

Institution: University of Hull
Unit of Assessment: UoA 4 – Psychology, Psychiatry & Neuroscience
<p>1. Unit context and structure, research and impact strategy</p> <p>Background</p> <p>This submission comprises the Department of Psychology at the University of Hull. Over the last 6 years the University has invested heavily in the health sciences and in January 2018, as part of this strategic investment, Psychology moved from the Faculty of Science & Engineering to the Faculty of Health Sciences (joining the Hull-York Medical School, Biomedical Science, Nursing, Midwifery, Medicine, Sports Health & Exercise Science and Psychological Health, Wellbeing & Social Work). This move reflects our position of growing prominence in the wider University and has strengthened existing collaborations while facilitating new ones.</p> <p>The Department has long-standing research strengths in laboratory based psychological science (cognition and cognitive neuroscience) and over the REF period this research expertise has been increasingly directed towards more applied health-related questions. Our research success is not founded only on the work of individuals, but also on the University strategy of fostering interdisciplinary collaboration both within the Faculty of Health Sciences (FHS), and among different faculties and University research institutes on campus. We have also developed wider links with industry and local stakeholders, as well as academic institutions in the UK and internationally. This transition to a more interdisciplinary culture has helped the Department increase its grant capture in a challenging funding environment – one that favours larger-scale interdisciplinary research with impact.</p> <p>Our submission comprises 16 members of staff. The University is committed to developing the next generation of research leaders and 25% of staff submitted within Psychology qualify as early career researchers (ECRs). Research in Psychology is grouped around 3 clusters. Each cluster is led by senior members of staff with established funding track records, and these provide a vibrant research ethos in which ECRs develop and postgraduate students are trained.</p> <p>Strategy during the REF period</p> <p>A first aim was to consolidate strengths in experimental psychological science in two of our research clusters (Cognition & Development and Cognitive & Clinical Neuroscience) exploiting the move to FHS, with a renewed focus on collaborative research linkages to health. To this end, Psychology appointed new staff with cognate research interests (e.g. Lindsay, Morton, O'Connor, Tidoni & Weil), invested in infrastructure and equipment (see below) and expanded our research funding applications beyond UKRI. Success is evident in a wide range of externally funded projects since joining FHS, ranging from interventions to aid thinking in depression (Anderson, Dewhurst & Riggs – ESRC) and theory of mind processing in neuro-typical adults and those with ASD (O'Connor, Riggs - ESRC) to work harnessing insights from experimental psychology to modulate itch (Holle, George - British Skin Foundation) and reduce the psychosocial burden of psoriasis (Holle, George - Psoriasis Association). We were also successful in a bid for a Yorkshire wide ESRC White Rose Doctoral Training Partnership (with York, Sheffield and Leeds). This has so far funded 8 PhD projects within the themes of <i>Health & Wellbeing</i> and <i>Education and Childhood & Youth</i>.</p> <p>A second aim was to align our activity with the University strategy of establishing itself as an engine of regional innovation and economic growth. Specifically, to bring psychological research expertise to two key University initiatives (i) to address psychological and health inequalities brought about by long standing economic deprivation in the local population, and (ii) the Humber region's transition to a low carbon economy and the development of off shore wind, and (ii). This aim was supported by a number of changes during the REF period.</p> <p>(i) The Psychology Department move to the Faculty of Health Sciences (FHS) with the newly built Allam Medical Building, opened by Her Majesty The Queen in November 2017. This is at the</p>

heart of the University's £28-million investment in its Health campus. The Allam building has state-of-the-art teaching and research facilities, with more than 50 networked computers, bookable research rooms, and breakout spaces available to psychology staff, PhD students and UGs. It is also home to the multi-million pound Institute for Clinical & Applied Health research ICAHR. ICAHR was established to make a difference to the health of the local population and to establish the University as a centre of excellence in clinical and applied health research. A key focus is primary care, palliative care, and long-term conditions. Linked to this is the Faculty interdisciplinary research group SPARC (**S**ocial & **P**ychological **R**esearch into long term **C**onditions) where psychologists from the Department as well as the wider University (e.g., clinical psychologists in the *Department of Psychological Health, Wellbeing and Social Work*) collaborate together on research topics such as dementia, obesity, eating disorders, depression and alcoholism.

(ii) To address the challenge of local health inequality the **Psychology Department created a new bespoke research cluster** (*Psychology of Health, Mental Health and Wellbeing*) with a specific remit to focus on interdisciplinary research with impact. Policy makers and research funders have increasingly focused on large, interdisciplinary projects in priority areas likely to have impact and the cluster is a response by the Faculty and Department to this change. The cluster responds to local challenges and opportunities making use of the facilities and networking opportunities afforded by ICHAR and SPARC, and is led by a senior Professor whose responsibility is to generate the necessary critical mass of expertise and to co-ordinate major collaborative grant applications. Researchers aim to understand the psychological causes and consequences of physical and mental wellbeing of the population of Hull and the local region and to inform and develop psychological interventions targeted at individuals, but also organisations. Several staff are active in applied research and consultancy locally and nationally, particularly in the fields of eating disorders, human factors, and health and wellbeing.

