

University of
South Wales
Prifysgol
De Cymru



University of South Wales

RESEARCH, LEARNING, TEACHING & INNOVATION CONFERENCE

Conference Proceedings and Abstracts
Monday 29 June - Friday 3 July 2026
Newport • Treforest • Cardiff



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ABOUT THE CONFERENCE

The University of South Wales' Research, Learning, Teaching and Innovation Conference took place from Monday 29 June to Friday 3 July 2026, bringing colleagues and partners together across Newport, Treforest and Cardiff.

The theme for this year's conference was **Innovation and impact: How the University impacts our communities**. Across the week, the programme showcased how research, industry collaboration and innovative pedagogy intersect through Challenge-Based Curriculum (CBC), demonstrating how this approach can enrich the student experience and address real-world challenges.

The conference provided a platform for colleagues to share research, innovation, scholarship and practice from across the University. Posters from all fourteen Research and Innovation Groups (RIGs) were displayed throughout the week, with RIG leads and colleagues from the Engagement, Research and Commercialisation (ERC) department available to support discussion, answer questions and encourage new connections.

The event also created opportunities for external partners to engage with USW's work and to explore potential live projects, partnerships and challenge briefs that could support the development of CBC. This strengthened the conference's role as a space for collaboration between the University, its communities, industry partners and wider stakeholders.

Alongside RIG presentations, the week featured workshops, CPD sessions, poster displays, networking opportunities, celebration activity and practical sessions linked to publication, intellectual property, research funding, doctoral study, commercial activity and digital innovation. Together, these activities reflected the breadth of expertise across USW and the University's commitment to connecting research, learning, teaching and innovation for wider impact.

PROGRAMME OVERVIEW

Day	Date	Campus/ Location	Main Focus
Monday	29 June 2026	Newport Campus	Pedagogy; Hydra; Criminology, Policing and Security; Business RIGs. Award and Recognition ceremony.
Tuesday	30 June 2026	Newport Campus	Sport and Exercise; Pedagogy, Psychology; Widening Participation; Health and Wellbeing RIGs
Wednesday	1 July 2026	Treforest Campus	Sustainable Environment; Engineering; Earth, Ecology and Environment RIGs
Thursday	2 July 2026	Treforest Campus	Criminology; Pedagogy; Computing, Cyber Security, Mathematics and Informatics; Social Policy; Sustainable Environment RIGs
Friday	3 July 2026	Cardiff Campus	Creative Industries; Pedagogy; Humanities; Business RIGs



CONFERENCE PROCEEDINGS AND ABSTRACTS



MONDAY 29 JUNE 2026

Campus / location: **Newport Campus**

Indicative RIG focus: **Pedagogy; Hydra; Criminology, Policing and Security; Business RIGs**

Session 1: Pedagogy

Time: **9:30 – 11:00** | Location: **A15** | Convenor: **Professor Sandra Esteves**

Title: **Securing Live Industry Cyber Projects: A Strategic Approach to Aligning Practice with the CBC Model**

Author(s): **Rhys Driscoll**

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Affiliation(s): **Cyber Security department, faculty of Computing, Engineering and Science, USW**

RIG alignment: **Crime Security and Justice**

Session / format: **9:30 – 11:00 | Pedagogy | Presentation**

Introduction

The National Cyber Security Academy (NCSA) is responding to the growing demand for graduates who can operate confidently across academic, professional and regulatory cyber environments. A key challenge is ensuring students engage with authentic, real-world cyber security problems while developing not only technical competence but also the professional behaviours expected by industry, recognising that success depends not just on what is done, but how it is done.

Method(s)

The Academy has developed a structured, industry-aligned methodology for the design, assurance and delivery of live cyber security projects embedded within the curriculum. This approach is underpinned by long-standing partnerships with industry, enabling co-defined project briefs, ongoing collaboration, and iterative review processes. Dynamic alignment between curriculum design and evolving industry needs ensures relevance and rigour, while providing a scalable framework for integrating live projects within a regulated academic environment. This methodology is also supporting the University's transition to a Challenge-Based Curriculum (CBC) model.

Results / Findings

The approach has led to improved student confidence, capability and readiness for professional cyber practice, particularly in applying skills within real-world contexts. It has strengthened employer relationships and engagement, while demonstrating a scalable model for embedding live, industry-informed projects into higher education. Emerging insights highlight the value of sustained partnership models, iterative co-design, and the integration of professional behaviours alongside technical learning.

Conclusion

This work demonstrates how securely designed; challenge-based cyber projects can act as a catalyst for curriculum transformation, professional practice and regional cyber skills development. It provides a replicable model for aligning academic delivery with industry expectations, while creating opportunities for collaborative exploration of real-world cyber resilience challenges. Future development will focus on scaling the approach, deepening partnerships, and further embedding challenge-based methodologies across the curriculum.

Title: Think Like a Recruiter: A Challenge-Based Approach to Computing Student Employability

Author(s): Rebecca Richards, Paul Jarvis

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Affiliation(s): Faculty of Computing, Engineering and Science; Student Life

RIG alignment: Computing, Cybersecurity, Mathematics And Informatics

Session / format: 9:30 – 11:00 | Pedagogy | Presentation

Introduction

This presentation showcases an employability-focused curriculum intervention within the Computing Professional in Practice module, delivered to Full Time and Degree Apprenticeship Level 6 Computing students. A modification to the assessment to include a Professional Development Planning Document presented an opportunity to enhance students' professional skills relating to employment that are covered in the Learning Outcomes of the module. Responding to persistent gaps between technical graduate capability and recruitment readiness, the initiative sought to develop students' ability to engage with professional hiring practices through a "Think Like a Recruiter" approach.

Method(s)

Students were provided with a fictional context relating to a technology company and tasked with designing and managing a complete recruitment cycle. Working collaboratively within teams, they developed IT-based role profiles and job descriptions, creating job advertisements that were shared with other students. Each student subsequently submitted anonymised applications for their chosen role in the form of covering letters, personal statements and CVs. After receiving a set of applications, groups prepared interview questions and acted as interview panels. Designing the activity in this manner allowed all students to act as recruiter and applicant, providing them with both perspectives of the interview process. Interviews were organised with an aim of enhancing the realism of the simulated experience: interviews were held in a location unfamiliar to students, they were asked to dress appropriately, and student interview panels coordinated the interview process entirely themselves: the module teaching team acted only as observers.

Performance as interviewees, conduct on the interview panel, the quality of the written documents, as well as a reflective account of the overall process was assessed by the module team. The intervention emphasised authentic professional practice, reflective learning, and alignment with current industry expectations. The project adopted experiential and challenge-based pedagogies, positioning students as decision-makers responsible for balancing organisational needs, fairness, and employability considerations. Challenge-Based Curriculum (CBC) model.

Results / Findings

Students largely engaged well with the activity, displaying the professional approach to the task that had been intended. They demonstrated improved confidence in articulating skills, enhanced awareness of recruitment processes, and deeper critical reflection on employability from both candidate and recruiter perspectives. Students showed greater insight into industry language, selection criteria, and professional standards. Not all students fully embraced the task however. Some did not engage in formative tasks such as providing drafts of applications to other groups ahead of the interview process, while others completed only written elements of the assessment and did not attend the interview activity. Timekeeping difficulties were a factor in some cases, disengagement from the overall course also impacted. Several students displayed anxiety before and during the interviews and requested reasonable adjustments that were accommodated. A minority of Degree Apprentice students also provided feedback that the task did not challenge them sufficiently and held minimal relevance to the context of their current role. Future delivery of the activity can be adapted to ensure that students have the flexibility to complete tasks in ways that are appropriate to their own career status while also meeting the Learning Outcomes of the module.

Conclusion

The initiative demonstrates the value of embedding real-world recruitment challenges within the curriculum and aligns closely with the University's Challenge-Based Curriculum by engaging students in applied, collaborative problem-solving. The work has broader implications for employability-focused teaching, industry-informed curriculum design, and partnership-ready graduate development, and contributes to Sustainable Development Goals 4 (Quality Education) and 8 (Decent Work and Economic Growth).

Title: Choose Courage: Building Creative Confidence Through Industry-Engaged Learning, A Longitudinal, Practice-Informed Perspective

Author(s): Sarah Carter

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RIG alignment: Pedagogy RIG

Session / format: 9:30 – 11:00 | Pedagogy | Presentation

Introduction

This work explores how curriculum design can prepare students for complex and uncertain professional environments through sustained engagement with industry. It presents a longitudinal, practice-informed case following an undergraduate Illustration student who progressed into postgraduate study in Graphic Communication and subsequently into professional practice. The project responds to the growing need for future-focused pedagogies that extend beyond traditional classroom boundaries. It considers how real-world engagement, co-creation with industry, and challenge-based learning can build creative confidence, professional identity, and a sense of belonging, key factors for student success and inclusion.

Method(s)

The project adopts a practice-based and reflective approach, drawing on curriculum design, alumni insight, and iterative teaching practice. Students engaged with live briefs, external collaborators, and open-ended, ambiguous learning environments designed to simulate professional contexts. The approach aligns with the Cynefin framework, particularly the “complex” domain, where learners are encouraged to act, reflect, and adapt rather than follow fixed or prescriptive pathways. Evidence is informed by longitudinal observation, alumni reflection, and ongoing curriculum development, focusing on how scaffolded exposure to industry supports learning over time.

Results / Findings

Findings indicate that sustained, scaffolded engagement with real-world contexts supports not only the development of technical and creative skills, but also the cultivation of confidence and professional identity. Students developed the courage to navigate ambiguity and uncertainty, increasingly positioning themselves as legitimate participants in professional practice. The integration of industry co-creation and authentic challenges contributed to a stronger sense of belonging and engagement, particularly within inclusive, challenge-based curricula. The longitudinal perspective highlights how these experiences build cumulatively, supporting transitions from education into employment. Emerging insights also suggest that structured exposure to complexity enhances resilience, adaptability, and reflective practice.

Conclusion

This work contributes to ongoing discussions on curriculum transformation by demonstrating the value of embedding industry engagement and authentic practice within course design. It highlights how challenge-based, co-created learning environments can support sustainable, inclusive pedagogies that prepare students for real-world complexity. The findings have implications for educators seeking to design curricula that foster courage, belonging, and professional readiness. The project also aligns with the United Nations Sustainable Development Goal 4 (Quality Education), promoting equitable, practice-led learning opportunities. Future work will further explore scalability, interdisciplinary application, and deeper integration of industry partnerships within higher education.

Title: Implementing enhanced entrepreneurship delivery in the context of a new challenge-based curriculum at the University of South Wales, 2024-25

Author(s): Nick Lambert; Jonathan Jones

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Affiliation(s): USW Enterprise, part of Careers and Graduate Futures

RIG alignment: Pedagogy Research and Innovation Group

Session / format: 9:30 – 11:00 | Pedagogy | Presentation

Introduction

The Welsh Government-funded Enhancing Entrepreneurship Project (2024–2026) aimed to embed enterprise and entrepreneurship education across the University of South Wales curriculum. Led by Jonathan Jones and delivered by Dr Nick Lambert the project prioritised staff development, equipping lecturers without prior experience in enterprise and entrepreneurship with practical tools, teaching frameworks, and confidence to deliver content independently. This approach supports a sustainable community of practice beyond the funding period.

Method(s)

Modular digital learning assets were developed for use across all faculties, enabling interdisciplinary delivery. For students, the project focused on increasing awareness of startups and freelancing as viable career pathways while developing key graduate attributes aligned with the University's 2030 Strategy, including innovation, enterprise, and commercial awareness. Learning activities drew on Business Model Canvas methodologies, structured ideation techniques, EntreComp-informed resources, and interactive approaches such as Lego-based workshops to support early-stage idea development.

Results / Findings

Key findings included: the importance of identifying discipline-specific examples of enterprise activity that brought home the relevance to students and staff alike, making entrepreneurship more tangible; the need to emphasise business thinking and planning tools above more conceptual approaches to entrepreneurship; balancing the use of frameworks like Entrecomp with competencies, e.g. those derived from Sarasvathy and Neck; and best practice for creating sustainable digital assets aimed at ongoing usage.

Conclusion

This session will point towards future areas for development. These include practical strategies, adaptable teaching approaches, and examples of ready-to-use materials for academics to support integration of enterprise and entrepreneurship education within their own curricula.

References

1. "Unsolved Problems and Challenges as Central to Learning", Centre for the Enhancement of Learning and Teaching USW 2024]
2. Elin McCallum & Rebecca Weicht & Lisa McMullan & Alison Price, 2018. "EntreComp into action - Get inspired, make it happen: A user guide to the European Entrepreneurship Competence Framework," JRC Research Reports JRC109128, Joint Research Centre.
3. S. Sarasvathy, Effectuation: Elements of Entrepreneurial Expertise (Edward Elgar Publishing, 2009)
4. E. Murray, C.P Neck and H. M. Neck, Entrepreneurship: The Practice and Mindset (SAGE, 2017)
5. B. Aulet, Disciplined Entrepreneurship, (Wiley, 2024)

Session 2: Hydra / Criminology, Policing and Security / Pedagogy RIGs

Time: **11:30 – 12:30** | Location: **A15** | Convenor: **Professor Sandra Esteves**

Title: Hydra Research and Innovation Centre Culture and Conduct improvement across public services – case study South Wales Fire and Rescue Service.

Contact: claire.parmenter@southwales.ac.uk

Author(s): Claire Parmenter; Rebecca Newton

Affiliation(s): Hydra Research and Innovation Centre, faculty of Life Science and Education, USW South Wales Fire and Rescue Service (SWFRS)

RIG alignment: Hydra

Session / format: 11:30 – 12:30 | Hydra / Criminology, Policing and Security / Pedagogy RIGs | Presentation

Introduction

Culture and conduct across public services remains an ongoing challenge. Issues of sexism, racism, misogyny, inappropriate behaviour and conduct, affect staff internally but also affects the communities that public services are there to serve. As part of their cultural improvement work SWFRS sought the support of the University of South Wales and the Hydra Research and Innovation Centre to identify the challenges and suggest appropriate interventions to move forward. SWFRS saw this work as crucial and the inclusion of an independent academic body and the Hydra Foundation tools also added validity to their work. This work is particularly innovative as SWFRS are the first Fire service in Wales to adopt this methodology and the work has already attracted national interest including the National Fire Chiefs Council which covers the whole of the UK. From an institutional perspective this work presents huge research value for the research centre as we move forward.

Method(s)

In partnership with South Wales Fire Service we have undertaken two 10kv debrief sessions with over 120 staff from SWFRS. This has allowed the collation of anonymous, non attributable data from officers and staff which has proved invaluable in identifying key issues without fear of any form of reprisal from attendees. Following this we have designed and developed an immersive learning exercise using Hydra methodology that addresses some of the real-world culture and conduct issues in fire services today.

Results / Findings

The findings of the 10kv events have been built into their internal cultural development programme and the key issues highlighted have also been built into the immersive exercise that will now be rolled out across the Fire Service as part of their leadership development. Feedback from operational and strategic staff across the fire service has been positive.

Conclusion

The work undertaken in partnership with SWFRS will allow further research across fire services and is currently being considered for national sharing by National Fire Chief Council leads. A follow up 10kv is being considered at an appropriate time to examine and evaluate any improvement in feelings and observations across the service.

**Title: Declining Trust and Confidence in the Police:
Exploring the generational gap**

Author(s): Gina Dolan; Becky Nicholls

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USW**

RIG alignment: Hydra

**Session / format: 11:30 – 12:30 | Hydra / Criminology,
Policing and Security / Pedagogy RIGs | Presentation**

Conclusion

This research will contribute to a better understanding of how Generation Z in Wales forms perceptions of policing and the factors that influence trust and confidence. By adopting a co-productive approach, the study aims to generate evidence-informed recommendations that support improved police-community relationships, enhance youth engagement and inform future policing policy and practice in Wales.

Introduction

Public trust and confidence in UK police is in decline, with Generation Z reporting significantly lower levels of trust compared to previous generations (The Policy Institute, 2022). Using a co-productive mixed-methods design this study aims to explore how Gen Z in Wales form perceptions of police, and to explore what factors erode or strengthen trust and confidence in the police among this generation.

Method(s)

Data will be collected in three distinct phases. The first being a co-created online quantitative survey adapted from the Independent Office for Police Conduct National Youth Panel Survey to examine current levels of trust and confidence among Gen Z in Wales. The second phase comprises a Group Concept Mapping online exercise to understand what factors are most important to Gen Z that could strengthen/hinder their trust and confidence in the police. Finally, an online Hydra 10kv debriefing session will be utilised to validate findings and produce evidence-based recommendations for change.

Results / Findings

The findings will be translated into practical strategies for sustainable relationship-building between police and young people across Wales and will inform practical recommendations for policing policy and engagement strategies in Wales.

Title: Co-Creating Forensic Education with Industry: Developing Immersive, Practice-Led Learning Through Challenge-Based Collaboration

Author(s): Rhian Kinsella

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Affiliation(s): Applied Sciences, Faculty of Computing, Engineering and Science, USW

RIG alignment: Pedagogy Research and Innovation Group (PedRIG) – Future-Focused and Sustainable Pedagogies

Session / format: 11:30 – 12:30 | Hydra / Criminology, Policing and Security / Pedagogy RIGs | Presentation

Introduction

Forensic science education is operating within an increasingly fragmented professional landscape characterised by evolving workforce demands, reduced centralised training provision, and growing concerns regarding practitioner preparedness. Drawing on my professional background as a former Crime Scene Investigator and academic lead in forensic education, I instigated and led the development of a collaborative, practice-led forensic education model, supported through institutional investment and interdisciplinary partnership working at the University of South Wales. This presentation explores how higher education can respond to sector-wide skills gaps through immersive, challenge-based and professionally authentic learning approaches. The work also forms part of an ongoing PhD by Portfolio exploring how higher education can bridge the divide between forensic science education, professional practice, and sector capability.

Method(s)

The work draws upon a practice-based and collaborative methodology developed through the Crime, Security and Justice Accelerator at the University of South Wales. Through sustained engagement with the Joint Scientific Investigation Unit (South Wales and Gwent Police), stakeholder consultation, training needs analysis, and horizon scanning, key operational skills gaps were identified across forensic awareness, courtroom competence, and investigative practice. These findings informed the co-design of curriculum interventions, CPD provision, and immersive learning environments aligned to both professional practice and Challenge-Based Curriculum principles.

Results / Findings

This collaborative approach resulted in the development of industry-informed CPD modules, the validation of a new MSc Forensic Investigation programme, and the creation of the USW Crime Scene Village: a large-scale immersive environment designed to simulate authentic investigative contexts. Early outcomes demonstrate strengthened interdisciplinary collaboration, enhanced alignment between academic provision and professional practice, and increased opportunities for experiential learning, authentic assessment, and practitioner engagement. The project also highlights the role of co-created educational ecosystems in supporting professional confidence, sector responsiveness, and sustainable university–industry partnerships.

Conclusion

This work demonstrates how challenge-based, immersive, and co-created pedagogies can bridge the divide between academia and operational forensic practice. The presentation reflects critically on the opportunities and complexities associated with industry collaboration, institutional transformation, and authentic curriculum design within higher education. The project contributes to wider discussions surrounding sustainable professional education, innovation in applied pedagogy, and the future development of interdisciplinary learning environments within criminal justice and forensic science education.

Session 3: Business / Pedagogy and Business

Time: **13.30 – 15.00** | Location: **A15** | Convenor: **Karl Luke**

Title: **The Promotion Puzzle: Why Wales' Working Women Need More Support**

Author(s): **Dr Lauren Josie Thomas / Jayde Howard / Dr Shehla Khan**

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Affiliation(s): **University of South Wales**

RIG alignment: **Leadership, Equality, Diversity and Inclusion, and Applied Social Research**

Session / format: **13.30 – 15.00 | Business / Pedagogy and Business | Presentation**

Introduction

Despite increasing attention towards gender equality in leadership, many women in Wales continue to experience progression as inconsistent, unclear, and difficult to sustain. Traditional ideas of leadership progression often describe a clear “pipeline” or “career ladder”, yet emerging evidence suggests that for many women, leadership feels more like a puzzle shaped by missing pieces, invisible rules, unequal access to networks, and competing pressures surrounding wellbeing, flexibility, and caring responsibilities. This presentation draws on From Aspiration to Action: Women’s Leadership Pathways in Wales, a collaborative research project developed with the CBI Wales Women in Leadership Network. The project explores the structural, cultural, and interpersonal factors shaping leadership progression across Wales and examines how mentoring, flexibility, organisational culture, and wellbeing influence women’s experiences of leadership and advancement.

The research and impact programme has recently been shortlisted for the University Alliance Research and Innovation Impact Award in recognition of its contribution to policy, practice, mentoring, and leadership development across Wales.

Method(s)

The report used survey research with 249 professionals working or living in Wales, gathering responses from participants across multiple sectors, career stages, organisation sizes, and leadership levels. The research explored experiences relating to workplace culture, leadership accessibility, mentoring, wellbeing, confidence, progression pathways, caring responsibilities, and organisational support. Alongside the report itself, findings have been translated into

presentations, mentoring initiatives, industry engagement, and policy discussions with organisations including Welsh Government, Natural Resources Wales, Welsh Water, and the Confederation of British Industry (CBI).

Results / Findings

Findings suggest that women’s progression into leadership is shaped less by a lack of ambition and more by leadership systems that are perceived as unsustainable, opaque, and exclusionary. Participants frequently described leadership cultures that reward visibility, self-promotion, and narrow leadership styles over collaboration and inclusivity.

Workload, burnout, and work–life balance emerged as major concerns, with many participants describing leadership as incompatible with wellbeing or caring responsibilities. Respondents also highlighted unclear promotion pathways, limited mentoring access, lack of sponsorship, and concerns that flexible workers are disadvantaged in progression processes.

Mentoring emerged as one of the strongest enablers of leadership confidence and progression, yet access remained uneven. Only a small proportion of participants currently had formal mentors despite strong demand for mentoring and networking support across career stages.

The findings suggest that improving leadership equity requires organisations to move beyond individualised “confidence gap” narratives and instead redesign leadership systems, cultures, and progression structures to better support diverse leadership pathways.

Conclusion

This presentation contributes to ongoing discussions surrounding leadership, equality, and workforce development in Wales by reframing women’s progression as a system-design issue rather than an individual deficit issue. The findings demonstrate the importance of sustainable leadership cultures, transparent progression pathways, inclusive mentoring systems, and psychologically safe working environments.

The project highlights how research can be translated directly into policy, mentoring practice, professional development, and organisational change. The session will discuss implications for employers, educators, policymakers, and future leadership initiatives seeking to create more inclusive and sustainable leadership pathways across Wales.

Title: Urban Air Mobility and the Low-Altitude Economy: A Practice-Based Case Study of Research, Teaching and Industry Impact

Author(s): Dr Tiansheng Yang

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Affiliation(s): Faculty of Business and Creative Industries, USW

RIG alignment: Business Research and Innovation Group

Session / format: 13.30 – 15.00 | Business / Pedagogy and Business | Presentation

Introduction

Urban Air Mobility (UAM) and the wider low-altitude economy are becoming important areas for transport innovation, regional development and sustainability debate. This study explores how a university can contribute to this emerging field through research, teaching, industry engagement and international collaboration. Drawing on ongoing research on UAM adoption and stakeholder perceptions, the paper examines how academic research can support external partnerships and create practical learning opportunities for students.

Method(s)

The study uses a research-informed, practice-based case study approach. It draws on my ongoing UAM research, stakeholder engagement with academic and industry partners, international collaboration activities, and curriculum-related knowledge exchange. Rather than reporting findings from a single bounded empirical project, the paper reflects on how an emerging research area can be developed into challenge-based learning, employer engagement, student research projects and community-focused innovation.

Results / Findings

The emerging insights suggest that UAM should not be treated only as a technical transport solution. Its future development is also shaped by public trust, perceived risk, stakeholder coordination, regulation, sustainability expectations and business model design. The study also shows that UAM can provide a useful real-world challenge for teaching and learning. Students can use this topic to examine sustainable mobility, innovation adoption, policy design, community acceptance and responsible business practice. Partnership activities in this area have also created opportunities for international collaboration, industry-informed teaching, student projects and future knowledge exchange between Wales and wider low-altitude economy ecosystems.

Conclusion

This study shows how research on emerging mobility technologies can be connected with teaching practice, employer engagement and partnership development. It highlights the potential of UAM as a practical theme for challenge-based learning and as a bridge between academic research, industry needs and community-facing innovation. The work aligns with SDG 9 Industry, Innovation and Infrastructure, SDG 11 Sustainable Cities and Communities, SDG 12 Responsible Consumption and Production, and SDG 13 Climate Action. It also opens up opportunities for further collaboration with colleagues, students, industry partners and policymakers interested in sustainable mobility and the low-altitude economy.

Title: Bridging the AI literacy gap: Co-designing and embedding an AI credential meeting the needs of students, staff and employers

Author(s): Liam Newton

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Affiliation(s): South Wales Business School; USW

RIG alignment: Pedagogy

Session / format: 13.30 – 15.00 | Business / Pedagogy and Business | Presentation

Introduction

What is AI literacy? USW's graduate attributes include "digital literacy", and employers are increasingly demanding "AI literate" graduates. However, research into the impact of Generative AI on students and staff studying undergraduate business has highlighted a divide: students tend to frame AI literacy as technical competence, understanding the tools involved and knowing how to use those tools; while staff describe AI literacy in terms of critical engagement and analytical use of AI. Employers, however, seem to be demanding both.

