

Institution: Aberystwyth University
Unit of Assessment: 17: Business and Management Studies
<p>1. Unit context and structure, research and impact strategy</p> <p>Context and Structure</p> <p>This UoA 17 submission in Business and Management Studies includes 18.68 FTE research-active staff within the Faculty of Business and Physical Sciences, drawn from Aberystwyth Business School (ABS) (14 individuals / 12.88 FTE) and the Department of Information Studies (DIS) (6 individuals / 5.8 FTE). The two departments have a long history of working together, which has been formalised in the assessment period by integration first within the Institute of Management, Law and Information Studies (subsequently renamed as the Institute of Business and Law), and since 2018 in the Faculty of Business and Physical Sciences (FBaPS). The reorganisation has occurred within the broader context of the University-wide restructuring in response to systemic challenges described in REF5a, and the framework of the Sustainability Implementation Plan (SIP). These changes have permitted a rebalancing and refocusing of research in the departments into a more sustainable configuration and have reinvigorated the vitality of their research through the coordination of research support and promotion of multi and interdisciplinary collaboration within the Faculty. As such, they reflect the reaffirmation of the centrality of research to the University's mission in its Strategic Plan, as outlined in REF5a. The unit submission includes a multi-disciplinary cohort of staff with backgrounds in Accounting, Economics, Finance, Business and Management, Marketing, Tourism and Information Studies, but a shared interest in processes and practices of management in business and public policy contexts. As articulated by our Research Strategy, the current research agenda of the unit is focused on 'sustainable futures', approached through three thematic perspectives organisationally structured into three research centres:</p> <ul style="list-style-type: none"> • Centre for Responsible Societies (CRiSis): adopts an inter-disciplinary approach to exploring how responsible societies can address environmental challenges. Led by Christie of ABS, the centre comprises research active staff mostly from ABS but also in the Institute of Biological, Environmental and Rural Sciences (IBERS) and the Department of Geography and Earth Sciences (DGES) within the University and externally through our national and international collaborators including in Spain, Mexico, Columbia, Madagascar, Indonesia and the USA. The Centre's vision is 'to collect evidence and to develop tools that allow people, organisations and governments to conduct themselves in a social, environmental and ethically responsible way to ensure the sustainable future of our planet and its people'. Much of the research focus is on ecosystems services assessments (Remoundou) where projects range from assessing the economic, social and environmental benefits of Welsh rivers, to tropical forests in Asia and Africa. The impact case study submitted as part of this REF captures the essence of the centre's work and is based on Christie's work with IPBES to develop a framework to incorporate economic and socio-cultural values of nature's contributions to people into national and international policies including the Convention on Biological Diversity. • Centre for Local and Regional Enterprise (CLaRE): is an inter-disciplinary research centre that explores how local and regional policies can best promote enterprise to achieve sustainable economies in rural Wales and beyond. With a focus on local and regional strategies the centre aims to provide evidence, and influence policy on, sustainable economic development. Facilitating the co-creation of research projects between academics, business and government is central to this response. The Centre has undertaken several high-profile EU-funded research projects, including: major reports on the employment effects of CAP agricultural reform; the development of a programme to encourage and support female entrepreneurship (Fuller-Love, Midmore); and a study of sustainable learning networks in Ireland and Wales (Fuller-Love). The research work undertaken by Centre Director Morris in conjunction with Dyfed Powys

Police into rural crime and its impact on farm businesses has yielded a further impact case study. This research was commissioned by Dyfed-Powys Police and recommendations made on resources and strategies were implemented through the Rural Crime Strategy 2017-2021 which changed processes and services benefitting difficult to reach rural communities. A future research project stemming from the research work undertaken within ClaRE is the establishment of a new research network entitled Growth in Rural Resilience, and Innovation Network (GRRaIN). Its establishment marks the continued focus on rural sustainability and the development of entrepreneurial and innovation networks in rural Wales.

- **Information Studies Research (ISR):** Research focuses on issues in relation to the ability of individuals, organisations, and societies to obtain, manage, organise and retrieve information and knowledge in increasingly complex and diverse societies. Key research themes include: Information behaviour; including the impact of information behaviour on information failure, everyday life information seeking, cross language information seeking, and serendipity; Academic communication including changing styles of academic communication in relation to the developments in communication technology, and journal impact factors (**Forster**); Knowledge organization and information retrieval, including data modelling for analysis, discovery and retrieval, classification and indexing, ontologies and taxonomies, tagging, image retrieval, and intertextuality; Archives and records management including digital curation, and estate records (**Higgins**); Information society including digital inclusion and social inclusion (**Simon**), information disclosure, privacy and employer surveillance of social networking sites and, Knowledge management, including inter-organizational knowledge sharing, absorptive capacity and the use of knowledge management for developing sustainable futures.

