



Annual Research Review 2023/24

September 2024

Research at Wrexham University.



As Pro-Vice-Chancellor, I am pleased to introduce this year's Research Review, showcasing some of the significant contributions to knowledge and real-world impact our research community at Wrexham University has had during 2023-24.

Wrexham University is committed to producing research that transforms, with an applied focus that informs our teaching and supports the actions of regional and global concerns. Over the last 12 months, researchers at Wrexham University have continued to produce research aligning with the **United Nations Sustainable Development Goals** and the **Wellbeing of Future Generations Act**. This year, researchers at Wrexham University have secured funding from national research councils and government bodies to further our Sustainability and Health & Wellbeing research themes.

Professor Richard Day - Pro Vice Chancellor for Research



Wrexham University continues to be an up-and-coming research hub that values the contribution of our researchers and the development of our research culture. As signatories of the **Concordat to Support the Career Development of Researchers and The Concordat to Support Research Integrity**, the University is committed to helping our researchers become the best they can be and increase our capacity for making a real-world impact with the wealth of expertise we have to offer as an institution. Over the last 12 months, it has been a pleasure working with researchers across Wrexham University, growing our research activity and research community, seeing exciting new projects being funded, the appointment of new research staff and the continued development of new research areas and centres.

Frances Thomason – Head of Research Services

“As we reflect on the research produced over the last 12 months and look to the future, our continued focus will be to support and develop researchers at Wrexham University to produce excellent, impactful research in an inclusive and collaborative research environment”.

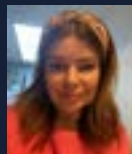


The Social Inclusion Research Institute: Cyfiawnder



After 'SIRI's' successful launch in 2022, its members have since collaborated with local communities and further afield to research prominent issues surrounding social inclusion. Over the past year, we've seen projects and publications within Law, Youth and Community, Social Work and Social Policy, Criminology and Policing, and Psychology.

Parents' and Carers' Perspectives on Health Care Services



Dr Dawn Jones initially won funding from **Improvement Cymru** (the improvement services for NHS Wales) to review the current evidence on national care models and frameworks providing care for children and young people with learning disabilities in Wales.

After this, Dawn was given some more funding to take this project further, and over the last academic year, she has been investigating what parents' and carers' think about national care models and health care services. Published evidence has shown that there has been issues with implementing care models, but 'pockets of excellence' were also found across Wales. Consequently, Dawn asked the people who would use these services to get a clearer picture of their effectiveness for families. This report is in the final stages of completion.

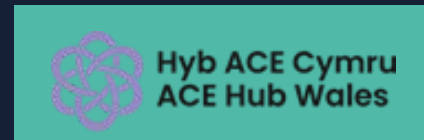
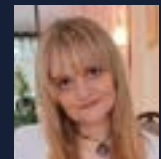
Youth Work Funding Review

An interdisciplinary team from **Psychology** (Prof. Mandy Robbins), **Business** (Dr Robert Leigh) and **Youth Work** (Alex Drury) has collaborated with **Cardiff Metropolitan University** and **University of Wales Trinity St David** to explore the funding landscape for Youth Work in Wales. Funded by **Welsh Government**, the team set out to complete three projects: a first feasibility study involving a rapid evidence assessment of literature, a review of available funding sources, and an exploration of economic impact via a cost-benefit analysis. The team has recently completed Phase 2, which involved questionnaire data and focus groups with voluntary youth work sector organisations and local authority representatives. Findings were divided into the four sections of income, funding processes, expenditure, and governance.



Vicarious Trauma and Police Peer Supervision

The central aim of this project is to explore the value of peer-to-peer support and supervision for police, who regularly deal with difficult situations and may experience vicarious or secondary trauma. Led by **Dr Tegan Brierley-Sollis** from Criminology and Policing, with support from **Dr Sarah Dubberley**, and **Nick Hoose** from Social Work, the team has held several successful workshops funded by the [Learned Society of Wales](#) and [ACE Hub Wales](#), followed by interviews with police officers from North Wales.



Next, the team will deliver training to the interviewed police officers, which will cover an in-depth session on the peer-to-peer reflective social work framework. Lastly, follow-up interviews will gather data on the impact of the training, in the hopes of aiding relational culture and wellbeing amongst the police workforces.

Insights into attitudes and beliefs around Cannabis Use in Wales

Cyfiawnder staff, including **Profs. Wulf Livingston** and **Iolo Madoc-Jones**, **Dr Caro Gorden** (former member) and PhD researcher **Helena Barlow**, led on a qualitative research project exploring beliefs, attitudes, and behaviours around cannabis use in Wales. The collaborative project with the [University of Bath](#) was funded by [Public Health Wales](#) and involved collecting survey and interview data with those actively using cannabis in Wales. The team found that participants' primary reason for smoking cannabis was to help improve their mental health, e.g., to help cope with anxiety and life pressures; however, as much as cannabis helped the participants, they stated it also had contradictory effects of causing anxiety, risking mental health with overuse. Consequently, a better strategy for Public Health might be to explore harm reduction by regulating cannabis use.



