

**Institution: Royal Holloway, University of London**

**Unit of Assessment: Psychology, Psychiatry, & Neuroscience**

**a. Overview**

The Department of Psychology at Royal Holloway, University of London is a vibrant, collaborative, and ambitious unit that delivers world-leading academic research. Research in the department is led by the Director of Research and the Research Committee. The Director of Research in turn has a close relationship with the institutional Research & Enterprise Office and the VP (Research & Enterprise) through the Science Faculty Research & Enterprise Committee. This structure ensures that our research strategy is in close alignment with the University research strategy, and that we make full use of the institutional support mechanisms available to us. Our research is organised locally into three groups of approximately equal size – Adult & Child Cognition (ACC), Brain & Behaviour (BAB), and Clinical, Health & Social (CHS) – though staff routinely participate in the activities of more than one group. The ‘convener’ of each of these research groups serves on our Research Committee that meets termly to develop research strategies, consider issues around research governance, review funding opportunities, allocate departmental pump-priming awards, and guide postgraduate training. Research groups conduct regular meetings that enable academic staff, research staff, and postgraduates to discuss findings and develop collaborations, to receive mentorship in areas of research practice (e.g., writing grant applications), and to host visiting speakers. Our research groups are firmly embedded in larger national and international research networks, and there are also several active collaborations across groups that contribute to the vital research culture that we have built. Our research portfolio is sustained by a healthy balance of RCUK, EU, charity, and industrial funding; deep partnerships with a variety of universities and other external organisations; and a population of talented postgraduate students and research staff who also benefit from outstanding multidisciplinary training.

**b. Research strategy**

The aim of the Psychology Department during this review period has been to consolidate and advance our position achieved in RAE2008 as one of the very best Psychology departments in the country. We have achieved this through:

- major strategic investment into staff and infrastructure (Sections C and D);
- enhanced collaboration within and outside of the University (Sections B, C, and E);
- the development of more effective research support mechanisms (Sections C and D);
- the design of outstanding multidisciplinary training for postgraduate students (Section C);
- a strong commitment to equality and diversity in everything that we do (Section C).

These initiatives have enabled us to continue to attract and retain some of the very best scientists internationally to our department, and have fostered a more vibrant, creative, and collaborative environment than ever before in our history. During the period under review, staff have published over 475 peer-reviewed journal articles (Scopus), been cited over 22,750 times (Scopus), and secured nearly £9m in new research grants in which we are the lead department.

The **Adult & Child Cognition (ACC) Group** comprises a thriving research community studying the mechanisms underlying human cognition and its development. It includes *Dalton*, *Hughes\**, *McGettigan\**, *Memon\**, *Mickes\**, *Mousikou\**, *Norbury*, *Rastle*, *Shinsky*, and *Tamminen\** (\* denotes new appointment during the review period). *Funnell* also contributes to the group through an Emeritus appointment. The ACC group continues to be an internationally-leading centre for language and literacy research, with *Norbury* securing a large grant from the Wellcome Trust to conduct the first population study of language impairment in the UK (involving over 7,000 children), and *Rastle* securing a series of ESRC, BBSRC, and charity grants to investigate the cognitive and neural bases of word recognition and word learning. This research on word learning is further enhanced through the appointment of *Tamminen* (British Academy Postdoctoral Fellow) who is investigating the role of sleep in word learning. The appointment of *McGettigan* brings expertise in the cognitive and neural bases of vocal communication to the group, and this is further enhanced by the work of *Mousikou* (British Academy Postdoctoral

Fellow) who is investigating articulatory processing. The ACC group has also sought to develop its expertise in fundamental memory research during the period through the appointments of *Hughes* (who has expertise in short-term memory) and *Mickes* (a recipient of the prestigious APA New Investigator Award who has expertise in quantitative modelling of recognition memory). This latter theme links nicely to *Memon*, who has secured ESRC and EU funding in the period to drive forward her research on eyewitness memory (also REF3b).

