

Institution: University of Chichester
Unit of Assessment: A4: Psychology, Psychiatry, and Neuroscience
<p>1. Unit context and structure, research and impact strategy</p> <p>Unit Context and Structure</p> <p>The Unit of Assessment (UoA) sits within the department of Psychology and Counselling at University of Chichester (UoC). In 2012, with HEFCE Strategic Development Funding, we established the People and Well-Being in the Everyday Research Centre (POWER Centre). The POWER Centre has acted as a focal point for well-being research and funding generated by Psychology staff members, and for counselling and professional development activity conducted by counselling staff members. All members of the UoA actively contribute to the Centre. In 2018, the department merged with Departments of Education and Social Work, with Psychology and Counselling leading the creation and management of the newly formed Institute of Education, Health, and Social Sciences, fostering an extensive multidisciplinary research focus.</p> <p>The POWER Centre acts as the central structure and framework within which UoA staff and postgraduate students conduct research. The Centre is further broken down into 8 specifically focused research laboratories, each supported by physical infrastructure and equipment, and the integrated dynamism and multidisciplinary focus of the Centre. Each lab includes 1 or more staff, postgraduate students, and undergraduate research assistants, along with national and international collaborators, providing a focused research stream supported by internal and external funding. During the current REF period, this research setting has resulted in over 100 top-quartile peer-reviewed publications, and impact-related projects. The laboratories and Principal Investigators (PIs) are described below:</p> <p>COGNITIVE AGEING AND DEMENTIA RESEARCH (Pereira) – developing innovative techniques for early identification of neurodegenerative processes, and positively influencing personal activities of daily living for both healthy and cognitively impaired older adults.</p> <p>FUNCTIONAL BEHAVIOURAL SCIENCE (Tyndall) – bridging Educational and Clinical Psychology, including using Relational Frame Theory and derived stimulus relation to explore how language and cognition function in development of psychopathology, processes underlying talk and mindfulness-based therapies (e.g., Acceptance and Commitment Therapy), and methods to enhance educational attainment.</p> <p>COMPUTERISED INTERVENTIONS FOR BEHAVIOUR AND EMOTION REGULATION (Gladwin) – using neurostimulation and online interventions such as cognitive bias modification to improve mental health, by developing and critically testing complementary computerised therapy forms targeting unconscious and involuntary processes involved in anxiety/addiction, or by enhancing brain activity and neuroplasticity.</p> <p>HEALTH COMMUNICATION AND BEHAVIOUR CHANGE (Churchill) – understanding antecedents of health-related behaviour, encouraging people to be more accepting of health promotion campaigns, and elucidating moderating influences of personality (e.g., regulatory focus and impulsivity) in the relationship between persuasive health messages and behaviour change.</p> <p>BEING (Banerjee) – examining effects of mindfulness-based interventions, maladaptive thinking styles (e.g., rumination and worry), barriers to being mindful, and enhancing mindfulness engagement to improve mental health and well-being.</p> <p>CHILD AND ADOLESCENT SOCIO-EMOTIONAL DEVELOPMENT (Burkitt) – examining emotional, cognitive, and social development to better understand how children and adolescents experience and process social emotion information, what enables them to process and express emotions (e.g., drawing), and how this processing relates to well-being and learning outcomes.</p> <p>WELL-BEING AND CREATIVITY IN PERFORMANCE (Clements) – exploring individual and environmental characteristics underpinning development of talent and expertise in relation to psychological and creative demands of various performance domains including dance, education, gymnastics, and music/theatre.</p>

CULTURE AND SOCIAL COGNITION (**Spina**) – focusing on how individual and cultural differences (e.g., British, German, Egyptian, Chinese, and Japanese) in people's use of cognitive heuristics can cause biases in judgment and decision-making processes across contexts (e.g., health/financial), and corresponding behavioural effects.

Unit Research and Impact Strategy

Our UoA has implemented a forward-looking strategy to:

- Increase **high quality outputs**
- **Maximise impact** of research by integrating current strengths in health and well-being
- **Develop strategic links with neighbouring organisations** (e.g., St Richards Hospital, Chichester).

The UoA operates under research governance set by UoC, including the Research Ethics Committee (REC), Research Ethics Policy (REP), and Research Office. Academics within the UoA oversee ethics decisions for research students, the Head of Department oversees ethics decisions for UoA staff, and any projects surpassing ethics thresholds proceed to REC, which may withhold approval for research not in compliance with the REP, and remove items contravening the REP (publicly available through the University research repository or other media).

Our aim is to conduct original world-leading research to improve health and well-being, taking individual differences into account, and to use our research to engage individuals and groups locally, nationally, and internationally, enabling a **direct and positive contribution to the health and well-being of our surrounding society at large**. Consistent with this, we have worked closely with UoC Open Access policy/provisions, to ensure all relevant outputs were available on our University Open Access platform within required deadlines.

Success indicators from our existing strategy over the assessment period include:

- Step change in publication of over 100 empirical research **outputs in higher impact** peer-reviewed international **journals with increased citation rates**
- Impact case studies based on those publications with further reach and significance
- 64 invitations to present research at prestigious international conferences
- Formation and maintenance of 23 **collaborative international research partnerships**
- Thriving postgraduate research training programme
- Marked upturn in grant-seeking activity and corresponding **increase in external research income**
- Creation of 8 active **research laboratories**
- Purchase of range of **advanced research equipment**

Our UoA strategy is synchronous with UoC's broader objective of developing a comprehensive and diverse portfolio of health-related programmes and activities, and includes the following objectives:

- **Recruit and develop high quality research active staff**, as evidenced by **all UoA staff** being **submitted to** both REF2014 and REF2021. All our researchers lecture, and all lecturers conduct research and contribute to REF.
- **Create capabilities for a diverse range of expertise and research methodologies**. Staff utilise a variety of quantitative and qualitative research designs and specialist equipment.
- **Establish a research profile focused on critical issues facing society today**. We have maximised real-world impact of combined skills, capabilities, and resources by establishing a departmental theme of **Health and Well-being**.
- **Establish research labs to maximise synergy with existing national and international contacts**, along with **local organisations** we have established relationships with (e.g., St Richards Hospital and NHS Sussex). Each lab is based around a significant body of high-quality research activity and outputs, including work on:

- Trans-cranial Direct Current Stimulation to develop and critically test complementary computerised therapy forms to reduce anxiety and/or addiction-related behaviours (**Gladwin**)
- Ground-breaking strategies to enhance prospective memory in aging populations (e.g., dementia/Alzheimer's) in conjunction with Harold Kidd Unit, Sussex Partnership NHS Foundation Trust, and Memory Assessment Service (**Pereira**)
- Developing and applying online cognitive intervention programmes (SMART) in international primary and secondary schools to increase individual IQ by 1 standard deviation within 3 months, correspondingly enhancing educational outcomes (**Tyndall**)
- Mindfulness-based interventions to remedy maladaptive thinking styles, including Mindfulness for Schools project in collaboration with local schools to improve education experiences (**Banerjee**)
- **Expand external research collaborations.** Staff have fostered and maintained high-quality national and international research collaborations, e.g., by presenting and chairing symposia at prestigious national and international conferences in Italy, Japan, Australia, and South Africa.
- **Build and maintain key institutional relationships.** Staff have actively sought to establish relationships with local organisations to enhance the vitality and sustainability of our research environment, providing a rich seam of research across the assessment period, and promising to deliver more over coming years. Perhaps most notably, our ambitious programme involves preparing to submit a major bid in collaboration with St Richard's Hospital (rated Outstanding for clinical care), with which we have built a robust working relationship since 2011, when we began a collaborative project on diabetes management by patients and service providers. The partnership has also allowed us to create a new professional doctorate programme relevant to hospital staff needs.
- **Fostering multidisciplinary research.** Staff play mentoring roles across departments, allowing us to conduct high quality multidisciplinary studies. Such collaborations improve the impact from resulting outputs, both in terms of significance and reach.
- **Increasing capital investment in research and skills development.** The UoA is now focusing on increasing external income generation by submitting more high-quality bids in collaboration with established contacts.

Ongoing and Future Strategy

Over the next 5 years, we aim to continue our rapid upward trajectory by maintaining and building upon our hitherto successful strategy, developing more collaborative partnerships to further boost research productivity, scaling up the volume and impact of projects, and hardwiring multidisciplinary perspectives into most activities.

Increasing research funding

With a successful research base established, we are increasingly prioritising securing prestigious research funding, to diversify the methods and equipment deployed within our research designs. We aim to generate research opportunities and income through bids internally and externally (e.g., widening POWER Centre partnerships to include Western Sussex Hospitals NHS Trust and Sussex Community NHS Trust). Representative examples of recent bid-related activity include:

- Working with Research Design Service Southeast (who support researchers to develop high-quality grant applications for submission to the National Institute for Health Research (NIHR) and other national funding programmes) to prepare a bid for patient/public involvement on a Mindfulness in Schools project, and a corresponding bid through NIHR.
- Developing a bid with colleagues at Royal Holloway (University of London) and the University of Sussex, to examine precursors and well-being outcomes of complex emotion processing across childhood.
- Working with local care providers (e.g., Dementia Support/Sage House) on Care Collaboration Grants to develop, implement, and evaluate a model of collaboration between care providers and researchers, improving clinical practice while advancing scientific theory.

Increasing research impact

The partnerships described above will enable a substantial increase in the reach and significance of our research, providing enormous potential for improving the quality of people's lives. Working with the NHS across the UK more broadly and in collaboration with international health and well-being organisations, the UoA aims to significantly improve the quality of care delivered and the impact on health and well-being. In turn, this will increase the number and range of individuals we can reach with impact projects using psychological research to shift public behaviours and thinking patterns in ways that benefit such individuals, and society at large. For example, we are currently:

- Assessing impacts of ways to measure mixed emotion in childhood with educational psychologists allied to West Sussex County Council and Islington SENCO teams.
- Working with international partners at Institute of Molecular Medicine (University of Lisbon, Portugal), and Donders Institute for Brain, Cognition and Behaviour (Radboud University, Netherlands), on developing of a collaborative bid to design, validate, and implement a novel, time-efficient measure of cognitive decline easy to implement in clinical assessment.
- Collaborating with University of Leipzig Department of Medical Psychology to validate health and well-being measures for physicians to use, enabling them to consider individual differences in research and patient treatment. 2 health-specific regulatory focus measures have already been translated and validated using large representative samples of the national population (4,000+ people), and physicians have been regularly contacting us about using the measures effectively in-patient care.

Increasing quality/quantity of multidisciplinary research

Research across disciplines can serve to expand the range of problems addressed, increase creativity, and lead to broader, more inclusive perspectives. Working with colleagues from a diverse range of disciplines including Medicine, Social Work and Policy, Education, and Health Economics, our UoA is developing a large-scale project to support clinicians in identifying and improving (or removing) expensive, inefficient treatments that do not produce tangible benefits. From an economic perspective, especially in the wake of Covid-19, demand pressures on acute beds are constant, making opportunities to improve quality of care and shorten hospital stays ever more important.

Increasing number of research-active staff

To recruit further staff, we are adding Psychology courses that fit synergistically within our Institute, including BSc's in Counselling, Forensic, and Educational, MSc Health, and a professional doctorate. Such efforts are already proving immensely fruitful, with a 3-fold increase in undergraduate and postgraduate student numbers successfully completing our Psychology degrees between 2014 and 2020, including a 25% increase during the Covid-19 lockdown.