Research and Impact Strategy

In the assessment period, ABS and DIS have developed and implemented a joint Research and Impact Strategy that has aimed to produce world class research, publications and impact that enhances our international reputation for research and creates innovative strategies and practical solutions that address societal and business issues relating to sustainability and sustainable economic growth. The strategy has been guided by the core objective in the University's *Strategic Plan* of undertaking research that not only contributes to scholarly agendas but which benefits communities, society and the economy in Wales and beyond through addressing contemporary challenges, as described in REF5a. This institutional objective is reflected in our emphasis on research that helps to achieve 'sustainable futures', and in the four priorities in our Research and Impact Strategy (see below), which correspond to priorities in the *AU Research and Innovation Strategy* (see REF5a). These additionally incorporate the plans set out in the REF 2014 submission, with projected areas of research adjusted to accommodate staff changes and the strategic focus on 'sustainable futures'.

The key priorities of the Research and Impact Strategy for Business and Management, and supporting actions adopted, are:

1. Prioritising interdisciplinary research that addresses contemporary local and global issues: This priority aligns with the ambition in the University Strategic Plan to undertake research that benefits communities, and with emphases on interdisciplinary research as in the AU research strategy (see REF5a), recognising that developing solutions to major societal challenges requires collaboration and coordination. Interdisciplinarity is central to the unit's approach, both internally between the multiple disciplinary backgrounds in ABS and DIS, and with other disciplines within AU and externally, enriching the vitality of our research environment. Interdisciplinarity has been promoted through the unit's research centres. CRiSiS has been established as an Interdisciplinary Research Centre, connecting members of the unit with colleagues in AU departments of Biological, Environmental and Rural Sciences, Geography and Earth Sciences, and Law and Criminology, as well as international

partners, which include: National University of Malaysia and Taylor University Malaysia; Centre Suisse de Recherches Scientifiques en Côte d'Ivoire; the University of Antananarivo; the Government of Rwanda; University of Malawi and, the University of Arizona and, Northern Arizona University. CLaRE works closely with researchers in Geography and International Politics through its links with the AU Centre for Welsh Politics and Society. Within the Faculty of Business and Physical Sciences, initiatives including 3MT (Three Minute Thesis), 'academic speed dating' and sandpits have helped to identify opportunities for multi and interdisciplinary engagement, for example between researchers in DIS and colleagues in Computer Science and researchers in ABS and colleagues in IBERS. Evidence of the successful implementation of this priority includes the participation of researchers from the unit in interdisciplinary research projects including DURESS, IMAJINE, IMPRESSA and GRRaIN addressing local and global issues such as ecosystem services sustainability, territorial inequalities and food security.

2. To develop research with impact:

The second priority reflects one of the core principles of the University's Research and Innovation Strategy of passing on the benefits of our research through impact and innovation (see REF5a) and contributes to the vitality and sustainability of research in the unit by building relationships with research users, locally and globally, and raising our external profile. The key mechanisms for achieving impact through our research is developing strong partnerships with stakeholders in Wales, the UK and internationally. This includes undertaking policy-focused commissioned research for bodies including the Welsh Government, that National Assembly for Wales, the Government of Rwanda, and Dyfed-Powys Police; working collaboratively with academic and stakeholder partners in countries including Malaysia, Indonesia, Madagascar and Rwanda; and serving in advisory roles for organizations including Dwr Cymru/Welsh Water, Natural Resources Wales, and on the Inter-governmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES). AU has provided in-kind support by releasing time for Christie's work with the IPBES, whilst a Framework Agreement between AU and the National Assembly for Wales's Research Service facilitated an Academic Fellowship for **Perdikis** to provide specialist advice on the impact of Brexit on the Welsh economy. Capacity for research impact has also been promoted by the University through Staff Development workshops on developing impact and through sabbatical leave to develop impact case studies (e.g., **Morris** was granted 6 months leave to develop his REF impact case study). The success of our strategy to achieve a wide range of impact is demonstrated by our submitted impact cases studies, which include local impacts to develop enhanced systems to deal with rural crime (**Morris**), and incorporating the multiple values of nature into the Convention on Biological Diversity (**Christie**)

3. Maintaining and increasing numbers of high-quality doctoral students:

The priority of maintaining and increasing postgraduate researcher numbers reflects the importance of our postgraduate research (PGR) students to the vitality of the research environment in the unit and recognising the imperative of ensuring the sustainability of our graduate school. It is aligned with the commitment in the AU *Research and Innovation Strategy* to enhancing the role of the AU Graduate School and consolidating success in PGR training (see REF5a). A key element in our strategy to increase doctoral student numbers in the unit has been the introduction of a Professional Doctorate (DProf) programme, which has been jointly developed by staff in ABS and DIS and which is available in both departments. Additionally, PhD student numbers have been expanded through strategic targeting of funding opportunities, including Welsh Government/EU Knowledge Economy Skills Scholarships (KESS). The success of these measures can be seen in the recruitment of 58 DProf students up to the end of the assessment period, with further expansion anticipated in the next REF period, and an overall twofold increase in the total number of registered PGR students in the two departments between the start and end of the REF 2021 assessment period.