(iii) **The creation of a new Centre for Human Factors** to align with the University Energy & Environment Institute (EEI) that is the cornerstone of key University investment researching regional green energy / technology. The EEI brings together leading interdisciplinary academics and industry partners to tackle global issues relating to climate change and its consequences on livelihoods and behaviour. The Centre for Human Factors works alongside the EEI to support local energy companies explore issues such as occupational stress and fatigue in high-risk work environment employees (especially the Off-shore wind industry) as well as the development of new tools to improve stress-risk decision making. *This Centre has generated one of our REF2021 impact cases.*

(iv) **The development of a new Knowledge Exchange career domain** allowing career progression for both junior and senior staff members with research interests geared toward impact and outreach.

These changes have been significant:

- The new research cluster has already generated significant research activity and increased levels of funding. For example, collaborative links have already been successful in attracting external funding to investigate suicide prevention in NHS workers (Burbidge, funded by NAViGO Health & Social Care CIC) and the assessment of mental health services in Hull's young people (Reid, funded by Hull Clinical Commissioning Group, in collaboration with Dr Jo Bell from SPARC).
- The Centre for Human Factors has developed strong links with the Environment & Energy Institute giving rise to a large funded research project, Project SPOWTT, (Safety and Productivity in Offshore Wind Technician Transit). This work formed the basis of a current collaborative research project with the Health & Safety Executive exploring occupational stress risks in the offshore wind sector (Earle), and to a further project with the energy company Orsted exploring fatigue risk for offshore wind technicians in the context of the Hornsea 1 Wind Farm (McMaster, post-doc). Away from the energy sector, the Centre has also attracted funds to develop stress risk assessments for Humberside Police and Humberside Fire & Rescue (Earle); gap analyses of mental health provisions for

Humberside Police and British Transport Police (Cunnah & Why); a study of the impact on staff of Remote Working within four Local Authorities in the Humber region (Earle, funded by the Ministry for Housing, Communities and Local Government); and service evaluations of Digital Health Hubs and a local suicide bereavement service (Cunnah, both funded by local Clinical Commissioning Groups).

- Researchers in this cluster have also contributed to another significant University level multi-disciplinary funded project on the recycling of plastics and recycling behaviour (Why – funded by the EPSRC, with the Department of Geography).
- Research activity has also been bolstered by Psychology's involvement in a successful application to the EPSRC for a £5.7 million Project Aura Centre for Doctoral Training (<https://auracdt.hull.ac.uk/>). The Aura CDT is headed by Hull and brings together three other partner universities (Durham, Sheffield, Newcastle) representing a broad range of interdisciplinary research expertise relating to offshore wind energy and the environment.
- Two members off Staff in this cluster (Earle & Why) have moved to the Knowledge Exchange career domain, ensuring research with impact will have an even higher priority for Psychology and the University into the next REF period

Our strategic aims over the next six years: We will continue to build on our accrued success during the REF period. Specifically, we will:

(i) **continue to build our strength in experimental psychological science** and further invest in staff and infrastructure that supports research in cognitive neuroscience. We will also continue to support both new and existing staff to adopt neuroscientific techniques, thus encouraging a convergent, multi-disciplinary approach to answering research questions. Finally, to further capitalise on our move to FHS we will further strengthen existing links with cognate disciplines (e.g., Sport, Health & Exercise Science; and other research clusters in the FHS) where psychological research expertise can be harnessed to answer more collaborative research questions.

(ii) **continue to engage in research with impact** that is driven by Hull's relatively weak socio-economic status and geographical location. That is, to further capitalize on the Humber region's green energy initiative and to address physical and mental health inequalities in the local population. To achieve these aims we will invest in additional staff for the Centre for Human Factors to consolidate existing links with the Energy & Environment Institute (and Project Aura) enabling further partnerships with the large number of green energy companies moving to the Humber region, as well as other local organisations that require human factors input into stress-risk assessment. With regard to research into the physical and mental health of the local population we will continue to develop existing, as well as foster new, collaborative links within the Faculty and associated staff from ICHAR, SPARC and the health and social care sectors.

Across all our research areas we will continue to pursue the highest standards of research integrity. We are committed to **open science principles** throughout the whole research cycle. To address the reproducibility issue in psychology we will continue to pre-register studies, share materials, code and data and make publications freely available.

Research Structure and organisation

In addition to the newly-formed cluster of *Psychology of Health, Mental Health and Wellbeing* discussed above there are two other clusters linked to our established strength in experimental psychological science. These clusters are:

Cognition & Development: Research in this cluster addresses core areas of cognition, from fundamental processes involved in attention, perception, and learning, to high-level processes such as imagination, reasoning, and social cognition. A distinctive feature of the cluster is the focus on higher cognitive processing, across the lifespan, in both neurotypical and neurodiverse populations. Rather than viewing development in isolation, we explore how development relates

to the mature adult cognitive state. For example, Riggs, Lindsay and Mather study word learning in both children and adults and use insights from one field to inform the other. O'Connor, a developmental psychologist, has been awarded a New Investigator award from the ESRC to study theory of mind processing in adults. Our longer-term goal is to integrate this expertise with our strengths in neuroscience methods thus achieving a distinctive approach to lifespan cognitive development. The cluster has been bolstered by a number of ESRC grants. Dewhurst and Anderson have investigated the role of false memories in supporting the planning of future events. Ongoing research by Anderson, Dewhurst, and Riggs investigates how mental simulation can improve the impoverished positive future thinking that is evident in depression. Current PhD Studentships funded by the ESRC White Rose DTP include hypothetical thinking as a way of encouraging exercise in the local population (Anderson, supervisor), word learning in adults (Riggs, supervisor) and the use of virtual environments in the classroom (Skarratt, supervisor).