In turn, these developments allow us selectively to appoint new research-active staff to complement and build upon existing strengths. Incoming staff will increase the diversity and range of our collective expertise and research. Increasing the number and range of lab specialty areas will foment greater cross-fertilisation of research interests and activities, and serve to increase opportunities for securing external funding to increase the impact of our projects.

2. People**Research Staff Strategy and Development**

Members of staff and students play an essential role in stimulating our interdisciplinary and collaborative culture, driving both world-leading research, along with research-led and research-informed teaching. UoA efforts from 2010 to 2018 focused on rapidly developing a successful and sustainable Psychology course (moved up the *Guardian* subject league tables from 61st in 2014 to 8th in 2020), allowing for the further recruitment of research-active staff. Remaining

attention was devoted towards developing a thriving research culture and recruiting a stable cohort of successful postgraduate students.

In REF2014, the UoA was ranked in the top 3 universities in UK for Research Intensity (with all staff submitted). Subsequently, the UoA has continued this **strategic and rapid upward trajectory**, consolidated and energised through 2 half and 1 full academic appointments (**Banerjee, Clements, and Gladwin**), 3 academic promotions (professorship (**Chmiel**) and readerships (**Burkitt and Pereira**)), annual internal investment for research support, and active PhD student recruitment. **Chmiel** retired (2017) and **Gladwin** left (2020), and the 2 half posts became full posts. Thus, on the REF2021 census date, we had 7 full-time permanent staff, all submitted to REF2021.

Staff have been strategically recruited to provide **expertise across the full sweep of current, cutting edge research areas**, with notable strengths in Biological, Cognitive, Cross-Cultural, Developmental, Forensic, Health, Individual Differences, Neuroscience, Social, and Work Psychology.

Equality and Diversity

All hiring and postgraduate recruitment was conducted according to UoC Equality, Diversity and Inclusivity Plan, ensuring individuals are valued for uniqueness in age, gender identity, sexual orientation, ethnicity, religion, and disabilities. Accordingly, the UoA has:

- Achieved a gender balance reflecting discipline proportions (5 FTE women and 2 FTE men, <https://www.apa.org/monitor/2018/12/datapoint>)
- Promoted women to leadership roles (e.g., Head of Institute (**Pereira**) and Head of Department (**Banerjee**))
- Hired staff from a mixture of cultural backgrounds (British, Irish, Polish, Portuguese, Italian-Canadian, and Indian), all of whom are research active

UoA members **conduct research with participants from a variety of cultural backgrounds** (e.g., British, Canadian, German, Italian, Portuguese, Egyptian, Chinese, Japanese, etc.), **participants with disabilities** (e.g., amputees), and **participants considered vulnerable** (e.g., Alzheimer's). As such, our **research methodologies and participant sampling considers equality and diversity** from initial project scoping, ethical approval, research delivery, and writing. In this way, **we maintain an ethical research focus above and beyond Institutional Ethics Board criteria.**

Training and Development. The UoA is committed to working with tools provided by UoC (e.g., online Research Development Framework Planner and the Concordat to Support Career Development of Researchers). The Concordat states all academic staff “have opportunities to develop their own research activity as well as their skills and knowledge”, with “access to facilities and support to enable them to undertake research at the required level.” UoA members **Pereira and Spina** sit on UoC Research and Innovation Committee (with **Pereira** as Chair), and are responsible for annually monitoring and reviewing progress against action plans.

UoC's strategic aim to undertake and support “research as an integral part of its provision” is operationalized by the UoA in Institute-level procedures, ensuring all academic staff engage in research activity at levels appropriate to individual and departmental priorities, providing career development support that increases capability and confidence in all staff.

Supporting. Research support is developed at Institute level to broaden the range of research expertise available to staff and postgraduate students. ECRs are central to developing a sustainable research environment and community. Upon arriving, ECRs are mentored by our Institute Head (**Pereira**) to introduce the comprehensive support framework we provide, including assistance with grant writing, internal peer review, and funding for equipment purchase. Additionally, existing staff work actively with new staff to ensure they are ready for the next REF, to sustain our 100% research intensity.

Across the REF2021 assessment period, we have implemented an **ECR development strategy** that includes:

- Reduced teaching loads for the first 2 years
- Funding for 2 conferences the first 2 years
- Funding to maintain existing research partnerships
- Support for organising an annual internal research conference
- Ensuring all postgraduate supervision teams have at least 1 ECR member. New supervisors are encouraged to undertake training provided by the Research Office.

Support for UoA research serves to broaden the range of research expertise available to staff and postgraduate students, by including support mechanisms such as:

- **Performance Review Development Plan**, an annual practice to reflect on past performance, identify future goals, and support requirements. This process is informed by UoA research objectives and Vitae's Researcher Development Framework, which may lead to mentoring and experiential training
- Targeted **support for staff/students with disclosed needs** (e.g., dyslexia) by trained professionals
- **Implementing a career development framework** to enable ECRs to achieve senior status (e.g., **Banerjee** and **Clements**), senior staff to further build their careers (e.g., **Burkitt**, **Chmiel**, and **Pereira**), and all staff to produce research meeting quality thresholds
- Providing **25 days research/impact leave per year** for all research-active staff
- **Support for developing research bids**. In addition to support for bid preparation available by UoA staff mentoring, we utilise and contribute to UoC's regular bid-writing and impact workshops
- UoA mechanisms to foster career development, including:
 - **Research skill development opportunities**, e.g., research cafés since 2015 and methodology mastermind sessions since 2016
 - **Writing and bid-writing workshops** since 2015
 - **Peer mentoring on journal articles** since 2014

Mentoring. Staff at all levels benefit from targeted mentoring with researchers at advanced stages in career development or from collaboration within and across departments.

Success from these efforts is evidenced by the fact that all departmental members of staff are research active and being submitted to REF2021. Furthermore, the UoA has achieved 3 academic promotions within census dates (1 professorship, 2 readerships).