4. Improving external research funding from Research Councils and other sources:

The final priority of targeting increased external research funding recognises the importance of research grant awards in enabling the vitality of research in the unit and the need to increase grant capture in order to sustain the research culture. Its implementation has been guided by departmental targets for research income set by the University as part of the broader AU Research and Innovation Strategy. Mechanisms for increasing income have included tightening research planning with staff members; participation in capacity-building activities run by the Faculty or by the University's Department of Research, Business and Innovation, including research cafes and a Grants Factory workshop; sharing of expertise and advice by members of staff involved in peer review colleges and panels; internal peer review of proposals; strategic use of AU small grant schemes to pilot and develop ideas; and collaboration to build critical mass for securing large grants, including in Horizon 2020. For instance, the AU Interdisciplinary Research Centre (IRC) funds helped create CRiSiS and the University's Centre for International Development Research at Aberystwyth (CIDRA) funds were used to pump prime research in the Ivory Coast and to work towards developing Institutional Research Partnerships with universities in Malaysia.

The research centres have played a pivotal role in this strategy as focal points for collaboration and research development. The success of the strategy is evidenced by a 52% increase in research income on the REF 2014 period, including awards from four UKRI research councils (AHRC, BBSRC, ESRC and NERC).

Collectively, these strategic priorities have enabled us to strengthen the vitality of our research in the assessment period and to plan for long-term sustainability, through strong international and interdisciplinary research collaborations with high-level policy impact. They have led to 169 scholarly outputs published by members of the unit between 2014 and 2020, yielding an average 12.4 citations per output and a total citation count of 2103 and 8.71 outputs per FTE researcher. Furthermore, analysis by SciVal indicates that 18.3% of our publications in the period are in the top 10% most cited academic publications worldwide.

Research Management

The delivery of the research strategy and routine research management for the unit is overseen by the Faculty Research Committee, which meets fortnightly chaired by the Associate Dean for Research, Knowledge Exchange and Innovation. Given the size of each department, a separate research committee was not considered appropriate and so, both ABS and DIS are represented on the Faculty committee by the respective Head of Department and Director of Research, who are responsible for planning and implementation within the departments, assisted by monthly meetings of research active staff that discuss matters including opportunities for collaborative research, REF planning and monitoring, research bids, progress of current research projects and, current and future publication plans. Individual research planning and monitoring meetings are held with staff members as part of the University's Effective Contribution Scheme, and staff also have one-to-one meetings with the Faculty Associate Dean for Research on a two-yearly cycle. Monitoring and assessment of published outputs and preparation for REF is undertaken by a joint ABS/DIS team. Likewise, monitoring and assessment of the impact that emerges from the research work undertaken is considered at departmental and University level to ensure consistency and accuracy of the outputs.

Protocols to ensure research integrity and ethical practice in research are maintained and administered by the University as described in REF5a. New projects need to attain departmental ethics approval, sought via the online ethics application system, and projects with more detailed ethical implications are also considered by the University Research Ethics Panel.

We actively support open research and open access publishing. In line with University policies detailed in REF5a, staff are required to deposit final author manuscripts of all articles on acceptance in the AU Research Portal, to be made available through the 'green' open access

route following publisher embargoes. Funding for article processing charges for 'gold' open access publishing is available for journals covered by JISC agreements to which AU is party.

Priorities for next REF period

In the next REF assessment period, we will continue to strengthen the vitality and sustainability of research activities in Business, Management and Information Studies and to work towards impact on wider society. Key priorities for the early part of the period include:

- To continue to support, develop and enhance research centres within the departments, including the CRiSis, CLaRE, and Information Studies research centres and the GRRaIN network.
- To contribute to and develop multi and interdisciplinary research across the University (e.g., the University's Rural Futures Hub), across Wales (e.g., the Welsh Rural Research Network (WRRN)), and internationally (e.g., the AU-Malaysia Research Platform).
- Continue to expand DProf provision and focus on developing further impactful research from these projects. The DProf programme is the University's Professional Doctorate programme aimed at developing applied research in to change leadership and is driven by executive and professional level candidates in businesses. The research opportunities created from completion of the respective DProf work will act as a key driver for both ABS/DIS to develop impact case studies for the next REF cycle.
- To continue to deliver high impact research in innovation, environmental and regional sustainability themes through the research centres and PhD/DProf projects.
- To continue to apply for external research funds and to respond to opportunities that arise from the research funding bodies.
- Further strengthen the inclusive research environment in ABS/DIS by reviewing structures and practices to remove barriers to equal and effective participation of all research active members of staff.
- Adopting specific policies and actions to support staff whose research capacity has been affected by the COVID-19 pandemic and its impacts.

2. People

Staffing Strategy and Staff Development

We aim to employ and develop excellent researchers who can contribute to our strategic focus on sustainable futures with ambitious and entrepreneurial research that challenges existing approaches and knowledge through world-class publications and has an impact on society and economy at local, national and global scales. During the assessment period, restructuring as part of the University's Sustainability Implementation Plan (SIP) has resulted in significant staff changes in both ABS and DIS. In response to the challenges from these changes, research teams were consolidated, and staffing priorities were realigned with the departments' strategic objectives to enhance the vitality and sustainability of our research environment. Having achieved stability, the University has now invested in research sustainability in Business, Management and Information Studies, with four new appointments (**Remoundou, Munoz, Thomas and Fry**). Both departments also employ non-REF-eligible Teaching and Scholarship staff, whose focus on teaching and administration helps to protect research time for Teaching and Research staff (with a guaranteed minimum of 550 hours per year for research in the Workload Allocation and Management Model (WAMM)).