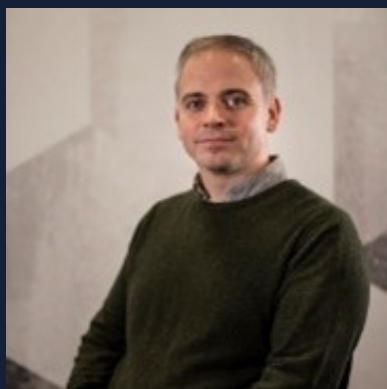
Education

HyFlex Digital Youth Work Education

The Youth and Community Team, consisting of **Hayley Douglas**, **Jess Achilleos**, and **Yasmin Washbrook**, and **Prof. Mandy Robbins** from



Psychology conducted a study about the experience of educators and students engaging in HyFlex (hybrid flexible) learning on a Youth Work course during the COVID19 pandemic. The researchers used questionnaires to explore how digital skills gained in the classroom enabled students to model these skills whilst delivering digital youth work and developed a qualitative research reflection for use with the involved pracademics (i.e., academics who are practitioners). It was found that digital learning often required specific planning, which was challenging for educators due the extra time needed to adapt approaches. Nevertheless, students tended to have positive beliefs about HyFlex for their learning experiences and the impact on their practice.



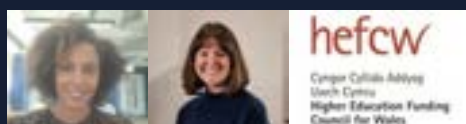
Creating reluctant academic 'intrapreneurs'

Dr David Crighton from the Education Team teamed up with Dr William Shepherd from the [University of the West of Scotland](#) to explore the changing roles of university lecturers. Through an intensive review of the literature, the research highlighted the impact of academic 'capitalism' on teaching and learning, that is, the mixture of scientific method with maximising university profits. Lecturers often feel pressured to reluctantly embrace 'intrapreneurship' by high institutional demands and performance metrics. David and William are furthering this research project later in the year by critically investigating the existence of academic intrapreneurs.



Community Focused Schools

Over the last few years, researchers from the Education Team, led by **Dr Sue Horder**, were part of a **Welsh Government** commissioned project exploring the concept of community schools in Wales, alongside **Bangor, Cardiff Metropolitan, Swansea, and Trinity St David Universities**. Building upon this, Lisa Formby won a **Learned Society of Wales' Early Career Researcher Network Award** and an internal faculty grant to host several workshops at Wrexham University this year. Teachers, youth work practitioners, prison educators, and academics attended the sessions to explore in more depth, collaborate and discuss the challenges facing children and young people today; people's understandings of community schools; why community schools are needed; and how community schools could increase family and community engagement. The workshops generated lots of ideas for Lisa to take forward with an application for a larger research bid with **Nikki Ewing, Dr Karen Rhys-Jones, Gillian Danby, and Tomos ap Sion**.



North Wales Children's University

Natalie Edwards, Children's University Project Manager in the Civic Mission team, **Dr Kirsty Fuller** from Education, and **Dr Emma Harrison**, Visiting Researcher in Psychology explored children's enjoyment of learning, self-esteem, and trying new things as part of the second Pilot of North Wales Children's University with **Bangor University**. The second Pilot builds upon Pilot 1 in Wrexham and was funded by **HEFCW (now CTER/Medr)** to expand across North Wales. Alongside the Children's University's activities, the team delivered questionnaires, reflective diaries, and interviews with teachers and learning destinations (where children's activities took place). **Paula Wood**, Postdoc with Civic Mission, is also analysing geographical data to detect any area inequality between the children who were able to engage with Children's University, and those who could/did not.

Supporting Mathematical Understanding

After securing grant funding from the **Education Endowment Foundation**, **Sue Meeke-Smith** from Education and **Abigail Schwarz** (former Education team member) designed and delivered a programme aiming to support children (especially those with low oracy skills/confidence) to develop mathematical understanding using story. By developing spoken language within the Year 1 classroom, children linked informal language with mathematical concepts to support conceptual understanding as well as develop scaffolds for communicating mathematically. The aim of the programme was to equip practitioners to plan for, and use, stories within mathematics sessions to support conceptual understanding. By planning for oracy development and exploring how to integrate meaningful talk into learning sequences, pupils were encouraged to develop confidence in communicating mathematical understanding, linking familiar story contexts to abstract mathematical concepts. The team has successfully delivered the project to a group of five North-West schools and are now working on the final reports.

Applied Science

Water Soluble Polymers

Dr Jixin Yang, Reader in Materials Chemistry and lead of the Water soluble polymers research group has worked extensively over the past year on projects relating to food hydrocolloids and food processing, particularly surrounding the uses of naturally occurring water-soluble polymers in improving the cellular stability of consumables. One notable paper was a review of functional applications of zein-based (a protein in maize) core-shell structures, which are often used in pharmaceuticals, cosmetics, and food/agriculture.