The **Brain & Behaviour (BAB) Group** comprises an integrated body of research that explores the neural systems underpinning perception and action. It includes *Durant*, *Edden\**, *Glover*, *Hammett*, *Larsson*, *de Martino\**, *Ramnani*, *Smith*, *Tsakiris*, *Walker*, *Wann*, and *Zanker*. The BAB group continues to be an internationally-leading centre for research on the processing of visual motion. *Smith* leads CUBIC (Combined Universities Brain Imaging Centre) based at Royal Holloway, and funded by a series of EU, EPSRC, and charity grants, he has driven pioneering research on defining the various visual areas of the brain and examining their functions (also *Larsson*). This imaging work on the visual brain is firmly embedded in a strong psychophysical and computational context (*Durant*, *Hammett*, *Zanker*), and is enhanced further by the appointment of *Edden* who is developing our MRS capability to include estimates of GABA (currently implemented in only a handful of institutions worldwide). BAB research on visual perception complements our expertise in aspects of sensorimotor control and relevant applications. Through a major ERC starting grant (£1.2m), *Tsakiris* is seeking to identify the neurocognitive principles that underpin our sense of self. *Ramnani* is using BBSRC funding to investigate the neural bases of skill learning and their potential applications to elite athletes, while *Wann* has used EU and ESRC funding to investigate how the limits of visual perception impact on critical road safety scenarios (also REF3b). Using funding from the Leverhulme Trust, *Walker* is investigating the role of the superior colliculus in response selection and preparation. Finally, the recent appointment of *de Martino* (who has expertise on the neural systems supporting decision making) will facilitate greater collaboration across research groups and with colleagues in the Economics Department. One major initiative during the period has been the development of a Neuroscience Research Group with colleagues from Biological Sciences ([www.rhul.ac.uk/neuroscience](http://www.rhul.ac.uk/neuroscience)), which is making it possible for us to integrate evidence from molecular to behavioural levels.

The **Clinical, Health, & Social (CHS) Group** brings together researchers with expertise in health, mental health, social processes, and social development. It includes *Bardi\**, *Bradley*, *Cinnirella*, *Leman*, *McKay\**, *Pincus*, *Riazi*, *Sebastian\**, *Watling*, and *Zagefka*. This group also has very strong links with the NHS-funded staff employed to deliver our Clinical Doctorate Programme, and with *Andrews* who continues to contribute to this group through an Emeritus appointment. During the review period, the CHS group has continued to advance their research into the psychological aspects of chronic medical conditions. *Bradley's* group has long been recognised as a world-leader in research on quality of life in long-term conditions (also *Riazi*), and the instruments that she has developed are licensed to all of the major pharmaceutical companies in the world through her spin-off company Health Psychology Research Ltd (also REF3b). *Pincus* investigates the cognitive biases associated with chronic back pain and has secured substantial funding from Arthritis Research UK during the period to lead an investigation into the potential of a new behavioural intervention for this condition. Both *Pincus* and *Langdon* (expert on the psychological aspects of MS) are playing a leading role in the Forum for Health and Medical Research, which brings together leading researchers in these domains from across the institution. CHS also has expertise in basic social processes such as intergroup relations (*Zagefka*, a recipient of the APS Rising Star award; also *Bardi*, *Cinnirella*), and this complements the work of *McKay* who leads a research stream investigating the social function of ritual as part of the multi-disciplinary ESRC Large Grant "The Ritual Project" based in Oxford (£3.2m). *Leman*, *Sebastian*, and *Watling* have expertise in aspects of social development, a highlight being the award of an ESRC Future Leaders grant to *Sebastian* to investigate emotion regulation in typically-developing adolescents.