Research Students Strategy and Development

Postgraduate students, including ProfDoc and PhD, are integrated into UoA activities through the POWER Centre, research labs, and teaching activities. All are members of both the POWER Centre and at least 1 lab, and have opportunities to contribute therein to projects beyond the immediate scope of their own research.

Equality and Diversity is embedded into UoA support provisions for research students. Data on gender, age, and disability are reported annually as part of UoC's Equality Scheme, and represents a routine item for Research and Innovation Committee (which has 2 PhD student representatives). Such endeavours inform aspects of staff training required to enhance Equality and Diversity and supplement postgraduate student training.

Our first PhD cohort mid-2013 comprised 5 full-time bursaried students. In total, 8 bursaries have been issued (GBP12,000 to GBP13,000 per year). Since the initial cohort, we have witnessed a shift toward more part-time self-funded students. In total across the REF period, 12 PhD students joined the UoA, 4 successfully completed (including 1 jointly supervised with the Institute of Sport), and 3 are nearing completion. The cohort has consistently included 5 to 8

PhD students to maintain critical mass in the research environment. Interest in MSci and self-funded PhD routes have risen sharply over the period, as indicated by application numbers. MSci student numbers have increased from 0 in 2014 to 15 in 2020. The ProfDoc programme is newly developed, and as of 2020, the UoA is already recruiting highly skilled ProfDoc candidates, particularly from Sussex Partnership NHS Foundation Trust and St. Richard's Hospital.

During this REF period, success indicators include all 4 PhD graduates taking up successful academic positions (Brunel, Chester, Chichester, and Coventry). Additionally, **Burkitt** supervised an external candidate who has accepted an academic post at UoC.

Training and informing. Candidates expressing interest in our PhD programme can apply directly or complete a Pre-PhD participation scheme, which involves working with intended supervisors through 6 meetings to develop their research proposal for application. All applicants submit a research proposal and are interviewed by a departmental panel. Interview records and hiring decisions are scrutinised by Human Resources to ensure decisions meet Equality and Diversity guidelines.

UoA PhD student recruits participate in a formal induction upon arrival. Identification of required training is noted when students are formally registered via the Form 1 Research Proposal, and regular analysis of academic needs during our postgraduate annual monitoring, in line with Vitae's Researcher Development Framework.

Each postgraduate student is assigned to a supervisory team comprising at least 2 members with expertise relevant to the student's research focus, all of whom engage fully and regularly with research supervision. In their first year of study, students attend UoA advanced training in psychological research methods, statistical analysis, and research skills (e.g. project management, specialist equipment training, impact, and presentation skills). Staff and students (including undergraduate) are encouraged and supported to present their research at the annual UoC research conference. Furthermore, postgraduate students are given opportunities to contribute to teaching, after completing UoC's HEA accredited PG Certificate in Learning and Teaching in Higher Education.

Our main objectives include fostering a multi-disciplinary collaborative research environment, including research application and impact. In addition to regular lab meetings with supervisors, we have appointed a **Research Champion (Spina)** who strongly **supports our research environment by hosting regular events to enable a vibrant research community**, including monthly or bimonthly:

- Departmental speaker seminar programmes since 2013 (8 speakers including UoA staff and postgraduate students presenting own research)
- Postgraduate research feedback presentations since 2013
- Research implementation workshops since 2016
- Research cafes since 2017
- Methodology masterclasses since 2018
- Postgraduate study days run by the Research Office since 2020

The UoA utilises PRES results to assess our research culture. For example, 2013 PRES results indicated some students wanted a stronger seminar programme, so we instituted our **annual speaker seminar programme**, which includes at least 4 external speakers per year. Events are open to the general public, **encouraging the growth of an inclusive and flexible research network, affording opportunities for intellectual and technical cross-fertilisation, and generating interest from local organisations and institutions.** The UoA has focused on recruiting speakers from prestigious institutions who conduct research relevant to postgraduate student needs. Recent speakers have included world-leading expert on pain management Professor McCracken (Uppsala University, Sweden), and Professor James Pennebaker (University of Texas, USA), considered to be one of the top 10 social psychologists in the world.

Changes made to our research culture informed by PRES results and face-to-face feedback sessions with postgraduate students have paid off, as in 2017 PRES results, UoA PhD students report they are positive about their training (100% against 76% for sector), and understand requirements and deadlines for formal monitoring of progress (100% against 85% for sector), responsibilities as a postgraduate student (100% against 89% for sector), and supervisors' responsibilities towards them as a postgraduate student (100% against 77% for sector).

Supporting. The UoA ensures postgraduate students:

- Seek advice and help from supervisors and/or Research Champions
- Utilise the Research Office when necessary on general postgraduate matters
- Use dedicated desk space or shared desk space in South House (postgraduate building)
- Apply for financial support (GBP750) available from the Research Office to undertake scholarly activities (e.g., present at conferences)
- Attend regular training events organised by our UoA and Research Office, thus supporting multidisciplinary development

Postgraduate students engage with staff with shared interests and expertise. The 2020 PRES results indicate that students are positive about their supervisory contact (100% compared with 88% for sector), support (100% against 82% for sector), and feedback (100% against 88% for sector).

Monitoring. Monitoring is overseen by the Research Degrees Group, on which **Spina** serves as Chair. Uptake of training at University and external level is recorded in students' Personal Progress Logs, which are submitted annually to the supervisory team, and used to review progress by the team, an internal faculty member not on the team, and the UoA Research Champion. The 2020 PRES results indicate students are positive about their overall experience (90% satisfaction rate against 82% for sector),

A future priority is to grow our postgraduate student population. In addition to advertising the POWER Centre more broadly and effectively using social media, we nurture students from undergraduate courses and our integrated MSci through to postgraduate courses, as a potential pipeline for future PhD students/collaborations/academic roles. A recent graduate has already followed this route from the MSci, and others are expressing interest. We have also recently initiated a new standalone MSc Health Psychology (starting September 2021), in addition to the new ProfDoc. Furthermore, we are recruiting co-funded students working with local organisations through collaborative partnerships, e.g., St Richard's Hospital and NHS Sussex.