In recent years, Jixin and the Applied Science team has developed a strategic research collaboration with the [Maelor Academic Unit of Medical & Surgical Sciences \(MAUMSS\)](#) in the [Betsi Cadwaladr University Health Board \(BCUHB\)](#) and are co-supervising a number of PhD students in biomedical science.



Artificial Intelligence and 3D models in forensic science

Paige Tynan, PhD researcher and Lecturer in Biosciences has had a busy year working on their PhD, publishing papers, and opening their own business based on research interests. Paige wrote one communication piece about the limitations of 2D imaging for studying post-mortem processes, emphasising 3D modelling advantages in providing multidimensional data. They wrote a second commentary on the implications of artificial intelligence in forensic science, covering issues such as integrity in forensic investigations, legal compliance, and societal impact. Paige's business has got off to a great start.



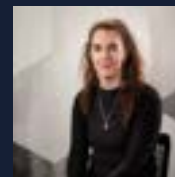
“ARCHIV3D emerged from a vision to bridge the gap between historical preservation and modern technology. Founded by a passionate individual with a deep appreciation for heritage and a background in 3D scanning in archaeological contexts, our business is rooted in the belief that history should be accessible and engaging for all.”



Health and Wellbeing

Project U – Free gym access and wellbeing

Dr Chelsea Batty, Principal Lecturer in Sport and Exercise Sciences teamed up with **Fervid Fitness**, a gym in Flintshire, to offer a free 3-month gym membership to volunteers to help improve wellbeing and activity levels. Chelsea wanted to explore whether those who were inactive and/or suffering from depression before enrolling on the free gym course had increased physical activity levels and reduced depression after attending the gym. The study is currently ongoing with support from **Kristian Weaver**, Senior Lecturer in Sports Injury Rehabilitation and **Richard Lewis**, PhD Researcher and Sports Technician.



Brand new Biomechanics Laboratory

In June, our outgoing **Vice Chancellor, Maria Hinfelaar** and **Chancellor Colin Jackson** hosted an opening ceremony for our new Biomechanics and Performance Sciences Lab. Completed as part of the University's Campus 2025 strategy, the Laboratory will support students, academics, researchers and sporting clubs to explore how exercise can help to understand how the human body works, with the goal of improving performance and reducing risk of injury. The new technology will enable the University to develop an impactful research and innovation base relating to physical performance and wellbeing by developing research in rehabilitative capacities, and the impact of specific strengthening techniques.

Closing the loop in the Welsh Agriculture and Food Circular Economy

A multidisciplinary team led by **Dr Isabella Nyambayo**, Senior Lecturer Nutrition and Dietetics, won over £7k of funding from **Wales Innovation Network** for a project within the agri-tech, food, and rural economy sector. The funding provided financed the work of a collaborative Welsh research and innovation group, based around areas of acknowledged strength. Involved in this bid with Isabella from Wrexham are **Prof. Graham Bonwick**, Senior Lecturer in Food Science, **Dr Phoey Teh**, Senior Lecturer in Computer Science, and **Dr Sanar Muhyaddin**, Lecturer in Business. Also involved are external partner universities and business partners from across the UK and Europe. The consortium of experts will carry out a Rapid Review to identify the gaps or challenges of the circular economy in Wales, produce a summary of how the consortium will address some of the recommendations in the WWF (World Wide Fund for Nature) Cymru Wales report, namely, devising a strategy linking different parts of the food system, all the way from farm to fork, which in turn could help drive a more integrated food system.

Computing

Social Computing

Dr Phoey Lee Teh, Senior Lecturer in Computing, continued her extensive body of research in the field of social computing in the 2023/24 academic year. Working collaboratively, often interdisciplinary, producing papers, book chapters and journal articles that focused on Artificial Intelligence (AI) and the societal considerations of advancing technologies. The 84th paper of Pheoy's academic career was published in the Journal of Social Computing in which the impacts of large language models on scholarly publication titles and abstracts were reviewed.



Programme Committee Chair, Reviewer and Post-publication Chair at the annual Healthcare Text Analytics Conference (HealTAC), Phoey successfully secured the 2026 conference to be hosted by Wrexham University and preparations are already underway. Phoey presented a number of papers at the 2024 Computing Conference covering human-created and AI-generated text, and machine learning in recommendation systems. Ongoing research is centred on data analytics and geospatial analysis within sustainable development as well as AI opportunities within education.

Cyber Security

July 2024 saw **Chancellor Colin Jackson** open the new Cyber Innovation Academy (CIA). A regional hub developed in collaboration with Cyber Wales to create a leading centre for cyber security capabilities. The CIA hub is equipped with cutting-edge technology and facilities to support teaching, industry and research. Policing and Computing researchers are utilising collaborative research opportunities afforded by the centre, including **Leanne Davies**, Principal Lecturer in Cyber Security & Computing. Leanne's PhD research examines behaviours in the digital space and the impact this has in the workplace, in particular the management of internal cyber security threats and intervention methods.