Cognitive & Clinical Neuroscience: Researchers in this group share a common passion to understand the biological processes that underlie human cognition and behaviour. A major theme within the group is the theory that many features of human cognition are shaped by aspects of the entire body of the organism. This common theme of embodied cognition drives research in the cluster on the relationship between manual actions and language (Holle, Schindler, O'Connor, Riggs) as well as research on the role of motor simulation processes when inferring other's mental states in adults with and without autism (Jellema, Tidoni). The common focus on the motor system facilitates interdisciplinary approaches and has attracted external funding from the ESRC, the Chinese Science Council, the Psoriasis Association, the British Skin Foundation and the EPS. The group successfully engages both in classic brain mapping (i.e., identifying brain areas causally involved in cognitive processes; Holle & Schindler) as well as the reverse approach of using neurophysiological data to constrain psychological theory (Jellema, Tidoni). A range of state-of-the-art research equipment, situated in dedicated labs within the department, is accessible to all staff and students, including electrophysiological (EEG), neuroimaging (fNIRS) as well as neurostimulation methods (TMS & tDCS). A unique aspect of the group is the strength in neurostimulation approaches, which has been further strengthened by a recent appointment (Tidoni). This enables not only high-impact basic research and outputs (Holle, Schindler, Tidoni), but also produces work that has significant clinical potential for mitigating disease-related symptoms and enhancing cognition.

Research and Impact strategy implementation is supported by weekly Psychology Planning Team meetings where research is a standing item on the agenda and is attended by the Departmental Director of Research and REF lead. Cluster leads meet regularly with the Departmental Director of Research who feeds into the Faculty Research Committee, where the Faculty Associate Dean for Research chairs discussion around research planning, individual research cluster plans, publication and dissemination, funding and resource allocation, postgraduate integration and research support. All research clusters produce a 3-year research strategy document that is reviewed annually at Faculty Research Committee (Chaired by the Associate Dean for Research). These include a SWOT analysis as well as discussion around equality and diversity and the mentoring of early career staff (ECRs)

The Faculty has a formal process of **peer review to support grant applications**, under the oversight of the Faculty Associate Dean for Research. All proposals are reviewed by a senior academic, or two if the amount is over £500K, as well as a senior member of the University Research Office familiar with the varying requirements of different research councils. Staff members who are experienced grant reviewers provide one-to-one mentoring for staff applying to these funders. The University maintains a library of previous successful grant proposals from different research councils and funding schemes, which are made available as exemplars to new applicants.

In response to the growing importance of impact, the University Research Office runs **seminars, and workshops on impact** and how to achieve it. The Faculty and the University both organise regular **workshops on grant writing** for both ECRs and experienced researchers. Over the REF period Psychology identified charities (e.g., the Psoriasis Foundation) and local stakeholders (e.g.,

NAVIGO, Greenport Growth Fund) as underdeveloped potential funders, and we have held sessions where members of staff who have been successful with these funders share their experience and advice with others. Monthly updates on relevant funding opportunities and deadlines are prepared by the University Research office who direct members of staff to specific schemes.

Departmental seminars are held regularly each semester and alternate between internal and invited external speakers. Speakers make their talks accessible to a wide audience and attendance is high. During the REF period speakers have included: Professor John Mollon (FRS) Cambridge University; Professor Mike Burton (then University of Glasgow); Professor Steve Tipper (University of York); Professor Suzanne Higgs (University of Birmingham); Professor Beth Jeffries (University of York); Professor Martin Conway (City)

2. People

Staff recruitment strategy

The Faculty of Health Sciences research strategy underpins investment in new appointments and facilities, with the explicit aim that staff are empowered to produce outputs of the highest quality. All new appointments are placed in an existing research cluster and all early career staff are extensively supported. Measures include the allocation of both research and teaching mentors, together with start-up funds to pump-prime research. ECRs also have a light teaching and administration load for the first three years of their tenure during which it is expected they submit to the most relevant new investigator grant-funding scheme in the second year of appointment (*within Psychology, Dr O'Connor was successful in winning a New Investigator award in 2020 from the ESRC*). The Research Funding Office supports these staff in applying to other sources of start-up funding. Plans for study leave of varying lengths (up to a semester every 3 years) are encouraged from all members of staff to ensure they remain abreast of advances in their field.