Method(s)

This practice-based presentation explores the design and implementation of a new AI credential, developed in partnership with the Institute of Enterprise and Entrepreneurs, and embedded within the BA (Hons) Business and Management. The credential was informed by qualitative research into the lived experience of students studying Business and Management in relation to how Generative AI has impacted their studies.

Results / Findings

The presentation explores the practicalities of implementing this credential, based on the understanding that genuine AI literacy, for students, staff and institutions alike, requires more than tool familiarity or critical awareness in isolation - and indeed, not resolving this conceptual tension risks producing either graduates who are technically-aware but uncritical, or engaged and analytical but lacking practical skills. ecosystems.

Conclusion

This presentation ultimately seeks to ground the high-level discussions around AI literacy within the reality faced by students studying business at the University of South Wales.

Title: One Business School: Embedding Industry Through Advisory Boards and Business Pulse

Author(s): Dr Aylwin Yafele and Catherine McCluskey

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Affiliation(s): South Wales Business School, Faculty of Business and Creative Industries, USW

RIG alignment: Business Research and Innovation Group, Business Capabilities

Session / format: 13.30 – 15.00 | Business / Pedagogy and Business | Presentation

Introduction

South Wales Business School (SWBS) is undergoing a strategic repositioning through its “One Business School – One Team, One Portfolio” approach, aimed at creating a more integrated, practice-oriented and industry-connected model of business education. This transformation responds to increasing expectations that graduates are work-ready, adaptable and aligned with evolving employer and regional economic needs. Central to this repositioning is a commitment to ensuring that students experience learning that is applied, professionally relevant and informed by the evolving needs of employers and the wider economy.

Method(s)

The presentation will specifically examine the role of the SWBS Advisory Board and the Business Pulse initiative as key institutional enablers through a practice-based approach. Practice-oriented learning at SWBS focuses on what students actively experience throughout their studies, including challenge-based learning, live industry projects, applied assessments and exposure to authentic business problems. The Advisory Board brings together senior leaders from industry to provide strategic insight, curriculum challenge, regional intelligence and partnership opportunities that shape the Business School’s direction and student experience. Complementing this, Business Pulse creates regular engagement opportunities through industry talks, roundtables and collaborative dialogue between academics, students and employers.

Results / Findings

This work represents an ongoing programme of applied practice; formal evaluative findings are not yet available. However, emerging insights through informal observations highlight increased levels of structured industry engagement, enhanced opportunities for authentic learning experiences, and the potential for strengthened alignment between curriculum content and employer expectations.

Conclusion

The session will offer a scalable model for faculties seeking to strengthen external engagement, enhance graduate outcomes and build a more responsive and connected curriculum ecosystem. It demonstrates how structured institutional mechanisms can move beyond ad hoc interactions to create a cohesive and strategically aligned approach to curriculum development.

TUESDAY 30 JUNE 2026

Campus / location: **Newport Campus**

Indicative RIG focus: **Sport and Exercise; Pedagogy, Psychology; Widening Participation; Health and Wellbeing RIGS**

Session 1: Sport and Exercise / Pedagogy and Sports

Time: **9:30 – 11:00** | Location: **A15** | Convenor: **Dr Gina Dolan**

Title: **Neurovascular Evidence to National Guidelines: Transforming Concussion Safety in UK Sport**

Author(s): **Professor Damian Bailey**

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Affiliation(s): **Neurovascular Research Laboratory; Faculty of Life Sciences and Education, USW**

RIG alignment: **Sport and Exercise; Pedagogy; Psychology; Health & Wellbeing**

Session / format: **9:30 – 11:00** | **Sport and Exercise / Pedagogy and Sports** | **Presentation**

Results / Findings

Repeated head impacts were associated with impaired brain blood flow and poorer cognitive performance, even in athletes without diagnosed concussion, and were linked to disruption of a key molecular pathway that helps blood vessels regulate oxygen delivery to the brain. In rugby players, greater contact exposure was associated with adverse vascular changes, poorer cerebrovascular control, and cognitive dysfunction, while retired players showed persistent neurovascular dysfunction and accelerated cognitive decline. Together, these findings reframed SRC as a broader long term brain health issue and helped inform the UK Government Concussion Guidelines for Non-Elite (Grassroots) Sport and the UK Government Concussion in Sport Research Forum, helping shape future policy and research priorities.

Introduction

Sports-related concussion (SRC) is a major public health issue, particularly in grassroots sport where medical oversight is limited. This presentation will discuss unique insights into how the brain regulates its own oxygen supply, and how this vital process can become disrupted following concussion and repetitive head impacts. Our research examined how these injuries affect brain health, with the aim of translating unique mechanistic insight into safer sporting practice and policy.

Method(s)

This programme combined molecular biology, cerebrovascular physiology, cognition and stakeholder engagement. Laboratory and field studies in footballers, rugby players and boxers assessed molecular biomarkers of brain structure, regulation of cerebral blood flow, and cognition. A unique isolated perfused human brain model was also used to help decipher fundamental mechanisms of brain injury and potential recovery. Stakeholder engagement was strengthened through partnership with the brain health charity Head for Change, alongside collaboration with athletes, clinicians, governing bodies and policymakers, including the UK Government, The Physiological Society and the MRC.

Conclusion

This programme shows how physiology research can move from the laboratory into real world policy and practice. By linking biological mechanisms with stakeholder engagement, the work has improved concussion awareness, safety and evidence-based management across UK sport. Ongoing impact continues through the BrainSafe initiative, which supports education and informed decision making for children, parents, teachers and coaches.

Title: **Creating World-Class Coach Education and Development through Research Informed Evidence**

Author(s): **Professor Brendan Cropley^{1,5,6}; Dr Alan McKay²; Dr Lee Baldock¹; Dr David Adams^{3,5}; Toby Nichols⁴; Professor David Shearer^{1,6}**

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³**Football Association of Wales (FAW)**

⁴**Cardiff School of Sport & Health Sciences, Cardiff
Metropolitan University,**

⁵**FAW Centre for Football Research**

⁶**Welsh Institute of Performance Science (WIPS)**

RIG alignment: **Sport and Exercise**

Session / format: **9:30 – 11:00 | Sport and Exercise /
Pedagogy and Sports | Presentation**

Introduction

South Wales Business School (SWBS) is undergoing a In its 2024-2030 strategy, the Union of European Football Associations (UEFA) emphasised the enhancement of coaching standards and coach educator quality as key strategic priorities. Despite this, researchers have continued to highlight issues regarding what constitutes effective coach education practice and how it is enacted. To address this, the current study sought to provide a rigorous examination of current UEFA Level 4 (A Licence) and 5 (Professional Licence) coach education delivery. Specifically, the study aimed to identify principles of effective elite coach education, explore the characteristics of world-class coach educators, and critically examine the barriers impeding optimal learning experiences across the European context.

Method(s)

A relativist-constructivist position underpinned a qualitative research design, allowing the complex, lived experiences of participants to be captured. Data were collected via semi-structured interviews with a multi-population sample: 28 Coach Educators representing 16 UEFA National Associations (Female = 4; Male = 24), and 12 professional Coaches who recently completed Level 4 or 5 qualifications across 8 National Associations (Female = 3; Male = 9). Interviews (duration Mminutes = 61.6; SD = 6.1) were analysed using Reflexive Thematic Analysis (RTA) with an experiential orientation and semantic and latent coding.

Results / Findings

The findings revealed that effective elite coach education is a highly personalised, process-oriented approach that fosters the development of both professional and personal competencies. Rather than focusing solely on qualification outcomes, effective delivery requires a flattened hierarchy where educators and coaches collaborate to co-construct individual development plans and context-relevant, reality-based learning tasks. Participants identified the coach educator role as dynamic and multifaceted, traditionally encompassing duties as an educator/developer, mentor, and assessor. To navigate these roles effectively, educators must possess distinct characteristics across four domains: personal (e.g., self-awareness), interpersonal (e.g., active listening), professional (e.g., reflective practitioner), and game-based (e.g., ability to translate complex ideas contextually). Despite these clear indicators of effectiveness, significant barriers remain. The most prominent challenges include a lack of resources (resulting in overburdened staff and limited preparation time), philosophical tensions between Association ideologies and learner autonomy, and structural pressures to conform to rigid, content-driven qualification metrics.

Conclusion

Achieving coach education excellence requires a fundamental shift away from pedagogical, content-heavy delivery toward andragogical, adult-centred learning environments. This requires National Associations to integrate principles of coach development into existing educational structures. This research outlines the specific characteristics and methodologies required of elite coach educators to facilitate holistic coach education and lasting behavioural change. The findings provide actionable insights for UEFA National Associations, suggesting that the identified educator characteristics should directly inform future workforce selection and continuous training programmes, while the identified barriers serve as a roadmap for organisational policy reform.

Title: **Defining the Pathway to Success: WRU Schools and Colleges Testing Project**

Author(s): **Dr Kate Williams, William Raymond, Peter Ashcroft, Nathan Evans, Ned Partridge, Rhodri Williams, Professor Brendan Cropley**

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RIG alignment: **Sport, Health and Exercise Science**

Session / format: **9:30 – 11:00 | Sport and Exercise / Pedagogy and Sports | Presentation**

Introduction

Talent identification and development in youth sport requires robust, evidence-informed approaches to support athlete progression and performance. Within the Welsh Rugby Union (WRU) sub-elite player development pathway, there has been increasing recognition of the need for longitudinal, standardised physical profiling data to inform decision-making processes.

This collaborative project between the University of South Wales (USW) and the WRU addresses this gap through a large-scale testing programme involving all teams in the National Schools and Colleges League - a population historically under-researched. Few research teams internationally have conducted physical profiling at this scale within applied settings.

The project aligns with the Sport, Health and Exercise Science RIG by advancing applied performance science, youth athlete development, and injury risk profiling within real-world systems. It also supports institutional priorities around applied research, industry engagement, and the Challenge-Based Curriculum (CBC), providing students with authentic sport science experience.

Method(s)

A comprehensive physical testing battery is administered bi-annually to players in the WRU Schools and Colleges system, with Regional Age Grade players included for comparison. Measures include anthropometrics (height, mass, seated height), speed (40 m sprint with 10 m splits), power (10/5 repeated jump), strength (isometric belt squat and hip strength), repeated hop performance, aerobic capacity (30:15 intermittent fitness test), and injury risk indicators (e.g. Nordic hamstring test).

Over three years, 15 schools/colleges and four regional academies have participated, generating more than 1,500 testing instances across 900+ athletes. Data collection supports longitudinal tracking and comparative analysis. Several protocols developed within the project are novel, validated, and have produced published normative data. These methods offer practical, lower-risk alternatives to more technically demanding assessments, making them suitable for youth athletes with varied training backgrounds.

Results / Findings

The project has produced one of the most comprehensive youth rugby physical profiling datasets internationally, supporting evidence-informed decision-making across coaching and multidisciplinary teams. Outcomes include improved monitoring of athlete development trajectories, identification of performance-related physical characteristics, and three ongoing quantitative studies examining longitudinal development, pathway comparisons, and predictors of match performance.

The project has also demonstrated clear human impact. Profiling has identified previously unselected players, leading to their inclusion in WRU pathways and subsequent representative honours, highlighting its capacity to enhance opportunity as well as inform practice.

Additionally, the initiative provides valuable experiential learning for undergraduate and postgraduate students, embedding applied practice within a high-performance sport environment.

Conclusion

This project demonstrates the value of large-scale, collaborative sport science initiatives in bridging research and practice within talent development systems. It offers a model integrating applied research, student learning, and industry partnership, while directly contributing to athlete development and opportunity.

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Title: **Pax in Igne: Thriving in the Fire: A Case Study of Successful Challenge-Based Curriculum Implementation**

Author(s): **Ioan Paval**

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RIG alignment: **Pedagogy Research and Innovation Group**

Session / format: **9:30 – 11:00 | Sport and Exercise / Pedagogy and Sports | Presentation**

Introduction

Higher education is operating within a rapidly shifting landscape in which student expectations, motivations and experiences are changing quickly. Students increasingly seek learning that is active, relevant, professionally connected and visibly valuable (Tomlinson, Simpson and Killingback, 2023). At the same time, universities must respond to alternative routes into employment, including internships, employer-led training and industry-based development pathways. Within this context, Challenge-Based Curriculum offers a significant opportunity to reimagine programme design around authentic problems, partnership, student agency and applied learning (Gallagher and Savage, 2020).

This presentation offers a practice-informed case study of the successful implementation of Challenge-Based Curriculum within the validation of the BSc Football Coaching and Performance programme. It examines how curriculum transformation was interpreted, led and enacted at programme level, with a particular focus on the leadership drivers that supported coherent implementation.

Method(s)

The presentation adopts a reflective case study approach, drawing on the author's lived experience as Course Leader during the curriculum validation process. The case study is developed through reflective analysis of critical incidents, decision-making moments, curriculum design discussions, validation preparation, and the implementation variables encountered throughout the process (Richards and Farrell, 2005).

Rather than presenting Challenge-Based Curriculum implementation as a purely procedural exercise, the analysis explores how the experience was understood, negotiated and led in practice. Critical incidents were interpreted as productive forces and organised through the conceptual metaphor of "eight fires". These fires represent the key drivers, tensions and conditions that shaped successful curriculum transformation.

Results / Findings

The findings are presented through a single integrated framework of curriculum transformation fires. Together, these fires capture the strategic, relational and practical conditions that shaped the curriculum validation process and sustained the programme's movement from institutional ambition to validated design.

The Fire of Student Recruitment recognises the need to articulate clear value to students. The Fire of Knowledge Transformation reframes teaching as the curation and activation of knowledge rather than the transmission of content. The Fire of Relevance positions professional authenticity as essential to the future credibility of university learning. The Fire of Partnership highlights the importance and difficulty of sustaining meaningful relationships with industry, students and institutional stakeholders.

Alongside these, the Fire of Time reflects the importance of early preparation and focused action. The Fire of Complexity recognises the need for adaptability when information, expectations and processes evolve. The Fire of Shared Resolve captures the collective determination, commitment and emotional energy that sustained the process during periods of uncertainty, pressure and challenge. Finally, the Fire of Translation brings the framework together by showing how institutional principles, industry expectations, staff expertise and student needs were converted into a coherent programme design.

Conclusion

This case study argues that successful Challenge-Based Curriculum implementation depends not only on curriculum structures, but also on the leadership values and collective conditions that enable transformation to take place. The “eight fires” framework offers a reflective model for understanding how course teams can navigate pressure, uncertainty and institutional change while keeping students, relevance and meaningful learning at the centre.

The contribution of this presentation is both practical and conceptual. Practically, it shares a grounded account of successful programme-level implementation. Conceptually, it positions curriculum transformation as a leadership process shaped by purpose, partnership, adaptability and translation. The case invites colleagues to consider how institutional transformation can remain a positive experience, responsive to modern student expectations while sustaining academic rigour, professional relevance and coherent educational design.

References

Gallagher, S.E. and Savage, T. (2020) ‘Challenge-based learning in higher education: an exploratory literature review’, *Teaching in Higher Education*, 28(6), pp. 1135-1157. Available at: doi:10.1080/13562517.2020.1863354.

Richards, J.C. and Farrell, T.S.C. (2005) ‘Analyzing critical incidents’, in *Professional development for language teachers: Strategies for teacher learning*. Cambridge: Cambridge University Press, pp. 113-125. Available at: doi:10.1017/CBO9780511667237.010.

Tomlinson, A., Simpson, A. and Killingback, C. (2023) ‘Student expectations of teaching and learning when starting university: a systematic review’, *Journal of Further and Higher Education*, 47(8), pp. 1054-1073. Available at: doi:10.1080/0309877X.2023.2212242.

Title: Exploring Learner Development on Sport Degree Programmes

Author(s): Chris Emsley / Adam Sherratt / Robyn Pinder

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RIG alignment: Sport and Exercise

Session / format: 9:30 – 11:00 | Sport and Exercise / Pedagogy and Sports | Presentation

Conclusion

The study highlights the importance of partnership-based, experiential degree models in supporting learner development and enhancing employability. It demonstrates how collaborative curriculum design can strengthen connections between academic study, professional practice and community impact. The findings have implications for future curriculum design, cross-sector partnerships and ongoing evaluation of student development within vocational higher education.

Introduction

This study explores learner development within sport degree programmes collaboratively delivered by the University of South Wales and the English Football League in the Community. Situated within vocational higher education, the work examines how students perceive their personal, professional and vocational development across their academic journey. It addresses the importance of designing programmes that promote employability, professional identity and community engagement, aligning with wider institutional priorities around impact and partnerships.

Method(s)

A longitudinal mixed-methods approach is adopted, collecting survey data at three stages of the student lifecycle: entry, midpoint and programme completion. Quantitative data capture perceptions of skill development, confidence and career readiness, while qualitative responses explore student experiences within practice-based, community and work-based learning settings.

Results / Findings

Preliminary findings indicate that students place strong value on authentic learning environments, particularly those involving community engagement, role modelling and real-world application of theory. Early results suggest increased confidence in transferable skills such as communication, teamwork and leadership, alongside strong alignment between academic study and vocational aspirations.

Session 2: Applied Psychology

Time: **11:30 – 12:30** | Location: **A15** | Convenor: **Dr Gina Dolan**

Title: Trauma-informed Psychological Support with Long-Acting Injectable Buprenorphine: Evaluation of the Buvidal Psychological Support Service (BPSS) Pilot in Wales

Author(s): Gareth Roderique-Davies¹, Bev John¹, Katy Holloway¹, Nyle Davies¹, Darren Quelch^{1,2}, Lucie James², James Tucker^{1,2}, Jan Melichar^{1,2}

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RIG alignment: Applied Psychology

Session / format: 11:30 – 12:30 | Applied Psychology | Presentation

Introduction

Opioid use disorder (OUD) is associated with persistent drug use, high relapse rates, and significant morbidity, mortality, and psychosocial harm. While long-acting injectable buprenorphine (LAIB), marketed as Buvidal, offers improved pharmacological management over traditional opioid substitution therapy such as methadone, the mental clarity provided by LAIB often surfaces unresolved trauma and mental health needs. Integrating trauma-informed psychological care alongside pharmacological intervention is increasingly recognised as critical to optimise recovery outcomes for individuals with co-occurring psychiatric co-morbidities and substance use disorder. This evaluation aimed to assess the effectiveness and client experience of the Buvidal Psychological Support Service, a tiered trauma-informed psychological service, piloted to support individuals with OUD receiving LAIB.

Method

A mixed-methods service evaluation was conducted drawing on primary and secondary data which were triangulated and synthesised to produce a detailed final report. These were: 1) A rapid review of the literature; 2) Quantitative analysis of service data and clinical outcomes; 3) Individual interviews with clients; 4) Focus groups with clients; and 5) Focus group with service stakeholders.

Results / Findings

Quantitative analysis demonstrated medium-to-large effect size improvements in psychological distress, functional impairment, wellbeing, and PTSD symptoms across all tiers. Qualitative findings indicated the transition to LAIB was often transformative but exposed trauma and emotional difficulties previously masked by substance use, making the availability of timely psychological support critical for maintaining abstinence and wellbeing. Clients valued the BPSS's rapid access, continuity, person-centred care and non-judgmental ethos, reporting enhanced agency, emotional regulation, and social reintegration. Relapse prevention was strongly linked to psychological support alongside pharmacological treatment. BPSS was seen by stakeholders as innovative, collaborative, and successful in engagement, retention, and outcomes.

Conclusion

The BPSS pilot demonstrates that tiered, trauma-informed psychological interventions integrated with LAIB can effectively address the complex psychological and functional needs of individuals with OUD. The model enhances recovery by reducing distress, supporting trauma resolution, and promoting sustained abstinence, with implications for wider availability of such services in OUD treatment.

Dedication

We dedicate this work to USW Visiting Professor Jan Melichar, who sadly and unexpectedly died on August 31st, 2025. His vision, commitment, and tireless efforts were pivotal in the rollout of LAIB across Wales and the establishment of the BPSS. His legacy endures in the transformation of opiate dependence treatment and the countless lives saved.

Title: **Period Dignity in Grass Roots Sport**

Author(s): **Dr Deborah Lancaster, Mr Lyn Jehu, Professor David Shearer, Dr Gabrielle Hale**
MSc Clinical Psychology dissertation students: Ayan Mustafa, Dona Jayasuriya, Hiba Puliyanatil Kannankari, Abiola Showunmi

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RIG alignment: **Applied Psychology**

Session / format: **11:30 – 12:30 | Applied Psychology | Presentation**

Introduction

The physical and psychological symptoms of menstruation influence the capacity and motivation to be physically active (Brown, Knight & Forrest, 2021; Gopalan, Mann & Rhodes, 2024), leading to avoidance and adaptation of physical activity when dealing with menstrual symptoms (Doohan, King, White & Stewart, 2023; Ekenros et al., 2022; Kolić, Sims, Hicks, Thomas & Morse, 2021). Clothing requirements (e.g., tight, light) also affect engagement in physical activity due to fear of leaking, and self-consciousness (Keil et al. 2024; MaClean 2025). Facilities (toilets, showers, sanitary bins) are an important determinant of comfort and ease during menstruation (Lancaster, Bright, Dolan, Hale), but the extent to which facilities influence the impact of menstruation on engagement in recreational sport isn't known.

Method

Four online surveys were developed, for Rugby, Judo, Netball, and Football. The distribution of these was supported by the organisations above. MSc Clinical Psychology students have been involved in developing and conducting this research for their dissertations. This included attending the WRU Girls Hub Festival at Cardiff Arms Park to promote the survey.

Results / Findings

Data from this research have not yet been analysed. The students will analyse and write up the data to answer their own research questions relating to the impact of menstruation on sport. Based on previous research (Lancaster et al) at USW we expect to find that facilities (e.g., toilets, showers, sanitary provision) have a meaningful impact on comfort and ease during menstruation. Such provision can be modified in ways that could much improve Period Dignity and offer a way of delivering quick and measurable impact on the lives of people who menstruate.

Conclusion

We hope that our studies will identify any needs and challenges around period dignity in grass roots sport and highlight examples of best practice that can be generalised across sporting contexts. In addition, this project demonstrates an example of how taught students can be involved in projects with real-world and generalisable impact for a large sector of society, whilst honing their research skills and acting as ambassadors for USW. Further work around menstruation and sport, in collaboration with WRU, is anticipated.

Title: **Power to the dads: Mixed Methods Exploration of Dads' Voice, Participation, Understanding of Children's Rights and Support**

Author(s): **Dr Klara Price, Jacob Guy, Fatiha Ali**

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RIG alignment: **Psychology (Health & Wellbeing) RIG**

Session / format: **11:30 – 12:30 | Applied Psychology | Presentation**

Introduction

Completing a third-year dissertation project represents both a capstone achievement and a key milestone towards obtaining a university degree (Verrier & Day, 2020). Since 2020, the BSc Childhood Development course has adopted a staff-led, group-based, partnership-oriented dissertation model. This approach enables students to engage with, investigate, and respond to real-world issues beyond the classroom while developing transferable skills that are highly valuable for future employment. This project was conducted in partnership with the Parents Connect Wales initiative (Children in Wales) and the For Dads by Dads programme (Torfaen County Borough Council), both of which aim to empower parents, including fathers, and ensure their voices are heard.

Method

During the 2024–25 academic year, students undertook a dissertation project in collaboration with these partners, exploring fathers' voices, participation, understanding of children's rights, perceived support, and experiences of a father-focused support program. Students worked closely with the partners to co-produce an online survey and interview schedule. They were actively involved in participant recruitment, data collection, and data analysis, and subsequently produced a public-facing report and disseminated the findings to the partner organisations.

Results / Findings

Three key recommendations emerged from the research: (i) Societal perceptions of the role of fathers need to change; (ii) The importance of fathers' involvement in children's lives must be recognised and valued; (iii) Fathers should be provided with appropriate services and resources to support them in becoming the best parents they can be for their children.

Student Outcomes: Students' competency-based reflections demonstrated enhanced employability skills, particularly in problem-solving, communication, and teamwork. Participation in the project also strengthened students' sense of belonging and professional identity, with some students reconsidering their future career aspirations, towards family and community-oriented work.

Research Impact: The Power to the Dads public-facing report has published on the [Children in Wales website](#) alongside a [policy summary](#) informed by the research findings. The report was also shared with the Welsh Government by Children in Wales.

Conclusion

This dissertation model provides students with opportunities not only to develop valuable employability skills but also to gain in-depth insight into issues of local, national, and global importance. The knowledge and experience gained through this approach equip students to maximise positive impact through their future professional practice and contribute meaningfully to improving outcomes for individuals and communities they work with.

Follow-on Projects:

This project directly contributed to the extension of the For Dads by Dads program and led to a further evaluation of the Dads' Group Gwent program, designed to support fathers of children with developmental delays, special educational needs, and/or physical disabilities. These evaluations formed the basis of two dissertation projects undertaken during the 2025–26 academic year. Notably, one-third of participating students achieved first-class dissertation module marks, while a further third achieved upper second-class marks. The research has also informed the establishment of the Dads' Wellbeing Research Network (DAWRN). In June 2026, the network hosted the Working Together for Dads' Wellbeing in Wales consensus / research partnership event, supported by the USW Civic Activity Fund, with approximately 30 organisations and stakeholder bodies in attendance. Students were also actively involved in this event. This program of research will continue to expand through the 2026–27 cohort of third-year dissertation students, alongside the continued development of activities within the DAWRN research network.