Engineering

Novel flat optical fibre sensors

Professor Richard Day, Pro Vice Chancellor for Research, is leading Wrexham University as part of a three year, £2.2million project investigating whether optical fibre sensors can be made 'flat' rather than 'round'. Funded by the Engineering and Physical Sciences Research Council (EPSRC), Wrexham is working in partnership with the University of Southampton (lead institution), the University of Bristol, University of Nottingham, University of Warwick and University of Herefordshire.

Composite materials are used across a range of industries including travel, construction and energy. A new flat design optical fibre sensor would enable more accurate measures of stresses and temperatures of the composite materials both during manufacture and throughout the lifespan by enabling the sensor to be embedded within the composites. As a Professor of Composites Engineering, Richard has a particular interest in the optical system application of the sensors and he will be investigating the use of the sensors during the composites curing processes. The Enterprise Engineering and Optics Centre (EEOC), due to open in 2025, will increase the laboratory capacity and enhance the research capabilities.



Richard co-authored a conference paper that was presented at an international conference on Industry Applications in Brazil. The paper reviewed the impact drop testing of composite laminate plates. A co-authored journal article was also published in Sensing Technology, this examined experimental and numerical methodologies for impact testing of composite materials.

Decarbonising UK Households

Continuing his research in the field of sustainable engineering, **Dr David Sprake**, Senior Lecturer in Mechanical Engineering, published an article in the Environment, Development and Sustainability journal. Co-authored with colleagues **James Hewitt**, **Dr Yuriy Vagapov** and **Dr Shafiul Monir**, the article investigated the optimal design of a microgrid for carbon-free in-use housing developments.

As programme leader for renewable and sustainable engineering, David's research is grounded in decarbonising households across the UK, with his PhD research having explored how large housing estates can be built or retrofitted to become carbon neutral with the use of renewable energy, energy storage and smart grids. In June, David was interviewed by **ITV** for his academic opinion on politicians' approach to climate change and the environment. David is also delivering a public lecture titled 'Climate Change Exposed: Separating Fact from Fiction for Deniers and Sceptics' in the 2024/25 academic year.



Fast-Fan Project

Wrexham University's Fast Fan project, headed up by **Dr Rob Bolam**, Reader in Aeronautical Engineering, is an innovative and exciting research project supporting the drive to reach Net Zero Wales. In collaboration with a number of industrial partners, Rob and the team are researching and creating a patented prototype rim driven aircraft electrical propulsion for high-speed flight.

Rob and **Jhon Paul Roque**, Lecturer in Mechanical Engineering, have produced a rim driven fan (RDF) that has more thrust per frontal area than a conventional hub-driven fan. The RDF offers a compact, efficient and lightweight alternative to small fan-jet engines. It has lower core temperatures than a jet engine and is easier to monitor and control, it is quieter and offers much greater values of specific thrust.

The Fast Fan project has garnered interest across the sector, with Rob delivering a public lecture in the 2023/24 academic year on Aircraft Electrical Propulsion: Humanity's journey towards Net Zero. Rob delivered a talk at the world-leading Farnborough International Airshow 2024, with a video on the project also featured throughout the week-long event. The research was presented to science professionals, students, and enthusiasts as part of the SciBar series. Rob also co-authored a conference paper on electrical uncrewed air vehicle (UAV) for the International Universities Power Engineering Conference in Dublin.

The project was initially funded by [Welsh Government \(Welsh European Funding Office\)](#) under the SMART Expertise initiative and supported by the [European Regional Development Fund](#). The team have since secured further Welsh Government funding via the [SMART Capital Equipment Fund](#) and [SMART Flexible Innovation Support](#), to support the next steps of the project. Within the academic year, the team have successfully achieved laboratory testing of the prototype to Technology Readiness Level 3 (Technology Development) and are applying for external grant funding to enable progression to Technology Readiness Level 6 (Technology Demonstration). The next steps involve further development to achieve higher speeds and performance. The Quick Electric System Test (QuEST) uncrewed aircraft development is also in progress at the university's Aircraft Electrical Propulsion laboratory, with a team of students, staff and partners constructing the aircraft in order to develop a zero-emission propulsion system which includes the development of a dedicated Electronic Speed Controller unit suitable for the Fast Fan.



CoMManDO Research Group

The Computational Mechanics, Manufacturing Simulation, Design and Optimisation (CoMManDO) Group continued research across the aerospace, bio-mechanics, energy and travel industries.

In June, members attended the 2024 CoMManDO workshop organised by **Prof. Alison McMillan**, Professor in Aerospace Technology. Hosted at Wrexham University, the two-day workshop saw researchers from partner higher education institutions and organisations in attendance, alongside the new Dean of Faculty of Arts, Computing and Engineering, **Professor Anne Nortcliffe**. As a professor of inclusive engineering and technology, Anne joined researchers from various disciplines and online delegates from Europe and India.

