

Institution: University of Wales: Trinity Saint David

Unit of assessment: UOA17 (Geography, Environmental Sciences and Archaeology)

a. Overview

The University of Wales: Trinity Saint David was created through the merger of Trinity University College, Carmarthen, and the University of Wales Lampeter through royal charter in November 2010. A further merger with Swansea Metropolitan University (SMU) was completed in December 2012. Provision is offered across four campuses in South West Wales and London. The cluster comprises members of staff located on the Lampeter and Swansea campuses working in Archaeology, Environmental Studies, Geography, History, Medieval Studies, and Anthropology. The grouping reflects the interdisciplinary nature of the research undertaken in the cluster during the REF census period.

b. Research strategy

The equivalent cluster had a strong submission in RAE2008 and staff have maintained the integrity of research and research-led teaching over the current REF cycle. In accordance with the strategy stated in RAE 2008 a full merger has been effected between Archaeology and Anthropology, and History. This has strengthened the research culture and facilitated cross-disciplinary activities. In terms of the RAE strategy, research has continued in areas noted in 2008 as of particular strength, namely, Landscape and Environments; Material Culture and Middle East and Mediterranean archaeology, (through synergies with the Classics cluster which will be enhanced by four recent strategic appointments). RAE 2008 drew attention to the significance of the Strata Florida project and it is a mark of its continued importance that it has been highlighted as one of the University's on-going flagship research projects. Successive university mergers and associated restructuring have required some adaptation, and the research leadership roles of the former Research Institute for Archaeology, History, and Anthropology are now undertaken by the Research Working Group. This reformulation allows us to take advantage of the new synergies offered by the merger with SMU (detailed throughout). A significant part of the remit of this new grouping is to review and revise forward looking objectives and priority areas for development. Enhanced capacities particularly in marine/maritime/coastal studies have been integrated and are seen as positives in this period of change. Research in the cluster is now organised around three strands of 1) Landscapes and Environments, 2) Communities, Past and Present, and 3) Material Worlds. It is anticipated that these will continue to be broad foci for research. Each research active member of staff is engaged in one or more of these areas. While each theme is distinct, both staff and research are woven through the individual research themes, reflecting the collaborative and interdisciplinary nature of our research.

Landscapes and Environments. This strand brings together work on prehistoric and historic landscapes, with particular emphasis on seascapes, coastal zones, rivers, and skylines. The theme is explored in various ways through work on medieval landscapes of central Wales (the Strata Florida project: Austin, Bezant); landscape of Bronze Age Cyprus (Steel); Pleistocene landscapes of the English Channel (Quaternary Archaeology and Environments of Jersey project: Bates); geophysical investigation of early human landscapes at Happisburgh; shoreline change across prehistoric, historic, and modern environments (coastal erosion, inundated landscapes of Orkney: Bates, Nayling); physical processes and coastal research on resilience and adaptation to climate change impacts (with a policy focus) (Jenkins and Phillips); man-made agricultural soils in marginal areas (Guttman-Bond); global food security and food heritage (Abbots); research into pastoralism in the Andes over the last 5000 years (Dransart); the Wales / Qatar project on Islamic archaeology (Peterson); skylines as landscapes (Campion); the management and exploitation of forests as resources for timber supply for shipbuilding industries in the medieval and early modern periods (Dutch and Iberian) (Nayling). Continued activity here includes a major Marie Curie Initial Training Network focused on timber supply and Iberian shipping. Also, a comparative, cross-national and ecosystem approach to coastal vulnerability will assess three coastal regions in the US, UK, and Brazil, and their vulnerability to extreme coastal events and other hazards related to climate change. Our policy focus in this area will

examine nested coastal governance frameworks which facilitate the development and acceptance of the range of adaptation measures required to address coastal vulnerability. The Strata Florida project has also developed a multi-million pound application to the Heritage Lottery Fund to restore and develop the historic buildings in partnership with Carmarthenshire Heritage Regeneration Trust, the Prince's Regeneration Trust, CITB Construction Skills Wales, and Ceredigion County Council. This will house a centre for international research and publication, and provide doctoral training, and opportunities for knowledge transfer with a range of bodies, including higher level apprenticeships in heritage building techniques and rural sustainability.