In making new appointments, an emphasis has been placed on investing in future sustainability by recruiting early career researchers (ECRs) with significant potential. Developing this new

talent is supported by the adoption of tailored procedures and practices for early career researchers. For example, ECRs are provided with lighter teaching loads in the first two years of their appointment and are also assigned to a mentor (a senior researcher in a cognate area) who provides support through initial reviews of outputs, journal targeting advice, grant funding application assistance, and introductions to potential collaborators outside ABS/DIS. In our subject areas, the recruitment of staff with professional experience who have not followed conventional postgraduate pathways is not uncommon, and staff appointed without PhDs have been provided with the opportunity to study for a doctoral degree. Over this REF 2021 period, five of our staff have successfully studied for and attained their PhDs (**Morris, Bennett-Gillison, Jones, Talbot and Higgins**). This enables both ABS and DIS to extend and enhance its research capacity and capabilities and foster further sustainable research development in the future, as exemplified by **Morris** obtaining research funding from Dyfed Powys Police to undertake the rural crime research project and, **Higgins** obtaining research funding to support the Arwain Leaders project.

The development and performance of all staff is reviewed and supported through the AU Effective Contribution Scheme, involving completion and discussions of a Personal Research Plan, annual attainment targets agreed between the researcher and their Head of Department, and six-monthly review meetings. In order to reinforce the vitality of our research, research active staff in ABS/DIS are expected to meet certain performance thresholds including:

- i. *Output*: One leading journal and/or conference paper submission per year, at 3* level or above. Collaboration and mentorship are encouraged.
- ii. *PhD / DProf supervision*: A minimum of three students at any one time, within their full registration period (this depends on funding and alignment of supervisory skills to the area of study).
- iii. *Grant application*: One external submitted proposal of a value £25-30k+ every two years, or holding a grant of £45k+ over a 3-year period. Staff failing to meet these targets are provided with support, while those persistently failing are provided with the opportunity to change to a Teaching and Scholarship contract.

Support is provided to staff to meet these research targets at University, Faculty and Departmental levels. Whilst Faculty provides funding for research active staff to attend conferences, ABS / DIS provide further funding to support conference attendance where necessary and support research through allocation of time off teaching to undertake research, and further funding to support research meetings with collaborating partners. Opportunities are provided to research staff for 6 months research leave every 4 years subject to agreement of a detailed research plan. Applications are approved and monitored by the Faculty, reviewed on completion and feedback provided to ensure that the outcomes are used as productively as possible. Consideration is also given to management of individuals' teaching and administrative loads to ensure consistency with its research strategy. Additionally, staff can apply for target leave to support research impact activities. For example, **Morris** was granted a six-month sabbatical in 2019 (£13.4k) to develop the impact of his research on rural crime, which is reported in one of the submitted impact case studies.

The research centres also contribute to researcher development by organising activities (e.g., research days, seminar series etc.) to present existing research, discuss research methods, explore new opportunities for research projects and to develop new collaborations. The aim here is to improve the quality of research undertaken and to support the generation of new research opportunities. These activities also support research dissemination (conference presentations, working papers) which underpin and act as precursors for academic publication.

Restructuring and cost saving strategies made by the University over the past decade has led to both ABS and DIS experiencing a 50% reduction of research active staff. However, the effect of these cutbacks has ensured that both departments have now a much more sustainable financial profile going forward and, the University has since re-invested in the departments through the

recruitment of new staff (four research active staff and three T&S staff have been appointed over the past 5 years).

Research Students

The vitality of our research environment is demonstrated by our vibrant and growing PGR community. PhD completions in the REF 2021 assessment period were 36 doctoral research degrees awarded in REF2021 period compared to 17 in the previous REF cycle, an increase of 51% once the different REF cycle lengths have been taken into account (5.14 doctoral research degree awards p.a. for REF 2021 compared to 3.4 awards p.a. in REF 2014). Furthermore, the number of PGR students registered was 72 in July 2020 compared to 32 in July 2013. Part of this development has been driven by the University's decision to introduce a Professional Doctorate (DProf) programme as a measure to support the sustainability of PGR across the University. Due to the nature of the Professional Doctorate programme, much of the supervision of the students is undertaken by ABS/DIS staff. The DProf has enabled both departments to widen their international research portfolio through undertaking joint supervision and research publications with students across the world, notably in the United Arab Emirates, Qatar and the Philippines. A total of 58 students registered for DProf study in the two departments in the first 5 years up to July 2020, comprising 58% of our doctoral students. Although most students are currently working their way through the DProf programme since 2016, one student has recently submitted his thesis for examination, with a further two DProf students approaching their viva voce examinations in early 2021. Over 90% of our DProf students are funded through their respective employers whereas over 90% of our PhD students are self-funding students. A small number of students (10%) have received funding council support for their studies whether this be UK funding bodies (KESS etc) or similar overseas funding bodies through sponsorships.

