THE OPEN UNIVERSITY

QUARTERLY REVIEW OF RESEARCH

October 2022

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SECTION 1: INTRODUCTION FROM THE PRO-VICE-CHANCELLOR FOR RESEARCH AND INNOVATION

Welcome to the first Quarterly Review of Research across The Open University (OU). This publication aims to celebrate the advances in research achieved by our staff and students with an emphasis on the journal articles, book chapters and other peer-reviewed outputs that we have published. I will use this introduction to highlight major developments in the external research landscape and new activities across our University. This first edition is published at an important time for the University with our new Research Plan approved by Senate and implementation in full swing. The engagement across the University and with external supporters to develop our Plan has been superb and creates a foundation for enhancing our research and its impact on society across the 4 nations of the UK and internationally.

It has been a busy period of change across the UK research landscape. The Research Excellence Framework (REF) 2021 delivered good results for the OU and we should benefit from modest and sustained increases in quality research (QR) funding. QR funding provides Faculties with a consistent annual grant to underpin investment in staff, students and infrastructure. There has been a lot of activity at UK Research and Innovation (UKRI) and government bodies. Here are a few highlights:

- The Independent Review of Research Bureaucracy led by Professor Adam Tickell proposed seven principles that are embedded in recommendations to Government to improve systems, processes and assurance across funders and universities.
- UKRI updated information on its new open access policy and highlighted work to prepare for the 1 January 2024 implementation of open access for monographs and book chapters.
- Dame Jessica Corner was appointed as the new Chief Executive of Research England taking over from David Sweeney CBE when he retires in October. David was a strong supporter of the OU and we are grateful for the role he played in establishing Research England and his encouraging feedback on our new Research Plan.
- The Department for Business, Energy and Industrial Strategy published a policy paper on new research programmes if the UK is unable to associate with Horizon Europe. The transitional measures include an "Horizon Europe Guarantee" that promises to fund applications that are submitted for EU funding before the point of non-association.
- UKRI published its corporate plan for 2022 to 2025 and set out its implementation route to achieve the six objectives from its strategy: Transforming tomorrow together.
- The UK Committee on Research Integrity (UK CORI) has been established. UK CORI was formed following a report by the House of Commons Science and Technology Committee in 2018 which recommended greater attention be given to research integrity.

There are too many highlights across the OU to do justice to in this short introduction. Our website and OU Life articles (internal link only) record the successes of staff and students regularly. Highlights include:

- Professor Denise Whitelock, Director of IET, was conferred a Fellow of the Academy of Social Sciences.
- The Wolfson Foundation was awarded £750k to develop a new analytical centre with a focus on the environmental boundaries of life.
- Professor Monica Grady CBE was awarded the Michael Faraday Prize and Lecture by the Royal Society.
- Led by Dr Suzanne Forbes, The Open University in Ireland was successful in a bid worth €200k from Ireland's Higher Education Authority Shared Island North-South Research Programme. In partnership with University College Dublin, the project investigates "Our Shared Built Military Heritage" on the island of Ireland.
- In May 2022, The Open University was a key sponsor of the MIT Technology Review Innovators Under 35 Europe awards which took place on Gaoth Dobhair, County Donegal in the Republic of Ireland. The

University's contribution to the event has helped foster wider engagement and potential collaboration with other universities in Ireland, building on existing links through our membership of Universities Ireland.

- Dr Wendy McInally (WELS), based at the OU in Scotland, led a round table strategy event in Edinburgh in June, for specialist cancer nurses from across the UK and Ireland.
- The OU in Wales with collaborators in the Blaenau Gwent REACH Partnership opened their exhibition of artwork, creative writing, film and music at St Fagans National Museum of History.

Inaugural Lectures were presented by:

Professor John Butcher	Faculty of Wellbeing, Education and Language Studies	Challenging assumptions about widening participation in Higher Education
Professor Stephanie Taylor	School of Psychology and Counselling	Capturing feeling and experience in research about creativity
Professor Karen Olsson-Francis	School of Environment, Earth and Ecosystem Sciences	Rethinking the boundaries of astrobiology
Professor Leslie Budd	The Open University Business School	From Urbanite to Astronaut: The Territorial Economics of Space

We recently held the Research Excellence Awards event where we celebrate many of the outstanding achievements of our research community. At the event we also launched our first Open Societal Challenges (internal link only) as part of the implementation of our Research Plan.

I hope you enjoy reading this Quarterly Review of Research. Please be in touch via pvc-research-innovation@open.ac.uk if you wish to comment on it or suggest any improvements.

Kevin Shakesheff
PVC Research & Innovation

1. SECTION 2: FACULTY REVIEWS

Each quarter we will highlight some of the journal articles and manuscripts published across the University. In this review we focus on outputs published (online or physical) in the period of April to June 2022. For the next edition we will consider papers that are suggested from staff and students. Please email your suggestions for the period July to September 2022 to pvc-research-innovation@open.ac.uk by Wednesday 30 November.

The publications highlighted in this Quarter emphasise the breadth of OU research. Subject areas include biodiversity, legal verdict systems, ocean temperatures, volcanoes on Mars, recovering from COVID-19, smart cities, police-citizen relations, older carers, palliative care and learning disabilities.

Faculty of Arts and Social Sciences (FASS)

Re-producing public space: the changing everyday production of outdoor retail markets. Breines, Markus; Dahinden, Janine; Jónsson, Gunvor; Lindmäe, Maria; Madella, Marco; Menet, Joanna; Schapendonk, Joris; Van Eck, Emil; Van Melik, Rianne and Watson, Sophie (2022). Urban Geography https://doi.org/10.1080/02723638.2022.2054604.

Professor Sophie Watson, as part of an international team, studied changes in outdoor retail markets as examples of public spaces that were disrupted by lock-downs due to Covid. Using examples from Spain, the UK, Switzerland and the Netherlands the team found that traders innovated their business models to extend the impact of retail markets beyond their physical boundaries and retained the importance of outdoor markets as social and political public spaces. The UK work was a collaboration with the National Federation of Market Traders and the National Association of British Market Authorities.

Taking the right course: the possibilities and challenges of offering alternatives to prosecution for drivers detected using mobile phones while driving. Savigar-Shaw, Leanne; Wells, Helen and Briggs, Gemma (2022). Accident Analysis & Prevention(173), article no. 106710.

Dr Gemma Briggs and collaborators at Staffordshire and Keele Universities, explore driver education as an alternative to prosecution for mobile phone use whilst driving. They used 46 semi-structured interviews of drivers, police officers, education providers and members of the public. They conclude that education offers opportunities for normative alignment with safe behaviours (rather that simple compliance with the law) and suggest their use in addition to penalties could be a pragmatic next step given current reductions in roads policing capability. This work fed into a successful grant bid by the team (led by Gemma), to the Road Safety Trust, to further explore the interactions of police officers and mobile phone-using drivers who they detect. Working with two police force partners, and supported by the National Police Chiefs' Council, the project aims to offer education to police officers on the dangers of handsfree mobile phone use (which, Gemma's research shows is legal, but no safer than handheld use) so that they can offer appropriate, evidence-based roadside education to offenders, thus prioritising both safety and legality.

