

<p>Institution: University of EXETER</p>
<p>Unit of Assessment: ARCHAEOLOGY</p>
<p>a. Overview</p> <p>Archaeology at Exeter is a strongly interdisciplinary and international-facing research community. It has particular strengths in the UK, mainland Europe, North Africa, North and South America, and central, southern and eastern Asia (incl. China). The REF period saw expansion in the size of our research community and capacity, with PhD awards for example increasing from 10.0 in the RAE period to 23.8 FTE in the REF period, and research income growing from £1,429,819 to £1,814,703. We have developed three interdisciplinary research groups:</p> <ul style="list-style-type: none"> • Bioarchaeology (led by Outram, and incl. Dennell, Iriarte, and Knüsel) • Landscape Archaeology (led by Rippon, and incl. Creighton, Herold, Oltean, and Van de Noort) • Material Culture & Social Agency (led by Bradley, and incl. Harding, Herold, Hurcombe, Juleff, Lazzari and Morkot) <p>In 2008 the Dept of Archaeology was in the School of Geography, Archaeology and Earth Resources, but in 2010 the University adopted a system of larger academic Colleges which saw Archaeology join other historical disciplines (while remaining an independent Department) in a College of Humanities that includes Classics & Ancient History and History. The Department has remained in the Laver Building and benefitted from a substantial upgrading of its research facilities.</p>
<p>b. Research strategy</p> <p>During the REF period our strategy has been to implement theoretically-aware, yet data-rich field, laboratory and museum-based research, focusing on key questions related to the human past. Leadership is provided by the Head of Archaeology, Director of Research, and Director of Education (who together form the Discipline Strategy Group), and a Director of PGR Studies. We have reflected on the RAE 2008 Subject Overview which identified ‘the past in the present’ as an expanding field that had greater potential to address and shape international research agendas, and have developed our strategy accordingly. In 2008 we had two research groups – <i>Landscape & Environmental Archaeology</i> and <i>Material Culture & Social Agency</i> – but since then strategic appointments and expansion in research grant income, research staff, and PGRs, has allowed the first of these to be divided into two new groups – <i>Landscape Archaeology</i> and <i>Bioarchaeology</i> – that now exist alongside <i>Material Culture & Social Agency</i>. In 2014-19 our overall aim is to increase the breadth, reach and capacity of our research within these three groups by:</p> <ul style="list-style-type: none"> • expanding the interdisciplinary and collaborative nature of our research through continued investment by the University, whose commitment to Archaeology in the REF period is evidenced by two new academic posts (Dennell and Herold), and 10 funded PhD studentships. This will include access to resources within the University’s HASS Strategy (a total investment of £1.5m including £1m for staffing and £395k for project development funds); • building on recent successes regarding research grant applications (with every staff member having achieved external research funding in the REF period) to start achieving even larger grants across the full range of funding sources (the first of which is Iriarte’s award in September 2013 of a £1.2m AHRC-FAPESP grant); • strategically growing PGR numbers through our AHRC DTP, international initiatives (including with the National Institute of Advanced Studies in Bangalore, and Brazilian Federal Agency for the Support and Evaluation of Graduate Education), and research grants; • targeting impactful research through key partnerships with external beneficiaries. <p>The strategies of each individual research group are laid out below.</p> <p>Bioarchaeology: the creation of this group was made possible by the strategic appointment of a human osteologist (Knüsel) to complement existing specialisms in botanical (Iriarte) and faunal (Outram) remains. Since then, Dennell has added strength in palaeoanthropology, and these appointments increase our capacity to research at the interfaces of archaeology, biology, biochemistry, environmental science, and medical history, and to investigate issues relating to human-environment interactions, and human diet, economy and health. In 2008 our bioarchaeologists aimed to expand their research into landscapes of domestication. This has been achieved through studies such as Outram’s paper (<i>Science</i> 2009) that presented new evidence for early horse domestication in central Asia, and Iriarte’s work (<i>PNAS</i>, 2009) on maize domestication in Mexico. Iriarte is also investigating pre-Columbian agricultural landscapes in Amazonia (<i>PNAS</i>,</p>

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2010; 2012; JAS 2010) which provide models for future sustainable uses of this environment (an example of understanding 'the past in the present'). A further research area is Knüsel's detailed skeletal biographies (eg *Gristhorpe Man*, and the St Bees Lady in *Medieval Archaeology*, 2010, winner of the Martin Jope Award) and his research into the *Bioarchaeology of Human Conflict*.