PGR students complete a central programme of research training managed by the AU Graduate School, either through Research Training modules taken at the commencement of their studies for PhD students, or DProf study schools, with ABS and DIS contributing to the delivery of both. Research students are encouraged to participate fully in our research activities, including research seminar series. Research students in ABS participate in an annual postgraduate conference, to develop their presentation skills, monitor their progress and provide a forum to discuss their and others research areas.

Research students in the unit have two supervisors each, with members of staff on average supervising 5-6 students. Supervisors are required to attend biennial professional development courses in postgraduate supervision to maintain and refresh their skills.

Research postgraduates are provided with dedicated office facilities including individual computer access, provision of relevant specialist software and access to databases. Students intending on an academic career are encouraged to gain experience of lecturing or seminar delivery and to take the Teaching for Postgraduates at Aberystwyth University (TPAU) course, which includes sessions on research, to gain accreditation for their professional development.

Attendance by doctoral students at national and international conferences is supported by the Faculty where each student has a ringfenced amount of funding to attend a minimum of one conference per year. Our research postgraduates participated in 15 national and 4 international conferences during the assessment period. They are also encouraged to publish at least one paper in an appropriate journal during their time, making use of writing schools organised by the University.

Equality, Diversity and Inclusion

We are committed to building an inclusive research environment with respect to issues of equality and diversity reflected in recruitment, promotion and staff development policies; opportunities and support for research; research monitoring and REF selection; postgraduate recruitment and supervision; and impact and engagement activities. We are working towards a diverse research community that is representative of the society in which we work. At the REF 2020 census date, 43% of our research-active staff in the two departments were women, 10%

were from a non-white ethnic background, and the community included people originating from six different countries.

Aberystwyth University has achieved the Athena Swan bronze award and is participating in the Equalities Challenge Unit gender equality charter mark trial. Its commitment to equality and inclusion is further recognised by a Disability Confident Employer accreditation and inclusion in Stonewall's Top 100 UK Employers for a LGBT+ friendly workplace. All staff are required to have completed Equality and Diversity Training and a number of networks promote equality issues and provide support for researchers, including the Women in Research Network, BAME Network, LGBT Network and Disability and Wellbeing Network. Both ABS and DIS currently have staff acting as mentees and mentors on the University's female academic mentoring programme. The departments also have very active 'Equality Champions' represented at network meetings, including one of the Heads of Department from the UOA. The equality champions network work includes an exploration of the University's architecture in relation to the Black Lives Matter movement, and the potential unintended equalities consequences of COVID and the new ways of learning.

Equality of opportunity is promoted by additional support for transition back into research activity after maternity or sickness leave, and recruitment and promotion policies that actively promote gender equality. Both departments are fully committed to provide family friendly working environments where staff have the flexibility to work from home or may opt for a contract based on school hours and holidays.

Principles of equality and inclusion have been incorporated into the REF2021 selection process, as outlined in the University's Code of Practice, with all members of the REF Reading Committee and supplementary reviewers required to have completed unconscious bias training. The departmental REF Reading Committee has also included an independent member from a cognate department in the Faculty of Environmental and Life Sciences to monitor fair practice. Applications for output reductions for Individual Staff Circumstances are assessed through an anonymous process, with decisions made outside the department.

3. Income, infrastructure and facilities

Research Income

In the REF 2021 assessment period, we have acquired £1.21M of external research income compared to £797k for REF 2014, and the annualised income has increased from £173k p.a. in REF 2014 compared to £159k p.a. in REF 2014. This includes funding from UKRI Research Councils (34.1%), EU government bodies (47.4%), UK and government bodies (9.2%), UK-based charities (2%), and UK industry, commerce and public corporations (4.5%). This represents a 40% success rate on grant applications submitted. External research income provides resources for activities that would not otherwise have been achievable, including fieldwork, research assistance personnel and release of time for submitted staff to focus on research.

Following a dip in research income in 2016, linked to the completion of a number of large projects and connected with staff changes, targeted measures to support new grant development has produced research grant capture totalling £64,882 per FTE during REF 2021. Notable grant awards have been achieved by a number of members of staff. **Morris** and **Perdikis** have attracted contract research income from both public and private sources to the value of £75k. With a variety of colleagues, they have been involved in various EU Framework and Structural Funds projects aligned to the CLaRE research themes that include: Rural Crime study, Economic Impact Assessment for the UK National Spectrum project. **Christie** has secured research funding from a range of sources for a series of ecosystem services and biodiversity valuation studies, including from the Global Innovative Initiative to value forest services in Indonesia (£33.63k from a total project value of £150k), Natural Resources Wales to study 'Shared and contested values' (£451.9k). **Plotnikova** has obtained FP7 and Horizon 2020 funding as part of projects on spatial justice and territorial inequalities in Europe (IMAJINE)

(£145.7k from total project value €4.9 million), and on science and agricultural innovation (IMPRESA) (with Midmore, £256k), **Azam** received £117k from the ESRC for research on analysing poverty and deprivation in Wales (with Midmore and Plotnikova).