The workshop opened up a number of research opportunities including potential cross-discipline projects in Art and Engineering as part of the **Y BAWEN** initiative, the new Mid and North Wales research group. A funding bid for the **Materials and Opinions about Vehicles and Ethics in Transport (MOVE-IT)** project was submitted as a result of the workshop. The research will investigate the transition from internal combustion engine (ICEs) vehicles, which run on petrol or diesel, to electric vehicles (EVs), which run on electrical power stored in batteries. The interdisciplinary project will analyse opinion, action and resistance across both industry and communities, including digital communities.

Professor Alison McMillan was also invited to present findings on modeling material fatigue at the annual **SIMULIA Regional User Meeting**.



Antennas for Digital Healthcare

Dr Mobayode Akinsolu continued his research in the fields of antennas and wireless communication and applied artificial intelligence (AI) and machine learning. Mobayode co-authored a number of papers for the 2024 European Conference on Antennas and Propagation in Glasgow. Papers included the assessment of a novel detection principle, and one proposing a solution to the challenge of creating a single antenna that operates at two different bands with a larger frequency ratio.

Mobayode has previously investigated the use of UWB antennas for digital healthcare and the advancements of design with the use of AI, particularly in providing reliable communication around the human body. Possible applications include microwave imaging in breast cancer diagnosis, offering a high-resolution, safer and more accurate tumour detection alternative to x-rays. Mobayode's work will be featured in the Healthcare Heroes: Tomorrows World public lecture in the 2024/25 academic year. Mobayode plans to expand the research in terms of both it's application and carbon footprint reduction potential.



Art and Design

The Faculty of Arts, Computing, and Engineering at Wrexham University aligns research strategies with the United Nations Sustainable Development Goals and the Wellbeing of Future Generations Act (2015), with a strong emphasis on sustainability and climate action. This is clearly evidenced in some of the research that is underway within Art and Design.

Ecological Citizen(s)

Wrexham University is part of an innovative transdisciplinary research network set up to help realise the transformational impact of digital technologies in driving sustainable practices to make changes in addressing the climate crisis. **Professor Alec Shepley**, Associate Dean for Research in the Faculty of Arts, Computing and Engineering is collaborating with the **Royal College of Art and the Stockholm Environment Institute at the University of York** on the **UKRI's Engineering and Physical Sciences Research Council (EPSRC)** multi-million-pound funded four-year project. The Wrexham research team includes **Daniel Knox**, Lecturer in Product Design, **Dr Karen Heald**, Reader in Interdisciplinary Art Practice and Post-Doctoral Researchers **Dr Tracy Simpson** and **Dr Rebecca Upton**.



The team contributed to the Cumulus Conference 2024: P/References of Design, Budapest Hungary in May, with the journal article *Beyond Co-Production: Design as a Means of Evoking Autonomy Through Ecological Citizenship*. They also hosted an online workshop to explore the interplay between climate futures and ecological citizenship which was attended by Forestry England, The Wildlife Trusts and the Open Data Institute amongst others. Insights established a number of emerging themes, including empowered citizens and environmental 'custodians'. The first of three rounds of project funding concluded with seven projects being awarded funding to support innovative projects with the theme Materials and Resources.





Public Map Platform

Professor Alec Shepley, Associate Dean for Research in the Faculty of Arts, Computing and Engineering is leading a team of Wrexham University researchers in the Public Map Platform project.

The team includes Post-Doctoral Researcher, **Dr Tristian Evans**, Senior Lecturer in Fine Art, **Dr Paul Jones** and Reader in Interdisciplinary Art Practice, **Dr Karen Heald**. The £4.6 million [Arts and Humanities Research Council \(AHRC\)](#) project in partnership with [Future Observatory at the Design Museum](#) is being co-led by Alec alongside the [University of Cambridge](#) and the [University of Cardiff](#). The project aims to chart the green transition on the Isle of Anglesey/Ynys Môn for future generations, with a focus on issues associated with climate change.

Summer 2024 saw bards travel the island in a Rural Roaming Room, Lle Llais, engaging children and young people in creative activities which provided data to support the creation of community made maps, with almost 500 people taking part in the first of four Lle Llais tour dates. The community-made data will be overlaid onto existing data sets to build a baseline Future Generations map of the Isle of Anglesey/Ynys Môn, resulting in data that can be reconfigured and used for other purposes. The research initiative was presented at the annual the Wales Institute of Social and Economic Research and Data (WISERD) conference as part of discussions regarding the importance of place-based research and engagement, and how Universities can support such research to feed into national debate at influential levels such as the Senedd. The Public Map Platform has also resulted in a number of internal offshoot projects, including one focused on developing a greater awareness of the rich placed based traditions on the Isle of Anglesey/Ynys Môn for environmental gains and one seeking to use an AI enabled interactive system, sympathetic in design to traditional cultural heritage, that will explore wellbeing, climate change and the importance of place and belonging.



Repurpose/Reuse/Redistribute

Awarded a PhD in early 2024 with research entitled 'How artists, arts organisations and communities collaborate: creating resilient social spaces', Post-Doctoral Researcher **Dr Tracy Simpson** secured internal funding to further the research. The follow-on research will investigate how to increase the visibility of existing grassroots networks in society and how to encourage individuals to consider small changes in behaviour that may positively impact local communities. The focus being on local production, food distribution and the local networks that spring from need. Researchers will work with artists and designers to collaborate with existing networks and a sample of the users, to determine the uses and limitations of the services provided by the grassroots networks. The research seeks to amplify the visibility of existing community responses to sustainability issues, whilst further enhancing the body of work surrounding ecological citizenship.