In the coming five years, the Bioarchaeology Group will develop work on the origins and development of early farming communities. Outram will extend his current research to address the transition from early horse herding to mixed pastoralism in Central Asia, and use his excavations at Mitchell, South Dakota (USA), to explore the initial settlement of hunter/horticulturalists in the plains of N America. Our understanding of farming communities in the LBK will be enhanced through Outram's participation in a major ERC project (led by Prof Richard Evershed, School of Chemistry, Bristol) integrating lipid residue, faunal, material culture and isotopic analyses to investigate subsistence variation. Knüsel will elucidate the socio-political impact of farming in western Asia as part of the Çatalhöyük team. Iriarte will expand his investigations into the nature, scale and impact of human agro-ecosystems on Amazonia in the Late Holocene through his award (as PI) in 2013 of a £1.2m AHRC-FAPESP grant. Dennell will develop his research into palaeolithic subsistence and dispersals, focussing on China.

Landscape Archaeology: in 2008 this group's strategic aim was to build upon existing strengths within wetland and maritime archaeology, and to understand the origins and development of the historic landscape more widely. The former was achieved through major research publications such as Van de Noort's *North Sea Archaeologies* and *Climate Change Archaeology* (the latter supported by an AHRC Fellowship), and two maritime and wetland archaeology related AHRC KTFs (see Impact Case Studies). The development of our research on the historic landscape was enhanced by the strategic appointment of Herold whose key publications include an analysis of high status centres in early medieval central Europe (*Medieval Archaeology* 2012). Creighton's research also focuses on medieval landscapes of the social elite including *Designs Upon the Land* (exploring how elite medieval landscapes were manipulated for reasons of leisure and visual impact), *Early European Castles* (extending the geographical coverage of his work into Europe) and *Transforming Townscapes* (a major co-authored case study of an urban landscape). Rippon's work on elite sites includes the publication of co-directed excavations at *Pevensey Castle*, and *Mining in a Medieval Landscape* (that explores the significance of the royal silver mines in Devon in the context of European mining history). Rippon's research also extends Exeter's expertise into the rural countryside with *Beyond the Medieval Village* and *Making Sense of an Historic Landscape* which consider regional variation in landscape character. Oltean takes Exeter's landscape archaeology into the Roman period using remote sensing and GIS to study the Roman provinces (eg her innovative use of satellite imagery in studying funerary monuments as part of a wider project on the Roman impact on Daco-Getic landscapes: *Antiquity* 2013). *Landscape Archaeology* interfaces with *Bioarchaeology* in the understanding of early plant and animal domestications, wetland landscapes (eg Iriarte's work on early field systems in Amazonia), and human response to environmental change (eg Van de Noort's *Climate Change Archaeology*). *Landscape Archaeology* also interfaces with key themes in *Material Culture & Social Agency*, such as mineral extraction (eg Harding on salt, Juleff on iron, Lazzari on obsidian) and material culture circulation (eg Harding and Herold in Europe, Juleff in Asia, and Lazzari S America).