Children's ability to recognize their parent's face improves with age. Matthews, Claire M; Mondloch, Catherine J; Lewis-Dennis, Fallon and Laurence, Sarah (2022). Journal of Experimental Child Psychology, 223, article no. 105480.

Little is known about children's ability to recognise familiar faces (e.g., friends/family). This is particularly important for children's safety such as when recognizing their caregiver at the school gate or when out together in a crowded public place. Together with researchers at Brock University, Canada, the OU team measured the ability of children aged between 4 and 7 to recognise their parent in photographs taken before

and after they were born. The findings suggest that young children have difficulty recognising instances that go beyond their direct experience with a person.

Tracking the nature and trajectory of social support in Facebook mutual aid groups during the COVID-19 pandemic. Ntontis, Evangelos; Fernandes-Jesus, Maria; Mao, Guanlan; Dines, Tom; Kane, Jazmin; Karakaya, Joshua; Perach, Rotem; Cocking, Chris; McTague, Michael; Schwarz, Anna; Semlyen, Joanna and Drury, John (2022). International Journal of Disaster Risk Reduction, 76, article no. 103043.

Disasters and extreme events are often characterized by a sudden upsurge in the availability and provision of social support, with people with no previous affiliation to one another often coming together in a newly found sense of solidarity and camaraderie to support those in need. Groups organized through social media (e.g., Facebook) played a pivotal role in supporting those in need especially during the first stages of the COVID-19 pandemic, so in this paper the team explored how the provision of social support fluctuated in those groups over time and what types of support were offered or were requested through such platforms. They found that online social support activity declined soon after the peak of the first pandemic wave and, at least in Facebook mutual aid groups, during the second wave it did not reach the levels observed during the first wave. Groups became a catalyst for practical, informational, and emotional support to be offered or requested by those in need. The paper was part of a UKRI grant that addressed the role of groups in facilitating the public response to COVID-19, and our research team comprised of academics, psychology students, and members of community groups that organized to support those in need.

Transforming Biodiversity Governance. Earth Systems Governance. Schapper, Andrea; Visseren-Hamakers, Ingrid J; Humphreys, David and Bliss, Cebuan (2022). Mainstreaming the Animal in Biodiversity Governance: Broadening the Moral and Legal Community to Nonhumans. In: VisserenHamakers, Ingrid J and Kok, Marcel T.J. eds. Cambridge: Cambridge University Press, pp. 179–199.

This article argues that transformative biodiversity governance that fully realises ecocentrism requires a fundamental rethinking of the relationships between human beings, individual animals and nature. The authors propose, and examine the philosophical and policy implications of, an integrative biodiversity governance in which animal rights and, more broadly, the rights of nature are mainstreamed. Such a shift requires a rethinking of justice to embrace interspecies justice. The paper arose from a collaboration between colleagues in the United Kingdom and the Netherlands who have previously collaborated within the International Union of Forest Research Organisations (IUFRO).

Citizenship studies: on the need for tradition *and* critique. Citizenship Studies, Darren Langdridge (2022): DOI: 10.1080/13621025.2022.2091238

This article is part of a 25th Anniversary special issue of the journal “Citizenship Studies” featuring contributions reflecting on the development of the study of citizenship over the last 25 years. Using work on sexuality and gender studies as the starting point, Professor Langdridge argues that we need to move beyond a politics of citizenship founded on an exclusionary logic that divides, and better recognize the need for – and value of – tradition in a dialectical relationship with critique. The point being that critique can itself become ideological when detached from tradition, with tradition and critique necessary opposites that act to temper each other. This piece is a precursor to the more detailed argument in a book on the same topic being published by Oxford University Press.

Proven and not proven: A potential alternative to the current Scottish verdict system. Behavioral Sciences & the Law. Curley, Lee John; Munro, James; Turner, Jim; Frumkin, Lara A.; Jackson, Elaine and Lages, Martin (2022). DOI: https://doi.org/10.1002/bsl.2568

The purpose of this paper was to investigate the influence that varying verdict systems had on juror decision making. A subject of great importance in the Scottish legal system as the Scottish Government are currently consulting the public on reforming the current verdict system. Three verdict systems were chosen for this investigation: 1) the current Scottish verdict system of guilty, not guilty and not proven (the latter being a second acquittal verdict); 2) the Anglo-American verdict system of guilty and not guilty; 3) a potential alternative verdict system of proven and not proven (as suggested by legal professionals in one of our previous papers). The results showed that conviction rates were higher in the guilty and not guilty verdict system when compared to the other two systems, showing that the decision environment influences the decisions jurors make. One possible explanation for this is that terms such as guilty and not guilty may promote emotional/punitive responses in the jurors, increasing the chances of them convicting the defendant, and terms such as proven and not proven may focus jurors on the evidence and attenuate the role that emotion plays. This research has been conducted in collaboration with the University of Glasgow, has been written about widely in the Scottish media and has informed a consultation piece aimed at the Scottish Government.

Infrastructure and the Politics of African State Agency: Shaping the Belt and Road Initiative in East Africa. Chiyemura, Frangton; Gambino, Elisa and Zajontz, Tim (2022). Chinese Political Science Review DOI: https://doi.org/10.1007/s41111-022-00214-8

The paper is co-authored with the London School of Economics (LSE) and the University of Freiburg, Germany. All authors are early career researchers working in the area of China-Africa studies. The paper comes from a political and epistemological endeavour to understand how Africans (who in the literature have been majorly portrayed as passive actors) shape their engagements with China. The authors show the variegated nature of African state agency and how structures 'condition' but do not 'determine' how African actors shape and influence their relations with China. The paper observes that building collaboration is not an event. It's a process which is time and resources consuming.

'Manufacturers without factories' and economic development in the Global South: India's pharmaceutical firms. Rault-Chodankar, Yves-Marie and Kale, Dinar (2022). Journal of Economic Geography. DOI: https://doi.org/10.1093/jeg/lbac013

In this paper, the authors explore the role of local Indian 'manufacturers without factories' (MWF) in establishing India as a leading supplier of pharmaceuticals worldwide, including in the global south. It shows that the different types of local MFWs - 'propagandists', 'pioneers', 'connectors' and 'adaptors' - help to bridge knowledge gaps in the Indian pharmaceutical industry and contribute to regional development by facilitating industrial upgrading in the south-south value chains. Building on this work, the team are planning to study the role of transnational Indian migrants in African countries in promoting entrepreneurship and industrial upgrading in the south-south pharmaceutical value chains.