Communities, Past and Present. Community is variously interpreted as rural communities, community archaeology, connected communities, and textual communities. Research has in each case sought to engage contemporary audiences in their heritage through representation, whilst also exploring the myriad ways in which issues of sustainability are implicated in the relations between the past, the present and the future. Key projects include work on connected communities and their archaeologies, supported by a developing multi-council research theme (Nayling); supermarkets and their role in facilitating sustainable rural livelihoods, rural wellbeing and economic development (Abbots); the socio-economic consequences of a reforestation community links initiative between Wales and rural Kenya (Attala) and geoarchaeological research on Iron Age Shetland (Guttman-Bond). Other projects will continue to focus on religious and monastic communities such as Strata Florida, and Fetternear (the summer palace of the medieval bishops of Aberdeen; Dransart) and their interactions in the broader communities in which they were located. Monastic Wales examines medieval monastic houses as formative influences in the political, economic, social and cultural development and transformation of Wales (Burton); and at Norton Priory research is informing the Norton Priory 'Monastery to Museum 900' initiative (Abram). This strand also includes editing of medieval texts with particular emphasis on their textual communities, reception, and audience, and the creation of identities through the written word (Marx, Burton).

Priority areas where research bids have been submitted or are in advanced stages of development with UK and international partners. These include food security and community innovation (Abbots); the development of a comparative European heritage project on the role of reformed monasteries in medieval state building (Burton, Austin, Bezant). Key projects will continue to engage stakeholders with built, coastal, and landscape heritage for interpretation and cultural tourism development: shoreline morphological responses to climate change and sea level rise with particular reference to stakeholder engagement, recognition of economic loss for tourism infrastructure and impacts on Small Island Developing States. Research in the latter area will be engaged with societal challenges and policy at Welsh, UK, EU and UN levels with contributions recognised in policy documents as set out in Phillip's impact case study.

Material Worlds. This strand brings together research on both technology and chains of production of material culture with broader concepts relating the use of material culture to both the ancient and modern world, for example: the archaeology of ships (Newport Medieval Ship Project: Nayling); manuscripts and manuscript production (Burton, Marx); textiles and basketry, where research has been used to inform the displays in the Pitt Rivers Museum, British Museum and Perth Museum (Dransart). A key strategic aim in each is to ensure that the research contributes to the development and understanding of how museum collections are used by a community of curators, researchers, students and other visitors. Research in collaboration with the Classics cluster continues into the materiality of the Bronze Age East Mediterranean, primarily focusing on Cyprus and the Aegean (Steel), and museums and visualisation (Merthyr Cyfarfa Castle Project: Zinn). The relationship between food, bodies, and materiality, is further explored in the 'Consuming Materialities' project and research network which has recently awarded a Wenner Gren award (Abbots). This research strand encourages strong working relationships with museum organisations that will continue to deliver collaborative research into the future.

While work in the cluster is organised along these three strands, there is a strong emphasis in each on community and heritage sector engagement in the research designs which often results in a dual emphasis. Bates's research for example includes work on early occupied landscapes around Jersey, as does the Rising Tides project in Orkney. Both involve scientific investigation of submerged landscapes as well as extensive excavations (Jersey). Public engagement is a central plank of both projects, as in the major exhibition at the Royal Society 2012 Summer Science Exhibition in London (July 2012) and the British Association in Aberdeen (September 2012). Workshops have been held for community engagement in Hoy, Mainland Orkney, and Sanday, while a series of guided walks have been developed in conjunction with the Jersey Tourist Board. Scientific publications have been produced, as have inputs to the BBC Focus Magazine and National Geographic. The Newport Medieval Ship project (Nayling) likewise straddles the identified research strands; it has enjoyed successful grant capture from a wide range of sources (including AHRC Connected Communities and Digital Transformation themes, Marie Curie, Cymal) and has proceeded as a partnership with Newport City Council's Museum and Heritage Service, and the community action group, Friends of the Newport Ship, to deliver the major research outputs which are the prerequisite to eventual museum display. Research has operated within modes of delivery comprising co-production and community based participatory research, which recognises the value of community and third sector input.