Over the coming five years the *Landscape Archaeology* group will focus on the significance of social agency, in particularly how processes of landscape change are mediated through the actions of personalities, dynasties and communities. For example, Creighton will undertake the first archaeological study of the impact of the 'Anarchy' of King Stephen's reign on the landscape (£136k Leverhulme Trust grant), and examine the interplay between dynastic histories and the landscape character of estates. Rippon will explore the Roman legacy within the historic landscape of Britain (£241k Leverhulme Trust grant), and the extent and significance of planning in the early medieval landscape in an interdisciplinary project with historian Prof John Blair at Oxford (£98k Leverhulme Trust grant). Oltean will investigate the impact of ancient colonialism on natural and human landscapes and its contribution to redefining the character of the Roman imperial fringe (€52,250 EU grant). Herold will finalise a major three-year project (€270k, Austrian Science Fund) on fortified elite settlements of the 9th and 10th centuries AD in central Europe, and will then investigate the movement and exchange of people, technologies and objects in central Europe from the 5th to 11th centuries AD.

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Material Culture & Social Agency: in 2008 this group's strategic aim was to develop new interdisciplinary and theoretically informed approaches to material culture research. These were achieved through grants that include four networking awards to facilitate integrated approaches embracing the sciences, social sciences and humanities involving work in the UK, Europe, India, and Argentina (EPSRC-AHRC £8k; AHRC £71k; Royal Society, £8k; AHRC, £32k), and the strategic appointment of Herold to provide a European dimension to Lazzari's South American expertise in ceramics. Individual project grants have engaged with diverse materials including ceramics, salt, stone, perishable material culture, and metals. Key themes have been cultural understandings of technology and the incorporation of experimental evidence, examples of which are Bradley's paper (*World Archaeology* 2008) and two major books (*Across Atlantic Ice* and *Clovis Technology*). Another feature has been the socially-situated exploitation of natural resources, such as Harding's *Explorations in Salt* and *Salt in Prehistoric Europe*, Lazzari's research into ceramic and obsidian provenancing (eg *JAS* 2009), and Juleff's study of technology transfer and iron production (*World Archaeol.* 2009). Herold's research at the 7th/8th-century AD settlement/cemetery of *Zillingtal* (a two-volume monograph) and elsewhere has focussed on understanding local production and use of material culture, an innovative approach for early medieval archaeology in central Europe, using archaeometric and experimental approaches (eg *Zeitschrift für Archäologie des Mittelalters* 2009; *Antaeus* 2010). Exeter's use of experimental archaeology in contemporary understandings of ancient material culture is also seen in Van de Noort/Hurcombe/Hardings' AHRC-funded *Cornwall and the Sea* project: see Impact Case Study). Exeter's multi-sensorial approach to material culture also explores different ways in which artefacts engage and create sensory worlds in both the past and modern museum settings (Hurcombe: see Impact Case Study). This adds a new dimension to standard understandings of visual cultures, which we also investigate through the power of imagery and representation. This multi-faceted approach to material culture allows us to engage with extended biographies of materialities and the role past objects play in the construction of present identities within a broad landscape setting (eg Lazzari *J Mat Cult* 2011; *J Soc Arch* 2013).

Over the coming five years, the Material Culture & Social Agency group will build upon existing international collaborations to undertake evidence-based and theoretically informed material culture studies, particularly by developing new interdisciplinary methodologies. Bradley will explore cognitive aspects of learning and developing craft skills through publishing his Leverhulme Trust funded (£231k) *Learning to be Human* project. Experimental archaeology, resource materialities, and holistic and multi-sensorial approaches to material culture will continue to inform our research with projects on social landscapes of circulation (Lazzari in Argentina), the craftscapes of material culture (Herold in Europe), and symbolic and representational aspects of identities (Bradley in North America). We will continue to explore the powerful role of materials and artefacts in the emergence of contemporary identities in heritage settings and museums for example through Hurcombe's involvement in the EU OpenArch project, Lazzari's collaborations with heritage bodies and indigenous communities in South America, Juleff's research into early iron technology in South Asia (supported by the UKIERI-funded £83k Pioneering Metallurgy project), and Morkot's work in North Africa.