Faculty of Science, Technology, Engineering and Mathematics (STEM)

The contribution of the spatial hydrological niche to species diversity in rare plant communities of English floodplain meadows. García-Baquero Moneo, Gonzalo; Gowing, David J. G. and Wallace, Hilary (2022). Plant Ecology 223:599–612.

This paper analyses data from a long-term study (1994-2018) to show the degree to which hydrological regime determines the plant-community composition of floodplain meadows, one of the most biodiverse systems in the UK. David Gowing's co-authors were Hilary Wallace, a former research-project officer at the OU, and Gonzalo Garcia-Baquero, a former visiting scientist here. Gonzalo, now based at the University of Bilboa, is a world-leading ecological statistician, who undertook a complex analysis to separate hydrological effects from purely spatial effects on meadow-community structure. The paper addresses a long-running debate amongst ecologists as to whether species-rich communities are maintained through random processes or are structured by fine differences in their environment. The data suggests the latter with practical implications for the conservation of these special communities.

Stranded fossil-fuel assets translate to major losses for investors in advanced economies. Semieniuk, G.; Holden, Philip B.; Mercure, J.-F.; Salas, P.; Pollitt, H.; Jobson, K.; Vercoulen, P.; Chewpreecha, U. Edwards, Neil R. and Viñuales, J. E. (2022). Nature Climate Change https://doi.org/10.1038/s41558-022-01356-y

Philip Holden and Neil Edwards, as part of a USA and UK collaboration, explore the implications for investors of a fast phase-out of fossil-fuel production. They trace the equity risk ownership of >40,000 oil and gas production assets through a global equity network of 1.8 million companies and to their ultimate owners. The results show that financial risks concentrate in rich countries with large financial centres such as the USA and UK with potentially significant impacts on US and UK pension funds. The societal distribution impacts are being explored in collaboration with the World Inequality Lab at the Paris School of Economics.

Cenozoic evolution of deep ocean temperature from clumped isotope thermometry. Meckler, A. N.; Sexton, P. F.; Piasecki, A. M.; Leutert, T. J.; Marquardt, J.; Ziegler, M.; Agterhuis, T.;Lourens, L. J.; Rae, J. W. B.; Barnet, J.; Tripati, A. and Bernasconi, S. M. (2022). Science, 377(6601) pp. 86–90.

Philip Sexton's work, with collaborators across Europe and in the USA, calls for a reassessment of ocean temperatures through the last 65 million years to better understand climatic responses to tectonic events and changes in atmospheric greenhouse gas levels. The conventional approach to reconstruct past deep ocean temperatures is based on the analysis of the oxygen isotopic composition of the microfossil shells of benthic foraminifera. The authors exploit a new alternative approach using clumped isotope thermometry with the benefit that this method does not require any knowledge of the evolving oxygen isotope composition of seawater and is thus solely influenced by temperature, in contrast to the traditional oxygen isotope method. If the much warmer deep ocean temperatures for past 'greenhouse' climates revealed by the new method are found to be representative of the global ocean then Earth's climate sensitivity to elevated atmospheric carbon dioxide levels would be much higher than previously thought, with major implications for our planet's climate sensitivity to ongoing fossil fuel emissions.

New evidence for sedimentary volcanism on Chryse Planitia, Mars., P.; Hauber, E.; Conway, S.J.; Luzzi, E.; Mazzini, A.; Noblet, A.; Jaroš, J.; Fawdon, P. and Markonis, Y. (2022). Icarus, article no. 115038. DOI: https://doi.org/10.1016/j.icarus.2022.115038.

Peter Fawdon, a UK Space Agency Aurora Research Fellow in our School of Physical Sciences, published with researchers from the Czech Republic, Germany, France and Norway on kilometre-sized flows on Mars. This used remote sensing techniques to analyse the topography of these flows, the result of which supported a hypothesis that they are formed by deposition of low viscosity water-rich-mud. This work is part of a series of projects lead by Czech researchers Petr Brož and Ondřej Krýza, who, over the last 5 years with access supported by Europlanet, have been using the Mars environmental simulation chambers at the Open University to explore how mud flow behave in the martin surface conditions. This is fundamental work understanding sedimentary processes, has implication of accessing potential sub-surface habitats and supports the prioritisation of this site for future exploration.

Martian CO_2 Ice Observation at High Spectral Resolution With ExoMars/TGO NOMAD. Oliva, F.; D'Aversa, E.; Bellucci, G.; Carrozzo, F. G.; Ruiz Lozano, L.; Altieri, F.; Thomas, I. R.; Karatekin, O.; Cruz Mermy, G.; Schmidt, F.; Robert, S.; Vandaele, A. C.; Daerden, F.; Ristic, B.; Patel, M. R.; LópezMoreno, J.J. and Sindoni, G. (2022). Journal of Geophysical Research: Planets, 127(5), article no. e2021JE007083.

This work analyses data from the NOMAD instrument that the OU co-leads on the ExoMars Trace Gas Orbiter mission, currently orbiting Mars. We have used a particular spectral absorption feature to detect and track the seasonal advance and retreat of the Martian polar ice caps, which are primarily composed of carbon dioxide ice. This technique offers a new way to monitor the extent of the polar ice caps on Mars and its climate-related effects, as well as the detection of carbon dioxide clouds on Mars. This work was conducted with collaborators across Europe in an international consortium spanning five countries.

Methane emissions from trees planted on a closed landfill site. Fraser-Mcdonald, Alice; Boardman, Carl; Gladding, Toni; Burnley, Stephen and Gauci, Vincent (2022). Waste Management & Research. http://dx.doi.org/doi:10.1177/0734242X221086955.

Trees are often planted on closed landfill sites to improve the visual appeal of these areas. However, the potential release of greenhouse gases from the otherwise sealed area below the landfill cap has not previously been considered. This paper quantifies tree stem greenhouse gas emissions in a landfill context for the first time. The authors have subsequently developed this research to quantify tree stem emissions from different species and landfill sites with varying management practices. This paper is based upon PhD work carried out by the lead author, who is hoping to further develop this research as they start in a Lecturer role at The Open University in September.

Quantifying the influence of Open Access on innovation and patents. Jahn, Najko; Klebel, Thomas; Pride, David; Knoth, Petr and Ross-Hellauer, Tony (2022). Open Research Europe 2, article no. 64.

This paper combines publicly available data sources about patents and scholarly publications to explore the extent to which Open Access scientific literature is cited in patents. We find that the proportion of Open Access citations has been growing steadily, with nearly half of cited articles from within patents (between 2008-2020) being openly available. The paper is one of a number of publications resulting from the Observing and Negating Matthew Effects in Responsible Research & Innovation Transition (ON-MERRIT) project, a 30-month project funded by the European Commission to investigate how and if open and responsible research practices affect inequalities in research. As part of the project, partners from the UK, Austria, Germany and Portugal studied the effects of open science within academia (led by The Open University), industry and on policy development.