c. People

Staffing strategy and staff development. The University has since the 2009 restructuring developed a robust and successful Research & Development Office (RDO). This provides considerable support in the development, management, and ongoing delivery of research projects. Among other functions it oversees the implementation of the principles outlined in The Concordat to Support the Career Development of Researchers. The RDO organises training sessions based on the Vitae Researcher Development Framework (RDF). A sabbatical leave scheme is in operation and periods of research leave have also been made available to staff in the cluster through its QR financed Pump Priming Research Fund. The cluster has also taken advantage of the University's policy of actively supporting staff, through the RDO, to seek grant funding for research leave and fellowships. This has seen an increase in staff involvement in bids to grant awarding bodies, including the AHRC, NERC and EPSRC, the British Academy, Belmont Forum, Leverhulme, Welsh Government, and the EU. As a result of working closely with dedicated RDO officers, more unusual sources of grant funding have been sought, with some notable successes from charities (Heritage Lottery Fund, Architectural Heritage Fund), local and overseas government and statutory bodies such as the Technology Strategy Board. The cluster has been supported in its consultancy contracts through University of Wales Archaeological Services (UWLAS), its involvement in knowledge transfer with business on two EU Interreg programmes (Rural Alliances, CISNET), on the EU Rural Development Plan for Wales (Strata Florida Project), on HEFCW funded projects such as the Strategic Insights Programme and several others supported by the Welsh Government's Academic Expertise for Business programme (Offshore Renewable Energy Impact Network).

The Cluster has since 2008 seen significant changes in personnel with the retirement of four professors and a reader. We have also seen the departure of one anthropologist on a full time contract, and the loss of one archaeologist on a short-term contact. The effects of this have been mitigated by a dual approach: Professor Austin has been retained on a fractional basis to drive the flagship Strata Florida project; and investment in new staff has been a priority, with the creation of additional lectureships in archaeology (Guttman-Bond), and medieval studies / history (Abram). Early career development opportunities have seen the promotion of two teaching fellows to permanent lecturing posts (Bezant, Abram), while an additional teaching and research contract has been created to support Bale as a notable early career researcher. This staffing policy has ensured the replacement of a departing lecturer in anthropology with an appointment in a key strategic area of the geography and anthropology of food and sustainability (Abbots). The Coastal area has likewise seen the creation of an additional strategic lecturing post in marine conservation (Jenkins) while further members of staff in this area (Cullis and House) have recently become research active through the expansion of research contracts and activity

in the policy arena. Staff development in this area has seen a targeted expansion of research capacity which is currently supporting two members of staff in doctoral studies, while another two attained their PhDs in the period. More senior staff in all areas have been actively supported in attaining research fellowships. Nayling, for example, held an AHRC Fellowship for the Newport Ship project, while Dransart was rewarded with a period as a Visiting Fellow in the Centre for Research in the Arts, Social Sciences, and Humanities at Cambridge University. The cluster has sustained an annual programme of weekly seminars over the REF cycle, where papers are delivered by staff, doctoral students, and external invited speakers. This has become an essential part of the research culture of the cluster promoting enhanced engagement with public-facing organisations and participation in external conferences. Continued support for early career researchers will benefit from experience with European partners through our participation in the newly awarded Marie Curie Actions (FP7) project ForSeaDiscovery. This €3.9m project will support three newly appointed early career researchers and ten PhD students over the next four years.

Postgraduate Students. The cluster has a high regard for the integration of research students within its activities, through robust supervision and quality assurance. The Postgraduate Research Office (PGRO) leads in administration and in quality assurance while the RDO supports in researcher development activities where PhD students are actively encouraged to attend the rolling Researcher Development Framework programme and engaged with CPD activities alongside early career research staff in the University. In this, postgraduate students are supported through opportunities to teach and to gain a Postgraduate Certificate in Teaching. Postgraduate students are also encouraged to attend the research seminar series and to deliver papers and chair sessions. They are often involved in the organization of these sessions as well as workshops and conferences. In addition, research projects often involve research students directly (e.g. the archaeological excavations at Strata Florida, Monastic Wales, Wales / Qatar project). Students are encouraged to publish and are mentored on this as part of the supervision process (research students have published in *Culture and Cosmos* and via the Sophia Centre Press). The cluster regularly hosts visiting PhD students from overseas. The annual Summer School is well attended by research students at each stage, offering subject specific training and the opportunity to network and present research. Applications for further research are encouraged through a raft of taught masters degrees, including new programmes in MRes. The cluster has also made it a priority to build doctoral scholarships into research funding applications. The cluster's activities on the Swansea campus has seen a significant expansion of its PhD programme in the period which now has four full-time international students and one full time home PhD student all working in the area of coastal conservation. The cluster saw 12 doctoral students graduating during this REF cycle while there are currently 23 students enrolled for PhD with six more enrolled for MPhil and aspiring to upgrade to PhD.