Key features of Exeter's research are its **collaborative character, interdisciplinary scope, and international reach**. This has been enhanced through active engagement in the University's 'HASS Strategy' and 'The Exeter Science Exchange' (a three-year EPSRC £501k funded initiative to bridge gaps between humanities and science chaired by Van de Noort). Institutional support for other interdisciplinary initiatives includes £4k from the Annual Fund for Creighton to create the 'Exeter Medieval Hub' (a focus for staff/students across the University with medieval interests). During the REF period interdisciplinarity is reflected in collaborations at other Universities with academics based in Anthropology, Archaeology, Chemistry, Computing, Ecology, Engineering, Geosciences, Geography, History, Informatics, and Medicine, as well as active research collaborations with non-University bodies including the British Museum, English Heritage, National Museums of Scotland and Wales, National Maritime Museum Cornwall, Devon County Council, Kirkwall Museum (Orkney), Royal Cornwall Museum, and Scarborough Museum; and internationally the Çatalhöyük Project, CNRS, Natural History Museum (Austria), German Archaeological Institute, Landesmuseum für Vorgeschichte, Centre for the History and Culture of East Central Europe in Leipzig, Roman-Germanic Central Museum in Mainz, and Staatliche

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Museen zu Berlin (in Germany); Archaeological Institute of the Hungarian Academy of Sciences; Museum of the Banat, Museum of the Eastern Carpathians, National History Museum of Transylvania, and National History Museum (in Romania); Carnegie Museum of Natural History, Gault School of Archaeological Research, Smithsonian Institution, and University of Missouri (in USA); Museo Etnografico in Buenos Aires (Brazil); Instituto de Arqueologia y Museo and National University of Tucuman (Argentina); Santa Cruz Museum (Bolivia); National Institute of Advanced Studies in Bangalore (India); National Museums of Sri Lanka, Martin Wickremasinghe Folk Museum, and Institution of Engineers (Sri Lanka); and Chinese Academy of Sciences.

c. People, including:

i. Staffing strategy and staff development

After very fast growth between 1999 and 2008, the staffing strategy has been to achieve sustainability through orderly and strategic replacements, and carefully planned expansion. Knüsel replaced Williams as a medievalist but strategically added human osteology capability, allowing the formation of the Bioarchaeology group which was further strengthened through the appointment of Dennell. The Material Culture group was strengthened by the appointment of Herold. In addition to internally funded study-leave, Creighton, Harding, Knüsel, Lazzari, Oltean, Rippon, and Van de Noort have all had buy-out from teaching as part of AHRC and Leverhulme grants and Fellowships. Herold was awarded an 18-month *Research Fellowship for Experienced Researchers* by the Alexander von Humboldt Foundation.

To facilitate **staff development**, all academic and research staff have an **Academic Lead** who in Archaeology are senior staff members with an established track record in achieving research grants (including RCUK), line-managing research staff, being awarded funded studentships, successfully guiding research students to completion in four years, and publications graded 4* (based upon external peer review). Each Lead is responsible for mentoring 6-10 members of staff, meeting with them three times a year (one meeting being the formal appraisal). **High performance** in any aspect of work, including research and impact, is rewarded through bonuses under the University's Merit Award Scheme as well as promotions and salary increments.

New academic staff are mentored by their Academic Lead and undertake Induction and the PG Certificate in Academic Practice. They have reduced teaching/administration, and full access to courses/support from the Staff Learning and Development team. All early career staff are second supervisor for a research student (under the guidance of an experienced first supervisor). The University joined the Athena Swan charter in June 2011 and received Bronze Status in 2012. Both the University and the College of Humanities have **Equality and Diversity Officers** to provide advice, and equality/diversity issues are a compulsory part of induction. The College has an **Ethics Officer** and **Committee** to provide advice on research ethics and the University's Ethics Code. All colleagues are supported in submitting grant applications by Archaeology's Director of Research and through a process of **Internal Peer Review** (whereby two colleagues with an established track record of winning grants give feedback on draft grant applications). All staff receive a **research allowance** of £1500 p/a for fieldwork, conference attendance etc. A College-wide **workload modelling tool** ensures that all staff are allocated time for research, and that grants with buy-out from teaching, PGR supervision, and significant administrative jobs are all recognised (particularly important in ensuring that early and mid-career staff are not over-burdened). All colleagues (including those on their initial five year developmental programme and who are part-time) can apply for **Study Leave** which is awarded on a competitive basis.