Risks of deep vein thrombosis, pulmonary embolism, and bleeding after Covid-19: nationwide self-controlled cases series and matched cohort study. Katsoularis, Ioannis; Fonseca-Rodríguez, Osvaldo; Farrington, Paddy; Jerndal, Hanna; Lundevaller, Erling Häggström; Sund, Malin; Lindmark, Krister and Fors Connolly, Anne-Marie (2022). BMJ, 377, article no. e069590.

The main purpose of this study was to investigate the risk of blood clots following Covid infection in Sweden. The authors found that the risk was raised for several months thereafter, though the absolute risk remained low. The other members of this multidisciplinary team were all based in Sweden, with access to Sweden's extensive facilities for linking different data sources. The OU contribution led to the BMJ asking Professor Farrington to write a separate commentary on the statistical methods.

A case study from Guyana of adapting engaged research design to promote 'fairness in knowing'. Holliman, Richard; Marino, Alessandra; Grand, Ann; Berardi, Andrea; Mistry, Jay; Jafferally, Deirdre; Thomas, Raquel; Roberts, Grace; Marcus, Carol-Ann; Roopsind, Indranee and Roberts, Anthony (2022). Research for All, 6(1) pp. 1–17.

This paper provides a detailed process account of DETECT, a project that used an ethically-informed - engaged research design to create a socio-technical system to empower Indigenous communities' mitigation of malaria in Guyana. Indigenous and OU researchers co-designed an early warning system to support local communities in identifying mosquito breeding sites. The paper outlines two frameworks, 'engaged research design' and 'soft system methodology', that have the potential to inform forms of participatory research and knowledge exchange in a wide range of academic disciplines. The authors conclude that those planning engaged research with historically oppressed communities should learn about community histories and epistemologies and attempt to contribute positively to the futures of those with whom they engage. This paper arose from the work of AstrobiologyOU.

Classifying simply connected wandering domains. Anna Miriam Benini, Vasiliki Evdoridou, Nuria Fagella, Philip J. Rippon and Gwyneth M. Stallard (2022). Mathematische Annalen, 383, 1127-1178.

This paper is one of the key achievements arising from an EPSRC funded project Classifying Wandering Domains led by Professors Phil Rippon and Gwyneth Stallard from the School of Mathematics and Statistics. Wandering domains are regions of stability under iteration of a complex function, with each domain mapping into a new domain. Although a detailed description of the dynamical behaviour inside periodic regions of stability has been known for over 100 years, this recently published paper gives the first classifications of the dynamical behaviour inside wandering domains. The EPSRC funding supported their postdoc Vasiliki (Vasso) Evdoridou who will return to the OU in January 2023 to start a lectureship in pure maths following postdoc positions at MSRI and Liverpool.

Accretion mode versus radio morphology in the LOFAR Deep Fields. Mingo, B; Croston, J H; Best, P N; Duncan, K J; Hardcastle, M J; Kondapally, R; Prandoni, I; Sabater, J; Shimwell, T W; Williams, W L; Baldi, R D; Bonato, M; Bondi, M; Dabhade, P; Gürkan, G; Ineson, J; Magliocchetti, M; Miley, G; Pierce, J C S and Röttgering, H J A (2022). Monthly Notices of the Royal Astronomical Society, 511(3) pp. 3250–3271.

The paper, led by OU Research Fellow Beatriz Mingo and Lecturer Judith Croston, and co-authored by several members of the LOFAR international collaboration, studied the radio galaxy populations in the LOFAR Deep Fields (LoTSS-Deep), to establish the role of host galaxies in feeding the black hole and shaping the radio jet. The results challenge traditional assumptions, by demonstrating that there is no direct link between black hole accretion rate and radio morphology: it's the host galaxy's mass that mostly controls how the jets propagate. Black hole accretion rate is best traced by specific star formation rate, which is linked to gas availability in the galaxy.

Trading disaster: Containers and container thinking in the production of climate precarity. Parsons, Laurie; Safra de Campos, Ricardo; Moncaster, Alice; Cook, Ian; Siddiqui, Tasneem; Abenayake, Chethika; Jayasinghe, Amila Buddhika; Mishra, Pratik and Billah, Tamim (2022). Transactions of the Institute of British Geographers. DOI: https://doi.org/10.1111/tran.12545

'Natural' and 'local' environmental disasters such as landslides, drought and flooding, are often no such thing; instead, they are at least in part caused by global supply chains and their effect on local economies. By examining three simple commodities traded from Asia to Europe, cotton, bricks and tea, this paper demonstrates a number of such impacts. The removal of top soil in Bangladesh for bricks leads to local flooding and crop losses, and in turn to increased social reliance on often indentured work in the polluting and toxic brick kilns; illegal logging is widespread in Cambodia, in order to fuel garment factories so they can compete with cheaper energy costs elsewhere, with the resulting deforestation having a direct impact on increasing droughts in the country; while the falling economic fortunes of the Sri Lankan tea industry combined with increased rainfall from climate change is leading to landslides, destroying workers' tied plantation houses and leaving them homeless. The project was a multidisciplinary international collaboration led by Dr Laurie Parsons at Royal Holloway, and including academics from the Universities of Dhaka in Bangladesh and Moratuwa in Sri Lanka, and the OU, Exeter and Kings College London in the UK. At the OU the work has fed into wider reviews of the hidden carbon and wider environmental impact of the global and national construction industry, including work with the national Green Building Councils of Ireland, Spain, Croatia and Italy. For further information on the project see https://www.disastertrade.org/about

Increased atrial effectiveness of flecainide conferred by altered biophysical properties of sodium channels. O' Brien, Sian; Holmes, Andrew P.; Johnson, Daniel M.; Kabir, S. Nashitha; O' Shea, Christopher; O' Reilly, Molly; Avezzu, Adelisa; Reyat, Jasmeet S.; Hall, Amelia W.; Apicella, Clara; Ellinor, Patrick T.; Niederer, Steven; Tucker, Nathan R.; Fabritz, Larissa; Kirchhof, Paulus and Pavlovic, Davor (2022). Journal of Molecular and Cellular Cardiology (166) pp. 23–35. DOI: https://doi.org/10.1016/j.yjmcc.2022.01.009

Despite recent technological and pharmacological advances, Atrial Fibrillation (AF) is the most common cardiac arrhythmia and is associated with substantial morbidity and mortality. One of the most common used drugs utilised in the treatment of AF is the sodium channel blocker, flecainide. A feared side effect, however, of sodium channel blocker therapy, is life-threatening ventricular pro-arrhythmia, but this appears to be relatively rare in patients with AF treated with flecainide. In the present study the authors utilised various techniques, including optical mapping, patch clamp electrophysiology, RNAseq and computer modelling to show specific differences in the properties of the sodium current between the atria and the ventricles which may be responsible for the apparent safety of flecainide in healthy ventricular tissue.

