue to affect local biodiversity. The above pictures were created from multiple satellite images (courtesy of the U.S. Geological Survey) and depict parts of the Roneam Daun Sam Wildlife sanctuary near the border (red line) of Thailand and Cambodia. In 2003 the sanctuary was reported to still have over 39,961 hectares of intact forest. Yet, on the 22nd of February 2018 the sanctuary has been officially dissolved by Cambodian royal degree owing to centuries of illegal timber harvesting. While the sanctuary has been ineffective in protecting its forest, it is unclear how strongly biodiversity in the area was and continues to be affected by these land changes. In my research I apply statistical models to link both satellite and local biodiversity survey data in order to quantify the magnitude of these changes in Cambodia and other areas globally.
Records Office, District Collectorate, Vellore, Tamil Nadu

This photograph offers a peek into the principal archives of district of Vellore located in Tamil Nadu, India. I was visiting the district to study how government agencies respond to health emergencies such as disease outbreaks. Some themes in my research include the politics of identifying and interpreting evidence and cultures of administration. I found most government officers interviewed had access to minimal resources and worked in conditions of great uncertainty with incomplete information. Yet, they still managed to make decisions that impact on a great number of lives, while managing diverse interest groups in the bureaucracy, civil society, academia and political leadership.

This picture is an apt metaphor for my research on bureaucracy describing the notions of huge troves of information that government (and its officers) ostensibly have access to. However, the records are kept under lock-and key, access is privileged, and near impossible to navigate with any certainty. There is a promise of modern technology, in the form of a solitary desktop that seems helpless in the wake of decades of accumulated records overwhelming it.
No one gives birth in this valley any more

In this remote valley in the Icelandic Westfjords sits an old, stubborn farmhouse. With the assistance of a parish midwife, Gýlfí was born in the corner of this room, over 70 years ago. The place of his birth now holds a plastic-covered dining table. It is a guesthouse, and during the summer, Gýlfí’s grandchildren travel here from Reykjavík to help him serve tourists.

My research is about tracing birth places and midwives’ work places in Iceland, to gain a better understanding of what it means to work as a midwife in this crisis-riddled ‘feminist paradise’. The depopulation of the countryside is part of this story. Over the past century, as families moved to the capital, rural births declined and the work of midwives in remote farmsteads became increasingly obsolete. Over 75% of births now take place at the National Hospital, and 2% of babies are born at home.
Every Couple, A Microcosm

My doctoral research is about mixed couples, specifically Albanian-Italian and Albanian-Romanian couples in Italy. This picture was taken in the house of an Albanian-Italian couple of participants. Their wedding picture is inside one of the snowglobes. Other snowglobes contain cities of Albania and Italy and elsewhere. I found snowglobes in several houses, souvenirs of places, memories protected by a glass shell. Every house I was in was like a snowglobe, a microcosm. Every couple who told me their story let me enter their microcosm, their snowglobe. This photo portraits not only many snowglobes but also a background picture about Albania and Italy together, which is the reference frame of the whole story I tried to tell through my PhD and the sign that the phenomenon of stigmatisation called Albanophobia is finally fading away.
The History of Lidar Applications

Lidar is a radical measuring and surveying technology which currently serves for more than 50 applications, including managing deforestation and pollution, planning renewable energy and urban systems, and reducing the impact of natural disasters. This joyplot reveals the highly pervasive nature of the technology, and highlights trends in the latest research using the technology. To do this, it tracks the evolution of keywords in the titles of academic papers in which the Lidar technology is used for research. From its origins in weather forecasting, Lidar was incorporated into diverse applications for environmental management, and most recently into new technologies such as autonomous vehicles.
Visualising dementia working carers: a study in artefact and everyday challenges

Enabling working family carers to live well with dementia and supporting them to reconcile unpaid care with work, is high on the policy agenda. However, little is known about the experience of working family carers for people with dementia. We conducted in-depth semi-structured interviews with 24 dementia working carers (DWC), which were centred on an artefact selected by DWCs, to represent the meaning of work-life balance. A rubik's cube illustrated many DWCs were experiencing the challenge of balancing work and dementia care, wherein: ‘...you can do one side but you can’t do all of them...[ ]...as soon as you start on another side you mess up the first side.’

The outcomes of this study suggest that for DWCs, work-life conflict is concerning. We offer policy recommendations, such as organisational skills and respite strategies used by DWCs in response to daily challenges, and their outstanding support needs with work and caregiving.
Mobility in megacities: Clean or colour or both?