As part of the strategy to grow and widen research grant capture among staff in the unit, small grants have been targeted to support pilot projects and research development. These have included awards from the AU University Research Fund for work on digital inclusion and public libraries (**Simon**); and to support the development of a proposal to the Leverhulme Trust (**Simon**), as well as Arwain Leaders project on 'Mixed Farming: Histories and Futures' (**Higgins**) <https://www.dyfibiosphere.wales/mixed-farming-histories-and-futures> funded by Arwain <https://www.arwain.wales/>.

Strategies for generating grant income involve support at Departmental, Faculty and University levels. Planned grant applications are included in Personal Research Plans reviewed as part of the annual Effective Contribution Scheme process and feedback and advice provided, and grant planning is also discussed as part of two-yearly individual meetings of research active staff with the Faculty Associate Dean for Research, Knowledge Exchange and Innovation. The research centres play a major role identifying research opportunities and developing joint applications for larger projects. Funding is available for travel to meetings and other networking necessary for work on collaborative projects and applications, and external funding for collaborations with European partners can be applied for from the Welsh Government.

Our researchers participated in capacity-building activities organised as part of the ESRC-funded Transformative Social Science programme at AU, leading to the successful bid for the Horizon 2020 IMAJINE project involving **Plotnikova**. At University level, the Department of Research, Business and Innovation maintains a Funding Opportunities database and regularly holds workshops and information sessions on specific calls, as well as capacity-building sessions such as research cafes, sandpits and a 'Grants Factory' workshop. Support for the development of individual grant applications is provided by a Research Development Officer assigned to the Department, including assistance with costings. Equality and inclusion in access to research grant income is addressed through targeted measures including an annual sandpit event for ECRs to develop projects, and access to seed-corn funding for small-scale and pilot research from ringfenced pump-priming funds.

Research Infrastructure and Facilities

Both ABS and DIS moved into new accommodation on AU's main Penglais campus in 2018, having previously been co-located on the satellite Llanbadarn campus. The relocation has brought staff in the departments closer to major University facilities, including the main University Library, and facilitated greater cross-disciplinary interactions and engagement with researchers in other departments in the Faculty of Business and Physical Sciences (FBaPS) and beyond. PGR students are located in a FBaPS graduate centre with other research students in the Faculty in a 2 per room arrangement with substantial collaborative workspace. This arrangement facilitates a vibrant research environment in which researchers are able to discuss their work and collaborate towards the generation of new ideas and innovations in their research work. Individual staff offices have networked access to sufficient computing power (particularly for staff who make use of large-scale datasets), software (some of which, such as SPSS, NVivo, is available centrally; other specialist analysis tools, such as STATA, is provided as necessary) and database access (co-funded subscriptions to Datastream and the FAME database, and individual access to other readily obtainable data sources such as the Business Register and Employment Survey from NOMIS), alongside electronic journal access.

4. Collaboration and contribution to the research base, economy and society

Collaboration

Staff are encouraged to collaborate with researchers in AU and in Universities across the UK and internationally, as well as engage with governmental and NGO stakeholders to ensure that research has impact. Our research centres are key in facilitating collaboration. CRiSis receives

core funding from the University as an Interdisciplinary Research Centre led from ABS by **Christie**, but including researchers from the Institute of Biological, Environmental and Rural Sciences (IBERS) and the Department of Geography and Earth Sciences (DGES) in interdisciplinary projects including assessing forest ecosystem services (**Christie** and **Remoundou**, with DGES). International collaborations by staff in the CRiSis centre include: work with partners at the National University of Malaysia and Taylors University on valuing ecosystem services in Malaysia; and with the Centre Suisse de Recherches Scientifiques en Côte d'Ivoire on how local people value forests in Ivory Coast. In Africa, other CRiSis projects include: the NERC ESPA-funded 'Can capturing global ecosystem services reduce poverty project' involving partners in Madagascar (the University of Antananarivo, Laboratoire des Radiosotopes, Narivo) and the USA (Conservation International); the Government of Rwanda funded project on 'Valuing forest ecosystem services in Rwanda'; and studies on social capital in Malawi (University of Malawi). In Asia, CRiSis projects have included the GII-funded project on 'Global innovation for sustainable forest management' in which **Christie** and **Remoundou** collaborated with partners in Indonesia (University of Mataram) and the USA (University of Arizona and Northern Arizona University).

CLaRE has collaborated with partners including Dyfed Powys Police, Qinetiq and Make UK on applied research projects in Wales. CLaRE is closely associated with colleagues in Geography and International Politics in AU through links with the Centre for Welsh Politics and Society (CWPS), with CLaRE director **Morris** sitting on the CWPS management board, and through CWPS with the inter-institutional Wales Institute of Social and Economic Research and Data (WISERD) and Aberystwyth Innovation and Enterprise Centre (for which **Thomas** is a member of the Steering Groups of both WISERD and AIEC). Building on collaboration with economists at Cardiff University, **Morris** is jointly leading the development of a Welsh Rural Research Network (WRRN), as well as the Growth in Rural Resilience, and Innovation Network (GRRaIN) which includes joint research work with Scotland's Rural University College (SRUC) and the Royal Agricultural University (RAU) around sustainable food production and food supply chain systems.

