

**Institution:** University of Portsmouth

Unit of Assessment: 4 Psychology, Psychiatry and Neuroscience

#### a. Overview

Research in the Department of Psychology is based upon three Research Centres. Our research is multi-disciplinary, involving collaborative grants and high profile international networks. Colleagues in the International Centre for Research in Forensic Psychology (Forensic: Vrij, Pearson, Blank, Ost, Sauer, Hope) conduct basic and applied research at the intersection of psychology and the legal system, working with senior members of the criminal justice system responsible for strategy, policy and operational activities, including security personnel, legal professionals and police practitioners. Members of the Centre for Comparative and Evolutionary Psychology (CEP: Waller, Fleischman, Morrison, Micheletta, Moore, Kaminski, Bard, Stafford, Davila-Ross) examine human and animal behaviour and cognition from a cross-species and evolutionary perspective, working with endocrinologists and anatomists. Staff in the Centre for Situated Action and Communication (CSAC: López, Morris, Reddy, Devonshire) investigate the impact of context and embodiment on psychological phenomena in adults, infants and children (typical and atypical), working with neuroscientists, philosophers and cognitive scientists.

Organisation of our research into three distinct Centres fosters strong participatory environments, leading to new and increasingly inter-disciplinary collaborations. With the added dynamism associated with regular visiting researchers, we have created a supportive and ambitious environment that both challenges and extends the interests and skills of both staff and students.

# b. Research strategy

Our research strategy has been to (i) develop our research groupings around existing strengths and to enhance our international profile through leading contributions to the literature and through wider engagement, (ii) increase external research income and diversify our sources of funding (iii) increase our postgraduate research student numbers and the number of colleagues involved in PGR supervision. We have an associated aim to (iv) align our teaching and our research strengths as part of a sustainable and vigorous research environment. Evidence in support of the effectiveness of this strategy is presented below.

- (i) As a result of a Faculty-wide review in 2008, and feedback from the RAE2008 panel, we undertook a systematic Departmental Review that included refining our existing research groupings to build on areas of strength. Our three Research Centres have enabled us to create critical mass in areas of research excellence that align with external research priorities (e.g., security). It has also enabled us to attract and retain high quality staff (López & Devonshire to CSAC; Sauer & Pearson to Forensic; Fleischman, Micheletta, Kaminski, Davila-Ross & Morrison to CEP) and postgraduate students.
- (ii) We have secured £2,454,323 in external funding over the REF period, two and half times more than during the last assessment period, one fifth of which came from BIS Research Councils, the Royal Society, British Academy and Royal Society of Edinburgh. Our income per research active member of staff compared to the previous assessment period has more than doubled to £122,716. In the REF period all staff have submitted funding applications (as Principal Investigator) and we have been successful in securing funds from a diverse range of sponsors (see section d).
- (iii) In the current assessment period we awarded 13 doctoral degrees. We have taken steps to increase this number by seeking new sources of funding. In an award valued at €5,146,000, the Forensic Research Centre have already secured an Erasmus Mundus Joint Doctoral Fellowship funded PhD programme in Legal Psychology in collaboration with the Universities of Maastricht and Gothenburg. This will provide up to eight fully-funded PhD bursaries per year for the next five years. We are also exploring a professional doctorate route in Forensic Psychology. The Situated Action and Communication Centre secured a Marie Curie ITN that provided two fully funded PhD bursaries and also regularly hosts European PhD students and ECRs (e.g., University of Chieti, Czech Academy of Sciences, University of Parma, University of Aarhus) on secondment for extended periods
- (iv) In keeping with our attempt to consolidate our research culture we have focused on aligning research and teaching in order to maximise research time and increase the effectiveness of



scholarship. The success of this strategy is evident from the increase in publications that include undergraduate students as co-authors.