3. Income, infrastructure and facilities

Infrastructure and facilities

The UoA has worked to build on the research base we created for REF2014 in a manner consistent with our new aims and focus, creating capabilities for a diverse range of expertise and research methodologies, establishing research labs to maximise synergy with local, national, and international contacts and organisations, and fostering further multidisciplinary research. UoC has supported us by investing over GBP200,000 in creating and maintaining cutting-edge shared facilities dedicated to psychological research.

In 2014, with over GBP100,000 UoC funding, the UoA completed the construction of a dedicated psychology laboratory facility comprising 5 separate rooms (c600m² total). One large room contains a suite of 60 desktop computers used for both teaching and postgraduate teacher training (70%), and staff/postgraduate research (30%), for computerised survey and experimental designs. A second room is dedicated solely to research, and is divided into 4 cubicles. The central large cubicle is used for group research and 3 equally sized smaller cubicles operate as soundproofed, light-controlled experimental booths for individual participants in controlled lab experiments. The remaining 3 rooms are used for both teaching and postgraduate teacher training (70%) and staff/postgraduate research (30%), and contain tables and a computer/projector, and are used for group research, interviews for qualitative designs,

and experiments utilising specialist software and equipment, including 30 laptops purchased for surveys and experiments.

During the current REF period, the UoA has purchased a range of specialist software and equipment. For survey designs and online experimental research, we annually invest over GBP4,000 in powerful online software Qualtrics for staff and student use (undergraduate and postgraduate). We also purchased 6 laptops installed with a variety of specialist software for staff and postgraduate student use, including e-prime, SuperLab, Inquisit, Mplus (multi-level multivariate modelling), QDAminer (qualitative analysis), NOLDUS –Observer XT (collection, analysis, and presentation of observational data), along with a host of psychometric assessment tools for individual experiments (e.g., WAIS and WISC).

Across this REF period, the UoA has invested over GBP75,000 to purchase a range of specialist advanced research equipment for biological, cognitive, and neuroscience research methods, including:

- Functional near-infrared spectroscopy neuroimaging equipment: NIRScout-NIRx Medical Technologies (for investigating oxygenation changes in different brain regions)
- Transcranial Direct Current Stimulation (tDCS) equipment: DC-STIMULATOR PLUS - neuroConn (for studying the influence of facilitating/inhibiting cortical processing via electrical neuromodulation) – resulting in publications in world leading journals including American Journal of Psychiatry (**Gladwin**)
- Immersive Virtual Reality System for Neuroscience Research, including aLIAS Laptop and Biopac-MP15 and finometers (for recording physiological indicators of stress responses and freezing)
- Virtual Reality development platform: Vizard-Oculus Head set (DK2 and Rift), 50-inch wall mounted HD smart TV for external connection, along with 3D Shopping Centre Software and 3D Shopping Centre Interior Software (for simulating real world environments)

A full-time dedicated technical staff member (over GBP30,000 per year) commissions and manages these facilities, providing laboratory support, programming and training as required.

Shared equipment. The UoA has also benefitted from sharing access to equipment and lab space with UoC's sector-leading Institute of Sport, including a large range of equipment suitable for investigating psycho-motor and biological functions (e.g., SMI-ETG wireless eye-tracking glasses by Sensorimotor Instruments to record a person's natural gaze behaviour in real time). Furthermore, in 2015, the Unit established an ongoing agreement with St Richard's Hospital to allow use of their extensive medical library.

In 2015, the UoA established a research participation scheme in which undergraduates participate in faculty and student research projects in exchange for course credit, enabling our research-led culture to permeate all levels of the department, and introducing students to the process of creating and conducting high-quality research. Success from this scheme is evidenced by over 20 high quality peer-reviewed publications during this REF period, by staff collaborating with both undergraduate and postgraduate students (e.g., in the journal *Health Communication and Intelligence*). Furthermore, in 2016, the UoA established a voluntary research assistantship scheme, whereby undergraduate students can work in a lab to benefit from playing an active role in conducting high quality research, while allowing UoA staff and postgraduate students to achieve more in relation to their research and impact agendas.

Income

After the UoA created a successful portfolio of programmes, hired research active staff covering a range of expertise across BPS professional subdivisions, recruited postgraduate students (MSci, PhD and ProfDoc), and developed an engaging and supportive research culture, subsequent efforts focused on establishing successful research laboratories and infrastructure, and increasing the number and range of bids for external research funding. As a result, bidding activity has been on a marked upward trajectory between 2014 and 2020.

Success of our overall strategy is evident from the fact that 44 bids (for a total sum of over GBP1,600,000) have been submitted since mid-2013. Initial successes are evidenced by successful bids including the Colourisima consulting project, comprising **Burkitt's** research on children's drawing and mental health. Lelli Kelly Consultancy awarded GBP2,580 to **Burkitt** to investigate how children's shoes, which include interchangeable accessories that children can personalise through drawing and colouring on them, demonstrated increased well-being associated with individual colour choices during product use. A second successful bid came from the Intelligence: Up, Down, and All Around project. The John Templeton Foundation awarded GBP173,786 in 2017 to Ellen Fridland (PI) at King's College London. **Gladwin** collaborated with Fridland on the project, serving as Director of Empirical Research for this project, to evaluate a Cognitive Bias Modification intervention for alcohol use designed to increase the ability to control risky drinking behaviour and reduce craving. Initial results are successfully demonstrating the efficacy of this intervention.