Psychology made a number of strategic appointments during the REF period. Eight staff members were appointed, while 7 departed. These appointments were made in response to the strategic developments mentioned above and in order to strengthen our research clusters and foster interdisciplinary links. Our strength in cognitive neuroscience provided a focus for attracting staff with expertise in this area (Tidoni) as well as researchers from other areas such as language processing (Lindsay), developmental cognition (O'Connor), social psychology (Weil), all keen to develop, use and benefit from expertise in neuroscience techniques. Thus, these researchers extend our range of research activity, but also link to our core strengths allowing us to support them in their career development. We also appointed in areas relevant to the wider University strategic focus – namely, those with interdisciplinary expertise and experience of working with non-academic partners (Why & Wright). We intend to make two future appointments with the goal of developing critical mass in the newly formed Centre for Human Factors, and, via project AURA and the Energy & Environment Institute, additional links with industrial partners.

Sustainable staffing: New appointments have enabled us to keep our staff-student ratio stable over the REF period. To enable research-focussed staff to spend time on research in the face of demands for increased contact time with students, we have also appointed 5 lecturers on teaching-focussed contracts, but with the option, under the guidelines of the University Academic Careers Framework, to move to a research career should they wish to and can demonstrate aptitude for research. All our staff are encouraged and supported to apply for promotion and during the REF period 5 lecturers gained promotion to senior lecturer, and 5 from SL to Reader or Chair.

Staff development

During the 2018/2019 academic year the University initiated a Transformation programme, a key component of which was a new Academic Careers Framework where all staff were aligned to one of 3 domains that best reflected their job role: Research, Education or Knowledge Exchange. All staff on the Research domain have at least 40% time for research in their workload, and all are returned under the relevant REF Unit of Assessment. Allocation to the most appropriate domain was undertaken in consultation with the line manager and allowed all staff the opportunity to reflect

on their current role and future career plans. Staff development is actively monitored by the Psychology HoD as part of the **annual appraisal and development review** where teaching and research are discussed, including plans for publications and funding as well as discussion around the Academic Careers Framework.

Just as Athena Swan seeks to advance gender equality across all aspects of academia, the University recognises the need to value and enhance the career development of post-doctoral research scientists. A steering group, comprising representatives from all faculties, oversees the adoption of the Concordat supporting the career development of researchers - importantly this group has representation from the post-doctoral researcher community itself. **Within Psychology**, RAs and post-docs have an appraisal and development review with a senior member of staff whose task is to provide independent advice on career choice and training opportunities. They are also encouraged to take on minor teaching responsibilities – such as organising and delivering a workshop or supervising a project student – in order to gain experience that will be useful when applying subsequently for tenured posts.

The **University Staff Development Unit** provides a series of comprehensive training packages for all new staff commencing with an induction course and training in research integrity and supervision plus the compulsory Higher Education Teaching Certificate for all staff without the necessary teaching experience. Furthermore, the University encourages all staff to gain an appropriate teaching qualification, via the University Teaching Excellence Academy, to enhance the student experience. The Staff Development Unit produce and commission an extensive range of on-line courses to complement the practical training delivered in person. Each member of staff has an on-line training account that shows which courses have been undertaken and when refresher training is required – and many of these courses are specifically for the post-doctoral community.

Equality, Diversity and Inclusion

The University is fully committed to the principles of Athena SWAN and a steering committee, chaired by the Pro-Vice Chancellor (Research & Enterprise), oversees this and all staff development activities. The University has a Bronze Athena Swan award and the Medical School in the Faculty has a silver award. Plans are in place for the entire Faculty of Health Sciences to submit an Athena Swan Bronze application in April 2022, with Dr Weil in Psychology a member of the Athena Swan Committee.

The University is committed to promoting equality of opportunity for all, giving every individual the chance to achieve their potential, free from prejudice and discrimination. The University's Equality Scheme was published in 2017, and in the same year the University became a 'Disability Confident' employer. There is an active LGBT Staff Network, which advises, and responds to, the University's position in this context. It has also joined the Equality Challenge Unit's Race Equality Charter. The University is an organisation that embraces equality, diversity and inclusion as we believe this will deliver better results and greater innovation, more motivated staff, and increased recognition from our partner organisations. We are committed to:

- Treating all staff and students fairly
- Creating an inclusive culture for all staff and students
- Ensuring equal access to opportunities to enable students to fully participate in the learning process
- Enabling all staff and students to develop to their full potential
- Equipping staff and students with the skills to challenge inequality and discrimination in their work and study environment
- Making certain that any learning materials do not discriminate against any individuals or groups
- Ensuring policies, procedures and processes do not discriminate

In addition to the above ethos that is supported by relevant codes of practice and statutes to support our commitment to equality of opportunity, the University has a network of Dignity and Respect Advisors (DARAs) who are University of Hull staff from a wide range of roles and

departments. DARAs are approachable, independent, fully trained and ready to help all staff and visitors who may be experiencing problems with harassment and bullying if it does occur.

Within Psychology, there is a workload model visible to all staff enabling them to see how workloads are allocated across gender. We are committed to the principle that the gender balance on committees should reflect the gender balance in the Department, as should the gender balance among committee chairs. The Head of Department is responsible for most committee appointments, and to ensure transparency and oversight, figures on committee composition is monitored by the Faculty Athena Swan committee. Psychology staff meetings, and seminars are scheduled to avoid potential clashes with caring responsibilities and flexible working arrangements.