This is Kolkata—one of the largest megacities in India. Kolkata's iconic yellow taxis rest on the footpath covered with dust, while the white and blue fences keep the madness on the road away. The photo is metaphorical to Kolkata's present-day transportation system. Kolkata has one of the most diverse mixes of public transportation, that many cities only dream of. But sustainability problems like congestion, pollution and financial loss are covering the face of this system which is comprised of metro (India's first), bus, tram (oldest in Asia), ferry, auto-rickshaw, cycle-rickshaw etc. Flyovers, banning cycling and ‘smart solutions’ are hardly able to fence the problems away. The existing infrastructure continues to suffer, with occasional quick fixes. How can Kolkata’s transportation transform towards sustainability? How can deep cleaning be done to uncover the colour beneath instead of hasty painting on top? Look out for my doctoral thesis for an answer.
Digital Shadow Play with interactive soft-body dynamics

The image sequence shows stills of experiments in digital shadow puppetry, where a puppeteer produces animation through touch interaction with physics-based simulations of material and objects. Soft body dynamics are simulations that help create emergent motion in 3D objects: jelly-like blobs, undulations, vibration, deformation, flex, deflation, inflations, and cloth-like behaviour. Soft-bodies, in combination with user interaction, provide a rich playground for the digital shadow puppeteer, analogous to material play. The digital puppeteer can use virtual objects to prod, pull and push surfaces, creating expressive morphing silhouettes and kinetic transformations. I set up a parameter to control the ‘internal pressure’ of a soft-body. This led to a most interesting expressive effect, central to analogue puppetry: the illusion of breath. It also centred and de-centred the sense of where the impulse to move was coming from—puppeteer or object.
Cultured

Streptomyces coelicolor is a soil-dwelling organism which is capable of producing a plethora of antibiotics. As we drive ever closer to a post-antibiotic era, we desperately race to isolate and identify more synthetic/natural antibiotics. Resistance in bacteria to antibiotics is the biggest problem that we face, and there have been many reports of treatment failures in infections such as super gonorrhoea, multi-drug resistant tuberculosis and MRSA. Here, I show the manipulation of S. coelicolor DNA can cause the production of a blue pigmented antibiotic which has proven action against Gram-positive bacteria. This blue pigmented antibiotic appears in small droplets as a result of the hydrophobic bacterial surface.
Being a Bee: Aspirations for Human Collective Action for Social Change

A collective action is any behaviour that is enacted by a group to improve that group’s situation. For modern humans, examples include voting, preserving the environment, and social protest. Collective action requires coordinated effort as a group; any one individual’s effort taken in isolation is small and unlikely to change much in the grand scheme of things, but the combined effort of many individuals can make a big difference. The image illustrates the concept with the example of honeybees. Each individual bee provides only a relatively small contribution and yet in combination they ensure the entire colony’s ongoing existence. For human decision-makers, acting collectively in this way is fraught with challenges. Our research focuses on developing an understanding of what conditions, both mental and environmental, encourage individuals to engage in collective action for positive social change.
Children’s orbits of opinion

In the modern primary classroom, young children are expected to sit silent and still, for much of their school day, listening to teachers. In-depth research in Year One classrooms demonstrates that children share a concern about these limiting conditions, and find brief moments in the school day to carve out their own orbits through movement, speech, humour, storytelling and optical adventures. It is in doing all these—as well as sitting quietly and still—that they think about, understand, re-imagine and speak their opinions. Children do not demand better classrooms, but their actions offer a critique of an education that requires only conformity, one that instructs children into how to understand the world. It is not enough that children study others’ opinions; they must also speak. Hope comes in the finding that children move, even within limiting classroom conditions, to find ways to transform their world.
A social cure behind bars: “Finding Rhythms made me find my rhythm in prison”

Finding Rhythms is a charity that run intensive music projects in prisons led by some of the UK’s top touring artists; each of which result in a professionally produced album of new music. Research, known collectively as the 'social cure', has found that group-based activities, such as Finding Rhythms, can profoundly benefit group members' well-being. The aim of this project is to evaluate, from a social cure perspective, whether the Finding Rhythms program enhances prisoners' well-being, and, if so, how. Results, based on data gathered from 104 prisoner participants (104 questionnaires and 15 interviews), indicate that Finding Rhythms boosts prisoners sense of social connectedness, gives them a sense of purpose in prison, and improves their mental wellbeing, which makes prison life easier and more manageable. This work encourages mental healthcare and resettlement practitioners to welcome creative projects that improve social life in prison and opportunities upon release.
U87 + 1uM RAPA