Over the REF period the Department hosted 16 externally funded **research assistants and fellows** who in addition to their Academic Lead are supported by the University's Researcher Development Team that is responsible for our obligations to the **Concordat to Support the Career Development of Researchers** (eg through its programme of 1:1 career and professional development coaching and its 'Rising Stars' programme). Archaeology has additionally **hosted international researchers** including Prof Francesco Menott (Swiss National Science Foundation), two BA International Visiting Fellows (Drs M Sprovieri, La Plata, Argentina, and R Suarez, Montevideo, Uruguay), two Fyssen Fellows (Drs S Manem, and S. Villotte), a CONICET Postdoctoral International Fellow (Dr L. Cortés, Univ of Buenos Aires), Dr. Astolfo Araujo (Univ of Sao Paulo, UofE bursary), and Dr Ovidiu Tentea (funded by the European Social Fund and the Romanian government), and Dr Sirpa Niinimäki (funded by Oulu Univ, Finland). Dr S.Jaikishan (Dharmapuri, Andra Pradesh), Prof S. Ranganathan, Prof. S Srinivasan, Dr S Haricharan, and Dr M B Rajani (National Institute of Advanced Sciences, Bangalore) have visited through the UKIERI-

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funded Pioneering Metallurgy Project.

The development of a vibrant **research environment** within Archaeology is coordinated by the Director of Research (DoR), and assisted by the College of Humanities' Associate Dean for Research and Knowledge Transfer who chairs the College Research Strategy Group. The research environment is enhanced through its research seminars (given by distinguished external speakers, Exeter staff, and postgraduate students), and by retaining close links with retired staff, who have access to research space. Honorary staff also add to the research culture through co-supervising research students. Our work to foster **links between academia and the outside world** is outlined in the Impact Statement, but includes three AHRC Knowledge Transfer Fellowships. We also host the PAS Finds Liaison Officer for Devon who, along with the British Museum, jointly established the Department's excavations at Ipplepen in Devon.

ii. Research students

Archaeology at Exeter has a growing PGR community that has more than doubled from 10.0 PhDs awarded in the RAE2008 period to 23.8 in the REF period. This expansion has been achieved through our AHRC BGP (5 studentships) – to be continued through our involvement in Exeter's successful application for a DTP – and strategic international initiatives through the British Council UK India Education and Research Initiative (UKIERI)-funded split-site PhD programme with the National Institute of Advanced Studies, Bangalore (leading to 5 full-time studentships since 2012) and Brazilian Federal Agency for the Support and Evaluation of Graduate Education (3 studentships so far). There were 10 College of Humanities studentships, and others attached to research grants from AHRC, ERC, HLF, Leverhulme Trust, Wenner-Gren and CAPES [Coordination for the Improvement of Higher Level Education, Brazil].