We have procedures in place to ensure ethical research practice: All research in the Department is subject to mandatory external ethical review by the Faculty Research Ethics committee. All research active members of the Department act as reviewers and two members of the Department (George, Jellema) sit on this committee which meets once a semester. Research involving clinical populations is subject to NHS ethical review. All research staff are required to complete an online Research Integrity course that covers all aspects of good practice and this must be completed on a 3-yearly basis.

Post-graduate Research students (PGRs)

The University's Doctoral College is both the administrative centre for PGRs and a purpose-built resource with its own 24-hour IT facilities and common rooms. It oversees the monitoring of all research student progress. PhD students produce annual reports at the end of years 1 and 2, and academics outside of the supervisory team hold an oral examination. Furthermore, the Faculty records the formal monthly supervisory meetings held between all postgraduate students and their supervisors (these are held at appropriate times for part-time students, e.g., every 2 months if the student is studying 50% of the time). If progress issues are raised by supervisors or students the Psychology Postgraduate Research Director will attempt resolution in the first instance. If additional action or support is needed this will be done in discussion with the Doctoral College and the Faculty Associate Dean for Research as necessary.

There is a strong research student culture in Psychology. A vibrant and diverse research student body, with 10 different nationalities is represented among the 28 PhD and 96 ClinPsyD students who completed during the REF period. Psychology at Hull is a member of the White Rose ESRC Doctoral Training Partnership along with several other Yorkshire Universities. It is also a member of the EPSRC, AURA Doctoral Training Centre. These affiliations ensure high quality PhD applicants who are also able to compete for University competitive funded PhD places.

Research Support and facilities for PhD students include access to the laboratory facilities in the Psychology Department as well as their own desk and computer in a shared office. They also have full access to facilities offered by the Faculty in the new Allam Medical Building. The Faculty has funds for PhD students to attend international conferences. Members of Psychology staff organise workshops and seminars on techniques that people in the Department may wish to learn about (e.g. eye tracking, EEG, transcranial stimulation) and PGRs students are encouraged to attend.

All PGRs engage in training and attend the Doctoral College's taught Doctoral Programme, including compulsory courses in advanced research methods and research integrity as well as optional courses such as MATLAB programming, thesis writing and viva preparation. They also have the opportunity to gain valuable teaching experience through paid teaching assistance work, leading small group discussions, demonstrating in practical sessions and marking 1st year research reports. **PGRs are encouraged to participate in the academic life of the Department.** They attend Departmental seminars, and many give talks during their second year. They feature prominently in the annual Faculty research event, with 1st year PhD and MRes students presenting posters, and 2nd year PhD students giving talks. These events prepare them for conference presentations and provide opportunities to network with other researchers in the Faculty. Many

PhD students go on to prestigious post-doctoral positions in the UK (e.g., Oxford, Durham, Sheffield, Bath & York) and abroad (e.g., Sydney, Paris, Boston & Beijing).

3. Income, infrastructure and facilities

The University receives approximately £7.5million in QR of which approximately £3.3million is allocated to the Faculty of Health Sciences. The Institution has taken the strategic decision to invest almost half its QR funding to support PhD/PDRA research clusters, with the remaining funds to be used by Faculties to support new positions and infrastructure. In addition to investments in the Allam Medical Building, the University has invested in a significant refurbishment and redesign of the library (£27 million). This has provided dedicated PhD work space as well as increased access to fully networked computers and extensive journal collections, the majority of these being available online.

The University plays a vital role as an anchor institution in the region and thus any Faculty investments must align with this function. Accordingly, the Institute for Clinical and Applied Health research (ICAHR) was established to make a difference to the health and wellbeing of the local population and to establish the University as a centre of excellence in clinical and applied health research with impact. ICAHR's aim is to improve and apply expert knowledge in a way that improves patient care for those with conditions which disproportionately affect the local population. For psychologists on campus these are dementia, diabetes and alcoholism. ICAHR encompasses the expertise of the Hull Health Trials Unit (HHTU) and the Methods Hub which together have the expertise to lead and support high quality clinical research studies, many of which are sponsored by the local NHS Trusts. HHTU provides a data capture framework and offers the provision of safe and secure storage for datasets requiring compliance with NHS information governance toolkit standards. Researchers, at all levels, access the expertise of ICAHR through the Institute manager who, working with the administration team, provide the necessary support on appropriate funding sources, generating costing models, advanced statistical advice, and facilitating networking opportunities. The Psychology Department taps into the infrastructure and networking opportunities afforded by ICAHR predominantly thorough collaborations with SPARC (**S**ocial & **P**sychological **R**esearch into long term **C**onditions).