Session 3: Pedagogy RIG – widening participation

Time: 13:30 – 15:00 | Location: A15 | Convenor: Karl Luke

Title: **The Impact of Working-Class Status on Professional Identity Formation: A Narrative Study of Student Teachers in Wales**

Author(s): **Jamie James**

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Affiliation(s): **Faculty of Life Sciences and Education, USW**

RIG alignment: **Pedagogy RIG**

Session / format: **13:30 – 15:00 | Widening participation and inclusive curriculum | Presentation**

Introduction

Wales' history of securing positive educational outcomes for children and young people - particularly those from working-class backgrounds - has been patchy. The statutory 'socioeconomic duty' that applies alongside the Equality Act 2010 in Wales means that the ITE sector has a tangible interest in securing new teachers that are informed by working-class experience. This presentation presents the initial findings of an on-going PhD study looking at the formation of professional identity by student teachers from working-class backgrounds, as one factor that influences their success and eventual qualification as teaching professionals. Findings may be applicable to other professional contexts, and as such are presented as insights that might have application across a range of professionally oriented courses in USW.

Method

This qualitative study understands identity as a person's life story. The author collected the life stories of four student teachers studying on full-time programmes of ITE in Wales using the data collection procedure outlined in Wengraf's (2023) Biographical Narrative Interpretive Method (BNIM). Life stories are being analysed using thematic narrative analysis (Riessman, 2008).

Results / Findings

Analysis is on-going but initial findings indicate that data centre on the themes of sociality, influences, mindsets and positioning. Working-class student teachers are not blank slates. They bring with them their 'Apprenticeship of Observation' (Lortie, 1975), comprising their prior experiences and resulting predictions of what life as a teacher will be like. Working-class student teachers engage in an emotional and technically demanding process of self-reconciliation and self-valuing, aiming to fit into their new professional context. They actively exert their agency and seek to fulfil their desire to secure a more equitable classroom experience, without standing apart from a profession which, on occasions, fails to reflect their own values, background, experiences and aspirations.

Conclusion

These initial insights show how higher education institutions can enhance the student experience through construction of curricula and student support mechanisms that specifically focus on self-understanding, influencing and fitting in. We should provide students with tools to negotiate not only the effective demands of placement, but also the affective challenge of belonging in an alien environment, becoming a professional and being a bridge that help other working-class learners to succeed.

¹ These are in line with our research, evaluating the use of staff-led, group-based undergraduate psychology and childhood development student dissertation projects, available [here](#).

Title: Access Is Not Enough: Foundation Years as Reparative Spaces Supporting Belonging, Engagement and Success

Author(s): Dr Emma Chivers

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RIG alignment: Pedagogy Research and Innovation Group (PedRIG) – Transformative and Inclusive Learning Environments

Session / format: 13:30 – 15:00 | Widening participation and inclusive curriculum | Presentation

Introduction

Foundation Year (FY) programmes play an important role in widening participation and improving access to higher education. However, access alone does not guarantee belonging, engagement or success. Drawing on doctoral research, this presentation explores how Foundation Years support students whose educational journeys have been shaped by disadvantage, disruption and exclusion, and considers the implications for learning and teaching, inclusive curriculum design and student success.

Method

This qualitative case study used life-course timelines with Foundation Year students and semi-structured interviews with higher education practitioners to explore factors shaping belonging, engagement and progression in higher education.

Results / Findings

The findings demonstrate that Foundation Year students represent a diverse group whose educational trajectories are shaped by social, educational and personal experiences. Participants described experiences including poverty, disrupted schooling, bullying, bereavement, trauma and late-identified additional learning needs.

The findings highlight the importance of inclusive learning environments in supporting successful transitions into higher education. Participants identified supportive relationships, accessible teaching approaches and opportunities to develop a sense of belonging as critical to their engagement and progression. Relational pedagogy, scaffolded assessment, personalised feedback and inclusive

curriculum design were particularly valued in helping students build confidence, develop academic identities and engage with learning.

The research also highlights the importance of recognising diverse learning needs, including neurodiversity and previously unidentified additional learning needs, within widening participation practice. Students described how inclusive teaching approaches enabled them to participate more fully, develop self-efficacy and successfully navigate progression into undergraduate study.

The findings challenge deficit understandings of widening participation students and suggest that educational outcomes are shaped by cumulative experiences across the life course rather than individual motivation alone. Foundation Year provision emerged as a significant point at which disadvantage can be disrupted through inclusive and supportive educational practice.

Conclusion

The study demonstrates that Foundation Years can act as transformative learning environments that support belonging, engagement and success for students whose educational journeys have been shaped by disadvantage or exclusion. The findings highlight the value of relational, inclusive and confidence-building pedagogies in supporting progression and student success. Students were more likely to engage with challenge and learning when they experienced belonging and felt recognised, valued and supported within the university community.

For practitioners, the research provides insight into the educational experiences many widening participation students bring with them into higher education. The findings suggest that inclusive curriculum design, relational pedagogies and opportunities for authentic participation can strengthen belonging, confidence and engagement with learning. The study therefore offers practical considerations for Challenge-Based Curriculum development and more equitable pathways into and through higher education.

Title: **Supporting Positive Outcomes for Contextual Offer Students – Early Intervention**

Author(s): **Lynda Jones and Dr Mark Davies**

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Affiliation(s): **University of South Wales, FLSE, FBCI, FCES, Student Services, Future Students and Learning Services**

RIG alignment: **Transformative and Inclusive Learning Environments**

Session / format: **13:30 – 15:00 | Widening participation and inclusive curriculum | Presentation**

Introduction

The concept of “Mindset privilege” has shaped how I think about student success. It refers to the often unseen advantage of having the confidence and resilience to navigate challenges. In Higher Education, this can influence whether a student thrives or struggles.

Contextual offer students often enter university with significant strengths and potential but may also face additional barriers linked to educational inequality, socioeconomic circumstances, or wider life experiences.

Rather than generalising students’ experiences, this initiative creates space for authentic conversations that explore individual circumstances, recognise strengths, and identify where additional support may help. At the University of South Wales (USW), we developed an early intervention initiative providing proactive, inclusive support during students’ first six weeks to help level the playing field for underrepresented and disadvantaged learners.

Method

The initiative adopted a student-centred, asset-based approach, combining appreciative inquiry methodology with principles of social prescribing. Trained staff engaged contextual offer students within their first six weeks of university through structured “What Matters” conversations designed to explore individual circumstances, identify barriers to successful transition, and co-produce tailored support plans.

Students were connected to relevant services, including wellbeing, disability, study skills, careers, and student money. Staff received training in appreciative inquiry, intersectionality, referral processes, and holistic student support to ensure a relational and inclusive approach.

The initiative was evaluated using questionnaires, focus groups with staff and support services, and analysis of emerging engagement and progression data.

Results / Findings

Emerging findings suggest that students who engaged with the initiative reported increased confidence, improved preparedness for university study, and a stronger sense of support during transition. Questionnaire findings indicated that 100% of students who attended the intervention found the meetings useful and believed they supported their transition into Higher Education. Nearly half of the students who attended the intervention were referred to additional support services, with all questionnaire respondents reporting positive experiences of those referrals.

Qualitative findings highlighted the importance of early relational engagement, personalised conversations, and holistic support in fostering student confidence, agency, and belonging. Staff reflections also identified the value of structured yet conversational approaches in uncovering barriers that may otherwise remain hidden during transition.

Conclusion

This initiative demonstrates the value of early, relational interventions in supporting contextual offer students during their transition into Higher Education. The findings reinforce the importance of moving beyond access-focused widening participation approaches towards models that also prioritise belonging, confidence, and student success after enrolment.

The initiative aligns with the United Nations Sustainable Development Goals, particularly Goal 4 (Quality Education) and Goal 10 (Reduced Inequalities), and offers practical insights for institutions seeking to develop more equitable and student-centred approaches to support. The research has previously been shared through NEON and SEDA conferences, featured in a published NEON blog, shared with Bristol, Warwick, and Leeds universities, and will contribute to an invited Universities UK presentation on student success and equitable outcomes.

Title: Reframing Learning Environments for Neurodivergent Student Inclusion in Higher Education

Author(s): **Stuart Bunston**

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Affiliation(s): **Built Environment and Sustainability, Faculty of Computing, Engineering and Science; USW, Cardiff University, School of Social Sciences, Education.**

RIG alignment: **Pedagogy Research and Innovation Group**

Session / format: **13:30 – 15:00 | Widening participation and inclusive curriculum | Presentation**

Introduction

As higher education seeks to enhance inclusive practice, learning environments and pedagogical approaches often continue to reflect neurotypical assumptions about attention, sensory tolerance, and predictability. This presents a challenge for institutions aiming to improve student belonging and equitable participation. This paper reports on a doctoral research project that examines how learning spaces, technology, and pedagogy shape the experiences of neurodivergent (ND) students. The work is positioned within ongoing institutional priorities relating to inclusive curriculum design and student engagement and contributes to understanding how environments influence access to learning.

Method

The study adopts a mixed methods design conducted across four phases. Phase 1 applies ethnographic content analysis to meeting minutes and project documentation to examine decision-making processes involving architects, learning technologists and academics, with reference to Universal Design for Learning principles. Phase 2 involves ethnographic observations and focus groups with six neurodivergent students on a computing-related course, exploring their use of technology within existing classrooms and laboratories, and evaluating the impact of current teaching approaches and learning environments on the student experience. Phase 3 repeats this approach within the new Calon building, scheduled for Semester 2, 2027, enabling comparison across learning spaces. Phase 4 undertakes a repeated cross-sectional quantitative analysis using questionnaires at each data collection point to assess changes in student satisfaction between the existing and new environments.

Results / Findings

Emerging findings indicate that learning environments are not neutral settings but actively shape students' cognitive and emotional availability for learning. Participants described sensory factors, including noise, lighting, acoustics, and temperature, as ongoing sources of cognitive load that diverted attention from learning tasks. Predictability of rooms, timetables, and teaching formats was identified as more significant for engagement than the perceived quality or novelty of learning spaces. Technology was primarily used as assistive infrastructure to support recovery following sensory overload, rather than as a tool for increasing engagement. Pedagogical approaches that externalised thinking processes, slowed the pace of delivery, and aligned tutorials closely with assessment were experienced as more accessible.

Conclusion

This paper presents an emerging conceptual framework and set of design principles that position sensory load and predictability as key mediating factors between learning environments and student engagement. The findings reframe neurodivergent inclusion as an ecological and structural issue, with implications for space design, pedagogy, and institutional practice. As an ongoing study, the research offers interim insights that can inform immediate enhancements to teaching and learning practice, while also identifying areas for further investigation such as evaluating sensory-adjusted classrooms and student experience for ND students.

Title: “I was going into it blind”: Nearest Relatives, Legal Literacy and the Mental Health Act 1983

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RIG alignment: Health and wellbeing

Session / format: 15:20 – 16:45 | Health and wellbeing / Pedagogy and Health and Wellbeing | Presentation

Conclusion

The findings suggest that greater attention is needed from policymakers and legislators to support relatives' understanding of their rights and powers under the Mental Health Act. Improved support is necessary if the NR role is to effectively safeguard patient rights under the European Convention on Human Rights, including protections relating to liberty and family life. These issues should also be considered in future reforms of mental health legislation in England and Wales.

Introduction

Eligible relatives are granted legal rights and powers in the compulsory treatment of people with mental health problems in several international jurisdictions, including England and Wales. However, little attention has been paid to whether relatives feel sufficiently legally informed or competent to fulfil these responsibilities. This study explores the experiences of Nearest Relatives (NRs) involved in Mental Health Act 1983 assessments for compulsory admission in England and Wales.

Method(s)

Nineteen Nearest Relatives in England were interviewed about their experiences of the role. Data were analysed using thematic analysis to identify key themes relating to legal literacy, understanding of rights and powers, and perspectives on support and reform.

Results / Findings

Three themes were identified. First, participants reported limited awareness and knowledge of the NR role, often receiving little or no information from professionals and relying on self-directed learning. Secondly, participants expressed uncertainty about their legal rights and powers, describing a lack of status, informational support, and emotional support. Thirdly, participants highlighted the need for legal reform, emphasising the importance of the NR role while advocating for specialist support systems to assist relatives in fulfilling their responsibilities.

Session 4: Health and wellbeing / Pedagogy and Health and Wellbeing

Time: **15:20 – 16:45** | Location: **A15** | Convenor: **Dr Gina Dolan**

Title: **'It has to be Win, Win': Community Co-production to Transform Challenge-Based Learning, Service Provision, and Policy**

Author(s): **Anna Playle**

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Affiliation(s): **Faculty of Life Sciences and Education, USW**

RIG alignment: **Health and wellbeing**

Session / format: **15:20 – 16:45 | Health and wellbeing / Pedagogy and Health and Wellbeing | Presentation**

Introduction

Mental health inequalities remain a persistent public health challenge in Wales, with marginalised and socio-economically deprived communities experiencing disproportionate impact and enduring barriers to resources and support.

This presentation explores a strategic, community co-produced initiative launched in 2024 by USW Therapeutic Studies, aimed at improving equitable access to mental health provision while informing challenge-based curriculum design, research, and civic partnerships. The initiative is grounded in USW's commitment to civic engagement and research-informed practice and aligns to the Health and Wellbeing accelerator.

Method

A multi-stakeholder consensus event was convened using Nominal Group Technique and World Café methodologies to identify priorities for addressing inequality, including pathways to education, training and qualifications to support a more diverse and culturally competent mental health workforce. In response to the findings, a cross-sector steering group was established, comprising representatives from health, housing, education, the third sector, community organisations and experts by experience. The group supported the development of community-led projects employing creative, participatory research methods to build trust, articulate lived experience and generate community-based solutions to mental health and wellbeing needs. A sustained line of communication, including showcase events and the Amplifying Voices podcast series, facilitated reciprocal knowledge exchange between students, communities, service providers and policymakers.

Results / Findings

The consensus event identified a range of systemic barriers, including gaps in cultural competence and social capital, limited workforce diversity, under-resourcing and the absence of meaningful co-production in service design. The subsequent cross-sector collaboration generated community-led initiatives that amplified lived experience, strengthened stakeholder engagement and supported the co-creation of practical responses to local mental health and wellbeing challenges. The ongoing communication activities further enhanced knowledge exchange and strengthened connections between communities, education and service providers.

Conclusion

This work demonstrates how community-led, co-produced approaches can disrupt traditional hierarchies of knowledge production and provide a replicable model for embedding public engagement and expert-by-experience perspectives within research, education and service design. The project highlights both the opportunities and challenges of co-production within challenge-based learning contexts, including navigating power dynamics, ethical considerations, uncertainty and partnership complexity, while demonstrating meaningful benefits for students, communities and institutions alike.

Title: A multilingual, decolonial approach to language education for adult refugees and migrants: bridging policy, practice and theory across the devolved UK nations (MDLE)

Author(s): Professor Mike Chick

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Affiliation(s): Faculty of Business and Creative Industries; USW

RIG alignment: English

Session / format: 15:20 – 16:45 | Health and wellbeing / Pedagogy and Health and Wellbeing | Presentation

Introduction

Global numbers of forcibly displaced people stand at a record high (UNHCR 2023). In June 2023, the UK recorded over 215,000 people seeking asylum, alongside thousands granted refugee status under Afghan/Ukrainian schemes (House of Commons Library 2024). Integration remains at the centre of political/public discourse due to rising immigration figures and the focus of successive UK governments on reducing this.

Whilst immigration is controlled by the UK Government, language education and policies for integration/language learning for refugees/migrants are devolved to the Scottish, Welsh and Northern Irish governments. Across the UK, language education for adult refugees/migrants is fragmented, under-funded, and informed by a one-nation one-language ideology (Rampton, Cooke and Simpson 2023).

Language learning is key to integration (Phipps, Aldegheri and Fisher 2022). Research and policy increasingly indicate the benefits of multilingual learning for migrants, particularly for improving a sense of belonging/wellbeing (Simpson & Pöyhönen, 2024; Higham 2024). Yet language education for adult refugees/migrants in the UK remains monolingual, focusing solely on English. Despite the development of WSOL (Welsh for Speakers of Other Languages) in Wales, the potential for language education for adult refugees/migrants that incorporates indigenous languages (Irish, Welsh, Gaelic, Ulster Scots, Scots) is underdeveloped (Higham, 2024)

Method

MDLE seeks to transform language education for refugees/migrants by driving more inclusive, decolonial educational practices which increase equality between languages and inform policy. MDLE will make a unique intellectual contribution to the fields of refugee integration/ESOL/indigenous language learning by creating a new, innovative model for language education that integrates indigenous languages, refugees'/migrants' home languages and English for the first time to bridge the gap between policy, practice and theory

Results / Findings

This 30-month research project will begin in July 2026 and will:

1. Create an interdisciplinary knowledge base for language education for refugees/migrants in the devolved nations, bridging the gap between policy, practice and theory, enabling learning across sectors and language communities.
2. Improve knowledge of the benefits of multilingual learning, equipping language teachers with the skills/confidence to implement multilingual strategies.
3. Foster stronger collaboration between ESOL experts, indigenous language experts/communities, migrant/refugee communities, and researchers, to drive more integrated/effective language learning practices.

Conclusion

MDLE is an ambitious, complex, timely project which tackles controversial topics of integration/language education which are of significant societal impact. The research seeks to reconceptualise language education as a multilingual, decolonial, co-constructed process which valorises refugees'/migrants' linguistic repertoires and better reflects the language ecologies in which they live.

Title: **Nomadic Epistemic Agency: Decolonizing Knowledge through Afghanistan's Kochi Mobility**

Author(s): **Dr Zulfia Abawe**

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Affiliation(s): **Global Governance, Faculty of Business and Creative Industries, USW**

RIG alignment: **Social Policy**

Session / format: **15:20 – 16:45 | Health and wellbeing / Pedagogy and Health and Wellbeing | Presentation**

Introduction

This paper explores how Afghanistan's Kochi (Kuchi) nomadic pastoralists challenge dominant ways of producing and valuing knowledge. Existing literature and policy frameworks often frame nomadism as a problem for development or as a livelihood strategy to be managed. In contrast, this paper argues that Kochi mobility, ecological practices, and identity negotiations represent a form of decolonial epistemic agency—a way of knowing and being that unsettles sedentary, anthropocentric, and Eurocentric assumptions.

The work matters for learning and teaching because it highlights how knowledge systems included in curricula are often limited to written, state-centred, and Western perspectives. By foregrounding mobile, relational, and oral ways of knowing, the paper aligns with efforts to decolonise knowledge production and supports Challenge-Based Curriculum approaches that engage students with complex, real-world issues and diverse epistemologies.

Method

The paper adopts a qualitative, interdisciplinary approach based on a critical synthesis of existing ethnographies, policy reports, and historical accounts of Kochi pastoralists. These sources are reinterpreted through the lenses of decolonial theory, mobility studies, and relational approaches to human–environment interaction.

Rather than generating new empirical data, the study re-reads existing knowledge to centre Kochi perspectives and practices. It focuses on three key dimensions: seasonal mobility, multispecies ecological relationships, and interactions with state systems of classification and governance. This approach enables a conceptual rethinking of mobility as a form of knowledge production rather than simply movement or economic behaviour.

Results / Findings

The analysis highlights several key insights:

- Kochi seasonal migration functions as a form of world-making, representing an embodied and relational knowledge system rather than movement between fixed locations.
- Kochi ecological practices demonstrate deep environmental attunement, challenging dominant anthropocentric models of sustainability.
- Resistance to state categorisation reveals forms of what decolonial theorists describe as epistemic disobedience, where alternative knowledge systems persist despite pressures of standardisation.
- The findings expose how dominant development and governance paradigms systematically marginalise mobile, oral, and relational knowledge systems.

These insights suggest that Kochi epistemologies offer valuable perspectives for rethinking sustainability, governance, and human–environment relationships. They also provide a strong foundation for challenge-based and interdisciplinary learning by presenting students with real-world complexities and contested knowledge systems.

Conclusion

The paper contributes to ongoing discussions on decolonising knowledge production by positioning Kochi nomadic epistemologies as important sources of theory and practice, rather than marginal traditions. It demonstrates the need to move beyond narrow, sedentary, and state-centred models of knowledge in both research and education.

For colleagues in higher education, the work has implications for curriculum design, particularly in creating more inclusive, interdisciplinary, and challenge-based learning environments that recognise diverse ways of knowing. It encourages educators to engage students with epistemic plurality and to critically examine dominant frameworks in their fields.

The paper opens up further questions about how mobile and relational knowledge systems can be integrated into teaching, assessment, and research, and how such integration may support more sustainable and equitable futures.

WEDNESDAY 1 JULY 2026

Campus / location: **Treforest Campus**

Indicative RIG focus: **Sustainable Environment; Engineering; Earth, Ecology and Environment RIGs**

Session 1: SERC / Circular Bioeconomy and Resource Recovery

Time: **9:30 – 11:00** | Location: **B001** | Convenor: **Dr Gina Dolan**

Title: **BIO-VISTA: Low-Temperature Biorefining from Laboratory Discovery to Industrial Deployment**

Author(s): **Dr Jaime Massanet-Nicolau, Prof. Alan Guwy, Dr. Rhys Jones, Dr. Rodrigo Fernandez-Feito**

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Affiliation(s): **Sustainable Environment Research Centre (SERC), Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Sustainable Environment Research Centre (SERC)**

Session / format: **9:30 – 11:00 | SERC / Circular Bioeconomy and Resource Recovery | Presentation**

Method(s)

BIO-VISTA adopts a phased innovation pathway, progressing from laboratory-scale discovery through pilot-scale validation and industrial deployment. The programme integrates psychrophilic (low-temperature) biorefining to reduce energy demand, novel recursive extraction systems to improve product recovery and productivity, and advanced online monitoring through the VFASense platform. Research is undertaken with industrial partners including Dŵr Cymru Welsh Water, Severn Trent Water, First Milk and Aqua Operations, building on successful collaborations through RES URBIS, FLEXIS, RICE and the Industrial Decarbonisation Research and Innovation Centre (IDRIC), together worth over £7 million to USW. The project also incorporates containerised pilot systems for deployment at industrial sites, enabling engagement with industrial partners regionally, nationally and internationally.

Results / Findings

BIO-VISTA builds on an established track record of research excellence in biorefining, including internationally recognised work on VFA production and recovery technologies. The programme has the potential to deliver significant environmental and economic benefits by converting waste biomass and C1 waste streams into valuable chemicals while reducing dependence on fossil resources. BIO-VISTA provides a framework for long-term research capacity building and research-informed teaching. The fellowship will support two PhD studentships and continue a proven pathway through which undergraduate and MSc students progress into doctoral study, postdoctoral positions and research careers. Researchers developed through previous projects, including Dr Rhys Jones, demonstrate how sustained research investment can create opportunities for progression and professional development. The programme will be embedded within existing MSc provision, including Renewable Energy and Sustainable Technologies, while informing future postgraduate developments in biorefining.

Introduction

BIO-VISTA (Biorefining Waste into Volatile Fatty Acids: In Situ Recovery and Low-Temperature Adaptation) is a £3 million, ten-year Royal Academy of Engineering Green Future Fellowship that aims to transform waste carbon into high-value volatile fatty acids (VFAs), a family of platform chemicals with a global market value exceeding £10 billion annually. The programme addresses the continued dependence of the chemical sector on fossil-derived feedstocks and energy-intensive production routes. Building on decades of biorefining research within the Sustainable Environment Research Centre (SERC) at the University of South Wales, BIO-VISTA combines low-temperature bioprocessing, in situ product recovery and process monitoring to support the transition to a circular, low-carbon economy.

Students will engage with industrial challenges, active research projects and external partners, strengthening links between academic study and real-world application.

BIO-VISTA is also acting as a platform for further research growth. Building on the expertise, partnerships and technologies developed through this programme, USW has recently secured funding as a partner in the Horizon Europe PHACTUS project, valued at over £660k to the University. The project brings together leading universities, research institutes and industrial partners from across Europe to advance the sustainable production and utilisation of bio-based materials. This demonstrates how research excellence creates new opportunities for student engagement, challenge-based learning, postgraduate research and industrial collaboration, enabling learners to contribute directly to global sustainability challenges.

Conclusion

BIO-VISTA represents a significant investment in sustainable industrial biotechnology and demonstrates how ambitious research programmes can generate impact across research, innovation, industry and education. By combining technological innovation, industrial collaboration and researcher development, the programme aims to establish a centre of excellence in VFA biorefining at USW while creating opportunities for challenge-based learning, postgraduate training and future research growth.

Title: VFASense: Real-Time Monitoring and Control for Advanced Bioprocessing Systems

Author(s): **Rodrigo Fernandez-Feito**

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Affiliation(s): **Sustainable Environment Research Centre (SERC), Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Sustainable Environment Research Centre (SERC)**

Session / format: **9:30 – 11:00 | SERC / Circular Bioeconomy and Resource Recovery | Presentation**

Introduction

Bioprocesses underpin many sectors including wastewater treatment, anaerobic digestion, industrial biotechnology and resource recovery. However, process monitoring frequently relies on delayed laboratory analyses or indirect measurements, limiting operators' ability to identify developing problems and optimise performance. Volatile fatty acids (VFAs) are important indicators of biological activity and process stability, yet routine monitoring remains limited by cost, complexity and turnaround time. This presentation introduces VFASENSE, an automated platform developed to provide real-time biochemical monitoring, decision support and future process control capabilities for advanced bioprocessing systems

Method(s)

VFASENSE combines automated sampling, capillary electrophoresis-based chemical analysis, embedded instrumentation and advanced data processing to deliver high-frequency monitoring directly at the point of use. Development has progressed through iterative laboratory validation, industrial engagement and pilot deployment activities focused primarily on anaerobic digestion systems. Alongside technical development, commercial translation activities have been undertaken to assess market requirements, operational constraints and routes towards future deployment and commercialisation.