Our 'Overall Satisfaction' in the 2013 PRES Survey was 89% compared to the Sector average of 83%. The vibrancy of the growing PGR community is reflected in the student-organised seminar series and discussion group (PGTips). An informal PGR Liaison Forum is open to all research students, enabling them to discuss matters of concern with Archaeology and College staff. The Department's PGRs have acted as Reviews Editor for *Church Archaeology* and *Wiltshire Archaeological Magazine*, editorial board member for *(Re)construction and Experiment in Archaeology*, and Student Representative on the Society for Medieval Archaeology's Council. Our PGRs organised the 2nd *Experimental Archaeology Conference* (and published the proceedings with Oxbow in 2008), and *History of Experimental Archaeology* conference (2013); one of the organisers (Roeland Paardekooper) was made Knight in the Order of Orange Nassau, by HM Queen Beatrix of the Netherlands in 2012 for his services to archaeology. Exeter PGRs also organised and hosted conferences on *Early Medieval Archaeology* (2008) and *Food and Drink in Archaeology* (2010). Two PGRs (Ciprian Ardelean and Cynthia Bradley) successfully applied for NERC radiocarbon dates as part of their doctoral research. Jenny Watling has been named Scopus Young Researcher of the Year in Arts and Humanities 2013, while the Scopus 'award for fostering great research from young researchers' was given to Exeter for the best overall candidate. Tathagata Neogi has been appointed to the newly-formed five-member ICOMOS India National Committee of ICICH (International Committee on Intangible Cultural Heritage).

There are two dedicated PGR rooms in which Exeter-based students have individual desks, with hot-desk provision for distance-based students. All students receive a research expense allowance (£200p/a) to assist with travel and other costs, as well as photocopying up to £50 p/a, and unlimited inter-library loans. PGRs have full access to the Department's laboratory facilities and equipment. PGRs contribute to the Department's Research Seminar series with a short presentation at the start of their studies (outlining their broad field of study, specific research questions, and intended sources/methods), and a more substantial presentation in their final year (outlining their results, significance, and any potential non-academic impact). All PGRs have a team of two supervisors and a mentor, and have at least ten meetings a year (or equivalent if part-time). PGRs write up notes on what was discussed and agreed in those meetings through an online system (**MyPGR**). Each year all students undertake a **Training Needs Analysis** to identify any gaps in their research skills, and an **Annual Monitoring** exercise to formally monitor progress. Research students are supported by the College of Humanities induction programme and skills training, and the University's 'Researcher Development Programme'.

d. Income, infrastructure and facilities

Income: The Department has grown its external research funding from £1,429,819 during the last

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RAE period to £1,814,703 in the REF period. We have an explicit strategy of targeting diverse funding sources that has included ERC, EU Culture Programme, CNRS, AHRC, EPSRC, NERC, British Academy, British Museum, English Heritage, Earthwatch, Institute for Bioarchaeology (USA), Leverhulme Trust, National Geographic, Royal Society, Society of Antiquaries, Stein-Arnold Exploration Fund, UKIERI, and Wenner-Gren, as well as learned societies, charities, and TV companies. In kind support, includes airborne LiDAR data for Oltean's research (£13,238 from the BBC for her contribution to the documentary "Rome's Lost Empire", and Quickbird satellite data worth \$27,744 from the Postgraduate School of the Navy, Monterey, USA). We have demonstrated particular strength in the AHRC KTF scheme with 3 awards: £67k (Rippon) £159k (Creighton) and £177,000 (Van de Noort), and an AHRC KE Hub (1 award: £50,000 (Knüsel). Two of these AHRC KTF's have already led to further externally funded collaborations through the EU funded OpenArch project (with £133,940 coming to Exeter) and contract research with Essex County Council, Southend-on-Sea Borough Council, and Wessex Archaeology (for the Olympic Legacy Company) amounting to £12,103. We have also undertaken contract research where this supports key knowledge transfer projects.

