

Institution: University of Central Lancashire

Unit of Assessment: UOA: 4 – PSYCHOLOGY, PSYCHIATRY, AND NEUROSCIENCE

a. Overview

The Unit of Assessment's (UoA) research strengths fall within three broad areas that form our research groupings: the Cognitive Research Group, Forensic Research Group and Health Research Group. Each group includes established and junior researchers, research fellows and students, and holds regular seminars for members to present their research and to facilitate the development of research programmes. Additionally, the School of Psychology hosts a diverse external speaker seminar programme. With a focus on real-world issues and an underlying theme of informing practice through evidence-based research, the strength of the UoA is its multidisciplinary collaboration. Longstanding and more recent national and international collaborations are in place with NHS Trusts, medical practitioners, prison service, police forces, Local Education Authorities, schools and school teachers, athletic clubs, charitable institutions and importantly, user groups.

Cognitive Research Group: The group is led by **Fisk** and includes **Ball, Brewer, Hutchinson, Judge, Marsh, Rogers** and **Skelton**. There are several key areas of work.

Working memory, executive functioning and reasoning: **Fisk and Judge's** work has identified the potential long-term harmful effects of illicit drugs on cognitive functioning. In relation to ecstasy (MDMA) and its effects on cognition, ecstasy/polydrug users exhibit selective deficits on specific prefrontal executive processes, in particular the updating and semantic access executive functions. They are also impaired in aspects of associative learning, on complex (syllogistic) reasoning tasks, prospective memory and are more prone to cognitive failures. The findings have implications for functioning in the everyday environment. **Ball's** work advances our understanding of the mental representations involved in human reasoning and the biases and errors that arise from people's tendencies to engage in fast, intuitive thinking. Recent findings indicate that the effect of answer fluency on reasoning is independent of the effect of perceptual fluency and that individual differences in ability are critical in determining the efficacy of perceptual fluency manipulations. In other work it was demonstrated that false memories can prime successful higher-order reasoning processes by providing accurate solutions to insight-based problems. **Rogers** and **Fisk** have evaluated biases in probabilistic reasoning consequent on belief in the paranormal. While reasoning biases are well documented, individual differences (e.g. the degree of paranormal belief) has received less attention. Deeply held beliefs of this kind were shown to affect judgements as to the likelihood of specific events, and importantly, distort the way in which individuals combine probabilistic information, potentially compromising the quality of everyday decision making.

Face recognition and facial composites: **Skelton's** research concerns face recognition and facial composites and their utilization in criminal investigation. This work has added to our understanding of the processes underlying face perception and how we recover faces from memory. It has had a direct effect on enhancing the identification of criminal suspects resulting in arrests. In particular, substantial improvements have been made to the way witnesses are interviewed, to the composite system (both traditional and recognition types) and techniques for publishing composites in the media for recognition by the public (EPSRC £202K; ESRC £77K).

Auditory distraction: **Marsh** evaluates auditory distraction within the context of short-term and long-term memory. For example, the mechanisms of auditory distraction and techniques that can shield against distraction; the breakdown of attention (distraction) that is attributable to different properties of task-irrelevant information, such as its predictability, the extent to which it is acoustically varying, and its semantic content. The work attempts to tease apart whether the memory impairments that irrelevant sound produces are attributable to attentional capture that can be overridden by top-down cognitive control, or are unamenable to cognitive control.

Individual difference in visual attention and reading development: **Judge's** work focuses on individual differences in visual attention and has shown that although men and women have

comparable reading skills, measured on standardised tests, they may deal differently with conflict from irrelevant distractor information. Her work on dyslexia indicates that whilst phonological and reading skills continued to characterise dyslexia in adulthood, the visual attention orienting deficits were more subtle and only evident when processing alphabetic stimuli in which attention is oriented in the direction of reading. **Hutchinson's** research on reading development and reading difficulties is of value in identifying the specific processes that are important in determining the course of language development in bilingual children.

Social cognition: This research focuses on physical attractiveness and sexual and romantic relationships from an evolutionary perspective with **Brewer's** research examining the perception of mate quality and sexual attractiveness.