Results / Findings

Early deployments demonstrate that high-frequency speciated monitoring can reveal process dynamics that remain partially or completely hidden when using conventional aggregate indicators or infrequent laboratory sampling. Continuous monitoring enables improved understanding of biochemical behaviour, earlier detection of developing imbalances and more informed operational decision making. Engagement with industrial stakeholders has highlighted strong demand for improved biochemical visibility, particularly where process instability, optimisation opportunities and delayed laboratory turnaround times create operational challenges. The technology has therefore progressed beyond proof-of-concept towards translational development, with ongoing work focused on expanding analytical capability, automation and intelligent decision support.

Conclusion

VFASENSE demonstrates how integrated sensing platforms can support more resilient, efficient and sustainable bioprocessing systems while creating pathways for research translation and industrial impact. Beyond anaerobic digestion, the platform has potential applications across industrial biotechnology, wastewater treatment and resource recovery processes. The work illustrates how interdisciplinary research combining analytical chemistry, instrumentation, automation and data science can create opportunities for industrial collaboration, student engagement and future commercialisation of advanced monitoring technologies.

Title: E-HANCE: Using Electrochemistry to Enhance Wastewater Treatment and Green Chemical Production

Author(s): Professor Richard Dinsdale, Rodrigo Fernandez Feito, Dr Amandeep Kaur, Dr Iain Michie, Tahreem Younas

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RIG alignment: Sustainable Environment Research Centre (SERC)

Session / format: 9:30 – 11:00 | SERC / Circular Bioeconomy and Resource Recovery | Presentation

Introduction

Microbes are used in a wide variety of processes that deliver significant societal benefits, including wastewater treatment and the production of non-fossil fuel-based chemicals from biomass and carbon dioxide. However, current wastewater treatment technologies require substantial energy inputs, while conventional biomass conversion processes fail to utilise approximately 50% of the available carbon. The integration of electrochemistry with biotechnology through bioelectrochemical systems offers the potential to improve process efficiency and sustainability.

Method(s)

Bioelectrochemical systems were developed and evaluated for two applications: wastewater treatment and biomass carbon conversion. For wastewater treatment, a scalable microbial fuel cell (MFC) system was designed and constructed, with the working volume increased from 1.7 litres to 400 litres. A power management system (PMS) with energy harvesting capabilities was also implemented. For bioelectrochemical biomass carbon conversion, succinic acid was selected as a target product and bioelectrochemical fermentation of glucose was undertaken to assess improvements in production yield.

Results / Findings

The 1.7-litre MFC unit achieved over 80% COD removal at an 8-hour hydraulic retention time (HRT), demonstrating treatment performance comparable to conventional wastewater treatment systems while reducing the need for high energy inputs. The power management system achieved an energy recovery efficiency of 87%. In bioelectrochemical fermentation, the yield of succinic acid increased by 30% compared with conventional approaches and is currently being evaluated using lower-cost feedstocks.

Conclusion

These findings demonstrate the potential of bioelectrochemical systems to improve the efficiency and sustainability of both wastewater treatment and biomass carbon conversion processes. The technology offers opportunities to reduce energy requirements, recover energy from waste streams, and enhance the production of valuable bio-based chemicals. Further work is focused on scaling the technology and evaluating performance with alternative, lower-cost feedstocks.

Title: **Use of HyDigest and SIFER Research to Inform Postgraduate Teaching in SERC**

Author(s): **Dr Christian Laycock**

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Affiliation(s): **Sustainable Environment Research Centre, Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Sustainable Environment Research Centre (SERC)**

Session / format: **15:00 – 16:45 | SERC | Presentation**

Introduction

The decarbonisation of agriculture and resource recovery from organic waste present urgent scientific and industrial challenges. This presentation explores how the DEFRA/Innovate UK-funded HyDigest project, which focuses on the development of integrated approaches to anaerobic digestion, biomethanisation, hydrogen production and silicon-enhanced fertilisers (SIFER), can be used to support research-informed teaching at the University of South Wales. Building on advances in organic silicon fertilisers, which enhance nutrient retention, enable slow-release behaviour and improve crop yields while reducing greenhouse gas emissions, the work addresses key challenges relating to fertiliser sustainability, environmental impact and nutrient inefficiency.

Method(s)

The presentation examines the integration of findings and approaches from the HyDigest project into curriculum design and delivery. The research has informed the development of a proposed MSc in Materials Science and Sustainable Chemistry, as well as the established MSc in Renewable Energy and Sustainable Technology. Through interdisciplinary, challenge-based learning and research-led assessment, students engage with real-world issues including circular bioeconomy design, nutrient recovery and low-carbon fertiliser production.

Results / Findings

Emerging results from the HyDigest project demonstrate technological and commercial potential in the areas of anaerobic digestion, hydrogen production and silicon-enhanced fertilisers. The work also highlights opportunities for industry collaboration and illustrates how research-informed teaching can enable students to engage with contemporary sustainability challenges through authentic, real-world learning experiences.

Conclusion

The integration of HyDigest research into teaching supports curriculum innovation and strengthens the connection between research, industry and education. The approach demonstrates the value of challenge-based and research-informed learning in preparing students to address sustainability challenges and aligns with the United Nations Sustainable Development Goals, particularly Responsible Consumption and Production and Climate Action.

Title: **OFWAT Innovation Project: Transforming Wastewater Treatment into a Resource Recovery Platforms**

Author(s): **Professor Sandra Esteves, Melanie Johnson, Dr Adam Henley, Dr Rajkumar Gangappa, Dr Angela Oliveira, Dr Savvas Savvas, Dr Sky Redhead, Dr Jeroen Nieuwland, Dr Tim Patterson**

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Affiliation(s): **Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Circular Bioeconomy and Resource Recovery**

Session / format: **9:30 – 11:00 | SERC / Circular Bioeconomy and Resource Recovery | Presentation**

Introduction

Conventional sewage treatment typically comprises primary settlement, aerobic treatment, sludge management through anaerobic digestion and pasteurisation, and tertiary polishing processes. While effective, aerobic treatment is highly energy-intensive, accounting for approximately 50–60% of total treatment energy demand. It also generates significant quantities of secondary sludge and nitrous oxide (N₂O), a greenhouse gas with a global warming potential approximately 300 times greater than CO₂. These challenges highlight the need for more sustainable wastewater treatment approaches.

Method(s)

An OFWAT-funded project, delivered in collaboration with ten water companies, was established to develop and pilot whole-flow, ambient-temperature anaerobic digestion systems integrated with nutrient recovery. The project seeks to eliminate the need for aerobic treatment by enabling fully anaerobic wastewater treatment. Pilot trials were undertaken at Powys Wastewater Treatment Plant, operated with Welsh Water, using a 100 m³ granular digester, and at Basingstoke Wastewater Treatment Plant using a suspended media digester. Nutrient recovery was evaluated using ion exchange resins and other recovery materials

Results / Findings

The 100 m³ granular digester trial achieved up to 90% organic load removal under favourable influent conditions, with lower efficiencies of approximately 50% under weaker loading conditions. E. coli removal was highly effective and comparable to levels typically achieved through thermal sludge treatment in conventional systems. Nutrients were successfully recovered using ion exchange resins and related materials. Preliminary results from the Basingstoke suspended media digester trials have also demonstrated promising performance.

Conclusion

The project demonstrates the potential for whole-flow anaerobic digestion systems to transform conventional wastewater treatment by reducing sludge production, generating net energy, minimising N₂O emissions, and enabling nutrient recovery. The research will deliver design guidance, operational recommendations and site-based assessments to support water companies in evaluating the feasibility and benefits of full-scale implementation.

**Title: IUK/DEFRA Farming Futures (WASE):
Developing Next Generation Organic Waste
Treatment Systems for Low Emissions Farming**

Author(s): Dr Adam Henley

Contact: adam.henley@southwales.ac.uk

**Affiliation(s): Sustainable Environment Research
Centre, Faculty of Computing, Engineering and
Science, University of South Wales**

**RIG alignment: Circular Bioeconomy and Resource
Recovery**

**Session / format: 9:30 – 11:00 | SERC / Circular
Bioeconomy and Resource Recovery | Presentation**

Introduction

Researchers from the Sustainable Environment Research Centre (SERC) are working with WASE Ltd and Sylgen Animal Health Ltd to develop the next generation of agricultural waste treatment systems. The three-year, £2.5 million project, funded by Innovate UK (IUK) and the Department for Environment, Food & Rural Affairs (DEFRA), aims to demonstrate WASE's electro-methanogenic reactor at industrial scale on a farm in North Devon. The technology uses electro-active biofilms to accelerate the breakdown of agricultural wastes, improving the efficiency and sustainability of waste treatment, while Sylgen's microbial additive aims to further reduce emissions

Method(s)

University of South Wales researchers are undertaking £855,000 of laboratory-based experimentation to support the design and operation of the demonstrator plant. This includes the design, construction, testing, optimisation and operation of bespoke batch bioreactors, integration of electrodes, operation of continuously fed electro-methanogenic reactors, and measurement of produced gases to quantify process benefits and emissions. The research also includes life-cycle and techno-economic analyses to support the development of a business case for future deployment.

Results / Findings

The project is generating evidence to support the industrial-scale deployment of electro-methanogenic waste treatment technology. Emerging findings are informing the design and operation of the demonstrator plant, while life-cycle and techno-economic assessments are providing insight into the environmental, operational and commercial considerations associated with scaling up and commercialising novel technologies.

Conclusion

The research is informing challenge-based learning within the MSc Renewable Energy and Sustainable Technology programme and the development of the MSc Biorefining and MSc Sustainable Chemistry courses. By integrating real-world research and industry collaboration into teaching, students gain experience of the technical, environmental and commercial challenges associated with developing and deploying sustainable waste treatment technologies.

Session 2: Engineering / Pedagogy and STEM

Time: **11:30 – 12:30** | Location: **B001** | Convenor: **Dr Gina Dolan**

Title: **Advancing battery technology for wearable and implantable devices, the current challenges and future directions**

Author(s): **Dr Hammad Nazir, presented by Darren Haines**

Contact: **hammad.nazir@southwales.ac.uk**

Affiliation(s): **Faculty of Computing, Engineering and Science; USW**

RIG alignment: **Engineering**

Session / format: **11:30 – 12:30 | Engineering / Pedagogy and STEM | Presentation**

Results / Findings

Drawing on current research, the talk will demonstrate how these approaches can deliver flexible, safer, and more biocompatible power solutions without compromising performance.

Conclusion

The talk will also examine the key challenges that remain to be addressed in this field, including material stability, durability, and long-term reliability.

Introduction

Wearable and implantable medical devices are advancing at an extraordinary pace, unlocking new possibilities in modern healthcare, but their batteries are falling significantly behind this innovation. Relying on traditional architectures that have been in use for the last 30+ years, current storage solutions remain highly rigid, bulky, and often have underlying safety concerns due to the chemistry that has been utilised. Which, in turn, is limiting further advancements of next-generation healthcare technologies.

Method(s)

To address these limitations, this session will explore the rapidly emerging field of biocompatible and biodegradable batteries and how innovative materials such as hydrogels and polyhydroxyalkanoates, together with alternative designs such as thin-film technology and safer chemistries, could redefine how energy is stored within the human body.

**Title: From abstract workers to inclusive leaders:
Dismantling the masculine norms in Civil
Engineering**

**Author(s): Rhiannon Jones (Supervisory team: Dr
Giovanna Comerio and Dr Jiping Bai)**

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**Affiliation(s): Faculty of Computing, Engineering and
Science, USW; Faculty of Life Sciences and Education**

RIG alignment: Engineering and Education

**Session / format: 11:30 – 12:30 | Engineering /
Pedagogy and STEM | Presentation**

Introduction

While gender equity research in civil engineering often focuses on mid-career attrition, contemporary Graduate Outcomes data highlights a critical disruption occurring much earlier: at the direct transition point between higher education and industry. Nationally, while 65.5% of male engineering and technology graduates enter core sector roles within 15 months of graduation, only 54.3% of female graduates do. This means that nearly half (45.7%) of qualified women exit the discipline immediately upon qualifying. This research shifts the focus away from industry retention and directly onto HE providers, asking a critical question: What are we doing, or failing to do, within a students' university journey that contributes to this immediate divergence at the finish line? For an institution like USW, where vocational excellence and industrial readiness are central to our identity – addressing this gap, and the part we play in it, is paramount.

Method(s)

The doctoral research utilises a mixed-methods approach to investigate, in part, how curriculum content, assessment structures, and social interactions within UK Civil Engineering HE cohorts shape, or inadvertently hinder, female students' professional identities. By mapping historical industry baselines against current graduate benchmarks, the study will capture the lived experiences of female undergraduates and recent alumni. This presentation details the initial phase of this research, discussing how previous research evaluates how classroom dynamics, group-work structures, and pedagogical delivery influence a students' desire to enter the professional workforce.

Results / Findings

Preliminary research to date highlights a profound disconnect between academic capability and professional belonging among female civil engineering students. Initial findings indicate that female students demonstrate a strong preference for contextualised coursework that is 'grounded in reality' rather than highly abstract, theoretical modules. Furthermore, in collaborative learning environments, female students frequently shoulder disproportionate administrative and management responsibilities during group-work scenarios, while simultaneously reporting feeling undermined or overlooked by their male peers. Rather than a lack of interest, these micro-dynamics within the HE environment systematically erode confidence, contributing to the 45.7% drop-off rate observed at graduation.

Conclusion

This presentation maps where the sector has currently stood, where we are currently, and the next steps required to dismantle the masculine norms in civil engineering education. Equity initiatives must extend beyond mere recruitment campaigns and graduation metrics. To establish USW as a front-runner in truly equitable education, these findings provide actionable insights to build an inclusive learning environment directly into our Challenge Based Curriculum. By challenging our approach to teaching, including curriculum redesign using authentic assessments and keeping a more watchful eye on group-work dynamics, we can ensure our pedagogy actively empowers female students to bridge the gap in to the professions they have trained for.

Title: **Real-Time Expert-System to Predict Complications during Renal Dialysis Treatment**

Author(s): **Professor Jill Stewart**

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Affiliation(s): **Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Engineering**

Session / format: **11:30 – 12:30 | Engineering / Pedagogy and STEM | Presentation**

Introduction

Intra-dialytic hypotension (IDH) is a serious complication that occurs (seemingly) without warning and affects 40% of all haemodialysis treatments. Current practice relies on intermittent occluding arm cuff measurements to monitor blood pressure, however systematic reviews report measurement accuracy challenges that are likely to be accentuated during dialysis treatments. This is significant because reliable intermittent systolic measurements are fundamentally important to the methodologies to predict the onset of IDH. There is currently no process by which unreliable BP measurements can be identified, with clinical staff relying on ad hoc measurements and averaging.

Method(s)

The objective of this study was to design a computational method to identify unreliable cuff measurements as they are taken and was to provide decision support to medical staff. An AI-based expert system was developed with embodies the mathematical relationships predicted by a systems model and further complex rule set. Patient studies were undertaken using concurrent measurements of continuous dialysis line pressure and intermittent systolic brachial cuff pressure.

Results / Findings

The expert system successfully distinguished between reliable and unreliable cuff measurements in real time using sparse intermittent incoming data. Continuous, non-invasive systolic blood pressure predictions demonstrated improved accuracy. In a representative case, the mean prediction error was reduced from 16.7 mmHg to 6.8 mmHg.

Conclusion

The findings demonstrate the potential of AI-supported decision systems to improve the reliability of blood pressure monitoring during haemodialysis. By identifying unreliable measurements and enhancing systolic blood pressure prediction accuracy, the approach could support earlier identification of intra-dialytic hypotension and improve clinical decision-making during dialysis treatments.

Title: **Optoelectronics at USW: A Decade of Research and Real-World Impact**

Author(s): **Dr Kang Li**

Contact: **kang.li@southwales.ac.uk**

Affiliation(s): **Faculty of Computing, Engineering and Science, University of South Wales.**

RIG alignment: **Engineering Research and Innovation Group**

Session / format: **11:30 – 12:30 | Engineering / Pedagogy and STEM | Presentation**

Introduction

Over the past decade, the Optoelectronics Research Group at the USW has developed a strong and impactful research portfolio addressing key challenges in photonics, laser systems, and optical materials, with clear pathways to real-world applications. The group's work spans laser sources, optical sensing, and advanced photonic materials, often carried out in close collaboration with industrial partners to ensure relevance and practical impact.

Method(s)

This presentation provides an overview of the group's research activities, highlighting their development, major achievements, and broader contributions to industry, society, and student learning. A distinctive feature of this work is the integration of applied research with teaching through the University's CBC, enabling students to engage with authentic, research-driven and industry-informed problems.

Results / Findings

Key outcomes include successful knowledge transfer partnerships, contributions to technological innovation, and enhanced student employability through hands-on, research-informed learning experiences. The group's work has demonstrated impact across research, industry collaboration and education, while supporting global priorities relating to sustainable industrial innovation and quality education.

Conclusion

The presentation highlights opportunities for future collaboration and demonstrates how emerging research challenges in optoelectronics can be embedded within Challenge-Based Curriculum activities. This approach strengthens the connections between research, teaching and community impact, while supporting continued innovation and student engagement.

Session 3: Civic/community engagement Showcase

Time: **13:30 – 15:00** | Location: **B001** | Convenor: **Professor Louise Bright**

Title: **Community Science Festival: Inspiring Curiosity Through Hands-On Science**

Author(s): **Dr Josie Bradley**

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Affiliation(s): **Applied Sciences Subject Area, Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Civic Mission, Community Engagement and Student Experience**

Session / format: **13:30 – 15:00 | Civic/community engagement Showcase | Presentation**

Introduction

The University of South Wales (USW) Community Science Festival was developed to address a recognised challenge within the South Wales Valleys: science is not always perceived as accessible, achievable or relevant to local communities. As a Higher Education institution with a significant proportion of students from Welsh Index of Multiple Deprivation (WIMD) Quintiles 1 and 2 backgrounds, USW Applied Sciences has direct insight into the barriers that can affect participation in STEM education, including cost, geographical access, confidence and limited exposure to university science environments.

The festival was conceived through a combination of institutional understanding, widening participation priorities and professional experience gained through frontline forensic investigation work within South Wales communities. The aim was to create an inclusive, welcoming and memorable event that removes perceived barriers to science and allows individuals of all ages to engage directly with practical STEM activities within a university setting.

First held at the Upper Glyntaff campus in July 2025 and returning on 27 June 2026, the festival welcomed families, children, schools and adult learners to participate in immersive, hands-on activities including DNA extraction, forensic fingerprinting, fossil handling, chemistry demonstrations, birdhouse construction, build-a-human workshops and biodiversity-focused activities. The festival was designed to demonstrate that science can be creative, interactive, community-focused and accessible to everyone.

Method(s)

The Community Science Festival was developed through a cross-institutional collaborative model involving academic staff, technical teams, Future Students, Enterprise and Engagement colleagues, and external community stakeholders. Activities were intentionally designed around hands-on participation, accessibility and experiential engagement, with a focus on reducing intimidation often associated with laboratory and university environments.

The festival utilised existing specialist facilities within Applied Sciences, including forensic laboratories, biomedical science teaching spaces, pharmaceutical science and chemistry laboratories, and conservation and ecology learning environments, transforming these into interactive public engagement spaces. Activities were aligned to real-world scientific practice while remaining accessible to audiences with no prior scientific background.

The project adopted an informal evaluation approach through attendance monitoring, participant feedback, observational engagement and community interaction. The initiative also forms part of a broader institutional commitment to widening participation, civic mission and strengthening relationships between the university and local communities.

Results / Findings

The inaugural 2025 festival attracted over 300 attendees and demonstrated strong engagement across diverse age groups and backgrounds. Feedback indicated that participants valued the opportunity to access university facilities in an informal and welcoming environment, with many reporting increased confidence and interest in science-related subjects and careers.

The event also strengthened cross-faculty collaboration and showcased the breadth of STEM disciplines available at USW through authentic and immersive activities. Importantly, the festival highlighted how universities can play a meaningful role in reducing perceived barriers to higher education and science participation within communities traditionally underrepresented in STEM.

Emerging findings suggest that practical, community-focused science engagement can positively influence perceptions of university accessibility while simultaneously supporting civic mission objectives, outreach priorities and regional educational aspirations.

Conclusion

The USW Community Science Festival demonstrates how immersive, hands-on STEM engagement can support widening participation, inspire scientific curiosity and strengthen university-community relationships within areas facing socio-economic challenges. By positioning science as accessible, creative and relevant to everyday life, the festival contributes to broader discussions surrounding civic mission, inclusive education and public engagement within Higher Education.

The session will reflect on lessons learned from the festival's development and delivery, alongside future ambitions to expand community participation, interdisciplinary collaboration and long-term engagement pathways into STEM education. The project highlights the potential for universities to act as active civic partners capable of creating meaningful educational experiences beyond traditional classroom settings.

Title: **South East Wales Reaching Wider**

Author(s): **Andrew Kirby**

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Affiliation(s): **Engagement, Research and Commercialisation, University of South Wales**

RIG alignment: **Civic/community engagement Showcase**

Session / format: **13:30 – 15:00 | Civic/community engagement Showcase | Presentation**

Introduction

This session introduces South-East Wales Reaching Wider Partnership and its mission to increase higher education participation among under-represented groups by raising aspirations, skills and awareness of university pathways. Providing an overview of Reaching Wider programmes, the session will illustrate ways in which academics and professional services teams, can engage with Reaching Wider to shape our programmes.

Funded by Medr, the SEW Reaching Wider Partnership is a collaborative programme led by delivery teams at University of South Wales, Cardiff University and Cardiff Metropolitan University. We work with academics and delivery partners to create innovative and engaging Pathway Programmes and Future Me IAG for young people and adults.

Target Audiences

Work with Young people

Reaching Wider has identified priority schools in Merthyr Tydfil, Rhondda Cynon Taf, Newport, Blaenau Gwent, Caerphilly and Cardiff - those with the highest proportion of pupils who live in the bottom two quintiles of the Welsh Index of Deprivation (WIMD).

Work with Priority Groups

We also design engaging programmes for young carers, Children Looked After and people with disabilities.

Adult Learning Programmes

Our programmes are free of charge, provide the opportunity to undertake level 3 learning (non-accredited) and gain university experiences without any financial commitment. WIMD data is used to target eligible learners.

Opportunities for Collaboration

We are keen to work with colleagues across Faculties and Professional Services Departments, to develop new pathway programmes and promote awareness of Higher Education. Please contact andrew.kirby@southwales.ac.uk for further information.

Title: The impact on children and young people's wellbeing through creativity and parades

Author(s): Emily Bull

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Affiliation(s): Faculty of Business and Creative Industries, USW

RIG alignment: Civic/community engagement Showcase

Session / format: 13:30 – 15:00 | Civic/community engagement Showcase | Presentation

Conclusion

This project demonstrates the potential of creative community-based activities to strengthen engagement between universities, schools and local communities while providing valuable experiential learning opportunities for students. The project outcomes, documentation and emerging insights from the literature review contribute to understanding the role of creative arts in supporting intergenerational community connections.

Introduction

The BA (Hons) Creative and Therapeutic Arts programme was awarded funding through the Civic Engagement Fund to deliver a community-engaged lantern parade in partnership with St Michael's Catholic Primary School and Meadow Street Community Gardens. The project aimed to foster community engagement and intergenerational connection through creative arts practice.

Method(s)

Twelve first-year Creative and Therapeutic Arts students were trained in willow lantern making and facilitation skills before delivering lantern-making workshops with 95 primary school pupils from Years 4, 5 and 6. The completed lanterns formed part of a community lantern parade between the University of South Wales Treforest Campus and Meadow Street Community Gardens. Alongside project delivery, lecturers conducted a literature review exploring the benefits of community parades within intergenerational communities.

Results / Findings

The project engaged more than 120 participants, including school children, siblings, parents and carers, in a large-scale community lantern parade. Students developed practical creative and facilitation skills while supporting community participation and engagement. The literature review identified a limited evidence base relating to the specific benefits of community parades in intergenerational settings, highlighting an area for further research.

Title: Amplifying Voices: Creativity, Mental Health, and Community Wellbeing

Author(s): Anna Playle

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Affiliation(s): Faculty of Life Science and Education, USW

RIG alignment: Civic/community engagement Showcase

Session / format: 13:30 – 15:00 | Civic/community engagement Showcase | Presentation

Conclusion

The presentation will critically explore the ethical responsibilities, challenges and opportunities associated with sustaining community-led change beyond short-term project funding. It argues for approaches that prioritise long-term partnership working, community ownership and meaningful engagement, while demonstrating how community-informed practice can contribute to lasting social impact and enrich teaching, learning and curriculum development.

Introduction

Creative approaches such as multimedia art, film and music can provide powerful opportunities for emotional expression, connection and agency, particularly for individuals and communities who have been underserved within wider systems. Arts-based and community-led approaches are increasingly recognised for their potential to support wellbeing, foster inclusion and amplify lived experience, while creating opportunities for meaningful participation and social change.

Method(s)

This presentation draws on examples of arts-based, community-led co-production to explore how creative practice can enhance community wellbeing, build on existing strengths and assets, and support sustainable pathways to inclusion and community action. The presentation centres lived experience and reflects on approaches that promote collaboration, participation and shared ownership.