Income

Research income spend during the REF period compares favourably to that in REF2014. Strategic staff appointments, and institutional measures to maximise the quality of grant applications, have enabled this success despite the challenging funding environment. Since joining FHS, however, the number of grants applied for and won has increased significantly compared to the prior period. Staff in the Psychology department are currently PIs and Co-Is on grants worth several millions of pounds to the University. The following exemplify the breadth and nature of these awards:

- 2020 - 2022 ESRC £210K. *The pull of reality: Egocentric bias in adult theory of mind.* O'Connor (PI) & Riggs
- 2019 - 2021 ESRC £630K. *Using Positive Simulation Training to improve expectations about the future in depression.* Anderson (PI) Riggs & Dewhurst
- 2019 - 2021 EPSRC £939K. *Evolving a circular plastic economy.* Why (CI)
- 2018 - 2021 Psoriasis Association £85K. *An attentional bias approach to understanding and reducing the psychosocial burden of psoriasis.* Holle (PI) & George
- 2018 - 2021 NAViGO CIC £75K. *An evaluation of the CAMS - Collaborative Assessment and Management of Suicidality.* Dent-Brown (PI)
- 2019 - 2027 EPSRC £5.7M. *The EPSRC Centre for Doctoral Training on Offshore Wind Energy and the Environment.* Earle (CI)
- 2016 - 2020 BEIS £192K. *Improving Safety and Productivity of Offshore Wind Technician Transit SPOWTT.* Earle (PI)

Faculty Research Support Fund: With the formation of the new Faculty a strategic decision was made to consolidate Departmental research funds at Faculty level and operate a system whereby 2 or 3 calls / year are made for applications. The total budget varies each year but on average exceeds £75k. The committee is chaired by the Faculty Associate Director for Research and

attended by HoDs and Departmental Directors of Research. The aim of the funding is to pump-prime new initiatives by allowing research visits, conference attendance, purchase of small items of equipment and publication charges. Postgraduate students, postdoctoral researchers and ECRs are explicitly encouraged to apply for support and approximately half of the funding is awarded to these applications. Three examples of this funding to support ECRs in Psychology are: £3000 to Morton to collect data at the Language Research Center, Georgia State University; £1200 to O'Connor to pump-prime a New Investigator application to the ESRC on adult theory of mind (successfully awarded in 2020) and another for £800 to Tidoni to support an ESRC application on the perception of robotic action (pending).

Infrastructure & Facilities in the Psychology Department

Two **technical staff support research** activity in the Department. They occupy a combined office and workshop and provide IT support for research as well as constructing and repairing experimental equipment. They also monitor the Psychology Test Library which consists of psychometric and neurological test batteries.

The Department has a wide range of infrastructure and facilities and is home to both general and specialist laboratories. **General laboratories** contain between 1 and 6 workstations (64 in total) running state-of-the art experimental software. Most of these labs (N=21) are used for computer-based cognitive experiments but may also be used for other research protocols. These rooms are freely bookable by any member of staff. **Specialist laboratories** house either dedicated equipment or have specific requirements with respect to access or other facilities. It is important to note that these labs do not belong to individual staff members – they can be used by anyone and the sharing of specialist facilities is encouraged by our strong collaborative culture. Specialist laboratory space extends over 24 rooms and can be broadly divided into two categories, (i) Cognition & Cognitive Neuroscience Laboratories and (ii) Health Related Laboratories.

Cognition and Cognitive Neuroscience Laboratories: Two transcranial magnetic stimulation (TMS) systems, a functional near-infrared spectroscopy (fNIRS) system, as well as a neuro-navigation system and a bio-amplifier to measure evoked motor potentials are housed in Neuroscience labs. We have two EEG labs occupying three rooms, including one which is used to measure EEG in participants interacting in a 'real-life' setting with two actors. Further rooms house two transcranial direct current stimulation (tDCS) systems and a third, high definition tDCS system with specialist software (along with a CHEPS pain and sensory evaluation system).

Psychophysics labs include a noise isolating audiometric booth and a visual psychophysics lab with sensitive lighting control house specialist hardware and CRT monitors. A vision and joint action lab, houses a large touchscreen mounted in the horizontal plane in a specially built apparatus used to study social cognitive interactions between pairs of participants. Finally, we have two laboratories for measuring eye movement and gaze. An **Eye-tracking lab** housing an Eyelink 1000 eye-tracking system, and a specially constructed **Infancy lab** for observing gaze behaviour using wall embedded cameras linked to a video-recording and control booth.

Health related Laboratories include facilities for **Neuropsychological and clinical testing**. A suite of four rooms on the ground floor of the Psychology Department houses a reception area, two testing/consulting rooms, and an observation room with a two-way mirror and video recording facilities. The ground floor location means that the centre is accessible for participants with limited mobility and is close to an accessible toilet and car parking. The reception area can be used as a waiting area when a carer, family-member, or assistant accompanies participants. Elsewhere, there is a **Cardiovascular and health lab** housing equipment associated with physiological measurements including stadiometers, clinical weighing scales, breath analyzers, and clinical blood pressure monitors. Finally, there is a **Nutrition lab** with food storage and preparation facilities.

Collaborative facilities: The Department also encourages collaborative working to secure access to equipment, facilities (including patients/participants) and stimuli that may not otherwise be available in the Department or on campus. This greatly enhances the reach of the Department's research and enables staff to focus on issues of joint interest between the Department and other

academic units, as well as non-academic partners. Examples on campus include: Hull Interactive Virtual Environment (HIVE) and the Robotics Lab in Computer Science (Tidoni) Off campus facilities include: a 3 Tesla MRI scanner at Hull Royal Infirmary (Holle, Schindler); local schools (Riggs, Mather, O'Connor); Matthew's Autism Hub (Riggs, Jellema, O'Connor) the Humberside Fire and Rescue flood training facilities (Earle) and access to TBI patients at Headway BIRT (Riggs, Schindler).