Forensic Research Group: The group is led by **Graham-Kevan** and includes **Archer, Davies and Ireland**. There are several areas of activity.

Sex differences in aggression and physical aggression between young men: **Archer** and **Graham-Kevan's** work connects sex differences in violent behaviour with evolutionary theory, and investigates mediating processes e.g. self-control, attitudes, and the need to control others' behaviour. It has been extended to include general and family violence, particularly partner abuse. This link is important theoretically, to generate a general theory of aggression, and clinically, to inform violence reduction programmes such as Life Minus Violence-Enhanced (**Graham-Kevan, Ireland:** Mersey Care NHS Trust, £54K). **Archer** has established a link between physical size, strength and a history of physical aggression. Experimental work used the evolutionary concept of Resource Holding Power to study how the apparent fighting ability of a protagonist influenced the tendency to respond to strong provocation with physical aggression. This occurred in several populations, but not in prisoners, where the degree to which the person was regarded as a formidable opponent was of greater importance.

Partner violence, sibling aggression and women's offending behaviour: Most research on family violence has concerned violence between partners. Several studies have assessed Johnson's partner violence typology, involving controlling behaviour (**Archer, Graham-Kevan**). A novel and robust finding is that a need to control the partner's behaviour predicts violence towards them, for both men and women. Current Intervention programmes are based on a model that assumes this link occurs for men only. Additionally, **Graham-Kevan** compared men's and women's offending behaviour, and has developed a comprehensive women's offending-antisocial behaviour scale. Additionally, she has evaluated an intervention and service for male perpetrators of domestic violence in Hull (Hull NHS Trust, £110K).

Bullying and victimization: **Ireland** has evaluated gang-related behaviour in secure forensic settings to develop policy on the management and intervention of bullying (£20K Canadian Correctional Service; £75K Broadmoor Hospital Trust). **Graham-Kevan** and **Davies** have recently received EU funding (£224K) to work with Lancashire Police exploring the prevalence and impact of prior traumatic experiences on a victim's capacity to engage with services, benefit from help available and avoid or reduce subsequent secondary or repeat victimisation.

Attributions towards sexual abuse: **Davies's** work includes studies of attributions of blame towards depicted adult rape and sexual assault victims and attributions towards child victims of sexual abuse. Attributions differ in various samples: e.g. the general population and police workers who regularly deal with rape. The effect of rape on community samples of British male survivors has been used to inform victim-support groups and interventions.

Health Research Group: The group has a broad focus on health and well-being. It is led by **Abbott** and includes **Bray, Bridges, Dacre-Pool, Gardner, Qualter** and **Robinson**. The group has three key areas of activity.

Condition-specific scale development: This includes the development, psychometric evaluation and clinical interpretation of health-related quality of life (HRQoL) instruments (cystic fibrosis,

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lupus, inflammatory bowel disease) and measures of emotional functioning. For example, **Abbott** leads international programmes of work in HRQoL measurement in cystic fibrosis and working with East Lancashire NHS Trust, has developed the first HRQoL instrument in systemic lupus erythematosus informed by service users (LupusQoL- see case study). A multi-centre study (Arthritis UK £98K) is underway to evaluate the sensitivity to change of the LupusQoL allowing clear interpretation of the instrument to guide decision making by end users. With expertise in HRQoL measurement, **Abbott** was invited to join a German Consortium that secured a grant from the German Ministry for Research and Education (Genetic diagnosis and therapy of primary immuno-deficiency diseases (PIDNET, Euros 1.2 million). **Gardner** has sought to evaluate the psychometric properties and provide clinical interpretation of measures of emotional functioning and borderline personality disorder (BPD) by examining the role of emotional functioning specific to BPD traits in a non-clinical population. She is currently collaborating with the forensic service to investigate these associations within a population high on BPD traits. **Dacre-Pool** and **Qualter** have evaluated the emotional self-efficacy scale. In collaboration with several high schools across the UK, the scale has been adapted and evaluated for use with young adolescents who have poor literacy levels. This measure is being used in several mainstream and short-stay schools across the UK as a measure of self-perceived emotional functioning.