The ISR group obtained a KESS studentship, in collaboration with (part funded by) the National Library of Wales (NLW) on: 'Investigation of Best Practice in Metadata for Sound, Moving Image, & Audiovisual Collections'. This collaboration was brought about by **Simon**'s membership on the Specialist Advisory Group for the National Broadcast Archive at the National Library of Wales from 2017-2019. In 2018, **Higgins** was awarded a Digital Preservation Awards Certificate of Distinction (by the Digital Preservation Coalition) in recognition of her research contribution to the discipline: 'Digital Curation: Contributions towards Defining the Discipline'.

The formation of the Faculty of Business and Physical Sciences has created opportunities for expanding collaboration with researchers in Computer Science, Maths and Physics, including work on developing commercialisation models for bringing new and innovative ideas in physical sciences to market, and an economic impact assessment conducted by **Perdikis** and **Morris** for the National Spectrum Centre, a major new research and innovative investment in Aberystwyth, developed through a collaboration between Physics at AU and Qinetiq.

Externally, **Christie** was awarded £18,457 of Global Challenges Research Fund (GCRF) funding through the Centre for International Development Research at Aberystwyth (CIDRA) to further develop the partnership established by CRiSis with the National University of Malaysia and Taylors University as the basis for a wider AU-Malaysia research platform. Other external research collaborations include **Plotnikova**'s involvement in the EU-REAL network on regional economics, which contributed to successful consortium bid for the Horizon 2020 IMAJINE project, and her joint work with economists at Universidad de Oviedo (Spain) and Università degli Studi G. d'Annunzio Chieta-Pescara (Italy) in IMAJINE; and **Mathias**'s participation in the recently awarded AHRC estate archives 'deep mapping' project, with Bangor University, the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW), National Library of Wales and North East Wales Archives. **Christie** had a lead role in the NERC funded 'Valuing Nature Programme' network on 'Theoretical traditions in social values for sustainability'

(resulting in a special issue in Sustainability Science journal (2019); and the NERC / ESRC 'Valuing Nature Network' project on 'Shared and social values' (resulting in a special issue in Ecosystem Services journal (2016)).

Overall, SciVal data shows that 65% of publications from the unit in the assessment period were based on multidisciplinary and interdisciplinary research, including papers with co-authors at EU institutions including Leuphana University, Germany; University of Bern, Germany; Swedish University of Agricultural Sciences; Stockholm University, Sweden; Helmholtz-Centre for Environmental Research GmbH, Germany; University of Porto, Portugal; Umea University, Sweden; ETH Zurich, Switzerland; University of Helsinki, Finland; Universitat Autònoma de Barcelona, Spain; The Max Planck Institute for Human Development, Germany, and University of Seville, Spain; and globally at University of Mataram, Indonesia; University of the Free State, South Africa; Monash University, Australia; University of Tasmania, Australia; University of Melbourne, Australia; University of Southern Australia, Australia; University of Arizona, USA; Northern Arizona University, USA; University of Vermont, USA; University of Illinois, USA, and Louisiana State University, USA.

Contributions to Economy and Society

Partnerships with public agencies, NGOs, and industry in Wales, UK and globally are central to our contribution to economy and society and the broader impact of our research. These include prestigious high impact work with international organisations, notably in the field of *sustainable development and ecosystem services*. Christie has a leadership role in two Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) assessments, including Co-Chair of the on-going IPBES 'Values assessment' that involves over 250 authors selected to represent experts from across the globe, and Lead Author of the IPBES 'Europe and Central Asia' assessment that involved 266 authors from across Europe and Central Asia. He was nominated by the UK Government and approved by the 132 member countries that form the IPBES Plenary for these roles. The findings from the IPBES assessment has fed directly into national and international policy including the Convention on Biological Diversity. The contribution that these assessments (along with 6 other IPBES assessments) have made to international policy was recognised in IPBES winning the 2020 'Gothenburg Sustainability Award', which cited the success of IPBES in "opening people's eyes to the threats against biodiversity" and "making information about biodiversity and ecosystems accessible to more than just experts and scientists". IPBES was also nominated by Germany's Environment Minister, Svenja Schulze for the 2020 Nobel Peace Award for 'invaluable contribution to world peace & global development'.

Contributions to the economy of Wales are shown as an example, through the DIS KESS studentship which focussed on research for the National Library of Wales and, the current Coleg Cenedlaethol Cymru's PhD Scholarship jointly awarded to ABS and Interpol which focuses on entrepreneurship hub developments in Wales. **Thomas** is a steering group member of the Aberystwyth Innovation and Enterprise Centre (AIEC) and a steering group member of the Wales Institute of Social and Economic Research and Data (WISERD).