Curating smart cities. Cook, Matthew and Valdez, Miguel (2022). Urban Geography DOI: https://doi.org/10.1080/02723638.2022.2072077

Urban environments are increasingly shaped by smart city developments which respond to various logics and shifting political agendas. Such smart city developments often render urban environments fragmented and even incoherent, resulting in which has been described as "Frankenstein urbanism". Nonetheless this paper shows actors can engage in collective visioning and storytelling that may be usefully studied in terms of curation, framing and filtering successive smart city developments in service of their contextually defined long term goals such as sustainability. This paper results from a research project funded by the Economic and Social Research Council grant reference ES/N014421/1, Smart Cities in the Making: Learning from Milton Keynes.

Prediction of the axial lens position after cataract surgery using deep learning algorithms and multilinear regression. Langenbucher, Achim; Szentmáry, Nóra; Cayless, Alan; Wendelstein, Jascha and Hoffmann, Peter (2022). Acta Ophthalmologica DOI: https://doi.org/10.1111/aos.15108

With age, the lens in the human eye can become opaque, and in cataract surgery this is corrected by replacing the lens with an artificial implantable intraocular lens (IOL). Since this is a surgical procedure, it is not possible to assess the required correction subjectively by trying different lenses, as in the familiar opticians' procedure for fitting spectacle lenses. Instead, various predictive formulae are used to determine the optimum lens power from biometric measures of the eye such as the axial position of the IOL after implantation, with best results obtained by using the actual position rather than a default or standard value. Fortunately, as cataract surgery is one of the most common procedures in ophthalmology, large databases of biometric data and refractive outcomes are available and these can be used in statistical computational methods for IOL optimisation. This study, carried out by the Saarland University, together with universities and clinics in Germany, Austria and Hungary, and in collaboration with the OU, found that modern machine learning algorithms were more effective in predicting the lens position than traditional mutlilinear regression, and forms part of a series of similar studies on computational and statistical methods for optimising intraocular lens prediction and, hence improving refractive outcomes.

Results from The COPAINS Pilot Survey: Four new brown dwarfs and a high companion detection rate for accelerating stars. Bonavita, M; Fontanive, C; Gratton, R; Mužić, K; Desidera, S; Mesa, D; Biller, B; Scholz, A; Sozzetti, A and Squicciarini, V (2022). Monthly Notices of the Royal Astronomical Society. DOI: https://doi.org/10.1093/mnras/stac1250

With their mix of stellar and planetary characteristics, brown dwarfs represent the link between the heaviest planets and the lightest stars. Studying them is therefore essential to our understanding of both stellar and planetary populations. Unfortunately, wide-orbit brown dwarf companions are rare, plus their direct detection is extremely challenging from a technological point of view, as they are intrinsically faint. In fact, in almost three decades of searches only 40 detections had been reported, arising from surveys blindly targeting random stars from young clusters. This study completely changes the landscape, increasing the sample by 10% and proving that an efficient selection method can significantly improve the discovery rate, and push toward smaller masses, without the need of long surveys spanning several years.

Demonstration of a plant-microbe integrated system for treatment of real-time textile industry wastewater. Jayapal, Mohanapriya; Jagadeesan, Hema; Krishnasamy, Vinothkumar; Shanmugam, Gomathi; Muniyappan, Vignesh; Chidambaram, Dinesh and Krishnamurthy, Satheesh (2022). Environmental Pollution, 302, article no. 119009. DOI: https://doi.org/10.1016/j.envpol.2022.119009

Freshwater resource scarcity and water pollution challenges are exacerbated by energy- intensive industries which are major users of fresh water. In this paper, a treatment system, developed with an attempt to achieve cost-effective, and sustainable rhizoremediation technology to treat real-time textile effluent and to overcome sludge production was found to be efficient. This RAENG Industry academia project resulted in training postgraduate students from India and UK. Future work focuses on developing low-cost catalyst integrating with plant microbe systems for efficient degradation of industrial effluents.

Faculty of Business and Law (FBL)

Corporate Diversification and Downsizing Decisions: International Evidence from Sharp and Sudden Performance Shocks. Ataullah, A., Le, H., Wang, Z. Wood, G. (2022), International Review of Financial Analysis, 82, 102203

Job losses have profound impacts on people's lives. Within this context, this paper studies firms' employment downsizing decisions in response to adverse operational shocks. Using a large cross-country dataset, we show that job cuts are common, for example 45% of firms with major shocks downsize at least 5% of the workforce and about 20% of firms downsize at least 20% of the workforce. A novel finding of this paper is that firms with multiple segments in diversified businesses are more likely to cut jobs than single-segment firms. The analysis also shows the significance of national employment protection and union power laws in downsizing decisions.

Abjection in extremely gendered colonial organizations: female military firefighter officers in Brazil. de Souza, Eloisio Moulin; Brewis, Joanna and Godfrey, Richard (2022). Human Relations pp. 1–24. DOI: https://doi.org/10.1177/00187267221098759

Jo Brewis and Richard Godfrey collaborated with Eloisio Moulin de Souza in Brazil on a study in which semi-structured interviews were conducted with all 17 female officers in the hypermasculine military firefighter organisation, Corpo de Bombeiros Militar, in the state of Espírito Santo. The experiences of these cis women highlighted concerns about the organization's physical entrance test, in their experiences during pregnancy and as mothers, and in the predominance of masculine organizational grammar.

Maintaining police-citizen relations on social media during the COVID-19 pandemic. Ralph, Liam; Jones, Matthew; Rowe, Michael and Millie, Andrew. Policing and Society. DOI: https://doi.org/10.1080/10439463.2022.2091565

Matthew Jones and collaborators at Northumbria University and Edge Hill University undertook a robust qualitative study with police officers and staff across England who used official, semi-official or unofficial police social media accounts during the pandemic. The paper discusses three distinct stages during the first year of the pandemic progressing from an initial move to online engagement focussing solely on Covid-19 safety messages to promoting broader positive generic police activity. They found that social media enabled police to gauge an understanding of public perceptions in the early stages of lockdown and maintained relationships when face-to-face interactions were restricted.

This statement is true to the best of my knowledge and belief': a provisional assessment of the utility of police victim statements in the qualitative understanding of domestic violence and abuse. Hopkins, Anna and Miller, Paul K. (2022). Journal of Gender-Based Violence (Early access). DOI: https://doi.org/10.1332/239868021x16528076885500.

Dr Anna Hopkins and collaborator Paul Miller (University of Cumbria) set out to study the potential role of police victim statements by victims of domestic violence and abuse as a research tool to access qualitative data from a group of victims for whom there are practical barriers to participating in research. From analysis of 120 statements, they concluded that with careful attention to methodological limitations these statements could be a useful research resource to complement primary qualitative data. This research has also opened a new collaboration with the STEM Faculty on coercive control.