Publications

Abdulrazek, C (2024) Cybersecurity Threat Analysis and Attack Simulations for Drones , Computer Science > Cryptography and Security.

Achilleos, Jess (2023) Using Radical Pedagogy to Promote Social Justice in Higher Education. In: Social Justice in Multicultural Settings. Cambridge Scholars Publishing, Newcastle upon Tyne, pp. 176-194. ISBN 1-5275-1269-X

Akinsolu, Mobayode O., Al-Yasir, Yasir I. A., Hua, Qiang, See, Chan Hwang and Liu, Bo (2024) AI-Driven Design of a Quasi-Digitally-Coded Wideband Microstrip Patch Antenna Array. In: 2024 18th European Conference on Antennas and Propagation (EuCAP), 17-22 March 2024, Glasgow, United Kingdom.

Akinsolu, Mobayode O., Hua, Qiang and Liu, Bo (2024) Automated Design of Antennas Using AI Techniques: A Review of Contemporary Methods and Applications. In: 2024 18th European Conference on Antennas and Propagation (EuCAP), 17-22 March 2024, Glasgow, United Kingdom.

Brown, Lee, Monir, Shafiul, Jones, Martyn, Luhyna, Nataliia, Day, Richard and Vagapov, Yuriy (2024) A review of impact drop testing of composite laminate plates. In: 15th IEEE/IAS International Conference on Industry Applications INDUSCON-2023, 22-24 Nov. 2023, Sao Paulo, Brazil.

Conn, Carmel, Thomas, David V., Knight, Cathryn, Greenway, Charlotte and Formby, Lisa (2024) Learner experiences of low attainment groups in the context of a rights approach to education. Pedagogy, Culture & Society. pp. 1-17. ISSN 1747-5104

Crighton, David & Shepherd, William. (2024). Creating reluctant academic intrapreneurs? A literature review. 10.13140/RG.2.2.27597.65762.

Douglas, Hayley, Achilleos, Jess, Washbrook, Yasmin and Robbins, M (2024) Pracademia—Role Modelling HyFlex Digital Pedagogies in Youth Work Education. Journal of Applied Youth Studies. ISSN 2204-9207

Fitriani, A, Haliza, MN, Utami, NP, Nyambayo, I, Sanayei, S, Rahmadhia SN, (2024), Texture Profile Analysis of Lamtoro Gung (Leucaena leucocephala ssp. Glabrata (Rose) S. Zarate) Tempeh

Fonseca, Nelson, J.G., Akinsolu, Mobayode O., Rico-Fernández, José, Liu, Bo and Angevain, Jean-Christophe (2024) Additively Manufactured Waveguide Hybrid Septum Coupler Optimized Using Machine Learning. In: 2024 18th European Conference on Antennas and Propagation (EuCAP), 17-22 March 2024, Glasgow, United Kingdom.

Fuller, Kirsty and Edwards, Natalie (2023) Wrexham and Flintshire Children's University: Pilot Study Evaluation Report. [Report]

Han L, Zhai R, Hu B, Williams PA, Yang J, Zhang C, Dong N and Li T (2024) Preparation and characterization of hydrophobically-modified sodium alginate derivatives as carriers for fucoxanthin. Food Hydrocolloids 157: 110386. doi: <https://doi.org/10.1016/j.foodhyd.2024.110386>

Han, Lingyu, Li, Yaoyao, Hu, Bing, Wang, Wei, Guo, Jianming, Yang, Jixin, Dong, Nuo, Li, Yingmei and Li, Tingting (2024) Enhancement of Calcium Chelating Activity in Peptides from Sea Cucumber Ovum through Phosphorylation Modification. Foods, 13 (12). ISSN 2304-8158



Publications

Han, Lingyu, Shu, Junzhe, Jones, Kevin L, Yang, Jixin, Zhai, Ruiyi, Cao, Jijuan and Hu, Bing (2024) Fabrication and functional application of zein-based core-shell structures: A review. *International Journal of Biological Macromolecules*, 272 (1). ISSN 0141-8130

Han, Lingyu, Zhai, Ruiyi, Shi, Ruitao, Hu, Bing, Yang, Jixin, Xu, Zhe, Ma, Kun, Li, Yingmei and Li, Tingting (2024) Impact of cod skin peptide- κ -carrageenan conjugates prepared via the Maillard reaction on the physical and oxidative stability of Antarctic krill oil emulsions. *Food Chemistry: X*, 21 (101130). ISSN 2590-1575

Heald, K (2024), Women and Temporality. Institute of Study of Time, KronoScope, Journal for the Study of Time, Volume 24.1 (2024).