**Strategic aims**: Our overarching strategic objectives for the period 2014-2020 are to further develop and enhance research strengths aligned with our Research Centres. We will increase our standing and visibility within these discipline areas through a combination of ground-breaking publications, high-profile presentations and enhanced engagement with user communities. Specifically we will:

- (a) Increase the research activity of staff through the implementation of personal research plans that align with our strategic ambitions. To deliver those plans, staff will be supported through mentoring and training opportunities, but also through the provision of specific support in areas such as pump-priming new projects and the preparation of outputs for publication in high impact journals. All new appointments will be research-led.
- (b) Increase and further diversify our external research income, by increasing the volume, and enhancing the quality and timeliness of our funding applications to a wider variety of sources, and through aggressively targeting funding opportunities in areas of our core expertise. One key aim is to strengthen international collaborations by targeting European funding via Horizon 2020.
- (c) Increase engagement in multi- and interdisciplinary collaborative projects that address national and international research priorities (e.g., Ageing) and to forge further collaborative networks with practitioner groups, Government agencies and non-Governmental organisations.
- (d) Enhance our PGRS community through the provision of bursaries, and increasing the uptake of the newly established MRes Science. We will continue to apply for European funding to provide PGRS bursaries and explore the development of research training routes, such as Professional Doctorates, in areas of research strength.

# c. People, including:

# i. Staffing strategy and staff development

Our staffing strategy is focussed on consolidating and complementing areas of research strength through staff development and recruitment. We seek to recruit academic staff who have already demonstrated excellence in research and we support all staff in the further development of their research profile. Eight staff entered in RAE 2008 are also returnable in REF2014 (Vrij, Waller, Blank, Ost, Bard, Hope, Morris, Reddy), three staff that were not eligible last time around are now enterable (Van Laar, Moore, Stafford) and eight of the nine new entrants this time around were early career researchers when appointed (Fleischman, Pearson, Morrison, Sauer, Micheletta, Kaminski, Davila-Ross and Devonshire).

We have established systems of support for staff at all stages of their research careers including postdoctoral colleagues and those on fixed term contracts, in line with the Concordat to Support the Career Development of Researchers. All Departmental staff are integrated into our system of annual appraisal (Performance and Development Review: PDR). All PDRs include explicit discussion of research, impact and professional development plans and ambitions, to ensure that individual staff plans align with Departmental, Faculty and University strategies. Colleagues pursue training opportunities identified in the PDR (e.g., grant writing workshops, media training, advanced statistics seminars). Every member of staff is assigned a mentor (a senior, research-active colleague) who meets with them twice a year to help them focus on the delivery of their agreed research plans. New colleagues are able to apply to the Faculty for startup funds and are provided with protected time for the first two years of appointment to allow them to establish their research presence in Portsmouth. There is internally funded support for conference attendance and pump-priming grant applications, and we provide networking grants to for exchange visits. In addition, the University provides a programme of targeted support (workshops, 'hothouses', tailored individual advice) for sourcing research funding and new colleagues are supported to join PhD supervisory teams. Staff can apply for research sabbaticals (1 year) and scholarly activity periods (3 months) that are resourced via the collegiate reallocation of workloads. These initiatives have led to high quality outputs (e.g. a Behavioral and Brain Sciences article) and successful grant submissions. Since 2008 several staff have been promoted to Reader (Waller, Hope & Blank) and Professor (Reddy) in recognition of their research leadership and we have recruited both nationally (Pearson, López, Morrison, Devonshire) and internationally (Kaminski, Sauer, Fleischman, Micheletta, Davila-Ross) to strengthen our research base.

**Development of research staff and the Concordat:** The University Research Staff Forum provides feedback on issues raised at University and Faculty level, as well as being a source of



advice, guidance and information to researchers. The forum hosts visiting speakers on a range of topics such as leadership in research and career opportunities for researchers. We are committed to the Concordat to Support the Career Development of Researchers and to ensure effective development opportunities for all levels of research-active staff. The University has been awarded the European Commission Human Resources Excellence in Research Award.

**Equality and diversity:** The University is proactive in developing its inclusive working practices to meet best employment and staff development practices. We are committed to promoting the role of women in science (female researchers represent 45% of our submission). A strategy is in place for the University to achieve Athena SWAN Bronze by 2014, with individual departments within the Science Faculty applying for Silver Awards in the 2014-16 window.

#### ii. Research students

One of our key objectives has been to provide an appropriate environment for research and for a thriving postgraduate research community. We maintain a rolling programme of research studentships by securing bursary opportunities through a combination of:

- (a) Projects aligned to our research strengths, in addition to considering student-generated proposals.
- (b) Externally-funded PhDs (e.g., Marie-Curie ITN funding that provided bursaries for two students and students on secondments and the recent award of the competitive Erasmus Mundus Joint Doctoral Fellowship programme further strengthens such recruitment capacity).
- (c) University-funded PhD bursaries (e.g., Morrison supervised a, now completed, PhD on human fertility scheduling from an evolutionary perspective).