Home-Based Self-Employment: Combining Personal, Household and Employment Influences. Daniel, Elizabeth and Owen, Robyn (2022). Journal of Enterprising Culture, 30(02) pp. 123–160.

Home-based self-employment is an important driver of increased business innovation and widening the opportunity to participate in entrepreneurship. This paper by Professor Elizabeth Daniel and collaborator Robyn Owen at Middlesex University addresses the under-researched nature of this type of business and employment by creating and validating a theoretical model drawing on established entrepreneurial theory. This study was undertaken before the COVID-19 pandemic but has lessons for future policy with implications extending to how future homes and towns are designed to enable a wider range of business to operate from home.

Talent management at doctoral level in English universities during the coronavirus pandemic. Martin, Lynn; Dabic, Marina and Lord, Gemma (2022). Thunderbird International Business Review. DOI: https://doi.org/10.1002/tie.22269

This paper resulted from a collaboration between Gemma Lord and colleagues at Anglia Ruskin University and the University of Zagreb. A longitudinal study across eight UK universities during 2020 was undertaken. The paper discusses findings with implications for recruitment and retention of staff and students.

Faculty of Wellbeing, Education and Language Studies (WELS) and the Institute of Educational Technology (IET)

Older Carers and Carers of People with Dementia: Improving and Developing Effective Support. Larkin, Mary; Henwood, Melanie and Milne, Alisoun (2022). Social Policy and Society, 21(2) pp. 242–256. DOI: https://doi.org/10.1017/S1474746420000615

Mary Larkin led a UK-based study, commissioned by the NHS England's Commitment to Carer's programme, about support for older carers and carers of people with dementia which is generalisable to other countries at a similar stage in the development of carer support. The study not only identified the 'key ingredients' of models of support that are valued by both groups of carers, but also the pivotal role played by the 'process of support' alongside the delivery of the support itself, and the importance of consistency of provision and of relationships between carers and care workers. Limited access to funding beyond a one-year period was found to be a primary barrier to the development of sustainable and effective support services for older carers and carers of people with dementia. This study contributes new knowledge about supporting these two groups of carers and ways in which services, and the associated commissioning processes, can be improved.

Insults according to notions of intelligence: Perspectives from education and newsmedia. Rix, Jonathan (2022). British Journal of Learning Disabilities. DOI: https://doi.org/10.1111/bld.12470

Jonathan Rix reports on a study of 29 academic papers from 2016 to 2021 and 134 articles in English language newspapers to consider the use of terms relating to intelligence that may be considered slur or taboo words. People used idiot, imbecile and moron to denigrate others (usually because they disagreed with them for personal or ideological reasons), but did not wish to have them used about themselves. Their use evoked a range of understandings related to difference, making links between stereotypical, 'unpopular' behaviours and a person's cognitive functioning. Given the fundamental role that the notion of intelligence plays both in society and to our sense of self and given our history of marginalizing the population to whom these terms were once applied, Jonathan suggests we should resist the everyday use of these words, just as we do with many historic terms associated with race, ethnicity, nationality, gender and faith.

Does gender influence children's and young people's caring? A qualitative, systematic review and meta-ethnography. Boyle, Geraldine; Constantinou, Georgina and Garcia, Rebecca (2022). Children & Society DOI: https://doi.org/10.1111/chso.12598

There has been limited research undertaken into the role of children and young people in providing care in society. This systematic review and meta-ethnography highlights the gendered reproduction of children's and young people's caring which occurs across the global North and South. While the gendered nature of caring in adulthood has long been recognised, there has been limited academic and policy attention given to caring inequities across the lifecourse. The review was undertaken by researchers from the OU and the University of London. The work builds on previous research undertaken into the moral resilience of young adult carers and a recently completed study which investigated the role of voluntary organisations in England in facilitating young adult carers' transitions to adulthood.

How much information is 'reasonable'? A qualitative interview study of the prescribing practices of palliative care professionals. Dumble, Katie; Driessen, Annelieke; Borgstrom, Erica; Martin, Jonathan; Yardley, Sarah and Cohn, Simon (2022). Palliative medicine. DOI: https://doi.org/10.1177/02692163221103471

As part of the ESRC-funded Forms of Care project, the authors supported palliative care clinicians to study how they negotiate information provision and consent for medications, especially in contexts when the information may cause distress for patients. It was found that whilst there is professional guidance about information provision, prescribing clinicians use as range of approaches to inform their clinical judgement in these instances, including: assessing the individual patient and their information preferences, tailoring information provision, and jointly forming a plan. Findings highlight that although current medical guidelines allow clinical discretion about information provision, in practice this can leave individual clinicians feeling vulnerable and unsupported, particularly those who have less experience and confidence in prescribing within palliative care practice. This is part of our larger ethnographic project on understanding how and when non-interventions are forms of care, and the complexities of providing palliative and end-of-life care acknowledging the non-clinical as well as clinical criteria professionals must consider.

The history of the history of learning disability. Tilley, Elizabeth and Jarrett, Simon (2022). British Journal of Learning Disabilities, 50(2) pp. 132–142. DOI: https://doi.org/10.1111/bld.12461

This article traces and summarises historiographical trends in the history of learning disability. It identifies three major waves of historical approaches (medical, social and cultural), each infused with wider political and professional concerns and shifting notions of what constitutes the idea of 'learning disability' in all its different linguistic iterations. The article also points to an emerging fourth wave in the historiography, led by 'historian activists' who seek to write and define their own history. In tracing these developments, the authors - Dr Liz Tilley, chair of the OU's Social History of Learning Disability Research Group (SHLD) and Dr Simon Jarrett, historian and honorary research fellow at Birkbeck, UL, argue how the ‘work’ of history can and does act to inform attitudes, policy-making and change.

Comparing the comparators: How should the quality of education offered by online universities be evaluated? Brasher, Andrew; Whitelock, Denise; Holmes, Wayne; Pozzi, Francesca; Persico, Donatella; Manganello, Flavio; Passarelli, Marcello and Sangrà, Albert (2022). European Journal of Education. DOI: https://doi.org/10.1111/ejed.12497

This study analysed and compared university ranking systems that evaluate face-to-face education and quality assurance approaches for online education. The study then sought to understand how these instruments influence current student opinion and how they can be used more proactively by universities themselves. Integrating findings about the ranking metrics and quality processes used with a meta-analysis of literature about how students choose their university revealed that: (1) current ranking systems are of limited value for most potential undergraduate students, particularly with reference to online education, (2) comparison systems that can be of value to students from a variety of different backgrounds are likely to be complex to set up and run, and (3) quality indicators that promote both formative and summative evaluation may be beneficial to both institutions and students. The work was done in collaboration with teams led by Albert Sangrà, Professor of Education, e-learning expert and Director of the UNESCO Chair in Education and Technology for Social Change at the Universitat Oberta de Catalunya, and Donatella Persico, Editor of the Italian Journal of Educational Technology.