Hernandez, P. (2024). The revival of evidential relevance: Overcoming myths and misconceptions. *Criminal Law Review*, (7), 458–470.
<https://search.informit.org/doi/10.3316/informit.T2024070900020100290443661>

Hewitt, Jonathan, Sprake, David, Vagapov, Yuriy and Monir, Shafiul (2024) Optimal design of a microgrid for carbon-free in-use housing developments: A UK-based case study. *Environment, Development and Sustainability*. ISSN 1573-2975

Hildreth, P and Hinfelaar, M (2023) 'Place-making in the Mersey Dee before and after Brexit and COVID-19 disruption: A typology of companies and their engagement with their localities and key actors'. *Local Economy: The Journal of the Local Economy Policy Unit*. doi: 10.1177/02690942231203935

Hinfelaar M and de Graaf, K (Eds) (2024), *Civic partners in net zero*, Key Cities. Available at: https://eprints.soton.ac.uk/489285/1/KCIN_UI1_CIVIC_PARTNERS_IN_NET_ZERO_ONLINE.pdf#page=44

Holloway K, Buhociu M, Murray S, Livingston W, Perkins A (2024) Assessing the early influence of COVID-19 in an analysis of the immediate implementation of Minimum Pricing for Alcohol on drinkers in Wales. *Nordisk Alkohol Nark*. Feb;41(1):57-74. doi: 10.1177/14550725231202066. Epub 2023 Oct 3. PMID: 38356791; PMCID: PMC10863556.

Hu, Bing, Zhang, Cunzhi, Zhu, Junzhe, Yang, Jixin, Zheng, Quiyue, Zhang, Xiaobo, Cao, Jijuan and Han, Lingyu (2024) Liquid-liquid biopolymers aqueous solution segregative phase separation in food: From fundamentals to applications - A review. *International Journal of Biological Macromolecules*. ISSN 0141-8130

Hua, Qiang, Zhai, Menglin, Zhang, Tian, Pei, Rui and Akinsolu, Mobayode O. (2024) Reflecting/Absorbing Dual-Mode Textile Metasurface with AI-Driven Parametric Studies. In: *2024 18th European Conference on Antennas and Propagation (EuCAP)*, 17-22 March 2024, Glasgow, United Kingdom.

Hughes J, Livingston W, Buykx P, Johnston A, Little S, McCarthy T, McLean A, Perkins A, Wright A, Holmes J (2023) Views on minimum unit pricing for alcohol before its introduction among people with alcohol dependence in Scotland: A qualitative interview study. *Drug Alcohol Rev*. 42(6):1338-1348. doi: 10.1111/dar.13704. Epub 2023 Jun 28. PMID: 37380168.

Iarovoi, Dmitrii, Hebblewhite, Richard and Teh, Phoey Lee (2024) AI's Influence on Non-Player Character Dialogue and Gameplay Experience. In: *Intelligent Computing, SAI 2024*, 26-27 June 2024, London, United Kingdom.



Publications

K Comblík, MJ Hawkes, ML Lunel, I Nyambayo (2023), [Meat packaging sustainability perception among undergraduate university students studying Food and Forensic Science related courses: A Coventry University scoping exercise](#), Sustain-Earth.

Kumar, Bidyut, Kumar, Geeta, Roberts, Ruth, Hughes, Stephen Fôn and Payne, Joshua (2024) [Does post-graduate surgical simulation-based education correspond to transfer of skills to real life clinical practice? A systematic review](#). International Journal of Surgical Education. ISSN 2832-2665

[L. M. Jepson, R. Daniel, I. Nyambayo & C. D. Munialo \(2024\) The isolation and characterisation of protein from nine edible insect species](#), Journal of Food science and technology.

Livingston, Wulf (2024) [Entering into, departing from and working within the psychiatric domain](#). Social Work and Social Sciences Review, 25 (1). pp. 37-46.

Losty, Ciara & Sreenivas, Shubha & Losty, C & Sreenivas, S. (2023). [Jump Girls-Female Jockey's Unique Stressors and Coping Strategies](#). European Journal of Sport Sciences. 2. 20-28. 10.24018/ejsport.2023.2.4.88.

Miller, Marcel, Uria, Ikeya, Monir, Shafiul, Day, Richard, Jones, Martyn and Vagapov, Yuriy (2024) [A review of topology optimisation software for additive manufacturing: capability comparison](#). In: 15th IEEE/IAS International Conference on Industry Applications INDUSCON-2023, 22-24 Nov. 2023, Sao Paulo, Brazil.

Neale J, Cairns B, Gardiner K, Livingston W, McCarthy T, Perkins A. [Waiting for inpatient detoxification: A qualitative analysis of patient experiences](#). Int J Drug Policy. 2024 Jan;123:104291. doi: 10.1016/j.drugpo.2023.104291. Epub 2023 Dec 10. PMID: 38071934.

R C. Bolam, J. P. C. Roque, Y. Vagapov, R. J. Day and M. Slepchenkov, (2023) [A Power Budget Analysis of an Electrical Uncrewed Air Vehicle \(UAV\) Flying a Basic Mission Profile](#) 58th International Universities Power Engineering Conference (UPEC), Dublin, Ireland, 2023, pp. 1-5, doi: 10.1109/UPEC57427.2023.10294620.