We aspire over the next review cycle to a quality profile that places us within the top five Psychology departments in the UK. Like most Psychology departments in the UK, our capacity for sustained improvement relies heavily on our ability to recruit undergraduate students of the highest quality. Thus, we have recently redesigned our BSc degree to offer specialisms in four cutting-edge themes that reflect our specific research expertise, an innovation that has resulted in

a substantial increase in the number of high-quality students that we have attracted to our programmes. This increase will permit us to grow the department by at least 6 full-time academic staff (plus associated technical and research support staff) over the next three years. Our strategy in making these appointments will be research driven (as described in Section C), and in particular, will seek to build new bridges within and across our research groups; with staff in cognate disciplines in the institution (e.g. Biological Sciences); and with external collaborators developed through the networks built in this cycle (e.g. the ESRC South-East DTC). Further, we will continue to develop and refine research support mechanisms of the highest quality, and to assert the values of inclusivity, equality, and shared endeavour in our environment, to ensure that *all* of our researchers can achieve their intellectual ambitions.

### **c. People, including:**

#### **i. Staffing strategy and staff development**

The academic staff members in our department work together with postgraduates, research staff, technicians, and administrative staff in a vibrant research environment, in which high expectations of staff are underpinned by a supportive and highly collaborative culture. Our department has continued to grow during the period, allowing us to recruit 7 new permanent members of academic staff, two British Academy Postdoctoral Research Fellows, one Royal Holloway Research Fellow, and one Distinguished International Visiting Fellow. Our strategy in making these appointments has been research driven, aimed at (a) building critical mass in key areas; (b) fostering interaction within and between our research groups; (c) developing new opportunities to capitalise on and expand our physical infrastructure; and (d) creating new opportunities for user engagement and impact.

Our new appointments benefit from a variety of initiatives that assist them in establishing their research programmes. These include (a) generous start-up packages comprising lab space, equipment, consumables, research support and/or research studentships; (b) significantly reduced teaching (ca. 50%) and very light administrative (ca. 20%) duties in the first year of appointment, with these loads increasing gradually over the subsequent two years; (c) generous access to key components of our physical infrastructure (e.g. space, technical support, equipment, MRI scanning time) in setting up their laboratories; and (d) comprehensive staff induction programmes at departmental and institutional levels. We put a great deal of resource into the development of our early career new appointments in particular, who also receive formal support through the University probation and training schemes, at the heart of which is one-to-one mentoring from a senior member of staff in the department for a period of three years. The success of these initiatives is demonstrated through several indices: all of our new appointments are included in REF2; most have already secured external research funding; and two of our staff members have received prestigious international “new investigator” prizes (see Section B). Further, three of the early career staff members identified in RAE2008 (*Norbury*, *Ramnani*, and *Tsakiris*) have gone on to develop highly-successful research laboratories funded by very substantial grants, including an ERC Starting Grant (*Tsakiris*).

Every staff member contracted to conduct research and/or teaching benefits from initiatives at departmental level to strengthen their individual research profiles. Academic staff members are all asked to complete an annual Personal Research Plan, in which they consider their aims around publication, funding, external engagement, and impact for that year. This exercise is also open to any of our fixed-term research or teaching staff. Early and mid-career staff members receive assistance with their plans from their mentors, senior professors, the Director of Research (*Rastle*), or her Deputy (*Walker*). Academic staff members meet individually with the Director of Research every six months to discuss how their plans are progressing and to discuss targets for the upcoming year. These career development meetings with the Director of Research are also available to fixed-term and teaching staff as needed. Staff members are assisted in the preparation of their funding bids through a rigorous system of internal peer review that has been running for the duration of the review period. This system delivers high-quality feedback to applicants, and greatly improves the applications that we put forward to RCUK, charity, and industrial funders (also Section D). Staff members with externally funded projects are given ample time to deliver them through a transparent workload model that reduces their duties in other areas appropriately. In order to ensure sustained periods of research, academic staff are encouraged to

use generous research sabbatical entitlement (one term in every nine served). Our most promising junior scientists are supported by a range of research fellowships, including the highly prestigious British Academy Postdoctoral Fellowships and ESRC Future Research Leaders Awards. Finally, outstanding senior researchers in the University are eligible for Research Chair appointments in which they are exempted from teaching and administrative duties for renewable periods of five years (e.g. *Smith's* Research Chair was renewed in 2012).