Psychological evaluation of chronic conditions: **Abbott** has undertaken cross-sectional and longitudinal programmes of work in cystic fibrosis (CF), modelling the demographic, clinical and coping variables associated with HRQoL, publishing landmark papers which demonstrate (1) that aspects of patient-reported HRQoL serve as prognostic measures of survival beyond a number of previously known factors (Chiron £60K) and (2) the natural progression of HRQoL reporting over many years, providing a benchmark to inform data interpretation and clinical relevance. Additionally, **Abbott** has co-led the UK arm of the cystic fibrosis *International Anxiety and Depression Epidemiological Study* (TIDES) funded by Liverpool Broad Green NHS Trust (Research Nurse for 3 years) and the UK Cystic Fibrosis Trust (£20K) providing evidence that people with CF have similar levels of anxiety and depression as the general population. **Bray's** work focuses on the self management of high blood pressure. A systematic review of the literature reported that self-monitoring appeared to have a small but significant effect on the reduction of office blood pressure when compared to usual care. The TASMING trial (Telemonitoring and self management in hypertension) was subsequently undertaken, consisting of regular self-measurements of blood pressure and a simple predetermined titration plan for antihypertensive drugs. This approach was found to be more effective in lowering systolic blood pressure than is usual care over a 1 year period and represents an important addition to the control of hypertension in primary care.

Qualter has established a clear definition of childhood loneliness and identified predictors and health outcomes of long-term child and adolescent loneliness using prospective research designs. Her work has informed the 'ChildLine' case notes, with the crib sheets being used daily by people working with children reporting loneliness. Examination of early predictors is on-going, but ESRC funded work has established that cognitive biases are implicated. In collaboration with colleagues at the University of Chicago, she is extending that work using High Performance Electrical Neuroimaging. **Qualter** has also examined intergenerational loneliness with colleagues at the University of Montreal and McGill University and is extending that line of enquiry in collaboration with colleagues at the Universities of Nijmegen (the Netherlands) and Leuven (Belgium) by examining parents use of emotional language. **Dacre-Pool** and **Qualter's** research found that workers who have confidence in their emotional functioning perceived themselves to be more employable and exhibited higher levels of career satisfaction. A controlled intervention study suggested that emotional intelligence can be enhanced among university undergraduates, thereby increasing their employability and career prospects.

Psychological and biological responses to stressors: **Bridges's** animal work has evaluated the effects of chronic corticosterone on hippocampal glial cells to further understand the processes involved in hippocampal atrophy that can occur following prolonged stress. Additionally, anxiolytic properties of progesterone in response to acute, chronic and withdrawn progesterone treatment have been evaluated. **Robinson's** research explores how environmental stressors impact on

psychological and physiological functioning, areas of cognition that fail during stress exposure and how stress responses are modulated by individual differences. Collaboration continues with the Norwegian Armed Forces, RAF St Mawgan and Fleetwood Nautical College to examine cognitive and immune system changes during capture and survival, and individual differences (social support, coping styles and optimism) in response to Helicopter Underwater Evacuation Training.

b. Research strategy

The University Research and Innovation Office co-ordinates the delivery of the institution's Medium Term Strategy that has research as one of its main themes. It 'houses' the Funding, Development and Support Unit and the Innovation and Enterprise Unit. UCLan's research community structure consists of a research network across disciplines / themes. Each discipline has an annual delivery plan that outlines the research vision underpinned by implementation strategies (e.g. grant bidding, publication targeting, research student activity, international collaborations, infrastructure development), with annual review to guide activity.

The overall aim of our research, during the REF period and for future years, is to make a distinctive contribution to the discipline. Although we outline our research in three separate groupings, in reality our work is integrated and this is likely to be increasingly so as we work in fluid teams striving to achieve the greatest expertise and skill mix to enable us to answer real-world problems. We intend to sustain and build upon our strengths and potential in interdisciplinary research. We maintain a commitment to research integrity, ethically sound research and ensure equality and diversity are integral to our activities including the recruitment, retention and promotion of staff.