Results / Findings

The presentation highlights how creative and participatory methods can strengthen individual and community agency, support emotional expression, and foster meaningful connections between participants. It demonstrates the value of co-produced approaches in creating inclusive spaces, recognising community strengths, and generating outcomes that are relevant and responsive to local needs. The discussion will also consider the contribution of these approaches to challenge-based learning and the enhancement of graduate outcomes.

Title: **Caerphilly Uniform Exchange x USW Fashion Design**

Author(s): **Dr Torunn Kjolberg (USW)**
Joanne Terrar-Young (USW)
Lisa Watkins (Caerphilly Uniform Exchange)

Contact: **torunn.kjolberg@southwales.ac.uk**

Affiliation(s): **Faculty of Business & Creative Industries, Caerphilly Uniform Exchange**

RIG alignment: **Creative Industries; Business; Pedagogy**

Session / format: **13:30 – 15:00 | Civic/community engagement Showcase | Presentation**

Introduction

School uniforms represent a significant but overlooked stream of textile waste, with over 90% of donated uniforms in the UK deemed unrecyclable due to mixed fibres, coatings or damage (Roberts Recycling). Unlike other textiles, these garments cannot be exported for reuse, often ending up in landfill. This presentation explores a community-engaged project where BA (Hons) Fashion Design students collaborated with Caerphilly Uniform Exchange to address this problem, turning un reusable school uniforms into innovative, upcycled fashion

Method(s)

Students worked in teams, applying circular design principles to repurpose donated uniforms (e.g., blazers, dresses, trousers) into commercially viable garments and accessories. The project integrated problem-based learning, with students researching sustainability challenges, developing designs and prototyping solutions. Industry collaboration was central, as students met with the client to define brand expectations and target customers, mirroring real-world design processes. The students presented their final products to the CUE team of staff and volunteers at the end of the module.

Results / Findings

The project yielded eight upcycled products per team, with a focus on reducing waste and extending material lifespan. Students gained technical skills in advanced pattern cutting, grading, and material manipulation, while the client received actionable designs for their community initiative. Early feedback highlights improved student confidence in sustainable design, teamwork and client communication – key employability skills for the fashion industry. The garments created will be exhibited in Caerphilly in September this year.

Conclusion

This case study demonstrates how community engagement and problem-based learning can tackle real-world sustainability challenges while equipping students with industry-relevant skills. By embedding authentic, client-led projects into the curriculum, educators can foster responsible design practices and strengthen ties with local organisations, creating a model for scalable, impactful learning.

Title: **Space, Skills and Creativity: An innovative STEAM approach to inspiring the next generation of the Space workforce**

Author(s): **Dr Leshan Uggalla¹, Dr Ian McNish², Dr Michael Carklin²**

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Affiliation(s): **¹Faculty of Computing, Engineering and Science (FCES), USW**

²Faculty of Business and Creative Industries (FBCI), USW

RIG alignment: **Civic/community engagement Showcase**

Session / format: **13:30 – 15:00 | Civic/community engagement Showcase | Presentation**

Introduction

Space is no longer a niche sector or a “good-to-have” capability; it is a critical national capability that underpins modern society and considered as part of UK's critical national infrastructure. Space-enabled services support activities contributing close to 20% of UK GDP through their role in communications, navigation, financial systems, environmental monitoring, security, and national resilience.

The global space economy is projected to exceed £1.5 trillion by 2035, creating significant opportunities for economic growth, innovation, and societal benefit. However, one of the greatest challenges facing the sector is the development of a sufficiently skilled workforce capable of supporting this rapid expansion. In Wales, this challenge is recognised within the Welsh Government's vision of becoming a Sustainable Space Nation, which identifies skills development as a key enabler of long-term sector growth and sustainability.

Recognising that the future workforce must be drawn not only from those already interested in STEM but also from wider and more diverse communities, the University of South Wales developed an innovative STEAM (Science, Technology, Engineering, Arts and Mathematics) engagement initiative designed to inspire interest in space through the creative arts.

Method(s)

The project brought together academics and students from the Faculty of Computing, Engineering and Science and the Faculty of Business and Creative Industries to design and deliver a space-themed drama festival. Supported by the UK Space Agency, Welsh Government and Space Wales, and funded through the University of South Wales Community Engagement Fund, the initiative utilised theatre, music, storytelling and performance to communicate the societal importance of space technologies and opportunities within the sector. The programme was delivered over one week through performances and interactive activities for school pupils across South Wales.

Results / Findings

The initiative engaged approximately 1,000 school pupils from across South Wales through performances and interactive activities. It resulted in the creation of original scripts and musical compositions designed to communicate space-related themes to young audiences. The project also provided valuable creative, educational and professional development opportunities for university students involved in its design and delivery.

Conclusion

The project demonstrates the potential of creative arts-led approaches to engage diverse audiences with STEM and space-related careers. The presentation reflects on lessons learned from the initiative and considers how similar interdisciplinary models can support skills development, workforce diversification and the long-term sustainability of the space sector and other strategically important industries.

Session 4: Earth, Ecology and Environment

Time: 15:20 – 16:45 | Location: B001 | Convenor: Dr Gina Dolan

Title: **The Development of a Colorimetric Rapid Test for Cannabinoid Detection via 3D Printing Techniques**

Author(s): **Emanuele Alves^{1,2}, Savanah Allinson³, Taqiyah Chernesky³, Aron Jaffe³**

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Affiliation(s): **¹University of South Wales,
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RIG alignment: **Earth, Ecology and Environment**

Session / format: **15:20 – 16:45 | Earth, Ecology and Environment | Presentation**

Introduction

According to the 2021 World Drug Report cannabis continues to be one of the most widely used drugs worldwide. Despite the legal restrictions of cannabis-based products and in the UK and its commercialization under prescription only, several products containing Δ^9 -THC are becoming available and concerns about the public health consequences of cannabis use have increased. As a result of Δ^9 -THC ability to impair performance and decrease the ability of drivers, and the current lack of correlation between driving impairment and Δ^9 -THC concentrations in blood, the necessity of a quick and portable detection method to identify Δ^9 -THC in non-invasive samples from drivers is imperative. Due to the popularity of alcohol breathalyzers, breath was chosen as the matrix for the Δ^9 -THC detection. The concentration of Δ^9 -THC in breath is estimated to be 250 parts per trillion (ppt); a challenging detection limit. However, the Δ^9 -THC concentration in the breath might be higher since some of the generated Δ^9 -THC during smoking will be carried by aerosolized particles and deposited on the lung tissues. These particles can be removed by exhalation and be detected in breath. The goal of this project was to develop a cartridge based on a colorimetric reaction for the creation of a breathalyzer for the detection of Δ^9 -THC in breath samples.

Method(s)

The development of the Δ^9 -THC breathalyzer was based on the application of an additive manufacturing solid device made by 3D printing. Five different 3D polymerizable resins and three different cannabinoid-specific dyes were analyzed. Resins were treated with varying concentrations of Fast Blue B, Fast Blue BB, and Fast Blue RR dyes, followed by treatment with 10 μg of Δ^9 -THC for the optimization of best resin/dye/dye concentration (1, 2, 4, and 6% w/w) set. Cartridges were printed using an Anycubic 3D printer[®]. Color formation was captured using a ballistic microscope coupled to a high-resolution camera and the intensity of the color was analyzed using the software ImageJ[®]. The solubility of the dye in the resin, the analytical signal obtained, the stability of the dye, and the influence of the shape of the cartridge were evaluated.

Results / Findings

Five resins commercially available were tested, including the AnyCubic 3D resin suggested by the printer vendors. The white Creality 3D resin showed the best signal for the same concentration of Δ^9 -THC among all resins. The solubility of the dyes also showed to be better in the Creality resin when compared to the other four resins tested. Among the dyes, Fast Blue B and BB at 1% (w/v) showed the best results with higher signals than the signals given by Fast Blue RR. The cartridge shape was shown to be relevant to the stability of the reaction. A circular shape is the target shape due to the air collection system that will be attached to the cartridge to form the breathalyzer prototype. A current validation of the parameters is being performed, and preliminary results showed the capacity of the cartridge to react positively to a concentration of 0.01 μg of Δ^9 -THC. Achieving lower concentrations is extremely important as the concentration of Δ^9 -THC in exhaled air is described to be in the range of 1 ng/30 L of exhaled air.

Conclusion

The results obtained in this work are the initial foundation needed for to construct a reliable semi-quantitative breathalyzer device to be applied in Driving under the Influence of Drugs (DUID) monitoring worldwide.

Title: **Food for thought: Understanding taxonomic and cultural variation around wildlife provisioning**

Author(s): **Tracie McKinney**

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Affiliation(s): **Applied Sciences, Faculty of Computing, Engineering and Science, USW**

RIG alignment: **Earth, Ecology and Environment**

Session / format: **15:20 – 16:45 | Earth, Ecology and Environment | Presentation**

Introduction

Provisioning (feeding of wildlife) can have extensive impacts on people, wildlife and their shared ecosystems. Feeding wildlife has been linked to poor animal health, altered behavioural and demographic patterns, transmission of zoonotic disease, and increased habituation of wildlife to humans. Understanding the drivers of provisioning across geographic, cultural and taxonomic boundaries is critical for developing effective mitigation strategies.

Method(s)

To explore these issues, an interactive workshop was organised at the “Pathways: Human Dimensions of Wildlife” conference in June 2026. The workshop brought together scholars and practitioners working in the field of human-wildlife conflict and coexistence. The event was delivered in collaboration with partners from the IUCN SSC Primate Specialist Group Section for Human-Primate Interactions and aimed to support the development of a global network of researchers and practitioners focused on evidence-based management strategies.

Results / Findings

Preliminary findings from the workshop will be presented, highlighting key themes relating to wildlife provisioning and opportunities for developing context-specific approaches to reducing human-wildlife conflict. The workshop also represents the first step in establishing an international collaborative network to support future research and practice in this area.

Conclusion

This work demonstrates the importance of interdisciplinary and international collaboration in addressing the challenges associated with wildlife provisioning. The findings and collaborative network will inform teaching within BSc Wildlife Ecology and Conservation, BSc Biology and MSc Wildlife and Conservation Management programmes, while also creating opportunities for future student research projects. The project aligns with the priorities of the Earth, Ecology and Environment Research and Innovation Group and contributes to the United Nations Sustainable Development Goals relating to Good Health and Well-being and Life on Land.

Title: **Evidence-informed policy: Developing national biodiversity targets and indicators**

Author(s): **Dr David Lee**

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Affiliation(s): **Faculty of Computing, Engineering and Science, USW**

RIG alignment: **Earth, Ecology and Environment RIG**

Session / format: **15:20 – 16:45 | Earth, Ecology and Environment | Presentation**

Introduction

The environment is a devolved concern in Wales, meaning that the Senedd and Welsh Government have, with some exceptions, legislative powers over environmental governance and biodiversity recovery. Under the Convention on Biological Diversity (CBD), signatories are required to develop and implement targets that support biodiversity recovery. However, Wales, like many parts of the world, is experiencing a biodiversity crisis characterised by declining species populations, deteriorating ecosystem condition, increasing pollution pressures and insufficient evidence-informed decision-making.

Method(s)

Research was undertaken in collaboration with Welsh Government and Natural Resources Wales to develop national biodiversity targets and indicators capable of driving transformative positive change in Wales. The work supports implementation of the Environment (Principles, Governance and Biodiversity Targets) (Wales) Act 2026, which requires Welsh Ministers to establish statutory targets to halt and reverse biodiversity decline by 2028.

Results / Findings

The research has informed the development of national targets and indicators designed to support biodiversity recovery and strengthen evidence-informed environmental governance in Wales. The work provides a framework for monitoring progress and supporting policy-driven action to address biodiversity decline.

Conclusion

This policy-focused research contributes to biodiversity recovery efforts in Wales and aligns with the priorities of the Earth, Ecology and Environment Research and Innovation Group, as well as the United Nations Sustainable Development Goals relating to Climate Action, Life Below Water and Life on Land. The collaborative network, outputs and outcomes will inform teaching within BSc Wildlife Ecology and Conservation, BSc Biology and MSc Wildlife and Conservation Management programmes, while creating opportunities for future student research projects.

Title: Conservation Technology in Practice: Integrating Digital Tools, International Partnerships, and Cross-Faculty Collaboration to Advance Ecological Monitoring and Student Experience

Author(s): Dr Emma Higgins¹, Alice Thorne², Dr Maggie Andrews², Dr David Lee¹, Dr Darren Williams³, David Dawkins³, Niamh Breslin¹, Natalie Lubbock¹

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Affiliation(s): ¹Applied Sciences, Faculty of Computing, Engineering and Science, University of South Wales

²Stackpole Ecological Research Network

³Engineering, Faculty of Computing, Engineering and Science, University of South Wales

RIG alignment: Earth, Ecology and Environment and Engineering

Session / format: 15:20 – 16:45 | Earth, Ecology and Environment | Presentation

Introduction

Conservation technology is one of the fastest-growing areas in applied ecology, encompassing such things as UAVs, remote sensing, thermal and multispectral imaging, machine learning-assisted species ID, GPS monitoring and bioacoustics, among others. These tools are transforming the capacity of ecologists, land managers, and conservation practitioners to monitor biodiversity and support conservation management decisions, at scales and resolutions not previously achievable. This presentation draws on a portfolio of research and teaching activity at USW, to illustrate how conservation technology is being embedded into research and teaching practice, with particular reference to its alignment with the university's Challenge-Based Curriculum (CBC) framework and its role in building cross-faculty and cross-institutional partnerships with real ecological impact.

Method(s)

The presentation adopts a case study approach outlining key partnerships where conservation technology is used, with real world benefits. The work spans across the globe with partnerships in Wales, South Africa, Honduras and beyond. One element we will focus on is the partnership with the Stackpole Ecological Research Network, and their work with threatened greater and lesser horseshoe bats, at the Stackpole Estate in Pembrokeshire, where USW is helping continue a 30-year legacy.

Results / Findings

Across all case study sites and application areas, findings demonstrate that CBC-aligned, technology-integrated fieldwork generates meaningful conservation outputs while enriching the student learning experience and providing key required skills for our graduates.

Conclusion

This demonstrates the value of positioning conservation technology not as a standalone technical specialism, but as a vehicle for challenge-based learning, international partnership, cross-faculty collaboration, and research with real impact. As biodiversity monitoring demands grow in the context of national and international policy commitments, universities have a distinctive role to play in building technical capacity, generating usable evidence, and training the next generation of conservation professionals through curricula that are authentic, interdisciplinary, challenge-led, and globally connected.

THURSDAY 2 JULY 2026

Campus / location: **Treforest Campus**

Indicative RIG focus: **RIG focus: Criminology; Pedagogy; Computing, Cyber Security, Mathematics and Informatics; Social Policy; Sustainable Environment RIGs**

Session 1: Criminology / Pedagogy

Time: **9:30 – 11:00** | Location: **B001** | Convenor: **Professor Sandra Esteves**

Title: **Platform Governance and the Institutional Economics of Knowledge Equity**

Author(s): **Ethem Ilbiz¹; Yusaf Akbar²; Andrea Tracogna³**

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Affiliation(s): ¹ **University of South Wales**

² **Central European University**

³ **University of Trieste**

RIG alignment: **Criminology, Policing, and Security**

Session / format: **9:30 – 11:00 | Criminology / Pedagogy | Presentation**

Introduction

Persistent inequalities in knowledge production and visibility continue to shape academic participation, often marginalising underrepresented scholars. Digital platforms offer new opportunities to mitigate epistemic injustice, yet their effectiveness depends on governance structures and design choices. This study examines how platform governance can foster equitable knowledge exchange, drawing on Transaction Cost Economics (TCE) and Knowledge Management (KM) perspectives. It explores how trust, participation costs, and network dynamics influence inclusion within academic digital communities.

Method(s)

The study uses a quantitative approach based on survey data collected from members of the Women Also Know Stuff (WAKS) platform. It analyses how transaction uncertainty, governance trust, and network effects shape user participation, retention, and perceptions of knowledge recognition. The research applies TCE as an analytical framework to evaluate how platform structures reduce barriers and enable engagement.

Results / Findings

Findings indicate that low entry barriers and strong network effects facilitate initial participation, while trust in governance and positive peer interactions support sustained engagement. The platform reduces perceived transaction costs and fosters trust-based knowledge exchange. However, scalability is constrained by factors such as language accessibility, platform visibility, and network boundaries, limiting its broader reach and impact.

Conclusion

The study demonstrates that adaptive governance and trust-oriented design are critical for promoting knowledge equity in digital academic environments. It contributes to debates on digital collaboration and epistemic justice, offering practical insights for designing inclusive knowledge infrastructures. The work has implications for research, teaching, and institutional practice, and raises a challenge for universities: how can digital platforms be designed to enhance equitable knowledge recognition across global academic communities?

Title: Long-acting opioid substitution treatment: insights from the pan-Wales evaluation of Buvidal

Author(s): Professor Katy Holloway

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Affiliation(s): Faculty of Life Sciences and Education, USW

RIG alignment: Criminology

Session / format: 9:30 – 11:00 | Criminology / Pedagogy | Presentation

Introduction

In March 2023, the Welsh Government commissioned a multi-disciplinary team of researchers from three universities to evaluate the rapid roll-out and implementation of Buvidal across Wales.

Method(s)

The evaluation drew on the views and lived experiences of people prescribed Buvidal, alongside insights from those involved in its commissioning and delivery.

Results / Findings

The evaluation found that Buvidal has been life-changing for many individuals, supporting recovery and improving quality of life. However, findings highlighted the need for access to professional psychological support to help people address resurfacing trauma, as well as meaningful psychosocial activities that provide structure and purpose.

Conclusion

To maximise its effectiveness, Buvidal should be embedded within a broader package of care that combines medication with psychological and psychosocial support to promote sustained recovery and wellbeing.

Title: **The EU as a Global Counter-Terrorism Actor**

Author(s): **Professor Christian Kaunert**

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Affiliation(s): **Policing and Security, Faculty of Life Sciences and Education, USW**

RIG alignment: **Criminology, Policing and Security**

Session / format: **9:30 – 11:00 | Criminology / Pedagogy | Presentation**

Introduction

This presentation examines the growth of the European Union (EU) as a global counter-terrorism actor over the past two decades. It explores how international terrorism has accelerated European integration and expanded the EU's role in both internal and external counter-terrorism activities.

Method(s)

The paper draws on theories of collective securitisation, neo-functionalism and supranational governance to analyse the EU's development as a counter-terrorism actor. A series of case studies are used to explore the EU's evolving actorness and its relationships with member states and third countries.

Results / Findings

The analysis demonstrates that the EU has become an increasingly significant actor in global counter-terrorism since 2001. International terrorism has driven greater cooperation between EU member states and with third countries, while EU institutions have expanded their role in security and counter-terrorism policy. The findings suggest that the EU's contribution to external counter-terrorism has been underestimated within the existing literature.

Conclusion

The paper concludes that the EU has developed into a more prominent global counter-terrorism actor with a growing range of policy capabilities. It contributes to debates on EU counter-terrorism, European integration and actorness, highlighting how security challenges have shaped the EU's evolution beyond its traditional economic and trade functions. While progress has been significant, cooperation has developed unevenly across policy areas and international partnerships. Nevertheless, unprecedented levels of counter-terrorism cooperation now take place both between EU member states and between the EU and third countries. Despite these advances, European countries continue to face significant and evolving terrorist threats, underlining the ongoing importance of international counter-terrorism collaboration.

Title: Enhancing Experiential Learning through Persona-Based Artificial Intelligence

Author(s): Mike Edwards

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Affiliation(s): Policing and Security, Faculty of Life Sciences and Education, USW

RIG alignment: Criminology

Session / format: 9:30 – 11:00 | Criminology / Pedagogy | Presentation

Introduction

This project presents the development of persona-based artificial intelligence chatbot tools designed to enhance student engagement, experiential learning and administrative responsiveness across multiple courses.

Method(s)

Funded through a CELT micro grant, the project developed adaptable AI characters with multi-domain knowledge that can be embedded within modules as part of immersive simulation activities. The tools were designed to provide students with instant, contextualised support while modelling the ethical and effective use of artificial intelligence in academic and professional settings.

Results / Findings

Early findings demonstrate the potential of persona-based AI tools to enhance student support, engagement and responsiveness. The project indicates opportunities for scalable implementation across faculties, contributing to student satisfaction and supporting the development of digital capability and industry-relevant skills.

Conclusion

Persona-based AI chatbots show promise as a scalable approach to supporting experiential learning and student engagement. The project aligns with the University of South Wales 2030 Strategy by supporting transformational learning, digital innovation and skills development, while providing insights into the opportunities and challenges associated with wider institutional adoption.

Title: The Challenge of implementing Challenge based learning in subject areas where the curriculum and assessment is determined by professional bodies.

Author(s): Rebecca Bushell

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Affiliation(s): Faculty of Business and Creative Industries, USW

RIG alignment: Pedagogy

Session / format: 9:30 – 11:00 | Criminology / Pedagogy | Presentation

Introduction

Accounting is aligned to several professional bodies which determines what we can teach and how we need to assess our students. This poses a challenge when trying to introduce CBL. The problem is compounded by students who believe they just need the subject knowledge and aren't interested in developing additional skills.

The problem was to create a project that would engage students, enabling them to start developing higher order processing skills, recognising the importance of these skills, building a sense of belonging and awareness of the wider environment and global issues. We chose to use a challenge based learning style project as the vehicle to achieve these outcomes, the challenge:

Many countries including the UK are facing a cost of living crises, meaning more people are reaching out to charities for support and charities in all areas are finding it more difficult to raise funding.

Students had to work with a local charity to support them, by raising money, raising awareness or building industry connections depending on the needs of the charity.

Method(s)

Action research, Springers theory, we designed the project and ran it in 2023-24, then observed the results, evaluated them, reflected on appropriate changes and then re-ran the project in 2025-26.

Results / Findings

Higher proportion of students successfully engaged with the project, greater course integration was achieved, with more cross learning occurring. Students demonstrated significant improvements in higher order processing skills and confidence. Local charities received over £6,000 in donations and others had awareness raised for their cause. Students worked with a total of 10 local charities successfully.

Conclusion

While the project was successful in meeting its goals there are areas that need to be reflected upon, especially how to achieve greater engagement from certain students groups.

Session 2: Computing, Cybersecurity, Mathematics and Informatics

Time: **11:30 – 12:30** | Location: **B001** | Convenor: **Karl Luke**

Title: **Upskilling Medical Professionals in Uganda using VR**

Author(s): **Professor Andrew Ware**

Contact: **andrew.ware@southwales.ac.uk**

Affiliation(s): **Faculty of Computing, Engineering and Science, USW**

RIG alignment: **Computing, Cybersecurity, Mathematics and Informatics**

Session / format: **11:30 – 12:30 | Computing, Cybersecurity, Mathematics and Informatics | Presentation**

Results / Findings

Progress to date demonstrates the potential of AI and VR technologies to support healthcare development through international partnership and knowledge exchange. The collaboration has identified opportunities for further innovation and capacity building within healthcare settings.

Conclusion

The project highlights the value of international collaboration in exploring the use of emerging technologies in healthcare. Despite challenges associated with infrastructure and resources, the partnership has established foundations for future development and demonstrates the potential for AI and VR to contribute to healthcare education and practice in Uganda.

Introduction

This presentation explores the use of artificial intelligence (AI) and virtual reality (VR) in healthcare settings in Uganda, focusing on collaborative work between the University of South Wales (USW) and Mbarara University of Science and Technology (MUST). Uganda has a very young population and faces challenges associated with limited income and infrastructure; however, it is also home to many talented and dedicated individuals, creating significant opportunities for innovation and capacity building.

Method(s)

The project involves international collaboration between USW and MUST to explore the application of emerging technologies within healthcare education and practice. The presentation will outline the context for this work, including opportunities and challenges associated with healthcare innovation in Uganda.

Title: **Teaching at the Edge: Challenge-Based Learning in AI for Robotics and Aerospace**

Author(s): **Dr Carl Jones**

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Affiliation(s): **Computing, Faculty of Computing, Engineering and Science, University of South Wales**

RIG alignment: **Computing, Cybersecurity, Mathematics and Informatics**

Session / format: **11:30 – 12:30 | Computing, Cybersecurity, Mathematics and Informatics | Presentation**

Introduction

A recurring challenge in computing higher education is giving students meaningful contact with the realities of professional AI practice, rather than abstract exercises disconnected from deployment constraints. This presentation describes two challenge-based learning activities delivered within the MSc Artificial Intelligence programme at USW, set in the context of an active research programme in edge AI for autonomous and aerospace systems. The aim is to illustrate how a research-active approach to teaching can bring authentic engineering problems into the curriculum, even where the underlying research is still ongoing.

Method(s)

The first activity was a quadruped robotics workshop using the Unitree Go2 platform. Students trained locomotion policies in OpenAI Gym and Google MuJoCo simulation and were challenged to analyse and explain the performance gap that arises when considering real-world deployment. Rather than treating this as a limitation, the sim-to-real gap was used as a teaching opportunity to explore domain randomisation, hardware actuation constraints, and the practical limits of simulation-based training. The second was a multi-session agentic AI workshop in which students designed and deployed a multi-agent retrieval system for a fictional NHS GP surgery using Azure OpenAI, Azure AI Search, and Google Colab, culminating in a working Streamlit application.

Both activities were designed around open-ended problems with no single correct solution, requiring students to make and justify engineering decisions under realistic constraints. This approach is consistent with the principles of challenge-based learning in engineering education, where authentic, industry-relevant problems are identified as key drivers of student motivation and competency development (Doulougeri et al., 2024). The broader research context, including ongoing work with Safran Seats on edge AI for passenger monitoring in commercial aircraft, informs the teaching philosophy rather than the workshop content directly, grounding the curriculum in current industrial and research practice (Jones, Watkins and Wilson, 2025).