Infrastructure and facilities: In the last RAE period the Department saw major investment in facilities with a £800k SRIF-funded refurbishment of laboratories and new equipment. In 2009 we undertook further investment (£50k) by creating a bioarchaeology laboratory for studying human and animal remains, and accommodation of reference materials. We now possess separate labs dedicated to 'clean' and chemical analyses, 'dirty' and wet processes, microscopy, bioarchaeology, and experimental archaeology. Analytical equipment now includes high-specification high- and low-power microscopes with imaging systems used for petrology, environmental analysis, metallurgy and usewear. We have the only European archaeobotanical laboratory with the expertise to carry out microfossil botanical analysis of phytoliths and starch grains from the Neotropics, and hold the largest Neotropical microbotanical collection in Europe. Survey equipment includes integrated differential GPS and reflectorless total stations, resistivity meter, Bartington gradiometer, and access to GPR and a cloud scanner. Land on campus is provided for experimental archaeology. There is a Drawing Office and large format scanner in the Landscape Research Room. We have substantial reference collections for animal, plant and human remains, geology, archaeometallurgy, ceramics, lithics, organic material culture, and historic maps. Other key facilities in the University we have used include Geography's Sediment Research Facility and palaeoenvironmental laboratories (eg pollen labs, large cold room, inorganic bulk analysis facilities such as AAS and ICP-MS), and Camborne School of Mines' SEMs and world-class micro-beam facilities (QEMSCAN) for inorganic materials (eg soil and archaeometallurgical characterizations). Our research is supported by a technician who is a specialist in archaeological illustration and fieldwork. Our departmental administrators also support staff by arranging travel and logistics, whilst the College provides assistance on costings, contract research, and ethics. Staff in Archaeology have also benefited from University pump-priming funding (eg Iriarte's 2010-2011 'Project Development (Interdisciplinary Networks) Grant' for 'Sustainable raised-field agroecosystems for food security in the Bolivian Amazon'. Archaeology has also benefited from the University's **£380 million investment in our campus**, including £7.58 million for Library facilities.

e. Collaboration or contribution to the discipline or research base

Editorial positions: Outram is Exec. Editor of *World Archaeol.*, Creighton is Editor of *Medieval Archaeol.* and Knüsel Ass. Editor of *International Journal of Paleopathology*. Harding is Chairman of Trustees for *Antiquity*. Staff serve as editorial board members for *J. Maritime Archaeology* (Van de Noort), *Germania* and *Dacia* (Harding), *Bulletins et Mémoires de la Société d'Anthropologie de Paris* (Knüsel), *J. Archaeology in the Low Countries* (Van de Noort), *J. Wetland Archaeology* (Rippon and Van de Noort), and *Landscape History* (Rippon). Rippon is also a member of the Editorial Board for the Brepols Monograph Series *Environmental Histories of the North Atlantic World* and Creighton for Exeter University Press's *Exeter Studies in Medieval Europe*.

Memberships of research council and funding body panels and peer review groups:

Creighton, Dennell, Outram, Rippon, and Van de Noort have been/are members of the AHRC PRC, whilst Iriarte and Knüsel serve on the NERC PRC. Van de Noort and Outram are also 'Registered Experts' for the EU's ERC FP7 scheme, and Oltean was a panel assessor for Newton International Fellowships (British Academy and Royal Society). Staff have also reviewed grant proposals for a wide range of other bodies including the Römisch-Germanisches Zentralmuseum

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Mainz (Harding); Nederland Wetenschappelijk Onderzoek and Czech Research Council (Van de Noort); Croatian Science Foundation and International Assessment Board (Creighton), the Irish Research Council for the Humanities and Social Sciences (Creighton and Rippon); Leverhulme and Leakey Foundation (Dennell); National Agency for Science and Technology Advancement, Argentina, National Council for Science and Technology, Argentina, and National Council for Science and Technology, Chile (Lazzari); Agence Nationale de la Recherche/Fonds de Recherche sur la Société et la Culture Québec (France/Canada), Deutsche Forschungsgemeinschaft (Germany), Medical Research Council (U.K.), Research Foundation Flanders and Social Sciences and Humanities Research Council (Canada) (Knüsel); and Hungarian Science Foundation, Czech Research Council, German-Israeli Foundation for Scientific Research and Development (Herold).