Pereira, Churchill, and Tyndall are working on a SHIFT project led by UoC's Institute of Sport, together with the UoA and partners from the UK, Netherlands, France, and Belgium. The Institute of Sport was awarded over €4,000,000 for the project from European Regional Development Fund. The project has included a large survey of over 1000 people across the UK, Netherlands, and Belgium over age 45, and produced 2 reports, 1 for over-45s, and 1 for vulnerable groups on all aspects of sexual health. The UoA has also produced 2 qualitative reports of focus group interviews with 125 over-45s and vulnerable populations regarding experiences with sexual health and sexual health services. The project demonstrates the excellent multi-disciplinary and collaborative work fostered and developed by the UoA.

Bids pending response include **Pereira's** project titled ADEPT: An Advanced Prospective Memory Tool to Support the Early Diagnostic of Alzheimer's Disease. The bid is for GBP70,902 from the Alzheimer's Society. Furthermore, most notably perhaps, Pereira is working on an Applied Research Collaboration (ARC) funded by NIHR, who have confirmed full 5-year funding for an ARC between our UoA and Kent, Surrey, and Sussex universities. Because of this collaboration, together with the Western Sussex Hospitals NHS Foundation Trust and the NIHR ARC, we were able to offer 2 exciting opportunities for a nurse or allied health professional to undertake a PhD alongside a clinical practice role. The roles will be full-time for a period of 5 years and comprise 15 hours/week clinical practice based in the new Dementia Unit at Western Sussex Hospitals NHS Foundation Trust, plus 22.5 hours/week PhD work at UoC. The Nurse or AHP/Clinical Doctoral Research Fellowships will begin in February 2021. They will receive a 0.4 WTE AfC salary and a tax-free stipend in year 1 of GBP11,000 to a maximum of GBP12,500 in year 5. Part-time PhD fees are paid on their behalf by UoC.

The UoA will continue to build on initial external funding successes by increasing bidding activity over the next REF period according to our income strategy articulated above. Our next tranche of investment from both UoC and external funding will prioritise the further development of our world-renowned research in the area of health and well-being, and to increase the reach and significance of our research impact in both the UK and the world at large.

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

Our unique context and profile present several advantages we have sought strategically to exploit across the REF2021 assessment period. As the only university in West Sussex, with campuses in Chichester and Bognor Regis, we have always recognised the economic, social and cultural importance of place. Meeting both local and global challenges, we maximise our academic and 'real-world' impacts. At the same time, our **small size and integrated structure** have allowed us to **adapt quickly to global challenges**, affording us an **unusual level of administrative agility**. We have been able to **hard-wire multi-disciplinarity into our research activities, fostering innovative ways of thinking and working** that set us apart from other institutions.

Every researcher within the Unit makes a distinct and significant contribution to the research base and discipline, working with other researchers across UoC, the UK, and internationally. These efforts are essential for sustaining and further developing both our UoA and our discipline. Key contributions across the REF period are described below.

Collaboration

Pereira (Reader) collaborates with Donders Institute for Brain, Cognition, and Behaviour, Centre for Cognition, Radboud University, Nijmegen (Netherlands), Radboud University Nijmegen Institute of Molecular Medicine (Netherlands), Institute of Molecular Medicine, Faculty of Medicine at University of Lisbon (Portugal), Sussex Partnership NHS Foundation Trust, Western Sussex Hospitals NHS Trust, Community Nursing (West Sussex) – Sussex Community NHS Trust, NIHR Research Design Service South East & Centre for Health Research, Sage House – Dementia Support (West Sussex), Memory Assessment Service at Harold Kidd Unit (Psychiatric hospital, Chichester), and 3 research groups at the University of Reading (the Centre for Cognition, School of Psychology and Clinical Language Sciences, and Centre for Integrative Neuroscience and Neurodynamics), leading to 4 publications.

Contribution to the discipline and society

Pereira is a Chartered Member of the British Psychological Society (BPS), Associate Fellow of the BPS, Fellow of the Higher Education Academy, and member of Dementia and Cerebral Aging Society, Portuguese Society of Neurology, and Portuguese Association of Linguistics. She is a regular reviewer for *Journal of Cognitive Psychology*, *Frontiers in Psychology*, and *Gerontology*. She has accepted invitations to present her research at prestigious conferences in London, Dortmund (Germany), Budapest (Hungary), Enna (Italy), Lisbon (Portugal), Melbourne (Australia), and Yokohama (Japan). **Pereira** has been contributing to the economy and society by developing lines of research to improve early diagnosis of dementia. In collaboration with **Gladwin**, she has also been developing novel, time-efficient assessment methods aimed at reducing the burden of dementia and Alzheimer's on both patients and care providers. Such methods will facilitate earlier initiation of treatment, improved outcomes, and reductions in total costs of disease management. **Pereira** has served as external examiner for 3 doctorates (e.g., Institute of Molecular Medicine, University of Lisbon).

Collaboration

Tyndall (Senior Lecturer) collaborates with Professor Karekla (Department of Psychology, University of Cyprus), and Drs Holliman (Institute of Education, University College London), and Pancani (Department of Psychology, University of Milano-Bicocca, Italy). He has been evaluating reliability and validity of measures used in Acceptance and Commitment Therapy (ACT) with Professor Whelan (Trinity College Dublin), and Drs Waldeck (Coventry University), Dawson (University of Lincoln), Kurz (VA administration, USA), Morris (La Trobe University Melbourne, Australia), Trindade (Coimbra University, Portugal), and Valencia (University of Lima, Peru). **Tyndall** is also working on a health behaviour change project using acceptance and commitment therapy and relational frame theory with Professor Ruth Rehfeldt (Chicago Professional School of Psychology, USA), and collaborating with clinical and health researchers at Queen Alexandra Hospital and Portsmouth University on ACT for cancer patients. **Tyndall** has ongoing partnerships bridging social psychology and clinical psychology, including ostracism and psychological flexibility, with Professor Riva (University of Milano Bicocca, Italy), and has worked on the development and further application of the FAST test of implicit attitudes with Drs Roche (Maynooth University, Ireland), Cummins (Ghent University, Belgium), and Murray (Abu Dhabi, UAE), along the SMART programme for education with Drs **Pereira**, May (University of South Wales, UK), McLoughlin (Liverpool John Moores University), Cassidy, and Roche (Maynooth University, Ireland), along with basic empirical accounts of body image disturbance and values in psychotherapy with Professor Sandoz (University of Louisiana, USA), and Dr, Bordieri (Murray University, USA).