Salisu, Abubakar, Ullah, Atta, Musa, Umar, Yahya, Muhammad Sani, Akinsolu, Mobayode O. and Hussaini, A.S. (2024) [Dual Band Antenna Covering Millimeter Wave and Sub-6 GHz Bands for 5G Mobile Applications](#). In: 2023 IEEE International Symposium On Antennas And Propagation (ISAP), 30 October 2023 - 02 November 2023, Kuala Lumpur, Malaysia.

Salter, Steven, Teh, Phoey Lee and Hebblewhite, Richard (2024) [Human-Created and AI-Generated Text: What's Left to Uncover](#). In: Intelligent Computing, SAI 2024, 26-27 June 2024, London, United Kingdom.

Sharp, A., Monir, S., Day, R.J., Vagapov, Y. and Dianov, A. (2023), ['A test rig for thermal analysis of heat sinks for power electronic applications'](#). In: Proc. 19th IEEE East-West Design and Test Symposium EWDTs 2023, Batumi, Georgia, 22-25 Sept. 2023, pp. 1-4. doi: 10.1109/EWDTs59469.2023.10297055

Shepley, Alec, Baurley, Sharon, Boxall, Emily, Gooding, Luke, Heald, Karen, Knox, Daniel, Nordmoen, Charlotte, Phillips, Robert, Simmons, Tom and West, Sarah (2023) Conference or Workshop, [People, place and purpose: Place-based approaches to ecological citizenship](#) at Nineteenth International Conference on the Arts in Society Art for Sustenance, Hanyang University, Seoul, South Korea, 24-26 May 2024.



Publications

Sprake, D., Shepley, A., Knox, D., Simpson, T., Heald, K., Monir, S., Vagapov, Y. and Alonso, C (2024), 'Empowering communities to drive the transition to net zero carbon', Key Cities. Available at: https://eprints.soton.ac.uk/489285/1/KCIN_UI1_CIVIC_PARTNERS_IN_NET_ZERO_ONLINE.pdf#page=44.

Taylor, Lori, McCaddon, Andrew and Wolffenbuttel, Bruce H.R. (2024) [Creating a Framework for Treating Autoimmune Gastritis – The Case for Replacing Lost Acid](#). Nutrients. ISSN 2072-6643

Teh, Phoey Lee and Cheng (2024), [Impact of Large Language Models on Scholarly Publication Titles and Abstracts: A Comparative Analysis](#), Journal of Social Computing, Vol 1, No. 2.

Tobon V., Jorge A., Ricci, Marco, Maraloiu, Calin I., Akinsolu, Mobayode O., He, Mingwei and Vipiana, Francesca (2024) [AI-Assisted Design and Experimental Testing of a Compact UWB Antenna for the Inspection of Food and Beverage Products](#). In: 2024 18th European Conference on Antennas and Propagation (EuCAP), 17-22 March 2024, Glasgow, United Kingdom.

Tynan, P (2024) [Unveiling decomposition dynamics: leveraging 3D models for advanced forensic analysis](#). Int J Legal Med;138(3):895-897. doi: 10.1007/s00414-023-03142-7. Epub 2023 Nov 28. PMID: 38012290.

Tynan, Paige (2024) [Closing remarks on “The integration and implications of artificial intelligence in forensic science”](#). Springer Link.

Tynan, Paige (2024) [The integration and implications of artificial intelligence in forensic science](#). Forensic Science, Medicine and Pathology. ISSN 1556-2891

Weiner, Felix, Teh, Phoey Lee and Cheng, Chi-Bin (2024) [Systematic Review of Machine Learning in Recommendation Systems Over the Last Decade](#). In: Intelligent Computing, SAI 2024, 26-27 June 2024, London, United Kingdom.

Wolffenbuttel, BHR., McCaddon, A., Ahmadi, KR., Green, R. (2024), 'A Brief Overview of the Diagnosis and Treatment of Cobalamin (B12) Deficiency', Food and Nutrition Bulletin. 2024;45(1_suppl):S40-S49. doi: <https://doi.org/10.1177/0379572124122950>

Yisu Yang, Lingyu Han, Jijuan Cao, Xi Yang, Chuhuan Hu, Jixin Yang, Qiuyue Zheng, Xiaobo Zhang, Bing Hu (2024) [Preparation and characterization of gliadin-based core-shell microcapsules by three antisolvent approaches](#). LWT, Volume 191, 115635,ISSN 0023-6438, <https://doi.org/10.1016/j.lwt.2023.115635>.

Zhu, Junzhe, Han, Lingyu, Wang, Meini, Yang, Jixin, Fang, Yapeng, Zheng, Qiuyue, Zhang, Xiaobo, Cao, Jijuan and Hu, Bing (2024) [Formation, influencing factors, and applications of internal channels in starch: A review](#). Food Chemistry: X, 21 (101196). ISSN 2590-1575