These efforts have provided opportunities for increasing our supervisory engagement, with academic staff new to supervising joining teams with more experienced supervisors as mentors, and accessing the training and support described below.

We have pursued a growth strategy with regard to facilities over the past few years, with access to training and support at both the departmental level (subject-specific / specialist training, e.g., eye-tracking, motion capture, thermal imaging) and via the University of Portsmouth Graduate School, which offers co-ordinated support for all our research students. The Graduate School Development Programme provides the key elements of generic research skills and transferable career development skills training as outlined by Vitae and the RCUK. Postgraduate Research Students (PGRS) attend training courses and workshops. Our supervisors are required to attend The Graduate School's induction course for new supervisors, and are expected to attend the wider Research Supervision programme. We operate a Postgraduate Research Degrees Committee (which includes student participation) to support students and supervisors, and which facilitates a two-way channel of information exchange between the local-level and Faculty- and University-wide developments at the University Research Degrees Committee, the Graduate School Management Board and the Faculty Research Degree Committees.

In line with University regulations, each student has an annual appraisal, with a major review at the end of the first year (full-time) conducted by a panel of assessors including an independent internal colleague selected by Faculty. This process brings individual student progression into clearer focus, to identify and support ongoing student needs, and to promote timely completion rates. Two members of administrative staff deal with practical questions and provide information and support to PGRS. Access to equipment, laboratories and other facilities is equitable, hierarchy-free and governed by our Technical Support Strategy. Supervisory teams consist of three colleagues, led by the First Supervisor. The First Supervisor maintains at least weekly contact and the full team meet at least twice every year to review progress. PGRS are encouraged to give a presentation at the UoA's research seminar series. This simulates a conference setting, giving students the opportunity to present work in an appropriate environment and to a substantial internal audience. PGRS are fully integrated into the research culture of the UoA and there are postgraduate and postdoctoral representatives on the Research and Knowledge Transfer Committee.

Each student, irrespective of funding source, receives £1000 per year to support their programme of research – typically these funds are used to fund conference attendance. These funds are cumulative and thus allow a student to build up sufficient funds, for example to support attendance at a major international conference towards the end of their registration period. As a result our PGRS are very active on the international conference circuit and have presented at major meetings, including the Society for Applied Research in Memory and Cognition, American



Psychology and Law Society, the Jean Piaget Society, the World Association for Infant Mental Health, the International Primatological Society, and the Human Behavior and Evolution Society. The work they produce is of high quality and regularly wins awards. Two of our PGRS (Shaw & Ewens) recently won prizes in the 'best student presentation' category at the International Investigative Interviewing Research Group conference in Maastricht, 2013 and another (Costantini) won a prize for best presentation at the World Nutrition 2012 conference in Rio.

Supervisory teams mentor students to publish data from their PhDs, and to aim for a final thesis comprising a set of inter-related publishable papers or chapters. Several students have achieved significant publication successes before completion (e.g., Law & Human Behavior; Psychology, Public Policy & Law, Applied Cognitive Psychology). Many of our recent doctoral students have secured positions in relevant Government agencies in the UK (e.g., Defence, Science and Technology Laboratory; Office of National Statistics) and internationally (e.g., Greek police training academy). Others have secured academic posts, and work on improving the synergy between academic and practitioner research (e.g., Oxburgh has set up the International Investigative Interviewing Research Group). The reputation of the UoA is such that it continues to attract high quality PGR candidates internationally. Since 2008 we have attracted students from Greece, Germany, Malta, Italy, Lebanon, Turkey, The Netherlands, as well as the USA.

# d. Income, infrastructure and facilities

Two key goals of our research strategy were to sustain our growth in external research funding and diversify our sources of research income. Since 2008 we have secured just under £2.5 million in external funding, more than doubling the income during the last assessment period (£989,736). During this assessment period we have secured 43 grants from 21 different funding agencies including the BIS Research councils (ESRC, EPSRC) and the British Academy, the European Commission (Marie-Curie), UK charities (Nuffield, Leverhulme, Alcohol Education Research Council, British Psychological Society, Educational Endowment Foundation), industrial sponsors (Innovation Group), and local (Portsmouth City Council), national (Home Office, Communications Planning Directorate) and international (FBI) government departments. Our strategy is to target RCUK and European funding by more aggressively aligning our funding applications to prominent themes.