d. Income, infrastructure and facilities

Research Income. The cluster has continued a successful strategy of securing a balanced external research income stream from a combination of research councils, corporate and charitable organisations, and government (local, Welsh and central). The cluster will continue to align its research to areas identified as priorities by the 2014-20 European funding round and those of the AHRC, NERC, ESRC, and EPSRC. Particular emphasis here is placed on where the cluster can contribute to interdisciplinary research in priority areas such as low carbon energy, resource efficiency, environmental change, sustainable agriculture, global food security, marine research, and cultural heritage. In this we are now well placed to build upon our growing culture of grant capture which since 2008 has seen our activities leveraging research grants and income in excess of £1.5 million.

Contract research has formed a key part of our strategy to underpin and diversify research activity not traditionally supported by RCUK grants and priorities. We see opportunity for growth here through key research areas including renewable energy and potentially renewed government funding for infrastructure projects. This has provided a continuing income stream through a successful strategy of developing expertise in growth areas such as renewable energy developments. Key streams and projects have included in excess of £800,000 through UWLAS

research with clients and ongoing contracts with government agencies such as English Heritage and Cadw, the development industry through major infrastructure projects (for example High Speed 1, Sizewell 2 and Kingsnorth), and specialist services to archaeological and heritage trusts and companies. With the additional capacity created through the merger with SMU, we expect to see the expansion and diversification of the University's consultancy activities in the areas of coastal management and marine conservation. In 2010/11 the then separate UWTS and SMU collaborated through a Welsh Government Knowledge Exchange Partnership to explore collaborative research, consultancy, and policy interventions in the area of offshore renewable energy.

Major funded research projects undertaken have seen grant awards of circa £200,000 have been made through the AHRC for the Newport Ship project (with other funding streams identified in the accompanying impact case study, such as Nayling's role as archaeological consultant for Newport City Council's *The Newport Ship Recording Project* which levered just under £800,000 from the Heritage Lottery Fund (January 2006 - March 2008). Our work with local government has enabled the £400,000 Strata Florida project to lever £176,000 from the Rural Development Plan with an additional sum of £180,000 levered from volunteers. An ongoing project with the Qatar Museums Authority has seen income in excess of £120,000 for research on Islamic archaeology, with £10,000 from the British Academy in the same area. Welsh Government funded projects have included £149,000 for the Offshore Renewable Energy Impact Network and more than £50,000 for feasibility studies in the area of low carbon energy and knowledge transfer. We have also secured £20,000 from the Leverhulme Trust for an overseas visiting fellow and £10,000 from NERC for work in Jersey. The Wenner-Gren Foundation granted \$20,000 for an international conference in the materiality of food (archaeology and anthropology). The School of Natural and Built Environment was included in global grants for coastal research as follows: £323,000 Low Carbon Research Institute METG, £611,000 from the Technology Strategy Board, £27,000 Maltese Ministry for Transport and Infrastructure.

Research Support and Infrastructure. The cluster has a solid research and scholarship infrastructure. During the REF cycle our IT provision has been expanded to include a dedicated multi-purpose computing suite fitted with ArcGIS software. The cluster also benefits from paleoenvironmental laboratories, housed in a reserved building, with the capability of delivering research and contract services through our archaeological consultancy, UWLAS. Specialist laboratories, along with a teaching laboratory, are available to staff and postgraduate students. The Cadw palaeobotanical laboratory continues to be a committed laboratory currently housing the botanical environmental record for Wales. These laboratories benefit from a dedicated technician and are supported directly through research activities and a School budget stream, and contract work. The School has invested in the capability of delivering excavation for both postgraduate training and research purposes including field, survey, and excavation equipment. To this end, an excavation and analysis room serves as a depository, training, and research facility for the excavations of the cluster, as well as housing the School of Archaeology, History, and Anthropology's material culture collections. A memorandum of agreement with Cyfarthfa Castle Museum and Art Gallery, Merthyr Tydfil, allows access to Egyptian objects on a loan basis from the Major Harry Hartley Southey collection. The collections of the Roderic Bowen Library are used in research outputs (e.g. *Living Beings*, the volume based on the 2011 ASA conference held in Lampeter).