Results / Findings

Students engaged substantively with the engineering realities behind both activities. The sim-to-real analysis generated richer technical discussion than comparable exercises run without deployment context, with students identifying specific sources of performance degradation and proposing iterative solutions. In the agentic AI workshop, students successfully deployed functional multi-agent systems within a single session, with feedback indicating increased confidence in working with production-oriented AI tooling.

Conclusion

These workshops demonstrate that research-active staff can design teaching experiences that give students genuine contact with the complexity of real AI deployment, without requiring a direct one-to-one mapping between research projects and classroom activities. The challenge proposed for CBC co-investigation is one that runs through both the teaching and the research: how can AI systems be made to work reliably when deployment constraints are real, varied, and unforgiving? This question has no settled answer, which makes it well suited to the open, collaborative inquiry that challenge-based learning is designed to support.

References

1. Jones, C., Watkins, D. and Wilson, I. (2025). Lightweight edge architecture for real-time object recognition and depth estimation in autonomous systems. In *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering: iCETiC 2025 Proceedings*. Springer. (Accepted, in press.)
2. Makoviychuk, V., Wawrzyniak, L., Guo, Y., Lu, M., Storey, K., Macklin, M., Hoeller, D., Rudin, N., Allshire, A., Handa, A. and State, G. (2021). Isaac Gym: High performance GPU-based physics simulation for robot learning. In *Advances in Neural Information Processing Systems (NeurIPS 2021) Datasets and Benchmarks Track*.
3. Kumar, A., Fu, Z., Pathak, D. and Malik, J. (2021). RMA: Rapid motor adaptation for legged robots. *Robotics: Science and Systems (RSS) 2021*. doi:10.15607/RSS.2021.XVII.011
4. Lewis, P., Perez, E., Piktus, A., Petroni, F., Karpukhin, V., Goyal, N., Kuttler, H., Lewis, M., Yih, W., Rocktaschel, T., Riedel, S. and Kiela, D. (2020). Retrieval-augmented generation for knowledge-intensive NLP tasks. In *Advances in Neural Information Processing Systems*, 33, pp. 9459-9474.
5. Warden, P. and Situnayake, D. (2019). *TinyML: Machine Learning with TensorFlow Lite on Arduino and Ultra-Low-Power Microcontrollers*. O'Reilly Media.
6. Doulougeri, K., Vermunt, J. D., Bombaerts, G. and Bots, M. (2024). Challenge-based learning implementation in engineering education: A systematic literature review. *Journal of Engineering Education*, 113(4), pp. 1076-1106.

Title: Low-cost Unmanned Aerial Vehicles (UAVs) for Monitoring South Wales Coal Tips

Author(s): Joseph Griffiths, Dr Nathan Thomas, Dr Mark Ware, Dave Kidner

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Affiliation(s): Faculty of Computing, Engineering and Science, USW

RIG alignment: Computing, Cybersecurity, Mathematics and Informatics

Session / format: 11:30 – 12:30 | Computing, Cybersecurity, Mathematics and Informatics | Presentation

Introduction

The monitoring and management of disused coal tips across Wales has become a national priority following the introduction of the Disused Mine and Quarry Tips (Wales) Act 2025, which establishes a formal framework for inspection and risk management. With over 2,500 disused tips and a high concentration of the most hazardous Category C and D sites located in South Wales, there is an urgent need for efficient, scalable and cost-effective monitoring approaches. This talk explores the potential of low-cost unmanned aerial vehicles (UAVs) to support enhanced monitoring, data collection and decision-making in this context.

Method(s)

This work adopts a practice-based, research-informed approach using UAVs based data capture and geospatial analysis. UAV platforms are deployed to collect high-resolution datasets using RGB imaging, LiDAR and multispectral sensors. These datasets are processed to generate orthomosaics, digital surface models (DSM), digital terrain models (DTM) and 3D representations of coal tip environments. Analytical techniques such as change detection and volumetric assessment are used to evaluate site conditions. The presentation also outlines a developing research agenda focused on model development, data accuracy across varying topographies and the comparison of photogrammetry and LiDAR approaches.

Results / Findings

Early research outputs demonstrate that UAV-based surveying can provide rapid, repeatable and high-resolution data capture, achieving centimetre-level accuracy. Case study examples from South Wales sites illustrate the ability to generate detailed spatial datasets and detect environmental changes over time. These findings highlight the potential for UAV technologies to complement traditional survey methods, while significantly reducing time and cost constraints.

Conclusion

This work demonstrates the growing relevance of low-cost UAV technologies in supporting large-scale environmental monitoring and infrastructure risk management. In the context of coal tip safety in South Wales, UAV-based approaches offer a practical and scalable solution aligned with policy demands and regional needs. The research also contributes to wider academic and professional practice through opportunities such as research-led teaching, interdisciplinary collaboration and potential policy impact. Future work will focus on refining accuracy models, extending analytical capabilities and strengthening partnerships with industry and government stakeholders.

Title: The impact of industry-linked research for undergraduate students: A collaboration between USW Cyber Security and DHCW

Author(s): Dr Richard Ward and Dr Naveen Madhavan

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Affiliation(s): Faculty of Computing, Engineering and Science; University of South Wales, Digital Health and Care Wales (DHCW)

RIG alignment: Computing, Cybersecurity, Mathematics and Informatics

Session / format: 11:30 – 12:30 | Computing, Cybersecurity, Mathematics and Informatics | Presentation

Conclusion

The partnership demonstrates the value of industry engagement in enhancing student learning, employability and research impact. Building on this success, DHCW will continue to provide project opportunities and contribute to future curriculum development, strengthening links between higher education and the health and care sector in Wales.

Introduction

Over the past academic year, the University of South Wales (USW) Cyber Team has collaborated with Digital Health and Care Wales (DHCW) to address real-world cybersecurity challenges within healthcare. The partnership has provided opportunities for knowledge exchange, applied learning and collaboration between academia and industry.

Method(s)

Students engaged with DHCW through a range of project-based activities, including cohort-wide investigations and individual undergraduate research projects. Initial work focused on improving the security of healthcare communications, enabling students to apply academic knowledge to practical challenges while working closely with industry partners.

Results / Findings

The collaboration has generated valuable insights and innovative solutions to support the continuous improvement of DHCW services. Student projects have enhanced employability, confidence and reflective practice, while contributing fresh perspectives to organisational challenges. The partnership has also facilitated knowledge transfer in healthcare cybersecurity research, resulting in an award-winning undergraduate project and the development of a Digital Forensics PhD project in collaboration with DHCW to support long-term digital resilience.

Session 3: Social policy / Pedagogy RIG (focussed on AI)

Time: **13:30 – 14:45** | Location: **B001** | Convenor: **Professor Sandra Esteves**

Title: **Navigating the global political economic environment to gauge investment decisions**

Author(s): **Filippos Proedrou**

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Affiliation(s): **Business School, Faculty of Business and Creative Industries, USW**

RIG alignment: **Social policy**

Session / format: **13:30 – 14:45 | Social policy / Pedagogy RIG (focussed on AI) | Presentation**

Introduction

The return of geopolitics and structural changes in the global economy render decision-making on investments more complex and contingent on multivalent factors. The efficiency paradigm has been increasingly substituted by the resilience paradigm.

Method(s)

We analyze the main global challenges underway, geopolitics and trade disruption, decarbonization and energy transition, and financial and demographic challenges to map the matrix of mega-trends/ main drivers of global business. We subsequently contextualize in countries/ industries to showcase risks and impacts and inform rounded decision-making on management/ protection/ future investments.

Results / Findings

Students familiarize themselves with key global political developments that forge the global business terrain: multi-alignment, decoupling, derisking and overhaul of business structures in the future green economy. In doing so, students achieve their key learning outcome: acute awareness of how the main global mega-trends shape opportunities and challenges for investments that informs strategic decision-making and problem-solving. These outcomes align with UN SDG 9 and SDG 13: Climate Action.

Conclusion

Bringing together developments in global politics, economics and business is essential in the current international environment. Intelligence on how global mega-trends shape contemporary and future business is essential to inform sustainable investments.

References

Mariotti, S. (2023). Competition policy in the new wave of global protectionism. Prospects for preserving a FDI-friendly institutional environment. *Journal of Industrial and Business Economics*, 50(2), 227-241.

Proedrou, F. (2026, forthcoming). *EU Geopolitics: Borders, Crises and Security in the Post-Liberal Era*. London: Routledge

Proedrou, F. (2025). *EU Energy Geopolitics. Strategic Premiums, Challenges, and Dilemmas in the Global Energy Transition Era*. Basingstoke: Palgrave McMillan.

Rice, C., & Zegart, A. (2018). Managing 21st-century political risk today's threats are more complicated, but the remedies don't have to be. *Harvard Business Review*, 96(3), 130-138.

Title: Refugee Crises and humanitarian governance

Author(s): Professor Palash Kamruzzaman

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Affiliation(s): Faculty of Business and Creative Industries, University of South Wales

RIG alignment: Social policy

Session / format: 13:30 – 14:45 | Social policy / Pedagogy RIG (focussed on AI) | Presentation

Introduction

Article 1 of the Universal Declaration of Human Rights states that ‘all human beings are born free and equal in dignity and rights’. Yet, contemporary refugee crises expose that, in practice, such statement could feel like an empty promise. The world is witnessing multiple wars, persecution, and climate-related disasters ensuing large number of people being displaced and becoming refugees. The ‘burden’ or ‘responsibility’ of protecting these vulnerable people are profoundly unequal. By mid-2025, low- and middle-income countries hosted 71 per cent of the world’s refugees and displaced people while most remained in neighbouring states rather than moving to the global North. However, some global media and sections of the political society often misrepresent refugee movements as ‘apocalyptical/existential crisis’ or ‘end of [white] civilization’, while obscuring the everyday pressures borne by host countries in the global South. Such narratives can also have detrimental impact on assisting the refugee hosting countries and pose grave risks to the displaced people, including malnutrition, educational exclusion, trafficking, sexual exploitation, drug peddling, illegal border crossings via small boats or other means, as well as jeopardizing regional and international security. This presentation is focused on the scholarly discourses and debates from practice across the global South against the widely used promises/aspirations of humanitarian support, refugee management and migration integration

Method(s)

This presentation examines refugee crises through the lens of humanitarian governance, asking how the promises of care, and protection compare with lived realities across the global South. It is based on reflexive and qualitative learning from long-term research on displacement and refugee governance primarily in Bangladesh, Malaysia, and Jordan and some engagements in Indonesia, and Turkey. It draws on in-depth interviews, fieldwork, focus groups, and sustained dialogue with refugees, host communities, humanitarian personnel, government officials, academics, and civil-society actors.

Results / Findings

The central finding is mixed. In moments of acute displacement, emergency aid, shelter, food, health care, and protection can make the difference between life and death and can reflect a genuine ethics of care toward people who have endured profound violence and loss. At the same time, humanitarian governance often exceeds assistance and enters the terrain of management and control. Registration systems, biometrics, data extraction, behavioural conditionalities, and donor-driven priorities can turn refugees and host populations into governable objects within wider geopolitical and institutional interests. This raises core questions such as whose humanitarianism, whose values, whose priorities, whose voices, and whose knowledge count? Across multiple settings, Western donor agendas and universalised policy templates frequently override local customs, religious norms, sociopolitical realities, and refugee-led priorities, even while localisation, decolonisation, ownership, and inclusion are purportedly celebrated as learning from the ground!

Conclusion

The implication for scholarship and practice is not to unduly criticize humanitarianism, but to confront misleading narratives, challenge asymmetrical power relationships, and build more accountable, evidence-based, and context-sensitive forms of humanitarian support. This has relevance not only for the global South, but also for Wales, the UK, and Europe. Especially in Wales that aspires to be a nation of sanctuary and at the USW as we are a university of sanctuary.

Title: Designing Learning for Everyone: Inclusion, Clarity, and the Future of AI

Author(s): Amy Giles and panel

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Affiliation(s): CELT, University of South Wales

RIG alignment: Pedagogy RIG (focussed on AI)

Session / format: 13:30 – 14:45 | Social policy / Pedagogy RIG (focussed on AI) | Presentation

Conclusion

This ongoing project is a vital contribution to colleagues, student success, and USW as a whole. This panel is just one part of a wider project supporting staff CPD around neuroinclusive digital learning and teaching and can have a significant positive impact on student retention, belonging, success, and well-being.

Introduction

Since the use of GenAI has become increasingly popular, accessibility and inclusion in GenAI is an ongoing challenge. There are those who cannot reap the benefits of AI due to additional learning needs or disabilities, leading to accessibility issues. This problem always leads back to digital accessibility, digital poverty, and a lack of support for users. Whilst we strive to future proof staff and students as an institutional priority, many are left behind.

Method(s)

Research and findings were collected from University of South Wales colleagues via case studies, as well as research from disability advice specialists and independent bodies, organisations, and charities.

Results / Findings

From existing research and student feedback, as well as the AI in Assessment Framework pilot, we have found that there is still work to be done regarding digitally accessible learning resources and GenAI for neurodiverse learners – 20% of full-time UK undergraduates feel their institution's GenAI policy is unclear (HEPI, 2025). Given that my project is ongoing, I am awaiting collection and publication of case-studies showcasing good practice, as well as the creation of further guidance for academic staff around neuroinclusive learning design.

Title: **Introducing GrASP: The Group Assessment Support Platform**

Author(s): **Alun King, Christopher Tubb**

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Affiliation(s): **Faculty of Computing, Engineering and Science, USW**

RIG alignment: **Pedagogy RIG (focussed on AI)**

Session / format: **13:30 – 14:45 | Social policy / Pedagogy RIG (focussed on AI) | Presentation**

Introduction

The continuing development of AI presents an ongoing challenge to the delivery of courses in higher education. As routine tasks become easily achievable through AI, the need for students to demonstrate and practice more human skills has become more pronounced. Critical thinking, clear communication, and effective collaboration are increasingly seen as essential traits that can be developed through effective group-based projects. USW's implementation of the Challenge Based Curriculum presents greater opportunities to run realistic group projects for students, but the complexity of supervising them at scale remains a challenge. Indeed, students often cite group projects as one of their least favourite elements of assessment on a course.

Method(s)

GrASP (Group Assessment Support Platform) is an early-stage software project designed to address this challenge. Supervisors can provide meeting transcripts, draft reports or a software repository link for analysis. The project uses a local large language model (LLM) to summarise meetings and provides an interface that allows the assessor to query the submitted data using natural language. The summarisation makes this data accessible to supervisors, allowing them to identify early issues with engagement or conflict within the group. The query tool also can link to evidence of key discussions to ensure that the AI does not falsify activity. Use of this data allows individuals within the group to be assessed more fairly; a key area of concern among students.

Results / Findings

Preliminary studies on the use of summarising transcripts when supervising groups have so far demonstrated that students respond positively to the supervisor's engagement with their discussions, and their ability to intervene early with any possible issues. This suggests that the development of GrASP will further enhance the supervisor's ability to monitor project progress and reassure the students that their individual input into the project is valued.

Conclusion

The presentation aims to open discussion on a key question that we must answer as we move towards a Challenge Based Curriculum: How do we ensure that group projects are enjoyable and meaningful for our students as well as supervised and assessed fairly by supervisors? For the next step, a planned pilot with student groups will seek to establish whether GrASP can meaningfully improve the supervisor experience and the student perceptions around fairness in group assessment.

Session 3: SERC

Time: **15:00 – 16:45** | Location: **B001** | Convenor: **Dr Gina Dolan**

Title: **H2SHIFT: Open-Innovation Test Bed Network for Hydrogen Production Technologies**

Author(s): **Jon Maddy**

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Affiliation(s): **Faculty of Computing, Engineering and Science, USW**

RIG alignment: **SERC**

Session / format: **15:00 – 16:45 | SERC | Presentation**

Conclusion

H2SHIFT demonstrates the value of connecting regional research capability to a wider European clean hydrogen innovation ecosystem. By supporting technology development, industry collaboration and workforce skills, the project contributes to sustainable innovation and advances progress towards clean energy, industrial resilience and climate action.

Introduction

Hydrogen production is essential to the decarbonisation of industry and other sectors, yet many emerging technologies struggle to progress from laboratory validation to commercial deployment. The Horizon Europe Innovation Action H2SHIFT (€9.1m) addresses this challenge through an Open-Innovation Test Bed network that provides access to specialist facilities, technical expertise and business support for clean hydrogen production technologies.

Method(s)

This presentation outlines the H2SHIFT model and focuses on the University of South Wales' contribution through the development of Anion Exchange Membrane (AEM) electrolyser test lines at the USW Hydrogen Research Centre. The approach combines industrial-scale testing infrastructure, renewable electricity supply, integrated hydrogen handling and multidisciplinary expertise in system design, safety assessment, installation, operation and performance evaluation.

Results / Findings

The AEM electrolyser test lines provide manufacturers with opportunities to assess performance, operational behaviour, safety and control strategies at pilot and pre-commercial scale. The project supports improved technology readiness through robust testing protocols, strengthens industry-university partnerships and creates clearer pathways from innovation to commercial deployment. It also contributes to postgraduate education and student engagement through challenge-based learning activities.

Title: Innovation in Council Led Hydrogen Project Development: Collaborative work with Caerphilly County Borough Council through the GW-SHIFT project

Author(s): Stephen Carr¹, Anna Lewis²

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Affiliation(s): ¹ Sustainable Environment Research Centre, Faculty of Computing Engineering and Science, USW. ² Caerphilly County Borough Council

RIG alignment: SERC

Session / format: 15:00 – 16:45 | SERC | Presentation

Introduction

Local authorities face significant challenges in achieving decarbonisation targets, particularly for hard-to-electrify applications such as vehicle fleets. While hydrogen is recognised as a potential solution, many councils lack the institutional knowledge and practical experience needed to develop and implement hydrogen systems. This project presents a collaboration between the University of South Wales (USW) and Caerphilly County Borough Council (CCBC) to advance a council-led hydrogen production initiative.

Method(s)

Building on previous funded research, the project involved a secondment into CCBC supported by GW-SHIFT funding. Activities included techno-economic analysis, system design, stakeholder engagement across council departments, hydrogen demand assessment for fleet decarbonisation, and development of an outline investment case. Technical work focused on designing an electrolytic hydrogen production system incorporating waste heat-driven water treatment to support sustainable water use.

Results / Findings

The project identified viable pathways for integrating hydrogen into council fleet operations and demonstrated the potential of alternative water sources to reduce environmental constraints associated with hydrogen production. The secondment improved understanding of both hydrogen technologies and local authority operational requirements, supporting more informed decision-making and project development.

Conclusion

This work demonstrates the value of targeted knowledge exchange in accelerating hydrogen project development within local authorities. The findings highlight opportunities for wider regional deployment of hydrogen technologies in public sector decarbonisation and have also informed teaching and student research through dissertation projects on the USW MSc Renewable Energy and Sustainable Technology programme.

Title: HYDROLOOP: Integrating Wastewater Treatment with Green Hydrogen Production

Author(s): Iain Michie, Jacob Jordan, Jaime Massanet-Nicolau, Alan Guwy

Contact: iain.michie@southwales.ac.uk

Affiliation(s): Faculty of Computing, Engineering and Science, USW

RIG alignment: SERC

Session / format: 15:00 – 16:45 | SERC | Presentation

Introduction

The OXYHYWATER system is a high-efficiency, low-emission wastewater treatment technology developed by the University of South Wales (USW). Using pure oxygen rather than air, the system significantly improves oxygen transfer efficiency and has demonstrated enhanced treatment performance compared with conventional wastewater treatment approaches. Building on this success, the HYDROLOOP project explores the integration of OXYHYWATER with hydrogen production technologies to support more sustainable water and energy systems.

Method(s)

HYDROLOOP integrates the OXYHYWATER system with a membrane-less electrolyser developed by HydroStar, which uses treated wastewater as a feedstock to produce high-purity hydrogen and oxygen. The project employs a closed-loop approach in which oxygen generated during electrolysis is reused within the OXYHYWATER treatment process, while treated effluent is utilised for hydrogen production. The pilot-scale system is being developed and tested in collaboration with Dŵr Cymru Welsh Water at the Cog Moors Wastewater Treatment Works.

Results / Findings

Pilot trials of OXYHYWATER demonstrated treatment rates approximately twice as fast as conventional systems while achieving equivalent or improved chemical oxygen demand (COD) removal. The integrated HYDROLOOP approach has identified opportunities to reduce freshwater consumption in electrolysis, lower oxygen requirements for wastewater treatment and support the removal of emerging pollutants, including PFAS compounds.

Conclusion

HYDROLOOP demonstrates the potential of integrating wastewater treatment and hydrogen production technologies within a circular, resource-efficient system. By reducing water and energy demands while supporting improved environmental performance, the project offers a promising approach to sustainable wastewater management and clean hydrogen generation.

Title: **WHEY2BUILD: Converting Dairy Waste into Sustainable Construction Materials**

Author(s): **Rhys Jon Jones, Jaime Massanet-Nicolau, Alan Guwy**

Contact: **rhys.jones@southwales.ac.uk**

Affiliation(s): **Sustainable Environment Research Centre (SERC), University of South Wales**

RIG alignment: **SERC**

Session / format: **9:30 – 11:00 | SERC / Circular Bioeconomy and Resource Recovery | Presentation**

Introduction

This project forms part of a UKRI-funded Place-Based Innovation Acceleration Account (PBIAA) within the Switch to Net Zero Buildings (SNZB) Wales initiative, exploring the biological conversion of Dairy Processing Waste (DPW) into precursors for Sustainable Building Materials (SBMs). Alongside its research objectives, the project provides a strong platform for research-led teaching and challenge-based learning. Lasting for twelve months and awarded £50,000 in funding, the project addresses the need to embed real-world sustainability challenges into the curriculum while supporting skills development aligned with the low-carbon transition. With increasing demand for sustainable construction materials and circular economy solutions, this work enables researchers and students to engage with industrially relevant problems in collaboration with First Milk, Haverfordwest. The project builds on previous SERC research into valorising waste streams, has already supported undergraduate dissertation work, and contributes to the development of future postgraduate research opportunities.

Method(s)

Fermentations of DPW will be carried out for the microbial production of Volatile Fatty Acids (VFAs). The VFAs will then be extracted from the fermentation vessels by a novel combination of solids separation and membrane technologies, which have been successfully utilised in previously published SERC research. The VFAs will then be concentrated into a nutrient solution capable of supporting the microbial production of biopolymers, which are sustainable biodegradable plastics. The solid, nutrient rich, residuals from the fermentation will be processed into fertiliser gels, which previous SERC research demonstrates enhances crop yields and reduces leaching compared with traditional fertilisers. Together, these biopolymers and crops

derived from fertiliser gels can form the precursor chemicals necessary to generate biocomposites, which are SBMs suitable for insulation, panelling, coatings and concrete reinforcement.

Results / Findings

Initial experimental results, gathered during an undergraduate dissertation programme, demonstrate that DPW can produce VFA concentrations of up to 3,000 mg L⁻¹ and yields of approximately 500 mg COD g⁻¹ VS without VFA extraction. These findings provide a strong evidence base for student led exploration of process optimisation. Previous work indicates that VFA extraction enhances productivity, forming the basis of ongoing and future student projects. Early outcomes highlight the value of embedding live research within teaching, including increased student engagement, exposure to applied problem-solving, and the development of practical laboratory and analytical skills. The project also supports interdisciplinary thinking by linking waste valorisation with sustainable construction applications.

Conclusion

WHEY2BUILD demonstrates how cutting-edge research can be effectively integrated into teaching to support challenge-based, industry-relevant learning. The project provides students with opportunities to engage in meaningful, solution-focused research addressing real sustainability challenges, while contributing to innovation in the circular bioeconomy. Early findings confirm the feasibility of converting dairy waste into valuable biorefinery products, with ongoing work focused on scaling extraction processes and advancing material applications. This approach has strong potential for wider adoption across disciplines, supporting the development of future-ready graduates equipped to address global environmental challenges.

Title: Recovery of Battery Critical Minerals and Battery Diagnostic Tools

Author(s): Dr Nildo Costa

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Affiliation(s): Sustainable Environment Research Centre (SERC), Faculty of Computing, Engineering and Science, USW

RIG alignment: SERC

Session / format: 15:00 – 16:45 | SERC | Presentation

Conclusion

Sustainable recycling solutions for LTC batteries are essential to support future regulatory requirements and the growing volume of end-of-life batteries. The collaboration between USW and industry partners is contributing to the development of safer and more effective recycling approaches while supporting future research-led teaching within the MSc Materials Science and Sustainable Chemistry programme..

Introduction

Lithium-ion batteries have transformed the way we store energy, driving a wide range of devices from smartphones to electric vehicles. Lithium thionyl chloride (LTC) batteries are widely used in applications requiring long life, high energy density and reliable performance, including smart meters, medical devices and aerospace systems. With more than 41 million smart and advanced meters installed across the UK since 2016, large numbers of LTC batteries are expected to reach end of life between 2030 and 2040, creating an urgent need for safe, sustainable and commercially viable recycling solutions.

Method(s)

This presentation investigates the challenges associated with recycling spent LTC batteries through collaborative projects with three industrial partners in Wales. The research focuses on battery testing and the development of recycling approaches that address the hazardous chemistry of LTC batteries, including controlled pre-treatment processes required to enable the safe recovery of valuable materials.