Measuring player creativity in digital entertainment games using the Creativity in Gaming Scale. Hall, Johanna; Herodotou, Christothea and Iacovides, Ioanna (2022). In: Rienties, Bart; Hampel, Regine; Scanlon, Eileen and Whitelock, Denise eds. Open World Learning: Research, Innovation and the Challenges of High-Quality Education. London: Rutledge, pp. 158–170. DOI: https://doi.org/10.4324/9781003177098-14

Digital games are often seen as a means to foster creativity by allowing gamers to experiment with different ideas and find solutions to challenging problems. The purpose of this paper was to understand and measure how creativity manifests in digital games. A digital games creativity scale has been developed and factor analysed with 251 gamers aged 18-34. Three expressions of creatively were identified: Appropriation, Problem-solving, and Affective change. Two factors were found to enable creativity: Design affordances that promote freedom of choice and Transferability facilitating transfer of learning of e.g., new skills, reflection, empathy to non-game contexts. This paper was led by a PhD student in IET, Joanna Hall. She completed her PhD in 2020 and since then she is working for the Office of National Statistics as a methodologist.

SECTION 3: OPEN RESEARCH

Outputs Data from Open Research Online (ORO)

This section tracks our presentation of open access publications on ORO. Our Research Plan 2022 to 2027 sets out our aims to go further in ensuring our research is accessible to everyone.

Quarterly Data for April to Jun 2022

	ORO Deposits			ORO Downloads		
	2022	**2021**	**Change**	**2022**	**2021**	**Change**
Faculty of Arts and Social Sciences	117	152	-23%	135,655	101,638	+33%
Faculty of Business and Law	139	153	-9%	66,648	45,961	+45%
Faculty of Science, Technology, Engineering and Mathematics (STEM)	267	252	+6%	264,014	186,527	+42%
Faculty of Wellbeing, Education and Language Studies (WELS) and the Institute of Educational Technology (IET)	188	118	+59%	166,029	128,459	+29%
The Open University	*711*	*665*	*+7%*	*626,908*	*452,858*	*+38%*

Cumulative Data for Sept 2021 to Jun 2022

	ORO Deposits			ORO Downloads		
	2022	**2021**	**Change**	**2022**	**2021**	**Change**
Faculty of Arts and Social Sciences	504	660	-24%	410,595	368,418	+11%
Faculty of Business and Law	311	410	-24%	190,525	154,146	+23%
Faculty of Science, Technology, Engineering and Mathematics (STEM)	957	909	+5%	760,279	695,571	+9%
Faculty of Wellbeing, Education and Language Studies (WELS) and the Institute of Educational Technology (IET)	692	522	+25%	513,597	471,890	+9%
The Open University	*2500*	*2700*	*-8%*	*1,846,682*	*1,653,245*	*+12%*

Open Data from Open Research Data Online (ORDO)

This section tracks our presentation of open access data on ORDO.

Quarterly Data for April to June 2022)

	ORDO Deposits			ORDO Downloads		
	2022	**2021**	**Change**	**2022**	**2021**	**Change**
Faculty of Arts and Social Sciences	21	74	-72%	1828	260	+603%
Faculty of Business and Law	1	2	-50%	1297	219	+492%
Faculty of Science, Technology, Engineering and Mathematics (STEM)	19	15	+27%	19965	10373	+92%
Faculty of Wellbeing, Education and Language Studies (WELS) and the Institute of Educational Technology (IET)	12	11	+9%	5632	1827	+208%
The Open University	*54*	*108*	*-50%*	*29352*	*13390*	*+119%*

Cumulative Data from Sept to June 2022

	ORDO Deposits			ORDO Downloads		
	2022	**2021**	**Change**	**2022**	**2021**	**Change**
Faculty of Arts and Social Sciences	102	205	-50%	3344	409	+718%
Faculty of Business and Law	3	7	-57%	2609	441	+392%
Faculty of Science, Technology, Engineering and Mathematics (STEM)	55	42	31%	51537	16678	+209%
Faculty of Wellbeing, Education and Language Studies (WELS) and the Institute of Educational Technology (IET)	61	46	33%	11839	2979	+297%
The Open University	*239*	*310*	*-23%*	*71989*	*22018*	*+227%*

SECTION 4: SPOTLIGHT ON PROFESSIONAL SERVICES TEAM ACHIEVEMENT

Each quarter we plan to celebrate the achievements of a professional services team at the OU.

This month, it is the OU Laboratory Facilities led by Julia Barkans.

The OU has about 190 labs located throughout various buildings across the campus. In addition, there are mechanical engineering and electrical workshops, glasshouses, field sites, composting sheds, a 'Mars Yard', observatory and OpenSTEM labs used for onsite and remote teaching. The team nominated Julia for an international award in 'Excellence in Lab Leadership', which she won back in March this year.

Julia Barkans and team

When asked about their own experiences of working in the OU Laboratory Facilities team, here are some of the comments they made:

Geological Thin Section Lab

> *No two days are ever the same in the Thin Section Lab. We have no idea what may appear in our lab. From martian meteorites to the discoveries of an archaeological dig, huge volcanic bombs to microfossils, forensic work to coprolite, every day is different, and every day brings a new conundrum.*

Laser Ablation Inductively coupled Plasma Mass Spectroscopy Lab

> *We are working on a variety of projects with different people and samples to develop boundary-pushing analytical protocols that help them to answer their research questions. The systematic approach needed to develop, check and verify results can be challenging and frustrating but is very rewarding once finished. I can always say that the data is good and valid - even if interpretation changes it.*

Hypervelocity Impact Lab

> *I like working with and around great colleagues, at an institution with goals and principles I can unreservedly support, applying creativity and graft to meet challenges.*

Microbiology

> *I love my technical role because of its ever-changing nature. No two days are the same and that keeps it fresh and exciting.*

Gas Chromatography Mass Spectrometer Lab

> *Fantastic, complex, modern and strong analytical instruments to work with. This is really the best reward for my work, to be able to operate such refined equipment. Troubleshooting them can be challenging, but nevertheless with enjoyable results.*

Electron Microscopy Suite

> *I love contributing to all sorts of exciting research projects and push the limits of what we can discover by looking into the nano-world.*

Life, Health and Chemical Sciences

I enjoy the variability in my role, there are so many projects and topics being researched in our labs. I am able to work relatively flexibly, and this allows me to explore and grow my knowledge.

School of Physical Sciences

Working with unique experiments and cutting-edge technologies to push the boundaries of human knowledge. My work is intensely mentally stimulating and rewarding, and I am constantly learning new skills and facing new challenges.

BRU

I've been compassionate towards animals since my early childhood. I am frequently asked, "How can I work in this field if I love animals so much?!" And this may sound odd to some people, but I believe my love for animals helped me build empathy and understand the importance of good animal care.