Psychology's research strategy embraces five approaches, each designed to enhance the quality and volume of research and to provide sustainability: 1. build the momentum that will enable our research to thrive; 2. form sustainable external partnerships and collaborations; 3. develop mechanisms for increasing public engagement in relation to our research and findings; 4. establish a strong environment to support and grow research expertise by developing the research of our early career researchers and postgraduate research students and 5. develop our research infrastructure and implement effective mechanisms for knowledge transfer and intellectual property management. Evidence for the success of these approaches is provided throughout this environment template and, additionally, in the Impact template and case studies.

1. We strive to build the momentum that will enable our research to thrive. We continue to promote, develop and sustain an active and vital research culture. In bringing key national and international speakers to UCLan, we aim to promote the building of research networks and encourage staff, research students and undergraduate students with a passion for research. We demonstrate this in many ways and provide examples here. To celebrate the opening of the Psychology Darwin Building, the School holds an annual 'Darwin Day' lecture. The inaugural lecturer was by Richard Dawkins, followed by Armand Leroi (Imperial college, 2009), Sir Patrick Bateson (Cambridge, 2010), Nicholas Humphrey (LSE, 2011), Nicky Clayton (Cambridge, 2012) and Bruce Hood (Bristol, 2013). To commemorate the life and works of our former colleague Hugh Wagner, we held the Hugh Wagner Memorial Lectures (James Pennebaker, University of Texas, Austin, 2009; Brian Parkinson, University of Oxford, 2010). Members of the School have organized a number of conferences and workshops that have taken place at UCLan. In 2008, **Graham-Kevan** organized the first Biennial Conference of the International Family Aggression Society, with Murray Straus (University of New Hampshire), David Farrington (University of Cambridge) and Richard Tremblay (University of Montreal) as plenary speakers. In 2009, UCLan hosted two conferences: the BPS Division of Forensic Psychology, organized by **Ireland**; and an international conference on Violence in Public Places and Institutions, organised by **Archer**, with Manuel Eisner (University of Cambridge), Anthony Pellegrini (University of Minnesota) as plenary speakers. In 2010, **Archer** and **Abbott** organized a one-day national Health Psychology Conference with speakers including James Pennebaker (University of Texas, Austin) John Weinman (Kings College London), Kavita Vedhara (University of Nottingham), Rob Horne (University of London) Rona Moss-Morris (University of Southampton) and **Abbott** and **Archer** from UCLan. As part of UCLan's Distinguished Visitor program, in May 2013, the School hosted Dr Justin Carré (Wayne State University, Michigan) resulting in the development of exciting collaborations examining the effects

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of testosterone on human distractibility. In November 2013, the School will host Dr Denise Hines (Clark University, Department of Psychology, Worcester, MA, USA) who, in addition to developing collaborative projects, will present a one-day workshop on male victims of domestic violence.

2. A pivotal strategy focuses on our existing integrative research themes and external interdisciplinary collaboration. Armed with facilities of the highest quality, a clear sense of direction and access to populations, we aim to further our endeavours in national and international multi / interdisciplinary research on real-world issues, which can contribute to the discipline theoretically and have clinical and societal relevance. Evidence of our interdisciplinary work is provided above (e.g. **Abbott, Graham-Kevan, Ireland, Qualter**)

3. We continue to further our accomplishments in Knowledge Transfer so that our research provides the greatest benefits for society. We strive to develop research programmes that are appropriate and meaningful for the population they are intended to benefit by extending our partnerships with service users and maximising the impact of our research through public engagement. This facet of our strategy is detailed in our Impact Template and Case studies.

4. We aim to grow research expertise and critical mass by developing the research of our early career researchers and non-research active staff by aligning them to one of our research groups. Staff research activity is tied into appraisals with each person having a three-year research development plan with clear specific measurable and achievable objectives, assessed twice yearly. We also aim to promote national and international collaboration and increase doctoral student numbers within our research themes (See Section C).