Staff members also benefit from University initiatives designed to strengthen their research and career development. Every staff member benefits from the University appraisal system, which offers continuous training and feedback designed to enhance career development. Academic and research staff at all levels are also eligible for the University mentoring scheme, which was designed with support from the UK Resource Centre for Women in SET, and which pairs individuals with trained mentors from outside the department. Members of staff are also invited to participate in the On Track Researcher Development Programme, a series of approximately 15 workshops per year devised to enhance skills such as grant writing, working with the media, and project management. These workshops are led by a mix of external facilitators and internal experts, and are tailored specifically to science disciplines where appropriate. Finally, senior staff members have the opportunity to complete a 6-day residential course on "Leadership" through the Ashridge Business School. *Leman, Rastle, and Wann* benefited from this initiative during the period. Royal Holloway actively endorses the seven principles outlined in the *Concordat to Support the Career Development of Researchers*, and in addition to these extensive staff development opportunities, offers mandatory training for all members of selection panels, implements policies ensuring equitable treatment for part-time and fixed-term staff members, and maintains clear and equitable promotion processes. The institution also undertakes a comprehensive equality and diversity data monitoring and review exercise each year.

The department is committed to equality and diversity in all that we do. Our former HoD (*Zanker*) and Director of Research (*Rastle*) were inaugural members of the University Women in Science Steering Group formed in 2007 and led by the VP (Staffing). This group worked to identify barriers to women's achievement in Royal Holloway science departments and amongst other things (a) instigated key changes to improve the fairness and transparency of the promotions process for women and other under-represented groups; (b) developed a highly-successful mentoring scheme for women in science; and (c) identified potential solutions for the provision of affordable childcare on campus. The success of these efforts led the University to achieve Athena SWAN Bronze status in 2010. In the department, we have worked hard to develop an inclusive culture in which women and other under-represented groups can advance to the highest levels. For example, we operate a policy of core hours in which key meetings and committees are scheduled between 10am and 3pm, and we offer reduced workloads following periods of maternity leave to ensure that women can rapidly bring their research back on line. We have also scrutinised and improved the way that we conduct promotions discussions, and we ensure that there are fair opportunities for all in developing and demonstrating leadership in the allocation of departmental work. During the review period, male and female colleagues have progressed equally rapidly, and we are one of the leading Psychology departments nationally in terms of representation of women at professorial level (nearly 40% of our professors are women; 15% of our professors are from ethnic minorities). In recognition of our achievements in fostering equality and diversity, we recently became *one of only five Psychology departments in the UK* to achieve Athena SWAN Silver status (2013). *Norbury* is designated Athena Champion and is leading the implementation of our Athena SWAN action plan as we aspire to become the first Psychology department in the UK to achieve Gold status.

## ii. Research students

Postgraduates bring creativity and enthusiasm to our research community, and we invest in them significantly. Our postgraduate strategy during the period has been to maintain an emphasis on the high quality of our research training recognised in previous reviews, while creating new opportunities to expand our postgraduate population at a time when studentship funding has been limited nationally. We have achieved this through three strategic initiatives. First, we capitalised on the partnership we had built with the University of Reading during the last review period, to form a larger consortium (now also including University of Kent and University of

Surrey) that successfully applied to become one of the ESRC's Doctoral Training Centres. This initiative has allowed us to continue to recruit PhD students of the highest quality, and has also opened new opportunities to provide our students with outstanding multidisciplinary training. Second, we have put an increased emphasis on winning postgraduate funding through charity-funded research grants, CASE studentships, and other industry-funded schemes (e.g. Volkswagen, Transport for London). This strategy has been particularly successful given a recent University initiative to offer matched funding for PhD students who have partial support from charity or industry sources. Third, the University has substantially increased the package of support available for internal studentships, allowing us to offer between six and eight new fully-funded studentships each year.