The University provides central support for bidding for external funding. In addition to the schemes listed above the University has provided a competitive Research Development Fund (RDF) since 2012 to support activities that build research capacity and promote the University's research profile with a focus on interdisciplinary and collaborative bids. Internal funds are directed to individual researchers to facilitate exploration of further research opportunities (e.g., gathering pilot data) and impact-related activities (e.g., networking). Internal funding is also directed to Research Centres to support their activities (e.g., conferences, workshops, supporting visitors). Conference funds, small grants and visiting speaker funds are disbursed, administered and audited by the Research and Knowledge Transfer Committee (RKTC – see below).

# Research governance

The Head of Department provides strategic leadership across all areas of research activity. The Research and Knowledge Transfer Committee (RKTC) is chaired by the Associate Head of Research and includes research leaders from the three research centres and representatives from research students and research staff. The chair of the RKTC committee is an *ex-officio* member of the Faculty Research and Knowledge Transfer Committee that, in addition to driving research activity across the Faculty, also serves as a link cascading strategy from the University's Research and Knowledge Transfer and Postgraduate Research Degrees committees. University policy requires that all research be subject to ethical review. There is a generic application and review process across all Faculties and each Faculty Ethics Committee has documented procedures and guidelines for the same. A 'Research Ethics Seminar' is run once a year by RKTS as part of the programme of events for PhD Supervisors entitled 'Ethical Research & Ethical Supervision'.

#### Infrastructure & facilities

Full-time technical staff provide research support including the provision of bespoke programming and equipment for experiments, as well as space, resource and health and safety management (e.g., room / equipment booking and risk assessments). There is an undergraduate participant database as well as a community participant database that is used to advertise experiments and recruit participants. The UoA has a range of purpose-built facilities including practical and project rooms, a computing suite, and several specialised laboratories tied to each of



our Research Centres.

Comparative and Evolutionary Psychology: The Macaque Study Centre (MSC) opened in 2011 as a joint venture between the University of Portsmouth and Marwell Wildlife (Winchester, UK). The MSC is a unique facility for cognitive and behavioural research with crested macaques (*Macaca nigra*). The macaques live in their social group at Marwell Zoo and can voluntarily take part in interactive cognitive tasks. The macaques have been trained to use computerised touch-screens, and we use these touch-screens to present the animals with different visual and auditory stimuli to investigate the function and evolution of social communication. Visitors to the zoo can observe the research through a viewing window. The **Dog Cognition Centre** is a suite of three rooms situated in a popular dog walking location that will enable us to host members of the public and their dogs. The suite of rooms comprises a comfortable waiting area and two testing rooms equipped with video recording facilities. This centre will enhance the Centre's work in comparative social cognition, specifically theory of mind related skills in different species. A centre focussing on canine cognition, rather than behaviour, is unique in the UK.

<u>Forensic Psychology</u>: The recently refurbished **Psychology of Applied Cognition (PAC)** laboratory allows for simultaneous and efficient testing of multiple participants (up to 12), under controlled conditions. Researchers in the PAC Laboratory investigate a variety of topics relating to perception, memory, social cognition, and decision-making in applied settings with a focus on understanding the causes of human error, and the development of protocols designed to reduce human error and improve judgement and performance. Our **forensic interviewing suite** has state-of the-art audio and video-recording facilities as well as a one-way observational facility for training purposes. We also have access to a purpose built **mock courtroom** equipped with ceiling mounted cameras and a **forensic crime scene** house.

Situated Action and Communication: The **toddler suite** has state-of the-art audio and video-recording facilities, furnished with comfortable settees, high chairs, a playpen and baby changing facilities. It is used for research exploring child behaviour in a setting that mimics a domestic living space. Recent research using this laboratory investigated the early social and emotional development of young infants with Down syndrome in dyadic and triadic interactions compared to typically developing infants. In addition the **infant laboratory** is equipped with purpose built 'double-video' equipment. A control room with split screen mixers links cameras concealed behind angled glass in two separate filming rooms. These facilities allow the recording and display of live and replayed interactions between two people and allows the introduction of time lags within live interactions. This set up has been used to investigate young infants' sensitivity to contingencies such as responses to synchrynous and asynchrynous intimate face-to-face interactions, but can also be used for the filming of full face reactions to video-based stimulus displays.