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

Research Base

Staff are widely engaged in the peer review process for both publication and funding. Such work is not only a critical contribution to the discipline, but also brings valuable expertise to the Department. Staff have been invited to **join journal editorial boards**, **review international grant applications**, deliver **keynote**, and **conference presentations** and **organise international conferences**. We also contribute to the development of the discipline in a number of ways including post-graduate degree program validation, PhD examining and the training of clinical psychologists for the local NHS.

Editorial board membership during the REF period were with the following journals: Applied Cognitive Psychology, Frontiers in Developmental Psychology, British Journal of Developmental Psychology, PLOS One; Frontiers in Psychology, Memory, QJEP, Addiction, Addiction Theory & Research, Child Development Research, L'Annee Psychologique, Nutrition Bulletin, Psychology of Consciousness. This equates to an average of just over 1 editorial position per member of non ECR staff. Of course, all staff are also involved in ad hoc peer review across all our research areas. In addition to **reviewing for UK funding bodies** (ESRC, MRC, NIHR, Wellcome, BBSRC, British Skin Foundation, Psoriasis Association) members of the Department have also been invited to contribute to **international grant reviewing**: Israeli Science Foundation (Riggs, Weil); European Science Foundation (Jellema); European Research Council (Holle); Dutch Research Council (Holle); Swiss National Science Foundation (Schindler), Natural Sciences Research Council of Canada (Smith); Humanities Research Council of Canada (Mazzoni) and Horizon 2020, Grant Review Panel: Marie Skłodowska-Curie Actions (MSCA-IF) (Tidoni). **They have also provided service to learned societies** including: Trustee & EPS committee member (George); Cognitive Science Society Conference Committee (Skarratt); BPS Developmental Section Committee (Mather); ESRC Peer review college (Dewhurst); Marie Skłodowska-Curie Actions (MSCA-IF) Grant Review Panel (Tidoni); British Science Association – Psychology Section (Lindsay)

We actively are engaged in presenting research to our peers: **Keynote presentations** include: Chinese Academy of Sciences, Beijing, 2019 (Holle); CINEICC International Conference, Coimbra (Portugal, 2015 (Guerrini); Safety-On Annual Stakeholder Conference, 2020 (Earle); EFCAP, 2018 (Mazzoni). There have also been **invitations to deliver research talks overseas**: LAPSCO, Blaise Pascal University, 2019 (Riggs); Centre for Research on Autobiographical Memory, University of Aarhus, 2014 (Dewhurst / Anderson); Laboratory of Contemporary Art, Sapienza University of Rome, 2016 (Tidoni); Psychology, University of New England, 2016 (Morton); Psychology, University of New South Wales, 2015 (George).

International collaborations are important to our activity: We have a diverse staff body represented from 7 countries, and this diversity is evident in our collaborations, funding applications and publications. Members in all 3 research clusters have national and international collaborations and 13/16 staff have the following international collaborations which can be seen in our selection of returned outputs: University of Leuven (Dewhurst); UNSW; Sydney University (George); ICREA, Barcelona; Chinese Academy of Sciences, Beijing (Holle); Northwestern University (Lindsay); Clermont Auvergne University, (Riggs); University of Verona; University La Sapienza, Rome; Free University of Berlin; University of Bologna; (Tidoni); The Hebrew University of Jerusalem (Weil); University La Sapienza, Rome (Guerrini); University of Toronto (Skarratt); McGill University; Saarland University; John Hopkins University (Schindler); Georgia State University; Yale University (Morton); Aix-Provence University (O'Connor); Boston University;

Utrecht University (Jellema); George visiting research fellow at UNSW Sydney (2014-2017). **Examples of International collaborative projects:** Holle collaborates with Dr van Laarhoven (Leiden) on contagious itch and its modulation by expectancy factors. In Beijing he collaborates with Dr Zhao (Chinese Academy of Sciences) and Prof Qun Guan (University of Science and Technology) on the cortical network underpinning co-speech gesture comprehension (Zhao) as well as the role of gesture in second language learning (Guan). Jellema collaborates with Prof Inmaculada Leon and Prof Manuel de Vega (University of La Laguna) on a White Rose PhD funded project investigating anomalies in the neural underpinnings of action anticipation in individuals with ASD using EEG. Morton was from 2014-2018 a member of the internationally recognised Scottish Primate Research Group. In 2018 he was granted permission by the United States Forest Service of the United States Department of Agriculture, to set up his own field site in North America for studies of wild animal cognition - the "Croatan Wildlife Research Project" - with collaborators from North Carolina State University and the North Carolina Museum of Natural Sciences. During the REF period **the Department has also hosted a number of international visiting academics:** Dr Van As (Radboud, Holland); Dr Kendra Arachchige (Mons, Belgium); Dr Anna Pecchinenda (La Sapienza Rome, Italy); Prof. Michal Lavidor (Bar Ilan, Israel); Prof. Vinod Goel (York, Toronto, Canada); Prof. Guolai Wu (Tianjin Normal, China); Dr Luis Pires (La Coimbra, Portugal).