We continue to develop outstanding training facilities for our postgraduate research students. Students receive a comprehensive induction on commencement of their training, and participate in a programme of compulsory courses throughout their degree. These courses cover research integrity and ethics, advanced statistics and IT skills, research planning, bibliographic techniques, presentation skills, scientific writing, career preparation, engagement with the media, viva preparation, and grant writing. Students also participate in a wide range of optional workshops on advanced methods and techniques, including fMRI, eye-tracking, and EEG/ERP. These workshops are run by expert staff and are interactive, skill building, and practical. Finally, our students are able to capitalise on all training offered within the DTC. Our department has taken the lead in facilitating this collaborative training by offering pod-casting of our advanced methodological workshops with live links to enable remote participation by all postgraduates across the DTC consortium. The department recognizes the crucial importance of this area, and has appointed a dedicated member of staff (*Bardi*) to work under our Director of Graduate Studies (*Pincus*) to facilitate the continuous development and delivery of postgraduate training. In cases in which students have particular training needs not met internally or through the DTC, there is a dedicated fund in place to allow postgraduates to acquire additional advanced training.

Each postgraduate is assigned an academic supervisor as well as an advisor that provides pastoral support. Yearly progress reviews involving the student, supervisor, advisor, and the Director of Graduate Studies provide an opportunity to reassure students of their achievements, to update their time plans, and to advance them towards the next phase of their training (or to identify areas in which additional support is needed). Informal mentoring is provided through the research group structure. Postgraduates frequently present their findings to the research groups and at our annual postgraduate conventions, and they take an active role in organizing journal clubs, methods meetings, and seminars in the department. In addition, each postgraduate is paired with a final-year postgraduate on arrival to ensure smooth integration into the social and academic environment. Finally, postgraduates run a bi-monthly 'Cake Club' in which first and second year students present the methodology of a study to their peers and receive informal feedback. Research students are given an annual budget of £650 to cover research expenses and travel, along with desk space and full access to the computing facilities, specialist laboratories, and other resources that characterize our research infrastructure. In the case of MRI projects, postgraduates receive a tailored allocation of scanner hours. Postgraduates are eligible for research grants from the institution, and are encouraged to develop funding bids to external organisations as part of their academic training (e.g. Grindley grants from the EPS). Students are strongly encouraged and supported in gaining feedback on their work through the publication process. Those students who are successful in publishing their research in the course of their registration are given additional funds to present their findings at a conference.

The quality of our postgraduate research training is demonstrated by the fact that, of the 27 students who graduated with a PhD between 2008 and 2012, 14 obtained postdoctoral and academic positions, 4 obtained a further Doctorate in Clinical Psychology and are practicing in the NHS, and 4 have moved to research positions in charities and industry. Further, this cohort of students has already produced 45 peer-review journals based on their PhD research, including publications in *Journal of Neuroscience*, *Cerebral Cortex*, *Psychological Science*, *Journal of Memory and Language*, *Journal of Experimental Psychology*, *Journal of Abnormal Psychology* and *Pain*.

The department also offers a three-year NHS-funded Clinical Doctorate directed by *MacLeod*, which admits around 28 students per year to the department. Though the Clinical Doctorate comprises a large taught component (and thus these students do not appear in REF4),

these students also produce a 25,000 word empirical thesis. Many of these research projects involve collaboration with NHS settings and they are all on clinically applicable topics. These students contribute to our research environment in several ways: (a) they present their research to the department at the 'Clinical Doctorate Fair'; (b) many also present their work at conferences and in the NHS settings in which they conducted their research; and (c) they create opportunities for impact and knowledge transfer through the mental health organisations and populations that they work with. Approximately 30% of these students are successful in publishing their research in peer-reviewed journals.