Results / Findings

The research has identified key technical challenges associated with LTC battery recycling, including the risks of toxic or corrosive gas release and thermal events during processing. The work highlights the importance of controlled pre-treatment prior to shredding and demonstrates opportunities for the recovery of critical materials, including lithium, carbon and steel.

Title: South Wales Centre for Sustainable Future Technologies: A New MSc and PhD Platform for Net Zero Skills and Innovation

Author(s): Professor Gareth R Owen

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Affiliation(s): Sustainable Environment Research Centre, Faculty of Computing, Engineering and Science, USW

RIG alignment: SERC

Session / format: 15:00 – 16:45 | SERC | Presentation

Introduction

The transition to Net Zero requires a new generation of scientists and engineers equipped with interdisciplinary skills to address challenges across energy, environmental and industrial systems. In response, the Sustainable Environment Research Centre (SERC) at the University of South Wales is expanding its research-led teaching portfolio to support the development of future-focused sustainability skills aligned with the USW2030 Research and Innovation Strategy and UK and Welsh Governments' 2050 Net Zero priorities which require scientists and engineers capable of delivering technologies that ensure sustainability, security and affordability across industrial, energy and environmental systems.

Method(s)

SERC has developed an integrated approach that combines internationally recognised research with challenge-based learning and industry engagement. Current provision includes the MSc Renewable Energy and Sustainable Technology, alongside the development of new MSc programmes in Materials Science and Sustainable Chemistry and Biorefining for the Circular Economy. The approach also incorporates the design of a multidisciplinary doctoral training pathway through a proposed Leverhulme Trust Doctoral Scholarships Centre in Sustainable Future Technologies.

Results / Findings

Recent developments have established an expanded portfolio of postgraduate and continuing professional development opportunities designed to address skills shortages in emerging green industries. The proposed Doctoral Scholarships Centre would provide an integrated research and training environment for 30 PhD students, creating a clear progression pathway from postgraduate study to doctoral research and supporting the development of future sustainability leaders.

Conclusion

This work demonstrates how research-led teaching can support the development of Net Zero skills, innovation and workforce capacity. By integrating postgraduate education, doctoral training and industry engagement, SERC aims to create a sustainable platform for developing the knowledge and expertise required to address future environmental, energy and industrial challenges.

FRIDAY 3 JULY 2026

Campus / location: **Cardiff Campus**

Indicative RIG focus: **Creative Industries; Pedagogy; Humanities; Business RIGs**

Session 1: Creative Industries / Pedagogy and Creative Industries

Time: **9:30 – 11:00** | Location: **Cinema** | Convenor: **Professor Lisa Lewis**

Title: **Media Cymru and Sustainability Responding to creative industry needs through partnership and engagement: Media Cymru: Skills and Training**

Author(s): **James Davies, Richard Hurford, Dr. Tathagata Ganguly, Sally Lisk-Lewis, Sara Buckingham**

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Affiliation(s): **Industries, Film & TV, Media Cymru**

RIG alignment: **Creative Industries**

Session / format: **9:30 – 11:00 | Creative Industries / Pedagogy and Creative Industries | Presentation**

Introduction

USW has provided skills and training provision for the Welsh screen sector as part of Media Cymru, a UKRI Strength in Places Fund project aiming to transform the Screen Sector in the CCR region into a global leader for innovation. Since 2023, USW has collaborated with 38 different organisations across 20 training courses, training over 350 people in a variety of different areas, including Sustainability Coordinators, Virtual Production, British Sign Language for screen productions, 2D Animation, 3D game engines, format development in multiple genres and film distribution.

Method(s)

The project has made use of a multi-method approach to data collection across different areas. Workforce surveys in 2022 and 2026 provided both an accurate baseline of workforce training priorities, and updated comparisons to ensure those priorities have been addressed. Evaluative surveys provided feedback on training efficacy and delivery, as well as to chart ongoing impact for those who have taken part. Additional qualitative research has been conducted,

particularly with screen sector freelancers on central themes of innovation and sustainability. The research data has been used alongside extensive liaison with industry beneficiaries (taking an organisational/ employer perspective) by our Media Cymru Training Partnership Manager, this enabled the identification of appropriate trainers and partners to design and deliver training at a fast pace to match emerging industry need.

Results / Findings

This presentation provides an overview of the outcomes and key learnings from the Media Cymru team at USW's training and research portfolio, utilising examples drawn from the training delivered in the past three years. These findings include highlighting the need to navigate complex and multi-faceted collaborative and partnership relationships, emphasising the key role of the Partnership Manager in engaging and developing relationships with industry, as well as some reflection in terms of 'what works' in designing rapid, industry focused training programmes, with an emphasis on tangible outcomes, 'training with trajectory', and a foundational research focus on understanding current, and even predicting future, industry needs.

Conclusion

This presentation is designed to provide an overview for colleagues who may be looking to work more collaboratively with industry partners in terms of delivery models, those interested in operating in opposition to traditional academic constraints to respond more effectively to rapid industry need. Further discussion will include reflections on how to plan for the legacy of large research funding projects, how investment and intervention should be 'future-proofed', and the challenges associated with delivering such a programme within traditional institutional processes and frameworks.

Title: **Litcraft: Bringing the Text to Life through Collaborative World-Building**

Author(s): **Dr Rebecca Hutcheon**

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Affiliation(s): **Faculty of Business and Creative Industries, USW**

RIG alignment: **Creative Industries**

Session / format: **9:30 – 11:00 | Creative Industries / Pedagogy and Creative Industries | Presentation**

Conclusion

The presentation concludes that Knowledge Exchange activity can function as a productive research process in its own right. By combining engagement, digital making and scholarly inquiry, the projects generated new research questions relating to mapping, verisimilitude and narrative space, while demonstrating the potential of immersive environments to support reading engagement.

Introduction

Litcraft is an initiative designed to engage reluctant readers by using gaming environments to explore literature and encourage reading for pleasure. Through the creation of large-scale literary worlds in Minecraft, accompanied by educational resources, the project aims to re-engage children with reading through play and immersive digital experiences.

Method(s)

The presentation focuses on two recent projects, Sherlock Holmes's London and On the Beat with Booth, developed through a Knowledge Exchange partnership with the design company Blockworks. The projects involved translating literary texts, historical maps and archival materials into navigable digital environments, while exploring the practical and methodological challenges associated with digital worldmaking.

Results / Findings

The Sherlock Holmes's London project revealed tensions between historical geography and the more fluid spatial relationships created through narrative. The On the Beat with Booth project used nineteenth-century poverty maps and police notebooks to reconstruct street-level experiences through movement and immersion. Together, the projects demonstrated how collaborative digital worldmaking can generate new perspectives on literary, historical and spatial interpretation.

Title: From Trust to Collaboration: Creative Practice Research and Partnership Across Borders

Author(s): Professor Florence Ayisi

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Affiliation(s): Faculty of Business and Creative Industries; USW

RIG alignment: Pedagogy and Creative Industries

Session / format: 9:30 – 11:00 | Creative Industries / Pedagogy and Creative Industries | Presentation

Conclusion

The presentation argues that partnership should be understood not simply as a mechanism for project delivery, but as a research methodology through which knowledge is generated, shared and sustained. The experiences discussed demonstrate the importance of collaborative and trust-based relationships in supporting meaningful research and engagement across diverse cultural and geographical contexts.

Introduction

This presentation explores the role of partnership and collaboration in creative practice research, drawing on documentary filmmaking and cultural heritage projects developed across the United Kingdom, Cameroon, Tanzania and Germany. It considers how trust-based relationships can support collaborative knowledge production and meaningful engagement between universities, communities, cultural institutions and international partners.

Method(s)

The presentation reflects on creative practice research within film and media disciplines, where documentary filmmaking and other creative outputs function as methods of inquiry, collaboration and knowledge exchange. Drawing on experiences from the UKRI-funded Co-POWeR project and a range of international cultural heritage collaborations, it examines the processes and relationships that underpin co-created research and creative practice.

Results / Findings

The examples presented demonstrate how long-term partnerships based on trust, reciprocity and shared purpose can support research, teaching, public engagement and impact. The projects highlight the value of collaborative approaches in generating knowledge, strengthening community engagement and creating opportunities for sustained international cooperation.

Title: Designing for Tensions: An approach to communicating interdisciplinary challenges

Author(s): Philip Harfield

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Affiliation(s): Fashion Marketing & Photography, Faculty of Business and Creative Industries, University of South Wales

**RIG alignment: Pedagogy Research and Innovation Group (PedRIG)
Future-Focused and Sustainable Pedagogies**

Session / format: 9:30 – 11:00 | Creative Industries / Pedagogy and Creative Industries | Presentation

Introduction

Advertising sits at the intersection of consumption and responsibility, creating tensions that make it well suited to Challenge-Based Curriculum (CBC). Rather than resolving these tensions, the BA Advertising curriculum treats them as opportunities for inquiry, reflection, collaboration, and creative practice. Advertising shapes norms around gender, class, race, body image, aspiration, and wellbeing, creating tensions between influence and ethics, persuasion and responsibility, and commercial success and social impact.

While challenge-based approaches often begin with broad societal agendas such as the UN Sustainable Development Goals (SDGs), lecturers face the practical challenge of designing learning activities that connect shared challenges to discipline-specific practice. In interdisciplinary settings, students must contribute to collective outcomes while maintaining a clear sense of how their disciplinary expertise is relevant. Without this connection, challenge-based learning can become generic and reduce opportunities for meaningful collaboration.

This proposal introduces Designing for Tensions (DfT), a curriculum design framework that uses tensions as a starting point for connecting societal challenges to disciplinary learning. The central proposition is that tensions can help preserve disciplinary distinctiveness while supporting interdisciplinary collaboration.

Method(s)

DfT supports the design of challenge-based modules by identifying tensions operating across different levels of a challenge context, from policy and stakeholder priorities to disciplinary concerns and student activities. Rather than beginning with solutions, the framework encourages educators to identify competing priorities, values, and interests that shape a challenge.

Two DfT tools are proposed. The first is a Communication Tool that maps actors, beneficiaries, audiences, and key tensions to communicate why collaboration is necessary. The second is an Alignment Tool that connects identified tensions to discipline-specific learning outcomes, activities, and assessment.

For example, within a Health and Wellbeing challenge (SDG3), tensions may emerge between behaviour change and stigma, innovation and accessibility, or commercial viability and social responsibility. These tensions provide different entry points for disciplines while maintaining a shared challenge focus.

Results / Findings

As a conceptual proposal, DfT is expected to support interdisciplinary learning in three ways. First, it helps students recognise the relevance of their disciplinary expertise within a shared challenge. Second, it creates opportunities to question established norms, assumptions, and barriers to change by making competing perspectives and interests visible. Third, it helps align societal challenges, disciplinary learning, and collaborative outcomes without reducing the complexity of the challenge itself.

Conclusion

Designing for Tensions proposes tensions as an organising principle for challenge-based curriculum design. By helping communicate the rationale for collaboration and align disciplinary learning with shared challenges, DfT seeks to support interdisciplinary learning that is both collaborative and discipline-specific. Future work will focus on developing and evaluating additional DfT tools within interdisciplinary educational contexts.

Title: **What Happens When Industry Takes Over the Curriculum?**

Author(s): **Emma Jones**

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Affiliation(s): **SIZE?, Faculty of Business & Creative Industries; BA (Hons) Fashion Design, BA(Hons) Fashion Business Marketing, BA (Hons) Fashion Promotion**

RIG alignment: **Business**

Session / format: **9:30 – 11:00 | Creative Industries / Pedagogy and Creative Industries | Presentation**

Introduction

What happens when industry takes over the curriculum? The SIZE? Syllabus Project responds by placing industry at the centre of learning and, for the first time, bringing together students from Fashion Design, Fashion Business Marketing, and Fashion Promotion to work in multidisciplinary teams. This marks a significant shift in curriculum design, mirroring the interconnected structure of fashion brands and the wider industry. Embedded within a Level 5 Fashion Industry Experience module at the University of South Wales, the project integrates a live, UK-wide competition, challenging traditional approaches to teaching, assessment, and student engagement.

By working from a live brief in partnership with this national retailer, and with direct input from industry, students move beyond simulation and engage with real expectations and constraints. This creates a more active, practice-based learning environment, where creativity, collaboration, and commercial thinking are developed through working across disciplines, testing ideas, and making decisions in real time.

Method(s)

The module is designed around a Challenge-Based Curriculum (CBC) approach, placing a live brief from SIZE? at its centre and embedding authentic assessment throughout. Led by Emma Jones and co-delivered with Sally Phillips and Rebecca Grant, the project engages 11 interdisciplinary teams from Fashion Design, Fashion Business Marketing, and Fashion Promotion.

Students collaboratively develop and pitch a new fashion brand, integrating design, branding, pricing, and marketing into a cohesive response. The process emphasises ambition, bravery, and creativity, encouraging students to take risks, think critically, and navigate uncertainty.

Through teamwork, project planning, and problem solving, students respond to real industry expectations while engaging directly with SIZE? through talks, mentoring, and feedback. The curriculum prioritises student agency, requiring learners to take ownership of decisions and outcomes.

Students also develop digital skills, including the use of creative platforms and emerging artificial intelligence (AI) to support research, concept development, and communication. This creates a high-energy environment where experimentation is valued and professional practice is actively simulated.

Results / Findings

Student feedback highlights increased confidence, stronger industry insight, and the value of interdisciplinary collaboration. The competitive structure - featuring awards for Research & Development, Design & Range Building, Creative Direction, and the SIZE? Overall Award for Excellence - enhances engagement and accountability. Industry involvement in talks, mentoring, and judging further strengthens authenticity. The University of South Wales is the only Welsh institution participating in this national partnership.

Conclusion

The SIZE? Syllabus Project demonstrates how embedding live industry collaboration can foster ambitious, creative, and industry-ready graduates. By combining Challenge-Based Curriculum design with authentic assessment and strong industry engagement, the project enhances student experience, employability, and confidence, offering a scalable model for innovative curriculum design.

Session 2: Pedagogy RIG

Time: **11:30 – 12:30** | Location: **Cinema** | Convenor: **Karl Luke**

Title: **The need for reflection in curriculum design**

Author(s): **Dr Louise Pennell**

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Affiliation(s): **Faculty of Computing, Engineering and Science, USW**

RIG alignment: **Pedagogy RIG**

Session / format: **11:30 – 12:30 | Pedagogy RIG | Presentation**

Introduction

This session critically examines the role of reflection in effective curriculum design, drawing on current research that investigates the relationship between academic professional identity and academic practice. It presents a conceptual model that positions the self and reflective practice as central dimensions in the development of meaningful curricula within higher education. Through an exploration of identity formation and reflective engagement, the session demonstrates how academics' understandings of their professional identities inform pedagogical decision-making, contribute to coherence in curriculum design, and support authenticity in teaching practice.

Method(s)

The session will open with a brief overview of the research context and the development of the model, establishing its relevance to contemporary higher education practice. It will then focus on the 'reflection' component, demonstrating how it can strengthen self-awareness and bring greater alignment between teaching values and curriculum design. Participants will be actively engaged in a structured reflective activity, designed to prompt meaningful consideration of their own professional identities and approaches to curriculum design, while fostering rich discussion and the exchange of practice-based insights.

Results / Findings

The session will give participants practical insight into how ongoing reflective practice can improve curriculum alignment, build confidence in teaching, and support the design of more purposeful and coherent learning experiences. It will also show how these approaches can positively impact students by increasing engagement, clarifying learning pathways, and creating more meaningful learning outcomes. Participants will leave with practical ideas they can apply in their own contexts to strengthen both their teaching practice and curriculum design.

Conclusion

The session will conclude by considering the implications for embedding reflective practice at an institutional level. It will situate reflection within a broader challenge-based pedagogical approach that promotes collaboration among academic staff, students, and external partners. Such an approach enables the co-creation of curricula that are both personally meaningful and socially responsive.

Title: Belonging, Bilingualism and enhancing student success

Author(s): Bronwen Rickard, Heledd Smith.

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Affiliation(s): Welsh Employability Team, Coleg Cymraeg Cenedlaethol, Faculty of Business and Creative Industries, University of South Wales,

RIG alignment: Pedagogy RIG

Session / format: 11:30 – 12:30 | Pedagogy RIG | Presentation

Introduction

This presentation explores how strengthening belonging and developing inclusive learning communities can support student confidence, engagement and employability within higher education. It focuses on the ongoing work of the Welsh Employability Team at the University of South Wales (USW), which delivers flexible Welsh-language employability provision across levels, disciplines and campuses. The initiative responds to institutional and national priorities relating to inclusion, bilingualism, widening participation and graduate outcomes, while supporting the Welsh Government's Cymraeg 2050 strategy and the development of a bilingual workforce in Wales.

Method(s)

The project adopts a student-centred and adaptable delivery model, comprising cross-disciplinary Welsh Employability modules, embedded curriculum activity and personalised support delivered through small-group and one-to-one teaching, both online and on campus.

The provision supports both fluent and non-fluent Welsh speakers through differentiated learning opportunities tailored to learners' linguistic backgrounds and career aspirations. Fluent students engage with authentic employability activities through the medium of Welsh, while non-fluent students develop language confidence, specialist employment-related terminology and the skills required to use Welsh in professional contexts.

Alongside employability, the project functions as a culturally sustaining initiative that strengthens belonging and Welsh identity. Drawing on principles associated with Culturally Sustaining Pedagogy and Identity-Affirming Education, the provision seeks to validate students' linguistic and cultural experiences

while widening participation in Welsh-medium opportunities across disciplines. Student case studies, module evaluation data and learner feedback inform the ongoing evaluation and development of the initiative.

Results / Findings

Emerging findings indicate increased learner engagement, improved confidence in using Welsh professionally and a strengthened sense of belonging, supporting students' connection to the university, and their future contribution to bilingual communities and the wider economy. The project engages approximately 200 students annually and has achieved over 600 Welsh Employability module completions since 2020, demonstrating sustained year-on-year growth. Module evaluation data relating to student experience, teaching quality and module delivery remains exceptionally positive, with 100% of responses rated positively across areas including staff support, engagement, organisation and overall satisfaction. Students consistently highlight the approachable and supportive teaching staff alongside the inclusive and personalised learning experience.

The project also contributes to wider institutional culture change by leading on embedding Welsh-medium opportunities across disciplines and supporting increased use of Welsh among staff and students. This is particularly significant within the USW context, where Welsh speakers represent a relatively small proportion of the local population compared with many Welsh higher education institutions, yet engagement with Welsh-medium opportunities continues to grow.

Conclusion

This work demonstrates how inclusive, bilingual and employability-focused pedagogies can strengthen belonging and support student success while contributing to institutional, economic and social priorities linked to bilingual skills development and reduced inequalities. With relevance across curriculum areas, it can collaboratively support colleagues in their work towards these shared aims.

The project illustrates how Welsh-medium opportunities can function as both employability interventions and culturally sustaining practices, supporting students' linguistic, cultural and professional identities.

Future developments include expanding Welsh provision through the University's Challenge-Based Curriculum and developing a university-wide Level 4 Welsh awareness module exploring the social, cultural, political and linguistic context of Wales.

Title: Exploring Stakeholder Perspectives on Integrated Programmatic Assessment Across UK Higher Education

Author(s): ¹Dr Lewis Fall, ²Ryan James, ³Dr Mark Davies

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³ Faculty of Life Sciences and Education, University of South Wales

RIG alignment: Pedagogy RIG

Session / format: 11:30 – 12:30 | Pedagogy RIG | Presentation

Introduction

Integrated Programmatic assessment (IPA) evaluates learning via continuous collection and analysis of multiple low-stakes assessments interspersed with several higher stakes assessments at key intervals (Bate et al., 2020). Crucially, rather than treating assessments as isolated events, IPA adopts a holistic view of the whole programme, demonstrating how each assessment contributes to the curriculum (Jessop, El Hakim and Gibbs, 2014), integrating assessment tasks, emphasising feedback, reflection, and student engagement (Saiyad et al., 2021). This study explores the perceptions of how IPA is being incorporated and adapted within Higher Education programmes.

Method(s)

Participants (academics, and professional services staff) were recruited via a survey distributed through the IPA Network, JISC mailing lists, a QAA Collaborative Enhancement Projects advertisement and through the professional networks of the project team. Following informed consent, participants attended online semi-structured interviews, the transcriptions of which were thematically analysed (Braun and Clarke, 2006; Naeem et al., 2023) in NVivo (Lumivero (2023) NVivo (Version 14)).

Results / Findings

Six themes emerged: Educational Philosophy and Academic Conviction, Curriculum Connectivity, Authenticity, Workload Sustainability and Addressing Assessment Overload, Systemic and Administrative Friction, and Ownership, buy-in & Early Involvement. By placing authenticity as the primary organising principle, IPA allows for complex, real-world assessment that inherently fosters professional relevance, producing students that are adept at information synthesis. This shift also functions as a strategic response to assessment overload, optimising both staff and student bandwidth by replacing high-volume, low-impact testing with streamlined, meaningful evaluation. However, the successful implementation of IPA faces significant systemic friction from modular-centric administrative structures and requires deep, collective ownership from the academic team to avoid superficial levels of integration.

Conclusion

This study provides compelling evidence that transitioning to Integrated Programmatic Assessment (IPA) requires more than just rewriting assessment criteria; it demands a fundamental paradigm shift away from traditional, siloed modular structures toward a holistic, program-led curriculum. While IPA offers a powerful strategic mechanism to reduce assessment overload and enhance real-world authenticity for UK and EU graduates, its success is fundamentally contingent upon overcoming systemic administrative inertia and fostering deep academic buy-in. To move beyond superficial implementation, Higher Education institutions must proactively realign their quality assurance processes and administrative systems to support collaborative, continuous, and integrated learning journeys.

References

- Bate, F., Fyfe, S., Griffiths, D., Russell, K., Skinner, C. and Tor, E. (2020) 'Does an incremental approach to implementing programmatic assessment work? Reflections on the change process'. *MedEdPublish* 9, p. 55. Available at: doi:10.15694/mep.2020.000055.1.
- Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology'. *Qualitative Research in Psychology* 3(2), pp. 77–101. Available at: doi:10.1191/1478088706qp063oa.
- Jessop, T., El Hakim, Y. and Gibbs, G. (2014) 'The whole is greater than the sum of its parts: a large-scale study of students' learning in response to different programme assessment patterns'. *Assessment & Evaluation in Higher Education* 39(1), pp. 73–88. Available at: doi:10.1080/02602938.2013.792108.
- Naeem, M., Ozuem, W., Howell, K. and Ranfagni, S. (2023) 'A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research'. *International Journal of Qualitative Methods* 22, p. 16094069231205789. Available at: doi:10.1177/16094069231205789.
- Saiyad, S., Bhagat, P., Virk, A., Mahajan, R. and Singh, T. (2021) 'Changing Assessment Scenarios: Lessons for Changing Practice'. *International Journal of Applied & Basic Medical Research* 11(4), pp. 206–213. Available at: doi:10.4103/ijabmr.IJABMR_334_21.

Title: **Compassionate Challenge Based Curriculum**

Author(s): **Dr Marie Clifford**

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Affiliation(s): **Faculty of Business and Creative Industries, USW**

RIG alignment: **Pedagogy RIG**

Session / format: **11:30 – 12:30 | Pedagogy RIG | Presentation**

Conclusion

The work demonstrates that compassionate pedagogy can be embedded in structured ways to support meaningful learning for all students. Its implications for practice include the potential to redesign assessment and learning environments to be more inclusive while maintaining standards. Future directions include broader implementation and further exploration of how universal compassionate practices can support diverse learner populations.

Introduction

Situated within the context of widening participation, trauma-informed education and challenge-based learning, this presentation explores the opportunity to embed compassionate pedagogy as a structured and intentional approach to teaching, learning and assessment. It draws on literature, alongside principles of transparency and inclusive practice for neurodiverse learners, to position compassionate challenge-based curricula (CBC) as a way to prioritise safety, trust, collaboration, self-regulation and purposeful challenge.

Method(s)

An evaluation approach was taken assessing CBC through a compassionate pedagogy lens. Areas identified included scaffolding assessments, clearly communicating expectations, supporting purposeful peer interaction, offering flexible assessment choices and paying particular attention to potentially high-pressure learning activities such as presentations, examinations and teamwork. The model advocates applying compassionate practices universally, rather than as deficit-based accommodations, while maintaining clear academic standards and boundaries.

Results / Findings

Applying a compassionate approach is associated with increased student engagement, confidence and sense of belonging. It enhances assessment literacy, resilience and self-efficacy, particularly for mature and neurodiverse learners. The CCBC model illustrates how compassion can be effectively operationalised within challenge-based curricula without reducing academic rigour.

Session 3: Humanities

Time: **13:30 – 14:45** | Location: **Cinema** | Convenor: **Professor Lisa Lewis**

Title: **Histories of Hate: Othering and Marginalisation in Early Modern Europe**

Author(s): **Dr Ruth Atherton**

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RIG alignment: **Humanities**

Session / format: **13:30 – 14:45 | Humanities | Presentation**

Conclusion

The presentation highlights the ways in which religious beliefs can influence responses to public health crises and social division. By exploring historical responses to plague, the paper offers insights into contemporary debates surrounding public health, ethics, misinformation and social responsibility, and considers how past experiences may inform future religious, social and political strategies.

Introduction

In the pre-modern Christian world, plague was often understood as a manifestation of divine judgement. This presentation explores how sixteenth-century understandings of Christian life shaped responses to disease, social crisis and community relations, and considers the continuing relevance of these themes in contemporary debates around public health, ethics and misinformation.