Kinases are good potential targets as they are involved in cell signalling transduction and control a number of cellular processes like cell growth, proliferation, migration and differentiation. Therefore, my project aims to identify kinases that might trigger the transdifferentiation of glioblastoma multiforme (GBM) cells into nonneoplastic cells. The image above shows GBM cell line U87-MG treated with kinase inhibitor rapamycin to induce differentiation.
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Munire Maksudoglu

University of Sussex, School of English

Sultans and Kings

The image shows the head of the letter of Ottoman Sultan Ahmed I (who commissioned the Blue Mosque in Istanbul) to King James I. My research is focused on the relations between England and the Ottoman Empire in late 15th and early 16th centuries and its representation in English theatre.
How we Hear

The sensory hair cells of the inner ear (red), with their mechanosensory hair bundles (blue) that transduce mechanical information into nerve signals, and the nerve fibers (green) that transmit the sensory information to the brain for processing and interpretation. My research is focused on protecting these sensory hair cells in the face of clinical drug-induced damage.
The Spoils of Paradise

DIOKI Petrochemicals (in the middle of the picture), located in Omišalj, Croatia, has been at the centre of many controversies in the 1990s-2000s, reaching out to the highest levels of government. At the far right, you can spot a glance of the strategic JANAF oil pipeline. The creation of an LNG (Liquefied Natural Gas) terminal in this area is still a hotly debated issue with geopolitical ramifications - spanning from the USA to Russia. My research concerns informality and corruption in the energy sector in former Yugoslav states.
Daniella Rabino
University of Sussex, School of Education and Social Work

Shared Movements

My PhD is on how youth learn and create relationships with rural environments, specifically in Madagascar’s south-eastern corridor, in a village downhill from the unpredictable train tracks. Every minute was accomplished collectively, shaped by participants, community leaders, and my field team. The church deacon showed me that by holding hands, it is easier to walk along the train tracks, which feels like a fitting theme for every step of the way. Morning, days, and nights began and ended with my guide, Menja, sorting out how to exist and work with youth and in the community. This photo of the beginning of our re-entry hike, for the last stretch of fieldwork, is the beginning of the end for questioning of conservation ideas, ready to try and manage the ambiguities of becoming intimately connected to peoples’ lives.
A Trace of Lion

This is a page from my copy of Journey Through the Ice Age by Paul G. Bahn. Having traced a photo by Jean Vertut, I took this photo in darkness. What you see is the Lion Panel from Chauvet in the Ardèche, a prehistoric site now closer to the public. If it adds anything, my tracing reveals the unreliability of copying. My PhD is concerned only with such mediations: tracings, photos, paintings, films, digital imaging, 3D replica caves and visitor centres. As technology brings us ever closer to the art of paleolithic people, we are no closer to bringing the role of these mysterious works to light.
On the threshold of immortality

The sacred Hindu city of Varanasi is a holy crossroads of temples and pizza parlours, boutique hotels and ancient monasteries. Once the mornings began with a ritual bath in the Ganges, a river believed to have a fallen from heaven, and bringing home a pot of Ganges water for worship. Bathing in the holy river was believed to be a form of meditation that had the capacity to relieve stress and connect one to the tradition of one’s forefathers. In the last twenty years as Varanasi has increasingly been drawn into a web of modernity, few young people have time for a daily bath in the Ganges or to celebrate the various religious festivals. But what do people think of these changes? My research investigates the impact of economic development on people’s everyday lives and their understanding of how they ought to live.
New Wings over Old Ground

This image of a boy flying his home-made kite was taken during fieldwork on the outskirts of North Horr, a Gabra pastoralist settlement located in the Chalbi desert of Northern Kenya. For centuries government and development actors considered the pastoralist populations in the region to be destitute, lawless relics of a past time. My research explores emerging debates that recast these politically, socially, and economically marginalised communities as dynamic agents responsible for shaping their own futures. Historically, development groups often labelled local pastoralist innovations as illegal or undesirable, only recently is the value of local creativity beginning to be recognised. I feel this picture captures the aspirational nature of pastoralists who use emerging networks and technologies to fly beyond the arid confines of the region; the image further hints at the hidden ingenuity and creativity within pastoralist and nomadic societies to build new lives on unexpected foundations.
Observational Fun at the Blanco-4m

This image was taken outside the Blanco-4m telescope at CTIO in Chile while observing for the Dark Energy Survey. In the background, you can see the Milkyway, which I saw for the first time on this trip!