#### **d. Income, infrastructure and facilities**

In addition to the mentoring opportunities described in Section (C), staff members are supported by the Director of Research in the development and implementation of their Personal Research Plans, and they get critical yet constructive feedback on their grant applications through our rigorous system of internal peer review. We have also built a very strong relationship with the institutional Research and Enterprise Unit (R&E), who provide rapid and expert assistance with pre- and post-award issues such as identifying funding opportunities, building consortia, calculating the costs of research projects, finding and liaising with industrial partners, licensing, and commercialisation. Finally, R&E administer the Research Strategy Fund, which provides individuals up to £5k for pump priming research, and the institution returns a substantial portion of overheads back to PIs to develop new lines of research. The success of these sustained efforts to create an outstanding research environment is demonstrated through our research income figures. Our average income for the five full financial years of this review period shown in REF4 is £1.31m per year, as compared to an average of £622k per year reported in RA4 of RAE2008.

Our most significant piece of physical infrastructure is a research-dedicated Siemens TIM Trio MR scanner with a 32-channel headcoil. This facility was established in 2002 (we were the first Psychology department in the UK to have its own research-dedicated MRI scanning facility), and underwent a significant upgrade in 2012, providing us with the technical capability to remain at the forefront of human neuroscience research. This facility now provides state-of-the-art capabilities for anatomical scans of all types, BOLD functional imaging (including standard gradient-echo and specialist spin-echo sequences), diffusion weighted imaging, spectroscopy (MRS), arterial spin labelling (an advanced approach to functional imaging), and MRI-compatible tDCS. We have access to third-party acquisition sequences for specialist purposes (e.g. improved segmentation of white and grey matter), capability for recording EEG during MRI scanning, ancillary equipment for delivery of visual and auditory stimuli, and eye movement recording. Finally, we have developed specialist systems in house for galvanic vestibular stimulation and median nerve stimulation for somatosensory research, and through the appointment of *Edden*, are establishing MRS capability for estimating GABA. Though the MRI scanning facility is based at Royal Holloway, it enhances the research infrastructure of the region, and of the three psychology departments (Brunel, Surrey, Roehampton) that are our partners in this endeavour. It is managed by an executive committee chaired by *Smith* that monitors image quality, keeps abreast of technological developments and implements them as appropriate, and facilitates cooperation and exchange of information amongst the partner institutions. Our department operates an egalitarian access policy that ensures excellent use of the facility across senior scientists, junior staff members, postgraduate students, and a small number of undergraduate students.

Other specialist facilities include: (a) several laboratories for computerized behavioural and psychophysical testing, each comprising several workstations; (b) a speech perception and speech production studio housed in a sound-treated room that contains specialized equipment for taking measures of tongue movement; (c) several eye-movement laboratories equipped with a range of eye trackers suitable for cognitive, psychophysical, and MRI research; (d) laboratories equipped with electromagnetic and infra-red motion recording systems used for the analysis of reaching and grasping; (e) an infant and child research laboratory comprising several observation rooms, eye-tracking equipment, and a video analysis suite; (f) a set of 35 sociometric badges which permit analyses of several verbal and non-verbal features of social interaction amongst children and adults; (g) a TMS laboratory equipped with the Magstim Rapid Stimulator for single-pulse and repetitive stimulation equipped with Visor System for Neuronavigation; (h) laboratories