e. Collaboration and contribution to the discipline or research base

Joint research projects. The cluster has been active in developing collaborative research through networks with government partners, industry and commerce, and academic colleagues. These include interdisciplinary collaborations with universities throughout the UK and beyond and various public sector organisations in a wider European and international context. Since 2009 the cluster has been working on an EU / Rural Development Programme funded partnership with Ceredigion County Council and Welsh Government at Strata Florida, to carry out archaeological research and deliver a programme of activities to upgrade the site through the production of onsite interpretation material, public digs, and heritage events. Plans to build upon

this facility with research funding from the AHRC and Leverhulme Trust are currently in development, along with the European Social Fund, the Rural Development Programme and Cooperation Funds under the Interreg iva and ivb programmes.

The cluster has also worked with government partners in the LCRI Convergence Energy Programme, which has also involved academic collaboration. Examples are the Marine Energy Task Group (METG), with Aberystwyth, Bangor, Cardiff and Swansea Universities, and Pembrokeshire College; beach replenishment issues in Malta (Maltese Ministry); industrial research with ASTEC, a collaboration with Wireless Fibre Systems and Valeport Engineering; the Rising Tides project (with the universities of Aberdeen, Dundee, St Andrew's, and Bangor, and the Natural History Museum); The Quaternary Archaeology and Environments of Jersey Project, managed jointly by University College London, Southampton University, Manchester University, the British Museum, and TSD, and now funded by the Jersey government Tourism Development Fund; University of Surrey Ion Beam Centre: PIXE for the analysis of pluggen soils; Bristol University Organic Geochemistry Unit: Geoarchaeology of the Céide Fields (analysis of lipid biomarkers in prehistoric agricultural soils); coastal farming communities on the southern North Sea coast, 2000-800 BC (with the University of Leiden); the *Filling the Blanks in European Dendrochronology*, NWO Dutch Research Organisation-funded collaborative project, which brought together research institutes and foundations, university researchers and Spanish humanities research centre (CSIC) to explore enhancement of dendro-archaeological studies in the Iberian Peninsula. Successful demonstration projects encouraged a collaborative bid for a Marie Curie Initial Training Network which has been successful. *Visualizing Qatar's Past* demonstrates academic collaboration with Virginia Commonwealth University and Copenhagen University, and has received support from the Qatar Museums Authority. *Medieval and Ottoman Palestine* is a project funded by BA/ Leverhulme Trust in collaboration with the Council for British Research in the Levant.

Staff are involved in the Rural Alliances network, an EU Interreg NWE partnership with Phillips University, Marburg and 12 public and third sector organisations across North West Europe, and also in the Eating Network, in collaboration with the University of Oxford. The cluster has secured European Science Foundation funding for an exploratory workshop for the 'Monasteries in the Shadow of Empires' network with the universities of Lleida, UCD, Vienna (Austrian Academy of Sciences), Veliko Tarnovo, Prague, Budapest, and Madrid. The Monastic Wales project has been widened to Monastic Ireland through collaboration with partners in Dublin and investigations have begun into the feasibility of 'Monastic Scotland'. The Norton Priory project continues collaboration with Liverpool and Lancaster Universities. The Scottish Episcopal Palaces Project at Fetternear is working collaboratively with University of Liverpool and Blairs Museum. Joint research projects on supermarkets and rural sustainability have been initiated and are in the development stage with SOAS, King's College London and the University of Leicester. *Hajj Research* runs in collaboration with the British Museum and Museum of Islamic Art in Doha and *Islam in Britain (Archaeology)*, a collaborative project with Cardiff University.