Cross-Centre research facilities: Our **eye-tracking laboratories** allow researchers to efficiently monitor behaviour indicative of attention and are equipped with four eye-tracking systems. The SR Research Eyelink II is a head-mounted video-based system that can measure gaze position and pupil size up to 500 times per second. The SR Research Eyelink 1000 is a desk-mounted video-based system that can measure gaze position and pupil size up to 1000 times per second. The SMI iView xRED is a user-friendly eye-tracking system that allows a fairly still, seated or standing observer to look at either a monitor or another single-plane display. The SMI iView xHED system is our most flexible system: a head-mounted and video-based system that can be worn in a backpack, allowing tracking of behaviour while observers are ambulatory, in or out of the laboratory. The two eye tracking laboratories are well-equipped, distraction-free environments with controllable lighting.

The main **observation suite** is a large versatile and well-equipped facility. It includes one-way mirrors, digital video recording and remote audio-visual equipment in an adjacent room. This suite has flexible and comfortable modular seating. The suite has been used for all types of observational work including testing minority influence scenarios and deception studies.

The **Psychophysiology laboratory** facilities include state-of-the-art, 64-channel (BrainVision) and 32-channel (NeuroScan) systems, which allows the recording and analysis of electroencephalograms (EEG) and event related potentials (ERP). The facilities may also be used for recording electrodermal activity, heart activity, electromyographic activity, blood pressure and respiration.

**The digital, audio, visual editing lab**: The department has dedicated computing facilities that run the latest version of Observer (TM) video analysis software, InterAct (TM) video analysis



software, and Adobe Premier Pro digital video editing software. There is also soundproofed audio laboratory.

We have several smaller, specialist pieces of equipment. Our **pressure mat system** produces accurate and reliable measures of body movement that is currently being used to explore infants' anticipatory responses to intentional parental movements, as well as non-verbal behaviour associated with deception. Our **thermal imaging cameras** are used by colleagues researching body temperature changes associated with deception and embarrassment. In addition we have access to a large **Motion Capture Laboratory** equipped with 12 cameras using Qualisys software. This facility has been used intensively by research in the Situated Action and Communication Centre

# e. Collaboration and contribution to the discipline or research base

The dynamic and collaborative nature of our research centres can be seen in a number of ways. More than 75% of our publications involve external collaborators as authors, two-thirds of which are international. Our involvement in international research networks (Erasmus and the Marie-Curie ITN) has led to a rapid expansion of international collaborations with visiting researchers being regularly hosted by the department and with staff on department supported sabbatical being invited to other institutions in Europe, USA and Asia. Two staff are currently on funded secondments working in Korea and Germany. These activities and joint outputs are evidence of the success of our strategic commitment to supporting international collaborations by providing seed-corn funding for conference attendance, networking and collaborative grants, for supporting visiting scholars to the Department and providing infrastructural support for sabbaticals.

The impact and multi-disciplinary nature of our collaborations is manifested in different ways across our three centres. In the Forensic centre there are bi-directional linkages with governmental and policy-making bodies which add considerably to the vibrancy and funding of their ongoing research. The Comparative and Evolutionary Psychology centre has multiple interdisciplinary academic linkages that have added an exciting base for the applied research currently being undertaken with zoos and primate conservation organisations. The Centre for Situated Action and Communication with its theoretical commitment to embodiment and materiality has interdisciplinarity at its heart. Its external collaborations with neuroscientists, cognitive scientists, philosophers and clinicians are evident in the current Marie Curie ITN and ongoing research on Autism. Examples of external collaboration from each Centre include:

## Forensic

- Vrij's research on deception detection involves widespread collaborations with academics and key stakeholders in government (security forces) in the UK the US and Asia. Some of the academic collaborations involve Florida International University, the University of Gothenburg (Sweden), and Hallym University (South Korea).
- Hope's SAI has fostered links with police forces nationally (e.g., Greater Manchester Police, London Metropolitan Police, South Yorkshire Police) and internationally (Norway, The Netherlands) as well as links with national charities (Roadpeace), NGOs (Amnesty International) and the International Criminal Courts. Academics collaborations include Goldsmiths, University of London, Florida International University (US), John Jay College (City University of New York, US) and Flinders University (Australia).
- Ost's research on historic allegations of abuse has involved collaborations with academics:
   Gavin Oxburgh (Newcastle University), Mark Kebbell (Griffiths University, Australia), legal
   professionals (Pamela Radcliffe, Senior Criminal Barrister) and police forces (Greater
   Manchester Police; Hampshire Public Protection Unit). It has also led to collaboration on a
   Wellcome Trust Engagement grant on Artist-in-resident A.R. Hopwood's 'false memory archive'
   project at Goldsmiths, University of London.