for driving simulation, gaze tracking, and 3D gait analysis; (i) an EEG/ERP laboratory equipped with the BioSemi 64-channel active electrode system; (j) laboratories equipped with electrophysiological recording systems for the analysis of heart rate, galvanic skin responses, motor-evoked potentials; and (k) an MRI-compatible transcranial Direct Current Stimulator. The construction of a sleep laboratory with polysomnography capability is in progress. The development of these facilities has been made possible through a combination of external research income and major institutional funding, and their maintenance and smooth running depends on continued investment into our technical and administrative support teams. The department currently employs eight administrative and six technical support staff who assist academics in running their laboratories safely and effectively, in managing their research finances, and by providing a reliable IT infrastructure. Regular training opportunities support the professional development of these staff members and ensure that their expertise remains at the leading edge. Finally, Royal Holloway is investing £35m in a new 10,000m<sup>2</sup> library building at the heart of the campus, with 24/7 access, dedicated postgraduate research spaces, and IT infrastructure able to meet current and future digital demands. It is due for completion in 2015.

The department is committed to conducting research that meets the highest standards of integrity and ethical conduct. Ensuring best practice in the conduct of research and in the management of data is woven into the fabric of our training, mentoring, and internal peer review initiatives, and PIs formally recognize their responsibilities in these areas prior to the commencement of every funded project by signing the University “*PI Statement of Responsibilities*”. Every project that involves human participants must receive ethical approval, with straightforward cases devolved to the Departmental Ethics Committee chaired by *Leman*, and more complex cases being treated by the institutional Ethics Committee. The department supplies ample physical and computer disk space for secure data storage as per the requirements of individual projects.

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

Our staff members engage in substantial discipline-shaping activities through participation in peer-review processes, through fellowships and memberships of subject associations, through national and international collaborations, and through collaboration and engagement with external bodies.

##### **e.1 Peer Review Processes**

Members of our department regularly serve the discipline through peer review of grant applications. *Rastle* is Chair of the ESRC Grants Assessment Panel for Psychology, Education, and Linguistics, and serves on the ESRC’s Grants Delivery Group. This group oversees the distribution of ESRC responsive mode and knowledge transfer funding and plays a key role in shaping aspects of ESRC funding process and policy. *Zagefka* has served on the ESRC’s Seminar Series Panel, and twelve members of our staff serve on the ESRC Peer Review College, making us the second best represented Psychology department in the UK on the Peer Review College. Staff regularly engage in peer review of grant proposals for other national and international funding bodies including BBSRC, MRC, Wellcome Trust, British Academy, Leverhulme Trust, Scottish Health Executive, NSERC (Canada), ARC (Australia), ISF (Israel), NWO (Netherlands), NSF (USA), and various other charitable bodies (e.g. Autistica, MS Trust).

Our wider contribution to the discipline is also reflected through journal editorships. Members of our department have held Editorships or Associate Editorships of 9 different journals in the review period, including *J Child Psychology and Psychiatry*, *JEP:HPP*, *JEP:LMC*, *J Vision*, and *British J of Developmental Psychology* amongst others. Staff members serve as Review Editors for *Cognitive Neuropsychiatry* and four journals in the *Frontiers* series. Finally, we have served on the editorial boards of 19 different journals during the period, including *JEP:HPP*, *JEP:LMC*, *J Child Psychology & Psychiatry*, *Neuroimage*, *Cognition & Emotion*, and *Personality and Social Psychology Bulletin* amongst others.

Every member of our academic staff engages in regular peer review of journal articles.

##### **e.2 Fellowships, Committees, and Memberships of Subject Associations**

Our staff members regularly engage in discipline-shaping activities through national and international subject associations including (amongst others) the *British Psychological Society (BPS)*, *Experimental Psychology Society (EPS)*, *Psychonomic Society*, *Association for*

Psychological Science (APS), Cognitive Neuroscience Society (CNS), and British Neuroscience Association (BNA). Five staff members (*Bradley, Leman, Memon, Rastle, Wann*) are Fellows of the BPS. We also hold Fellowships of the Royal Society of Arts, Association for Psychological Science, and Royal Society of Medicine. *Leman* is Chair of the BPS Developmental Psychology section, having previously served as Chair of the Standing Conference Committee and member of the Research Board and Representative Council (2008-2010). *Fox* is a committee member of the BPS Forensic Psychology section, and *Cinnirella* is a committee member of the BPS Social Psychology section. *Ramnani* serves as Meetings Secretary on the BNA Council, and played a leading role in coordinating the highly-successful BNA Festival of Neuroscience at the Barbican in 2013. *McGettigan* leads a BNA branch at Royal Holloway (see [www.rhul.ac.uk/neuroscience](http://www.rhul.ac.uk/neuroscience)). *Tsakiris* works to shape European science policy through membership of the Young Academy of Europe, a group of top European junior scientists supported by the European Research Council.