Method(s)

Using a case study of sixteenth-century Nuremberg during a major plague outbreak in the 1530s, the paper draws on the sermons and printed works of the city's leading preacher, Andreas Osiander. The analysis examines how Osiander's understanding of Christian life influenced his teaching and recommendations for responding to plague.

Results / Findings

The study demonstrates that Osiander viewed compassion and care for one's neighbour as central expressions of Christian faith. This understanding shaped both social and political responses to the plague, encouraging collective responsibility and support for vulnerable members of the community during a period of significant uncertainty and fear.

Title: **History on Trial; Challenging Injustice from Historical Perspectives**

Author(s): **Chris Hill, Alan Owen**

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Affiliation(s): **Faculty of Business and Creative Industries, USW; LABRATS CIC**

RIG alignment: **Humanities**

Session / format: **13:30 – 14:45 | Humanities | Presentation**

Introduction

History on Trial is a challenge-based curriculum module that explores historical justice and its contemporary implications. Through case studies including the Aberfan disaster, reparations campaigns and British nuclear weapons testing, students examine how past injustices continue to generate legal, political and ethical challenges in the present.

Method(s)

The module adopts justice- and trauma-informed approaches to learning, encouraging students to engage critically with questions of memory, evidence, accountability and redress. Learning is enhanced through safeguarded collaboration with campaigners, survivors and community partners who contribute directly to teaching and research activities. This includes ongoing engagement with Alan Owen, founder of the nuclear test veterans' organisation LABRATS and a longstanding contributor to teaching and research at USW.

Results / Findings

The module demonstrates how challenge-based learning can be applied within History by connecting disciplinary knowledge to contemporary issues of justice and social responsibility. Students are encouraged to develop higher-order critical thinking skills while engaging with complex questions concerning the nature of justice, evidence and historical interpretation. The involvement of external partners further enriches learning through authentic engagement with lived experience and ongoing advocacy. Contributions from partners such as Alan Owen enrich learning through lived experience and advocacy, providing students with direct insight into the continuing impact of historical injustice and campaigns for recognition and redress.

Conclusion

The presentation argues that challenge-based learning and partnership can be reinterpreted within History as approaches that extend beyond employability and skills development. By foregrounding care, trust, sensitivity and collaboration, the module demonstrates the potential of humanities education to address contemporary social challenges while fostering meaningful engagement between students, researchers and community partners.

Bibliography:

Dickson, Adam. 'Beyond the Facts: A Trauma-Informed Approach to Balancing Truth and Trauma in History Education.' *Impact: The Journal of the Chartered College of Teaching*, no. 25 (2025).

Evans, Richard J. *Telling Lies About Hitler: The Holocaust, History and the David Irving Trial*. London: Verso, 2002.

Nuclear Truth Project, 'Protocols: A Demand for Ethical Relationship,' accessed May 29, 2026, Nuclear Truth Project.

Parr, Joy. *Sensing Changes: Technologies, Environments, and the Everyday, 1953–2003*. Vancouver: UBC Press, 2010.

Smith, Linda Tuhiwai. *Decolonizing Methodologies: Research and Indigenous Peoples*. 2nd ed. London: Zed Books, 2012.

Title: **Classics and the canon: challenging gender inequality through women's writing**

Author(s): **Professor Diana Wallace**

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Affiliation(s): **English, Faculty of Business and Creative Industries, USW**

RIG alignment: **Humanities**

Session / format: **13:30 – 14:45 | Humanities | Presentation**

Conclusion

In addition to the work of Aaron and Wallace, two previous volumes have been edited by former research students from the then University of Glamorgan. And the 39th text in Honno's series, Allen Raine's Garthowen will be edited by Dr Juliet Larsen who recently completed her PhD at USW.

Introduction

Despite four waves of feminism, gender inequality (especially as it intersects with class, race and nationality), is still one of the greatest challenges we face as a society. Reading, teaching and researching women's writing offers a powerful way of identifying, understanding and challenging that inequality. However, Anglophone Welsh women's writing has been particularly neglected; much of this writing was out of print and virtually forgotten for decades.

Method(s)

This presentation will focus on how my research in women's writing has fed into my editing of three books for Honno's Welsh Women's Classics series (Hilda Vaughan's *Here are Lovers and Harvest Home*, and Margaid Evans's *Autobiography*) and my new role as one of the editors of the series. Founded in 1998 with Emeritus Professor Jane Aaron (Glamorgan/USW) as Editor, Honno's series has now brought 38 texts by Welsh women's texts back into print in elegant, accessible editions with scholarly introductions.

Results / Findings

Honno's series has made previously neglected texts available for a new generation of readers, including researchers, teachers and students. It has radically altered our understanding of women's contribution to the literary tradition in and from Wales and introduced these texts to a much wider readership. Honno's edition of *Autobiography*, for instance, was reviewed in *The Guardian*. The texts frequently tackle historical, cultural and social issues – class and gender inequality, 'toxic masculinity', our relationship to the natural world – which are still current today. Thus they can help us to understand the present as well as the past.

Session 4: Business

Time: **15:00 – 16:00** | Location: **Cinema** | Convenor: **Professor Martin Stegall**

Title: **How Does Time Affect Consumer Behaviour in Circular Fashion Markets?**

Author(s): **¹Dr Lauren Josie Thomas, ²Dr Rosy Boardman, ³Dr Rebecca Beech, ⁴Dr Charles Hancock**

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Affiliation(s): **¹University of South Wales; ²The University of Manchester; ³Oxford Brookes University; ⁴University of Derby**

RIG alignment: **Business**

Session / format: **15:00 – 16:00 | Business | Presentation**

Introduction

Circular and sustainable fashion are often associated with slower and more mindful forms of consumption. However, consumers do not make decisions in isolation, and certain markets may make slower forms of consumption difficult to maintain in practice. This presentation explores how macro-level time pressures shape consumer behaviour within circular fashion markets, focusing on wedding dress shopping as a highly symbolic and emotionally significant form of consumption.

The presentation examines how consumers navigate competing pressures surrounding sustainability, convenience, identity, emotional reassurance, and time-sensitive decision-making. It also considers whether existing ideas surrounding “slow” consumption fully account for the realities of ritual and high-pressure consumption environments

Method(s)

The study used the Zaltman Metaphor Elicitation Technique (ZMET), a qualitative visual methodology designed to explore emotional and symbolic aspects of consumer behaviour. Eighteen UK participants who had engaged with wedding dress shopping took part in in-depth interviews.

Participants selected images representing their thoughts and feelings about second-hand wedding dresses before discussing these within online interviews. Data were analysed interpretively to explore shared themes surrounding sustainability, emotional attachment, symbolic expectations, and experiences of time pressure within bridal consumption.

Results / Findings

Findings suggest that consumers frequently support the idea of slower and more sustainable consumption, but struggle to maintain these intentions within ritual market contexts. Participants described tensions between sustainability aspirations and the practical, emotional, and symbolic pressures associated with wedding planning.

Retail systems, digital platforms, social expectations, and limited planning timelines often encouraged faster and more conventional purchasing decisions, even among participants who initially expressed strong interest in second-hand or circular consumption. Participants also described repeatedly moving between slower and faster consumption preferences as they attempted to balance sustainability, reassurance, convenience, and emotional significance.

The findings suggest that ritual consumption environments may complicate existing assumptions about how and when slower forms of consumption emerge in practice.

Conclusion

This presentation contributes to discussions surrounding sustainable consumer behaviour by exploring the relationship between time, symbolism, and consumption within circular fashion markets. It suggests that sustainable consumption may be influenced not only by individual attitudes, but also by the wider organisation of retail systems, social expectations, and time-sensitive market environments.

The research offers insights relevant to sustainable retail, circular fashion development, and future research exploring how consumers navigate competing pressures surrounding sustainability and convenience in emotionally significant consumption contexts.

Title: From Taith Mobility to Published Impact: Advancing Metaverse Marketing Research through International Collaboration with Jordan

Author(s): Dr Ahmed Abdullah

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Affiliation(s): Business School, Faculty of Business and Creative Industries, USW

RIG alignment: Business

Session / format: 15:00 – 16:00 | Business | Presentation

Conclusion

The presentation highlights the value of international mobility and research collaboration in generating impactful research outputs and strengthening cross-border academic partnerships. It also demonstrates how immersive technologies are reshaping consumer engagement, brand relationships and marketing practice in digital environments.

Introduction

This presentation reflects on how a Taith-funded research visit to Jordan in 2024 supported the development of international research collaboration and contributed to a published study exploring metaverse marketing and consumer behaviour in immersive virtual environments.

Method(s)

The presentation draws on experiences from the research visit and discusses findings from the published study, *Treasure Hunting for Brands: Metaverse Marketing Gamification Effects on Purchase Intention, WOM, and Loyalty*. Using survey data from 516 UK consumers and the Stimulus-Organism-Response framework, the study examined the effects of gamified marketing activities within the metaverse on consumer attitudes and behaviours.

Results / Findings

The findings demonstrate that metaverse-based gamified marketing activities positively influence brand satisfaction, hedonic value, utilitarian value and consumer engagement. These factors contribute to the development of brand love, which in turn strengthens purchase intention, positive word-of-mouth and brand loyalty. The collaboration also facilitated the development of international research networks and shared understanding of emerging digital marketing practices.

APPENDIX ONE:

Presenter Index

First Author	Presentation Title	Affiliation	RIG
Adam Henley	IUK/DEFRA Farming Futures (WASE): Developing Next Generation Organic Waste Treatment Systems for Low Emissions Farming	Sustainable Environment Research Centre, Faculty of Computing, Engineering and Science, University of South Wales	Circular Bioeconomy and Resource Recovery
Ahmed Abdullah	From Taith Mobility to Published Impact: Advancing Metaverse Marketing Research through International Collaboration with Jordan	Business School, Faculty of Business and Creative Industries, USW	Business
Alun King	Introducing GrASP: The Group Assessment Support Platform	Faculty of Computing, Engineering and Science	Pedagogy RIG (focussed on AI)
Amy Giles	Designing Learning for Everyone: Inclusion, Clarity, and the Future of AI	CELT, University of South Wales	Pedagogy RIG (focussed on AI)
Andrew Kirby	South East Wales Reaching Wider	Engagement, Research and Commercialisation, University of South Wales	Civic/ community engagement Showcase
Andrew Ware	Upskilling Medical Professionals in Uganda using VR	Faculty of Computing, Engineering and Science, USW	Computing, Cybersecurity, Mathematics and Informatics
Anna Playle	It has to be Win, Win': Community Co-production to Transform Challenge-Based Learning, Service Provision, and Policy	Faculty of Life Sciences and Education, USW	Health and wellbeing
Anna Playle	Amplifying Voices: Creativity, Mental Health, and Community Wellbeing	Faculty of Life, Science and Education, USW	Civic/community engagement Showcase
Aylwin Yafele	One Business School: Embedding Industry Through Advisory Boards and Business Pulse	South Wales Business School, Faculty of Business and Creative Industries, University of South Wales	Business Research and Innovation Group, Business Capabilities

First Author	Presentation Title	Affiliation	RIG
Brendan Cropley	Creating World-Class Coach Education and Development through Research Informed Evidence	Faculty of Life Sciences and Education	Sport and Exercise
Bronwen Rickard	Belonging, Bilingualism and enhancing student success	Welsh Employability Team, Coleg Cymraeg Cenedlaethol, Faculty of Business and Creative Industries, University of South Wales	Pedagogy RIG
Carl Jones	Teaching at the Edge: Challenge-Based Learning in AI for Robotics and Aerospace	Computing, Faculty of Computing, Engineering and Science, University of South Wales	Computing, Cybersecurity, Mathematics and Informatics
Chris Emsley	Exploring Learner Development on Sport Degree Programmes	Sport, Faculty of Life Sciences and Education, University of South Wales	Sport and Exercise
Chris Hill	History on Trial; Challenging Injustice from Historical Perspectives	Faculty of Business and Creative Industries, USW; LABRATS CIC	Humanities
Christian Kaunert	The EU as a Global Counter-Terrorism Actor	Policing and Security, Faculty of Life Sciences and Education, USW	Criminology, Policing and Security
Christian Laycock	Use of HyDigest and SIFER Research to Inform Postgraduate Teaching in SERC	Sustainable Environment Research Centre, Faculty of Computing, Engineering and Science, University of South Wales	SERC
Claire Parmenter	Hydra Research and Innovation Centre Culture and Conduct improvement across public services – case study South Wales Fire and Rescue Service.	Faculty of Life Sciences and Education	Hydra
Damian Bailey	Neurovascular Evidence to National Guidelines: Transforming Concussion Safety in UK Sport	Neurovascular Research Laboratory, Faculty of Life Sciences and Education, University of South Wales	Sport and Exercise
David Lee	Evidence-informed policy: Developing national biodiversity targets and indicators	Faculty of Computing, Engineering and Science, USW	Earth, Ecology and Environment RIG

First Author	Presentation Title	Affiliation	RIG
Deborah Lancaster	Period Dignity in Grass Roots Sport	Faculty of Life Sciences and Education	Applied Psychology
Diana Wallace	Classics and the canon: challenging gender inequality through women's writing	English, Faculty of Business and Creative Industries, USW	Humanities
Emanuele Alves	The Development of a Colorimetric Rapid Test for Cannabinoid Detection via 3D Printing Techniques	University of South Wales	Earth, Ecology and Environment
Emily Bull	The impact on children and young people's wellbeing through creativity and parades	Faculty of Business and Creative Industries, USW	Civic/community engagement Showcase
Emma Chivers	Access Is Not Enough: Foundation Years as Reproductive Spaces Supporting Belonging, Engagement and Success	Centre for the Enhancement of Learning and Teaching (CELT), University of South Wales	Pedagogy Research and Innovation Group (PedRIG) – Transformative and Inclusive Learning Environments
Emma Higgins	Conservation Technology in Practice: Integrating Digital Tools, International Partnerships, and Cross-Faculty Collaboration to Advance Ecological Monitoring and Student Experience	Applied Sciences, Faculty of Computing, Engineering and Science, University of South Wales	Earth, Ecology and Environment and Engineering
Emma Jones	What Happens When Industry Takes Over the Curriculum?	SIZE?, Faculty of Business & Creative Industries; BA (Hons) Fashion Design, BA(Hons) Fashion Business Marketing, BA (Hons) Fashion Promotion	Business
Ethem Ilbizi	Platform Governance and the Institutional Economics of Knowledge Equity	University of South Wales	Criminology, Policing, and Security
Filippos Proedrou	Navigating the global political economic environment to gauge investment decisions	Business School, Faculty of Business and Creative Industries, USW	Social policy

First Author	Presentation Title	Affiliation	RIG
Florence Ayisi	From Trust to Collaboration: Creative Practice Research and Partnership Across Borders	Faculty of Business and Creative Industries; USW	Pedagogy and Creative Industries
Gareth R Owen	South Wales Centre for Sustainable Future Technologies: A New MSc and PhD Platform for Net Zero Skills and Innovation	Sustainable Environment Research Centre, Faculty of Computing, Engineering and Science, USW	SERC
Gareth Roderique-Davies	Trauma-informed Psychological Support with Long-Acting Injectable Buprenorphine: Evaluation of the Buvidal Psychological Support Service (BPSS) Pilot in Wales	University of South Wales	Applied Psychology
Gina Dolan	Declining Trust and Confidence in the Police: Exploring the generational gap	Faculty of Life Science and Education; USW	Hydra
Hammad Nazir	Advancing battery technology for wearable and implantable devices, the current challenges and future directions	Faculty of Computing, Engineering and Science; USW	Engineering
Iain Michie	HYDROLOOP: Integrating Wastewater Treatment with Green Hydrogen Production	Faculty of Computing, Engineering and Science, USW	SERC
Ioan Paval	Pax in Igne: Thriving in the Fire: A Case Study of Successful Challenge-Based Curriculum Implementation -	Sport, Faculty of Life Sciences and Education, University of South Wales	Pedagogy Research and Innovation Group
Jaime Massanet-Nicolau	BIO-VISTA: Low-Temperature Biorefining from Laboratory Discovery to Industrial Deployment	Sustainable Environment Research Centre (SERC), Faculty of Computing, Engineering and Science, University of South Wales	Sustainable Environment Research Centre (SERC)
James Davies	Media Cymru and Sustainability Responding to creative industry needs through partnership and engagement: Media Cymru: Skills and Training	University of South Wales, Faculty of Business and Creative Industries, Film & TV, Media Cymru	Creative Industries

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Jamie James	The Impact of Working-Class Status on Professional Identity Formation: A Narrative Study of Student Teachers in Wales	Faculty of Life Sciences and Education, University of South Wales	Pedagogy RIG
Jill Stewart	Real-Time Expert-System to Predict Complications during Renal Dialysis Treatment	Faculty of Computing, Engineering and Science, University of South Wales	Engineering
Jon Maddy	H2SHIFT: Open-Innovation Test Bed Network for Hydrogen Production Technologies	Hydrogen Research Centre, Faculty of Computing Engineering and Science, USW	SERC
Joseph Griffiths	Low-cost Unmanned Aerial Vehicles (UAVs) for Monitoring South Wales Coal Tips	Faculty of Computing, Engineering and Science, USW	Computing, Cybersecurity, Mathematics and Informatics
Josie Bradley	Community Science Festival: Inspiring Curiosity Through Hands-On Science	Applied Sciences Subject Area, Faculty of Computing, Engineering and Science, University of South Wales	Civic Mission, Community Engagement and Student Experience
Kang Li	Optoelectronics at USW: A Decade of Research and Real-World Impact	Faculty of Computing, Engineering and Science, University of South Wales.	Engineering Research and Innovation Group
Kate Williams	Defining the Pathway to Success: WRU Schools and Colleges Testing Project	University of South Wales, Welsh Rugby Union	Sport, Health and Exercise Science
Katy Holloway	Long-acting opioid substitution treatment: insights from the pan-Wales evaluation of Buvidal	Faculty of Life Sciences and Education, USW	Criminology, Policing and Security
Kev Stone	"I was going into it blind": Nearest Relatives, Legal Literacy and the Mental Health Act 1983	Faculty of Life Sciences and Education, USW	Health and wellbeing
Klara Price	Power to the dads: Mixed Methods Exploration of Dads' Voice, Participation, Understanding of Children's Rights and Support	Psychology, Faculty of Life Sciences and Education, University of South Wales	Psychology (Health & Wellbeing) RIG

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Lauren Josie Thomas	The Promotion Puzzle: Why Wales' Working Women Need More Support	University of South Wales	Leadership, Equality, Diversity and Inclusion, and Applied Social Research
Lauren Josie Thomas	How Does Time Affect Consumer Behaviour in Circular Fashion Markets?	University of South Wales	Business
Leshan Uggalla	Space, Skills and Creativity: An innovative STEAM approach to inspiring the next generation of the Space workforce	Faculty of Computing, Engineering and Science (FCES), USW	Civic/community engagement Showcase
Lewis Fall	Exploring Stakeholder Perspectives on Integrated Programmatic Assessment Across UK Higher Education	Applied Sciences Centre for Pedagogic Research, Faculty of Computing, Engineering and Science, University of South Wales	Pedagogy RIG
Liam Newton	Bridging the AI literacy gap: Co-designing and embedding an AI credential meeting the needs of students, staff and employers	South Wales Business School; USW	Pedagogy
Louise Pennell	The need for reflection in curriculum design	Faculty of Computing, Engineering and Science, USW	Pedagogy RIG
Lynda Jones	Supporting Positive Outcomes for Contextual Offer Students – Early Intervention	University of South Wales, FLSE, FBCI, FCES, Student Services, Future Students and Learning Services	Transformative and Inclusive Learning Environments
Marie Clifford	Compassionate Challenge Based Curriculum	Faculty of Business and Creative Industries, USW	Pedagogy RIG
Mike Chick	A multilingual, decolonial approach to language education for adult refugees and migrants: bridging policy, practice and theory across the devolved UK nations (MDLE)	Faculty of Business and Creative Industries; USW	English
Mike Edwards	Enhancing Experiential Learning through Persona-Based Artificial Intelligence	Policing and Security, Faculty of Life Sciences and Education, USW	Criminology, Policing and Security

First Author	Presentation Title	Affiliation	RIG
Nick Lambert	Implementing enhanced entrepreneurship delivery in the context of a new challenge-based curriculum at the University of South Wales, 2024-25	USW Enterprise, part of Careers and Graduate Futures	Pedagogy Research and Innovation Group
Nildo Costa	Recovery of Battery Critical Minerals and Battery Diagnostic Tools	Sustainable Environment Research Centre (SERC), Faculty of Computing, Engineering and Science, USW	SERC
Palash Kamruzzaman	Refugee Crises and humanitarian governance	Faculty of Business and Creative Industries, University of South Wales	Social policy
Philip Harfield	Designing for Tensions: An approach to communicating interdisciplinary challenges	Fashion Marketing & Photography, Faculty of Business and Creative Industries, University of South Wales	Pedagogy Research and Innovation Group (PedRIG) Future-Focused and Sustainable Pedagogies
Rebecca Bushell	The Challenge of implementing Challenge based learning in subject areas where the curriculum and assessment is determined by professional bodies.	Faculty of Business and Creative Industries	Pedagogy
Rebecca Hutcheon	Litcraft: Bringing the Text to Life through Collaborative World-Building	Faculty of Business and Creative Industries, USW	Creative Industries
Rebecca Richards	Think Like a Recruiter: A Challenge-Based Approach to Computing Student Employability	Faculty of Computing, Engineering and Science; Student Life	Computing, Cybersecurity, Mathematics And Informatics
Rhian Kinsella	Co-Creating Forensic Education with Industry: Developing Immersive, Practice-Led Learning Through Challenge-Based Collaboration	Applied Sciences, Faculty of Computing, Engineering and Science, University of South Wales	Pedagogy Research and Innovation Group (PedRIG) – Future-Focused and Sustainable Pedagogies

First Author	Presentation Title	Affiliation	RIG
Rhiannon Jones	From abstract workers to inclusive leaders: Dismantling the masculine norms in Civil Engineering	Faculty of Computing, Engineering & Science, USW; and Faculty of Life Science & Education	Engineering and Education
Rhys Driscoll	Securing Live Industry Cyber Projects: A Strategic Approach to Aligning Practice with the CBC Model	Cyber Security Department, Faculty of Computer Science, Engineering and Science, University of South Wales	Crime Security and Justice
Rhys Jon Jones	WHEY2BUILD: Converting Dairy Waste into Sustainable Construction Materials	Sustainable Environment Research Centre (SERC), University of South Wales	SERC
Richard Dinsdale	E-HANCE: Using Electrochemistry to Enhance Wastewater Treatment and Green Chemical Production	Sustainable Environment Research Centre, Faculty of Computing, Engineering and Science, University of South Wales	Sustainable Environment Research Centre
Richard Ward	The impact of industry-linked research for undergraduate students: A collaboration between USW Cyber Security and DHCW	Faculty of Computing, Engineering and Science; University of South Wales, Digital Health and Care Wales (DHCW)	Computing, Cybersecurity, Mathematics and Informatics
Rodrigo Fernandez-Feito	VFASense: Real-Time Monitoring and Control for Advanced Bioprocessing Systems	Sustainable Environment Research Centre (SERC), Faculty of Computing, Engineering and Science, University of South Wales	Sustainable Environment Research Centre (SERC)
Ruth Atherton	Histories of Hate: Othering and Marginalisation in Early Modern Europe	Faculty of Business and Creative Industries, University of South Wales	Humanities
Sandra Esteves	OFWAT Innovation Project: Transforming Wastewater Treatment into a Resource Recovery Platforms	Faculty of Computing, Engineering and Science, University of South Wales	Circular Bioeconomy and Resource Recovery
Sarah Carter	Choose Courage: Building Creative Confidence Through Industry-Engaged Learning, A Longitudinal, Practice-Informed Perspective	CELT, University of South Wales; Tantrwm Media	Pedagogy RIG

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Stephen Carr	Innovation in Council Led Hydrogen Project Development: Collaborative work with Caerphilly County Borough Council through the GW-SHIFT project	Sustainable Environment Research Centre, Faculty of Computing Engineering and Science, University of South Wales	SERC
Stuart Bunston	Reframing Learning Environments for Neurodivergent Student Inclusion in Higher Education	Built Environment and Sustainability, Faculty of Computing, Engineering and Science; USW	Pedagogy Research and Innovation Group
Tiansheng Yang	Urban Air Mobility and the Low-Altitude Economy: A Practice-Based Case Study of Research, Teaching and Industry Impact	Faculty of Business and Creative Industries, USW	Business Research and Innovation Group
Torunn Kjolberg	Caerphilly Uniform Exchange x USW Fashion Design	Faculty of Business & Creative Industries	Creative Industries; Business; Pedagogy
Tracie McKinney	Food for thought: Understanding taxonomic and cultural variation around wildlife provisioning	Applied Sciences, Faculty of Computing, Engineering and Science, USW	Earth, Ecology and Environment
Zulfia Abawe	Nomadic Epistemic Agency: Decolonizing Knowledge through Afghanistan's Kochi Mobility	Global Governance, Faculty of Business and Creative Industries, USW	Social Policy

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FURTHER INFORMATION

We welcome the opportunity to discuss current or new research partnerships and collaborations.

Further information is available via our website:
pure.southwales.ac.uk/en/organisations/
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rise@southwales.ac.uk

For further information about learning and teaching enhancement, educational development and professional recognition opportunities and support, please contact the Centre for the Enhancement of Learning and Teaching (CELT):
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