Contribution to the discipline and society

Tyndall is a Chartered Member of the BPS, and member of Association for Contextual Behavioral Science and Association for Behavior Analysis International (ABAI). He serves as associate editor for *The Psychological Record*, and on editorial boards of *Journal of Contextual Behavioral Science* and *Frontiers in Psychology*, and is a regular reviewer for the *Journal of*

Behavior Therapy and Experimental Psychiatry, Development and Psychopathology, Journal of the Experimental Analysis of Behavior, Behavioural Processes, the European Journal of Behaviour Analysis, Health Communication, Basic and Applied Social Psychology, and Acta Psychologica. **Tyndall** wrote and published the popular scientific online blog series, 'Symbolic Language and Thought' for the ABAI dissemination platform until 2019, at which time the blog had over 20,000 readers. **Tyndall's** blogs include edited submissions from psychologists in the US, Portugal, Ireland, and Australia and have been read over 16,000 times in the last few months. Within this series, he has conducted video interview podcasts, for example with world-leading Professors including psychotherapist Hayes (founder of ACT) at University of Nevada (US), and Wilson (Binghamton University, USA). This series has a dedicated following of psychologists, practitioners, and academics from across the globe, with overwhelmingly positive feedback on Twitter and Facebook. Tyndall has also created a regular Psychology Interview series as an outreach initiative, which has featured world-leading researchers including Professor Kevin Mitchell, a behavioural geneticist discussing his book 'Innate: How the Wiring of Our Brains Shapes Who We Are' and his views on the genetic basis of gender, intelligence, autism, and schizophrenia. **Tyndall** has served as external examiner for 2 doctorates (e.g., King's College London).

Collaboration

Churchill (Senior Lecturer) collaborates with Professor Harris, and Drs Jessop and Sparks (University of Sussex), and Pavey (Kingston University) to investigate variables that moderate the persuasive effects of health communications (e.g., impulsivity), the effects of proscriptive and prescriptive health-related injunctions (e.g., on moral norms, reactance, attitudes, intentions, and behaviour change), the impact of self-affirmation on message acceptance, and whether framed implementation intentions (e.g., if-then plans) can help people successfully translate good intentions into action (resulting in 9 publications).

Contribution to the discipline and society

Churchill is a Chartered Member of BPS, and is a regular reviewer for *Health Psychology, British Journal of Health Psychology, Acta Psychologica, Applied Psychology: Health and Well-Being, Health Communication, and Appetite*. She is an honorary lecturer at the University of Sussex, and is invited regularly to contribute to a seminar series in health psychology, in addition to peer-reviewing grants for funding.

Collaboration

Burkitt (Reader) collaborates with Professor **Banerjee** at University of Sussex in workshop design and bid generation, and with Drs Watling at Royal Holloway on developmental projects investigating emotion encoding in children's drawing and mixed emotion development, Lowry at UoC examining benefits of graphing emotion, art education, and community activity, and Galpin at The Bridge research teaching facility in London for impact work examining the value of graphing mixed emotion in assessment practice with SENCOS.

Contribution to the discipline and society

Burkitt is a Chartered Psychologist and Scientist, and Associate Fellow with BPS, and a Fellow of the Higher Education Academy. She is Consultant Editor for *Contemporary Educational Psychology* and *Educational Psychology*, leading Guest Editor for *Education Research International*, and a regular reviewer for *Cognitive Development, International Journal of Behavioral Development, Journal of Child Psychology and Psychiatry, British Journal of Developmental Psychology, Perception, British Journal of Psychology, Journal of Infant and Reproductive Psychology*, and the *Journal of Infant and Child Development*. She has been invited to create a second edition of a leading online annotated bibliography about children's drawings by Oxford University Press, and a second edition of *Child development and the Brain: An Introduction*. (Policy Press: Bristol). She has also created a website that disseminates project findings from her research (<http://children.chi.ac.uk/about-project>), which hosts a growing archive of children's drawings. She has accepted invitations to present ongoing research at prestigious conferences in Victoria and Calgary (Canada), the Gold Coast (Australia), Amsterdam (Netherlands), and Braga (Portugal).

Burkitt has been contributing to the economy and society by conducting impact work examining changes in understanding and behaviour within a range of professionals and family members

about how they work with children to consider their emotional communication in drawings. She is working with SENCO teams and educational psychologists to assess the benefits to children's well-being and the usage of a new tool that measures children's complex emotional experiences. She has worked as a research and marketing consultant for Lelli Kelly shoes (pan-European), leading 2 projects investigating colour-affect association in childhood. This resulted in a host of media articles about the findings in relation to their product. She is also a contributor to programme design for policy and practice workshops focused on improving children's mental health (Policy Keynote Seminar Series, UK and Westminster Education Forum Keynote Seminar Series). **Burkitt** has served as external examiner for 2 doctorates (e.g., University of Portsmouth).

Collaboration

Spina (Senior Lecturer) collaborates with Drs Guo (University of Macau, China), Ji (Queen's University, Canada), and Helmy (Menoufia University, Egypt) on cross-cultural projects investigating biases in decision-making processes, and with Professor Zenger (Department of Medical Psychology, University of Leipzig, Germany) to adapt and psychometrically validate health-related decision-making scales for public and professional use.