Disseminating the disciplines. Members of staff in the cluster have continued to make important contributions to their disciplines through peer reviewing processes on a national and international level. Only a small sample of activities can be given here. Editorial positions include: joint general and founding editor for *Journal of Medieval Monastic Studies*; editor, *Culture and Cosmos*; senior general editor for the series *Middle English Texts* (Universitätsverlag Winter); editor in chief, *Archaeology in Wales*. Editorial boards: *Archaeoastronomy: the Journal of Archaeoastronomy and Astronomy in Culture*; *Correlation: the Journal of Research in Astrology*; *Château Gaillard, Landscape & Heritage* series (Amsterdam University Press); *Journal of the North Atlantic*; *Journal of Coastal Research* and editorial board of *al-Masaq*. Staff are active in peer review of publications and proposals across the disciplines, for journals such as *American Anthropologist*, *Global Religions*; *International Journal of Climatology*; *International Journal of Geographical Information Science*; *International Journal of Nautical Archaeology*; *English Historical Review*.

Members of the cluster take an active role in the organisation of conferences. For instance, UWTSD hosted the annual conference of the European Association of Social Anthropologists (2011). Members of staff were organizers of the annual Sophia Centre conferences (2008, 2009, 2010, 2011, 2012, 2013) and were jointly responsible for the organization and hosting of Thirteenth Century England conferences in 2009 (Paris), 2011, and 2013 (Aberystwyth and Lampeter). Staff were also involved as chair / co-organiser of the FRAUG workshop on the Newport Ship; International Conference, Goldsmiths, in association with SOAS Food Studies Centre (2011); Monestir de les Avellanes, Catalunya (2011 and 2012); The 7th conference on the Inspiration of Astronomical Phenomena (2010) and Heavenly Discourses (2011).

Staff of the cluster also delivered invited papers or chaired sessions at international conferences. Again, only a small number can be mentioned here: invited participant to the EU-US initiative 'Developing a New International architecture for Maritime Policy'; vice chair of the Coastal and Marine Working Group (Royal Geographical Society – Institute British Geographers) and invited expert and rapporteur for a European Commission workshop on maritime spatial planning; vice chair of the *Coastal and Marine Working Group* (Royal Geographical Society – Institute of British Geographers); International Expert Advisor: *CLIVAGE (Climate variability and changes adaptation strategies for small islands)*; Member of the UN Climate Change Working Group (*Global Forum on Oceans, Coasts, and Island*); members of Council for British Archaeology Wales, and representative on the Wales Environment Link. Research staff are also active with museums with representation on the British Museum Hajj Advisory Group, BANEA (the British Association of Near Eastern Archaeology Steering Committee), the British Museum (Andean textiles: organic colourants, biological sources and dyeing technologies, supported by The Leverhulme Trust), the Dutch Research Council, the Medieval Working Group, and the advisory board of Forschungsstelle für Vergleichende Ordensgeschichte (FOVOG), Technische Universität, Dresden.

Research leadership and esteem in the cluster has been acknowledged through invited conference presentations, session chairs, panel membership and keynote speeches on an international basis. Too numerous to note in detail these include keynote lectures and invited papers at: *Coastal Tourism and Climate Change*. Global Forum on Oceans, Coasts, and Islands, UNESCO, Paris (2010); Coastal Engineering, *International Coastal Symposium* (2011); *International and Global Context of ICOM, Coastal Zone Canada* (2008, 2010); Forschungsstelle für Vergleichende Ordensgeschichte (FOVOG), Technische Universität, Dresden (2009, 2012); International Medieval Congress. Member of MARUM Advisory Board (DFG Research Center – German Cluster of Excellence and Elite Universities, Marine Environmental Sciences); Underwater cultural heritage, UNESCO (Brussels 2012). Furthermore members of the cluster serve on the AHRC Peer Review College, and as EPSRC expert evaluators. This esteem has been recognised as staff have acted as external examiners for 20 doctorates throughout the UK and internationally, including the universities of Oxford, Cambridge, Durham, Dublin (UCD and TCD), Rennes, Toronto, and the National University of Australia.

Professional associations and learned societies. Research staff in the cluster are active in subject associations and learned societies, and have assumed leadership positions in these including membership of the Comité Permanent, Colloque Château Gaillard; Council of the Early English Text Society; Chair of the Council for British Archaeology Wales / Cymru. Five members of the UoA are fellows or members of the Royal Historical Society (one as a former council member and vice-president), and four are fellows of the Society of Antiquaries of London. Two are fellows of the Learned Society of Wales.