# Comparative and Evolutionary Psychology

- Micheletta's research on wild crested macaques in Sulawesi has involved collaborations with Antje Engelhardt at the German Primate Centre and Macaca Nigra Project as well as Indonesian universities (Agricultural University of Bogor, University Sam Ratulangi, Manado) and government bodies in Indonesia (Indonesian State Ministry of Research and Technology, Directorate General of Forest Protection and Nature Conservation).
- Kaminski's research on dog cognition at the new Dog Cognition Centre (Portsmouth) continues



her long collaboration with the researchers from the Max Planck Institute for Evolutionary Anthropology (Germany). Kaminski also collaborates with researchers from the University of Milan, the University of Warwick as well as the University of Berlin.

 Waller's research on primate facial expressions and Macaque cognition involves close collaboration with academics: e.g. Lisa Parr (Yerkes National Primate Research Center, USA), Katie Slocombe (University of York) and Anne Burrows (University of Pittsburgh, USA); as well as Zoos (e.g., Marwell Zoo and the Owl and Monkey Haven, Isle of Wight).

# Situated Action and Communication

- Reddy's research on infant social cognition has involved collaborations and interdisciplinary
  work with cognitive scientists and neuroscientists in Europe (Universities of San Sebastian,
  Aarhus, Heidelberg, Genoa, Compiegnè) Asia (Universities of Delhi and Hyderabad), and the
  US (St. Louis University). The implications of her work on infant motor adjustments have led to
  collaboration on prospective studies of infant siblings at risk of autism (the BASIS network,
  Birkbeck).
- López's work with practitioners and people with Autism, and the publication of her lay summaries on research in Autism, is also used by the Wales Autism Research Centre. In her research on autism she with works closely with Sue Leekam (University of Cardiff), Encarna Serria (Universidad Autonoma Madrid), Gijsbert Stoet (University of Glasgow), Nicola Gregory (Bournemouth University), Marcello Costantini and Corrado Sinigaglia (Universities of Chieti and Milan).
- Morris' work with the effects of prison environments on the psychological health of elderly life sentence prisoners involves collaborations with Nick Murdoch and Clive Holmes (University of Southampton). His work on kinematics is interdisciplinary and involves collaboration with sports scientists at the University of Portsmouth.

Members of the department host prestigious national (e.g., the Division of Forensic Psychology Annual Conference 2011) and international conferences (e.g., the SAC Centre Summer School in June 2014), and play leading roles in Learned Societies (e.g., the Primate Society of Great Britain and the European Federation for Primatology). Members are editors, associate editors, or founding members of key journals in their field (e.g., Legal and Criminological Psychology, British Journal of Psychology, Primates, Social Cognition, Journal of Applied Research in Memory and Cognition).

Many of our staff are regularly invited to give keynote addresses at major academic conferences (such as the International Investigative Interviewing Research Group in 2010 and 2012, Canine Science Forum in 2010), at prestigious Summer Schools (such as organised by the Institute of Cognitive Neuroscience in Aigina 2013; by the University of Parma in Sardinia in 2008), at cutting edge workshops (such as CARTA symposium, USA 2013) and at major Psychology practitioner conferences (such as the Deaf Blind quintennial International conference in Lille, 2013, the annual conference of the Association of Cognitive Analytic Therapists in Hatfield, the annual conference of TACTYC, the Association for the Professional Development of Early Years Educators, Birmingham, 2013). In addition staff are regularly invited to present to professional non-psychologist groups nationally (e.g., Society for Higher Court Advocates, British Association of Zoos and Aquaria) and internationally (e.g., the International Criminal Courts, CEPOL European Police Training College).

Our support of the wider research infrastructure additionally includes peer reviewer roles for national (e.g. BBSRC, ESRC, British Academy) and international (e.g. ERC, DFG, Netherlands Organisation for Scientific Research, National Science Foundation (US), Natural Sciences and Engineering Research Council of Canada) funding organisations.