Contribution to the discipline and society

Spina is a Chartered Member of BPS. He is a Review Editor for *Frontiers - Cultural Psychology*, and regularly reviews articles for *Psychological Bulletin*, *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, *Journal of Experimental Social Psychology*, *Social Psychological and Personality Science*, and *Journal of Cross-Cultural Psychology*. He has accepted invitations to present ongoing research at prestigious conferences in Melbourne (Australia), Nagoya (Japan), Stellenbosch (South Africa), San Francisco (US), Warsaw (Poland), and UK universities (Brunel and Southampton).

Spina has been contributing to the economy and society by developing simple cognitive primes that influence thinking styles in randomised-control-trial studies, successfully reduce the likelihood of biased health-related decisions that negatively impact on people's health and well-being. The project aims to achieve impact by tailoring health messages to specific types of individuals to reduce thinking that inhibits healthy lifestyle choices (e.g., by reducing cognitive dissonance prompted by health messages). **Spina** has served as external examiner for 2 doctorates (e.g., University of Macau).

Collaboration

Banerjee (Senior Lecturer and ECR) collaborates with Sussex Mindfulness Centre, and Drs Cavanagh and Hazell (University of Sussex) on an Office for Students funded project on the mental health of PhD students, and Strauss (Sussex Partnership NHS Foundation Trust).

Contribution to the discipline and society

Banerjee is a Chartered Member of BPS. She regularly reviews articles for *Mindfulness*, and has accepted invitations to present ongoing research at prestigious international conferences in Amsterdam (Holland), Rome (Italy), and San Francisco (US).

Banerjee has been contributing to the economy and society by developing and carrying out the Mindfulness for Schools project, which aims to improve mental health for both teachers and students, reducing stress, burnout, and anxiety/depression symptoms within the sector. She is also developing a project on mindfulness for PhD students, which will attempt to map and reduce the stress and burnout that currently blights this community.

Collaboration

Clements (Senior Lecturer and ECR) collaborates with Drs Nordin-Bates (Swedish School of Health and Sport Sciences) on self-determination theory and creativity, Edlund (Karolinska Institute, Sweden) in collaboration with Swedish Gymnastics Federation on mental health and compulsive training in national gymnasts, and Clegg at (University of Buckingham) on a 2-year longitudinal project into performance anxiety-reducing interventions.

Contribution to the discipline and society

Clements is a Chartered Member of BPS and a member of APA Division 10. She is a regular reviewer for *Journal of Dance Medicine and Science*. She delivers performance psychology workshops for professional dance companies and performing arts schools (UK, Sweden, USA,

Hong Kong, India), and consults for Momentum Performing Arts (UK) and Head to Toe Irish Dance Academy (USA). She has accepted invitations to present her research at prestigious conferences, including the International Association of Dance Medicine & Science (Helsinki) and the International Symposium on Performance Science (Melbourne). In 2020, she reached the final 3 shortlist for a One Dance UK national award for supporting dancers' health and well-being.

Collaboration

Gladwin (Senior Lecturer) collaborates with the Dutch Ministry of Defence, and received an ERAB grant in collaboration with University of Amsterdam to study clinical interventions to change alcohol-related cognitive biases.

Contribution to the discipline and society

Gladwin is a Chartered Member of BPs, Associate Editor for *Addiction Research & Theory*, and regular reviewer for academic journals including *NeuroImage*, *Human Brain Mapping*, *Brain Stimulation*, *Journal of Neuroscience*, *Psychology of Addictive Behaviors*, and *Clinical Psychology Review*. He delivered invited presentations on experimental clinical interventions at a military research meeting in 2016 (Hilversum, Netherlands) and on military mental health research to a governmental oversight committee in 2017. He has also participated in a public debate on addiction ("Nacht van Descartes"), and given evening classes (on addiction and scientific methods) for homeless charity Stone Pillow.

Gladwin regularly lectures as part of a training course on military mental health research to doctors in training at the Dutch Ministry of Defence and Utrecht (Netherlands). He has made his tutorials and research software available online for data analysis, stimulus generation, and online task programming. His research on brain stimulation was the subject of a newspaper article in a (Dutch) national newspaper. **Gladwin** has served as external examiner for 2 doctorates (e.g., Maastricht university).

Collaboration

Chmiel (Professor Emeritus) works with Professors Hansez (University of Liege, Belgium) on psychological processes related to safety behaviours at work, Grote (ETH Zurich, Switzerland) on individual and organisational approaches to workplace safety, Taris at University (Utrecht, Netherlands) on safety at work, Fraccaroli (University of Trento, Italy), Sverke (University of Stockholm, Sweden) resulting in an edited book: *An Introduction to Work and Organisational Psychology: An International Perspective*, McCrae (UoC) and Palmer (University of Winchester) on work team resilience, and with Drs **Pereira**, **Churchill** and **Tyndall** on prospective memory, diabetes foot care management, and ostracism.

Contribution to the discipline and society

Chmiel is an Associate Fellow, Chartered, and Full Member of BPS, a member and past President of the European Association of Work and Organisational Psychology (EAWOP), and a full member of Division of Occupational Psychology and the Experimental Psychology Society. From 2015 to 2019, **Chmiel** was on an EAWOP taskforce initiating and developing ways to impact policy in relation to health and well-being in the workplace. His main contribution was developing the blueprint for a policy impact thinktank, which was formally adopted at EAWOP congress (Turin, 2019). **Chmiel** is a consulting editor for *European Journal of Work & Organisational Psychology*, and regular reviewer for *Human Relations*, *Journal of Occupational Health Psychology*, the *Journal of Occupational and Organizational Psychology*, *Safety Science*, Blackwell, Sage, and Routledge. **Chmiel** has served as external examiner for 4 doctorates (e.g., University of Surrey and University of Liege).