Contributions to public policy in Wales have included work by **Perdikis** providing specialist advice on the impact of Brexit on the Welsh economy undertaken in a five-month Academic Fellowship with the National Assembly for Wales Research Service as part of a framework agreement with AU. **Bennett-Gillison** has researched change management within the Welsh Government to identify overcome challenges associated with organisational change to achieve satisfaction and enjoyment from work; and **Fuller-Love** was commissioned to contribute to the Business and Economics review of What Matters for the Welsh Government for the New Curriculum for School in Wales. ESRC-funded research by **Azam**, **Plotnikova** and **Midmore** for the Public Policy Institute for Wales has analysed alternative approaches to measuring vulnerability and multidimensional poverty in Wales, commissioned as part of a series of projects to identify 'what works' in tackling poverty. Contributions are also made through advisory roles, including Christie as a member of Dwr Cymru / Welsh Water's Independent Environmental Advisory Panel.

Contributions to the Research Base and Disciplines

Our staff make important contributions to the research base in Business and Management Studies and in our individual disciplines, enhancing the vitality and sustainability of our fields. *Leadership roles have been held in a number of subject associations*, including **Midmore** as President of the Agricultural Economics Society (2017-2018); **Christie** as an Executive Committee member of the UK Network of Environmental Economists; **Thomas** as Chair of the Manufacturing and Management technical network of the Institution of Engineering and Technology South Wales branch as well as the Chair of the Consortium of Manufacturing Engineering Heads UK and a member of the Engineering Professor's Council; and **Plotnikova** as a committee member of the British and Irish Section of the Regional Science Association. Members of staff have also informed research agendas and helped to maintain standards as members of grant award panels, advisory boards and peer review colleges for research councils and other funding bodies, including ESRC (**Azam; Fuller-Love**), EPSRC (**Thomas**), Australian Research Council (**Rafferty**) and HEFCW 'Strength in Places' review team (**Thomas**). **Christie** is a member of the UKRI/NERC 'Healthy Environment Dialogue Advisory Group', was a member of the Scientific Advisory Committee for the Flemish government agency for Innovation by Science and Technology – Strategic Basic Research (SBO) EcoPlan 2015, and has held memberships of the following research review panels since 2014: Independent Research Fund Denmark 'Thematic research 'Green Transition' (2020); Ministry of Environment and Food of Denmark; International Centre for Research in Organic Food Systems (ICROFS) 'Organic Research, Development and Demonstration 5' (Organic RDD5) (2019); BiodivERsA ERA-NET and Belmont Forum joint call on 'Scenarios of Biodiversity and Ecosystem Services' call (2018); Academy of Finland 'Biofuture 2025' call (2016); ESRC Large Grants and Centres (2014); NERC Fellowships (2014); BBSRC 'Pollination' call (2013-14); and Belgian Research Action Through Interdisciplinary Networks (BRAIN-be) 'Axis 1 - Ecosystems, biodiversity, evolution) (2013-14).

Plotnikova organized the annual conference of the Regional Science Association British and Irish Section in 2014 and the annual Economics meeting of the European Network of Housing Researchers in April 2016, and **Igboekwu** organised the 40th Accounting and Finance conference for Welsh Universities in May 2017. Additionally our staff have been members of scientific or organising committees for a number of *national and international conferences and meetings*, including the annual UK Network of Environmental Economists meeting (**Christie**); the International Conference of Manufacturing Research (ICMR) (**Thomas**); the Spanish Regional Studies Conference (**Plotnikova**); Information Seeking in Context (ISIC) (**Foster, Simon**); Information, Interactions and Impact (i3) (**Foster**); and UK Biennial conferences (**Rafferty**).

Through *editorial work*, our staff have supported scholarly publishing and shaped disciplinary trajectories, as editors of eight journals including *Archives and Records: the Journal of the Archives and Records Association* (**Higgins** – Co-Editor); *Cogent Business and Management* (Lindop), *Electronic Library*, (**Foster** and **Rafferty** – Joint Regional Editors (Europe)), *International Journal of Collaborative Engineering (IJCE)* (**Thomas** – Editor in Chief); *Journal of Agricultural Economics* (**Midmore** – External Editor); *Journal of Information Science* (**Foster** and **Rafferty** – Joint Editors in Chief); *Library Review* (**Simon** - Associate Editor); and *New Medit* (**Midmore** – Associate Editor), and members of editorial boards for five journals (*Agricultural Economics Review* (**Midmore**); *Aslib Journal of Information Management* (**Foster**); *Journal of Gender and Entrepreneurship* (**Fuller-Love**); *Journal of Rural Studies* (**Midmore**); and *Revistas Ciencias de la Documentación* (**Foster**)). **Igboekwu** has been Guest Editor for the journal *Qualitative Research in Financial Markets*, **Fuller-Love** has been Guest Editor for the *International Journal of Entrepreneurship and Innovation* and **Foster** has been Guest Editor for *New Library World*. The *Journal of Destination Marketing and Management* and the *Journal of Ecotourism* have also been edited from ABS during the assessment period.