### **e.3 Key National and International Collaborations**

Academic staff members engage in collaborations with leading institutions nationally and internationally. We promote collaboration through several initiatives, including our distinguished international visitor scheme and research group seminar series. Staff members are also encouraged to develop and maintain collaborations through sabbatical, and through the flexible allocation of teaching which allows individuals to spend significant periods of time at other institutions if required.

We have major collaborations with organisations all over the world including the Karolinska Institute, CNRS France, University of Ghent, University of Chicago, Stony Brook University, UC San Francisco, UC San Diego, Tufts University, University of Western Ontario, York University Canada, Australian National University (ANU), and the NTT Corporation Japan. Further, in the ACC group, *McKay, Mousikou, and Rastle* hold honorary positions in the Centre for Cognition and its Disorders at Macquarie University (a \$21m centre funded by the Australian Research Council), and hold large grants with collaborators in this centre to push forward their Belief Formation and Language projects. In the BAB group, *Zanker* holds an honorary position in the ARC Centre of Excellence in Vision Science at the ANU, *Smith* is Adjunct Professor at York University, Canada, while *Wann* holds an Honorary Professor appointment at the Institute of Transport Studies in Leeds. During the period, *Tsakiris* has been PI and network coordinator of two groups of European junior researchers from five different disciplines (psychology, cognitive neuroscience, neurology, philosophy, anthropology). These groups were part of the European Platform for Life Sciences, Mind Sciences and the Humanities funded by the Volkswagen Foundation and sought to develop investigations of embodiment and social cognition. In the CHS group, *Langdon* is co-chair of BICAMS (Brief International Cognitive Assessment for MS), an international initiative involving the US, Europe, and the UK to recommend and support a cognitive assessment for MS that is brief, practical and universal. *Bradley* is a PI on the NIHR-funded ATTOM programme ("Access to Transplantation and Transplant Outcome Measures") led by Addenbrooke's Hospital and the University of Cambridge and involving every transplant unit in the UK.

### **e.4 Collaboration and Engagement with External Bodies**

Building and maintaining our collaborations with external bodies is central to our research strategy. Partnerships enhance our research by providing unique experience, material resources, and opportunities for knowledge exchange. Current links include: (a) schools across London, Surrey, Sussex, Berkshire, and Oxfordshire (e.g. *Norbury's* population study of language impairment funded by the Wellcome Trust involves over 70% of primary schools in Surrey); (b) NHS trusts throughout the UK and hospitals worldwide (e.g. *Tsakiris* is collaborating with the Royal Free Hospital and UK Face Transplant Team in his ERC project PlasticSelf); (c) charities including Diabetes UK, Arthritis UK, MS Trust, the Macular Disease Society (e.g. *Langdon* is on the Research Committee and Trustee Board of the MS Trust); (d) government agencies including Parliamentary Office of Science and Technology, Department of Health, and Department of Education (e.g. *Fox* is collaborating with the Department of Health in the national implementation of Multisystemic Therapy for children on the edge of care or custody); (e) industrial organizations including Volvo, Procter & Gamble, GlaxoSmithKline, Schering AG, Bayer Healthcare, Olympus Japan, Sharp Europe and Eli Lilly (e.g. *Wann* has a long-standing collaboration with Volvo Technology on the development Forward Collision Warning systems with the potential to affect hundreds of thousands of road users).