Read more about why Julia Barkans was awarded her prestigious international award for excellence

SECTION 5: POSTGRADUATE RESEARCH

Congratulations to the following candidates who completed Postgraduate Research Degrees:

Maria Lorena Romero Martinez	School of Life, Health and Chemical Sciences	Plankton-bethos Coupling at Different Time Scales
Lais Nascimento Alves	School of Life, Health and Chemical Sciences	Antagonism of the Integrated Stress Response by Tick-Borne Encephalitis Virus
Suraj Jung Pandey	School of Computing and Communications	Modelling Alignment And Key Information For Automatic Grading
Brendon Nikolas Carlin	School of Engineering and Innovation	Non-Typological Architecture: Deterritorialising Interiors in Contemporary Japan
Sara Louise Hammond	School of Psychology and Counselling	The Paradox of Participation: Exploring the Discourses and Affect of Child Participation in Public Law Children Act Proceedings
Rachel Claire Greer	School of Life, Health and Chemical Sciences	Evaluation of C-Reactive Protein Point of Care Testing, and Associated Research Challenges, to Improve the Quality of Antibiotic Prescribing in the Community in Northern Thailand
Amanda Stevens	School of Arts and Humanities	Home on the Rails: The Design Fitting and Decoration of Train Interiors in Britain, c.1920-55
Carlos Pedro Rodrigues Azevedo	The Open University Business School	Students as (More Than) Consumers? A Bourdieusian Exploration of English Undergraduates' Discourses and Practices in Higher Education
Ralph Mercer	Institute of Educational Technology	Investigating 'Habitus f Technology' As A Framework To Better Understand Technologies Of Learning: A Causal Layered Analysis Of Two Perspectives
Thi Thuy Ngan Nguyen	School of Life, Health and Chemical Sciences	Tamoxifen Boosted Antifungal Therapy for Cryptococcal Meningitis
James Tuite	School of Mathematics and Statistics	Extremal Directed And Mixed Graphs
Daniel Amankona	School of Social Sciences & Global Studies	Socio-ecological Impacts And Adaptations Arising From Chinese-led Infrastructure Developments In Africa: A Case Study Of The Bui Hydropower Dam In Ghana

Ruggero Rossi	School of Engineering and Innovation	Hypernetworks analysis of Robocup interactions
Laura Reeves	The Open University Business School	Belonging And Othering In Times Of uncertainty: A Study Of The Impact Of Brexit In UK Restaurants
Gili Merin	School of Engineering and Innovation	Towards Jerusalem: The Architecture of Pilgrimage
Mona Kalmouni	School of Life, Health and Chemical Sciences	pH-Responsive Nanocarriers for Cancer Therapy
Andrea Elisabeth Lustenberger	School of Education, Childhood, Youth and Sport	An Investigation Into Oral Digital Storytelling In Primary English In Switzerland
David Matthew Pride	Knowledge Media Institute (KMI)	Identifying And Capturing The Semantic Aspects Of Citations
Carrie Walker	School of Environment, Earth and Ecosystem Sciences	The Morphological Evolution And Diversity Of Fern Spores
Derek James Robertson	School of Education, Childhood, Youth and Sport	Sociocultural Pedagogy and The Use of Digital Video in Higher Education
Derek Jones	School of Engineering and Innovation	Studio use in Distance Design Education
Sandra Yasmin Bokhari Friberg	School of Environment, Earth and Ecosystem Sciences	Reconstructing Indian Summer Monsoon variability during the Pliocene-Pleistocene transition
Andrew James Pearson	School of Life, Health and Chemical Sciences	Therapeutic Target Identification Through Analysis of Microglial Driven Traumatic Brain Injury Pathogenic Mechanisms
Ganiyu Debo Adebanjo	School of Physical Sciences	Superfluidity and Superconductivity in Body-centred-cubic and Face-centred-cubic Systems
Chiara Pesenti	School of Life, Health and Chemical Sciences	Genomic and Epigenomic study of Stage I Epithelial Ovarian Carcinomas to implement novel prognostic molecular biomarkers
Zana Pauline Bayley	School of Health and Social Care	How Does a Population Residing in a UK Town Perceive Hospice Care Provision? A Qualitative Study of Milton Keynes and its Hospice.
Rachael Hamp	School of Physical Sciences	Geochemical Cycling in the Subsurface Environment of Enceladus
Maureen Maina Korir	School of Education, Childhood, Youth and Sport	An Investigation Of Privacy And Utility Tensions In Learning Analytics

PGR Poster competition

Over 30 entries were made to this year's PGR Poster competition which highlights some of the excellent research undertaken by our PGR students OU competition celebrates research students' creativity | The Open University.

The following prizes were awarded:

Judges' Choice 1st Choice Poster
Winner: Shuang Ao – 'AI in Safety-Critical Tasks'

Judges' Choice 2nd Choice Poster
Winner: Agnibha Banerjee – 'Exploring Exo-Venus Atmospheres'

Judges' Choice Best Use of Imagery Poster
Winner: Linda Robson – 'Reliability of memory'

Judges' Choice Highly Commended Poster
Gavin Myers – 'Collaboration in Caribbean Diaspora Voluntary and Community Organisation'

Community Choice Poster
Winner: Katherine Langford – '(Mis)Understanding Physics'

Community Choice Multimedia
Winner: Katherine Langford – 'Fun in Learning'

Highly commended best use of Imagery
Soumya Paria – 'Fastman: a fast algorithm for visualizing results using Manhattan plots'

SECTION 6: RESEARCH BIDDING AND INCOME

Analysis of performance from Spring 2022 shows the OU is on track to increase external research income compared to 2020/21 but new awards in the academic year are down by 10% compared to the same time in 2020/21. Our staff secured over £3 million in new research awards in the quarter and submitted £85 million of bids in the first nine months of our financial year.

Further tracking of research bids and income is available for OU staff (internal link only).

Recent Grant Awards

Faculty	Project title	Funder	Value
STEM	How can we create a more just society with A.I.?	UKRI	£1,268,111
FBL	Innovations and Capacity building in Agricultural Environmental and Rural Uav Services	EC H2020	£473,210
STEM	The Martian Chlorine Cycle: Linking Orbiter and Rover Observations (continuation)	UKSA	£426,341
STEM	STFC CDT DISCNET 2	STFC	£366,605
STEM	STFC Open 2022 DTP	STFC	£326,524
STEM	Graph decompositions via probability and designs	EPSRC	£300,374
FASS	The Baron Thyssen Centre for the Study Of Ancient Material Religion 2021-2024	The Augustus Foundation	£248,199
IET	English for the EDI generation: Predicting and tracking the role of English and digital/mobile technologies in Higher Education across East and South Asia	British Council	£248,031
STEM	Urban trees as a nature-based solution for heat-resilient green neighbourhoods	BRITAC	£174,306