External examinerships for research degrees: 21 in UK and 18 international

Service to learned societies and honorary positions: Harding was Chairman of the British Academy's Archaeology Section (until 2011). Van de Noort serves as Chair of the Subject Committee for Archaeology (2010-13). Harding served as President of the EAA (2003-9); Rippon is President of the Medieval Settlement Research Group (2011-present) and Treasurer of the Society for Medieval Archaeology (2008-present); Knüsel served as President of the British Association for Biological Anthropology and Osteoarchaeology; Morkot is Chair of the Society for Libyan Studies. Outram is Advisory Committee Member to the Shanghai Archaeology Forum (Institute of Archaeology, Chinese Academy of Sciences). Staff also contributed to the running of the Society for Landscape Studies (Creighton), Archaeolandscapes Europe and Aerial Archaeological Research Group (Oltean), National Secretary of Science Technology and Innovation (Panama), National Scientific and Technical Research Council (Uruguay), and National Science Foundation (USA) (Iriarte). Outram and Bradley have been Research Associates of the Carnegie Museum of Natural History in Pittsburgh and are Adjunct Professors of Anthropology at Augustana College, USA. Lazzari is International Research Associate at the Instituto de Arqueología y Museo, Universidad Nacional de Tucumán (Argentina). Bradley is Research Associate at Smithsonian Institution in Washington DC and University of Texas. Bradley and Juleff are Adjunct Faculty at National Institute of Advanced Studies, Bangalore. Knüsel is on the scientific committee of Université de Bordeaux Archaeological Excellence Laboratory. Van de Noort chaired the Review of Wetland Archaeology on Bord na Mona's Peatlands, commissioned by Dept of the Environment, Republic of Ireland, and is Scientific Advisor to the Irish Wetland Archaeological Survey. Dennell represents ICOMOS at the World Heritage Convention relating to human evolution sites.

Fellowships and awards: Harding and Dennell are FBAs. Nine staff are FSAs (Creighton, Harding, Hurcombe, Juleff, Knüsel, Oltean, Outram, Rippon, Van de Noort) and Oltean is also a Fellow of the Society of Antiquaries of Scotland. Knüsel was awarded the 2010 Martyn Jope Award by the Society of Medieval Archaeology for the best journal article in *Medieval Archaeology* (St Bees Lady) *The Wallingford Burh to Borough Research Project* (Creighton) was short-listed for the 2010 Presentation of Heritage Research Award, sponsored by English Heritage.

Major conference organisation or keynote addresses: keynote addresses at international conferences include Putting Medieval England in its Place (New York: Creighton); the 7th Thomsen Lecture at the German Archaeological Institute (Berlin: Harding); the Wetland Archaeology Symposium (Groningen: Rippon); TAG 2011 in Birmingham, and Live Waves Conference (Manchester: Van de Noort); Farrell Lecture at the International Medieval Congress, USA, and Space, Settlement and Society conference (Dublin: Creighton); Société d'Anthropologie de Paris - (Knüsel); Society for Brazilian Archaeology Symposium (Iriarte); Iron and Steel Institute of Japan (2010) and World of Iron conference at the Natural History Museum (Juleff); Archaeological Institute of America (USA: Oltean); Middle Palaeolithic in the Desert, Oxford; IUAES 2013 conference, Manchester; and 6th Asian Palaeolithic Association conference, Inner Mongolia (Dennell). Lazzari organized two international workshops as part of her AHRC grant *Identities as Socio-Material Networks* in Tucumán (Argentina) and Exeter, and was CI on a CONICET grant for organizing conferences and workshops in Argentina. Herold co-organised the international conference *Early Medieval Defended Communities across Europe* (Oxford).

International collaborations: In the REF period staff had active collaborations with research institutions in **Europe** (UK, Ireland, Italy, Romania, Austria, Hungary, Czech Republic, Germany), **Asia** (China, Japan, Jordan, Kazakhstan, India, Sri Lanka, Turkey), **USA** (Missouri, California, Ohio, South Dakota, Texas), and **South America** (Brazil, French Guiana, Argentina, Bolivia).