Finally, staff have contributed to the discipline through external examining: Phd examining includes: Belfast, Birmingham (Riggs); Universitat de les Illes Balears (Guerrini); Cardiff (George); Manchester (Holle); Edinburgh, Royal Holloway (Anderson); Durham, (Skarratt); Leeds, LMU Munich (Schindler); Barcelona (Tidoni); CUNY, Aarhus, Lincoln (Dewhurst); Plymouth (Mather). **Taught Programs include:** BSc & MSc in Psychology, London Metropolitan University (Riggs); BSc Psychology, University of South Wales; University of Wales, Newport (George); BSc Psychology at Goldsmiths, University of London (Anderson) BSc Psychology, Brunel (Smith)

Economy & Society

Our research has reach far beyond academia and we make significant contributions to society and the economy locally, nationally and internationally.

- **Mental health** related research in Psychology has been supported by the move to the Faculty of Health Sciences, where Psychology makes use of the facilities and networks offered by **ICHR, the clinical trials unit and Methods Hub**. ICHR has close working relationship with the NHS and the Hull University Teaching Hospitals NHS Trust, as well as CICs such as NAViGO. Psychologists with interests in dementia (e.g., Guerrini, Mazzoni, Markova) also collaborate with members from the SPARC research group including Prof Esme Cook-Moniz, founder of the **European dementia network INTERDEM**.
- Hull Psychology is a major regional contributor to **professional training in clinical psychology** in the East Yorkshire and North Lincolnshire regions. There have been 96 graduates from the Doctorate in Clinical Psychology during the REF period. Following our move to FHS, we also set up an MSc in Clinical Applications in Psychology for those students wishing to gain experience relevant to becoming a clinical psychologist and in 2020 we successfully tendered to be part of the HEE Framework for Clinical Associate in Psychology Apprenticeship (CAP). Being part of this framework allows our programme to be commissioned by any healthcare provider in England. The CAP programme in Hull will offer two strands: Child and Young Adult Mental Health, and Adult Neuropsychology.
- **The Centre for Human Factors has made a significant impact on the working practices** of international energy companies such as Siemens and Orsted who both now incorporate fatigue management into their company Health & Safety plans, as does the international energy trade associations G+ (the Global offshore wind energy health and safety body). The UK Health & Safety Executive (HSE) became aware of Hull's Remote Working Stress Risk Assessment Tool and in recognition of the value of this tool for supporting organisations (particularly in the current COVID-19 crisis) it was adopted in

2020 by the HSE's Science Division to be incorporated into their digital platform. Via the University Energy & Environment Institute, the Centre taps into Project Aura, a collaborative network of energy companies, other academic institutions and the EPSRC Centre for Doctoral Training. Away from the energy sector, the Centre has also attracted funds for a number of collaborative projects: developing stress risk assessments for Humberside Police and Humberside Fire & Rescue; gap analyses of mental health provisions for Humberside Police and British Transport Police; a study of the impact on staff of Remote Working within four Local Authorities in the Humber region and service evaluations of Digital Health Hubs and a local suicide bereavement service.

- **Professor Johnston's research on synthetic phonics teaching has had significant impact on reading standards in England and Australia.** Her evidence to the UK Education & Skills Select Committee led first to the introduction of synthetic phonics teaching in England and later to the introduction of the Phonics Screening Check (PSC). During the REF period synthetic phonics teaching was mandated in the National Curriculum in England (2014) and England has moved up the international league table of reading ability from 10th in 2011 to 8th in 2016. According to the Government's own figures this intervention has significantly improved reading standards and the increase in literacy rates will boost the UK economy to the tune of several billion pounds. The state of South Australia mandated the PSC in 2018. Tasmania and New South Wales began piloting in 2020 and there has been considerable Governmental debate about the need to roll it out nationally.

Science education and outreach is something that many staff engage in and have been involved in **conference organisation** aimed at a general audience: Lindsay (British Science Festival, 2018); George (British Science Festival, 2018); (Hull Science Fair, 2018). They have also presented their research in **local science outreach events**, in conjunction with the University Professor of Public Understanding of Science, Mark Lorch. These events have included: Pint of Science (Groeger, 2016); the British Science Festival (George, Skarratt, Morton, 2018); Hull Science Fair (Lindsay, O'Connor, 2016); Freedom Festival (Lindsay, 2017); Café Scientifique (Mazzoni, Groeger, 2016). Others have **shared knowledge and expertise with local and international stakeholders** and have included: Hull Older People's Partnership (2014), Joseph Rowntree Trust (2015) (Guerrini); Institute of Marine Engineering, Science and Technology (2019), RenewableUK Energy Trade Association (2019) (Earle); Department of Forestry and Environmental Resources and the U.S. Forest Service Ranger District Office of the Croatan National Forest, North Carolina, USA (Morton, 2020). **Staff have also been called upon by the media to discuss their work:** Skarratt: BBC Radio Humberside (2018); Morton: BBC Radio Humberside (2018); Tidoni: Research featured in New Scientist (2016); O'Connor: BBC Cambridgeshire (2014). Mazzoni: The Conversation (2015), Stuff.co.nz (2015), Huff Post (2017), Daily Mail (2018), Newsweek (2018); Langcaster-James: The Guardian (2015), The Independent (2016), BBC news (2017); Earle: Offshorewind.biz (2018), Hull Daily Mail (2018).