5. We continue to develop our infrastructure. The School Research Committee (chaired by **Abbott**) and Knowledge Transfer Committee come together twice each year to discuss common overarching issues. With successful bids to the University Research Equipment Development Fund we have obtained equipment to enhance our work. We have also invested in a full-time research administrator (see Section D). Our effective mechanisms for knowledge transfer and intellectual property management are detailed in the Impact Template and Case Studies.

Recent changes to the environment

The School is in a period of transition. The retirement of several staff has afforded the opportunity for strategic development to take the School to a new level, with the vision of moving forward to attract large RCUK grants. To strengthen the professoriate, provide leadership for the School and the Health Research Group, **Abbott** was appointed in 2010 (previously School of Health, UCLan). **Ball** was appointed as Dean of School in 2012 and strengthens the Cognitive Group. Currently we have five professors (**Abbott, Archer** (0.2), **Ball, Fisk** and **Ireland** (0.6)). Key researchers have been awarded Readerships (**Graham-Kevan, Qualter**) and are embarking on leadership training/roles. Additionally, to build capability and capacity, we have recruited enthusiastic and dynamic junior staff to complement our research endeavour and sustain the coherence of the research groups (**Bray, Gardner, Marsh** and **Robinson**).

c. People, including:

i. Staffing strategy and staff development: The staffing strategy has three strands: recruitment (see above), development and sustainability. UCLan is firmly committed to supporting and implementing the principles of the *Concordat to Support the Career Development of Researchers* that sets out the expectations and responsibilities of researchers, managers, employers and funders. In 2011, The European Commission awarded UCLan the HR Excellence in Research Award for work to implement the Concordat to Support the Career Development of Researchers.

Our strategy is to invest in staff at all levels; provide training, support and development opportunities to aid the sustainability of research programmes, be competitive in a global research environment, enhance grant capture, increase the quality of our outputs and increase submission to the highest quality journals. To do this staff are assisted in their research careers in several ways; (1) new staff have a lighter teaching load in their first 2 years; (2) early career researchers are mentored by senior staff within their research groups to facilitate high expectations and

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encourage submission to the most appropriate prestigious journals and funding bodies; (3) the School Grants Review Committee assign experienced staff to assist junior staff with grant writing; (4) access to University/School sabbatical schemes; (5) access to the Interns scheme (see below); (6) staff are encouraged to participate in peer review processes, organise conferences/workshops and engage with professional bodies; (7) receive fully financed National / International conference costs; (8) have a research-based promotion route and (9) a wide range of networking events (e.g. University professoriate meetings and research forums) and training programmes.

To ensure excellent research training, UCLan has invested in the Vitae Research Development Framework to support all research staff and students and was recently awarded the Vitae Excellence in Research Training award and kitemark. Vitae is the UK organisation 'championing the personal, professional and career development of doctoral researchers and research staff'. It is supported by Research Councils UK (RCUK) and managed by CRAC: The Career Development Organisation. To provide on-line skills training to staff and students we have also invested in The Epigeum Research Skills Master programme (developed by Imperial College). The 'Vitae' and 'Epigium' suite of programmes enable progressive training from research student to senior researcher via a combination of face to face, e-learn and web based training. The Researcher Toolkit is undertaken by early to mid career staff (e.g. critical analysis; bid writing; writing for publication; time and project management) and UCLan also invite 'Vitae' to deliver parts of the 'Effective Research Training' within that programme. To provide an excellent research student experience and ensure timely completions, training is delivered to new and experienced research supervisors. The Research Leadership Programme focuses on developing and leading research teams, collaboration, inter-disciplinary working and entrepreneurship. We also have a full calendar of standalone courses on specific topics e.g. personal development, bibliometrics and citations.

ii. Research students: Our aim is to provide a stimulating, supportive and inspiring environment for research students to thrive and ensure timely completions. They have a personal advisor and are situated within one of the research groups (where they can discuss and receive friendly but critical feedback on their work). During the REF period 19 doctoral degrees have been awarded and a further 6 students are expected to submit their thesis for viva examination by the end of 2013. We currently have 13 FT and 21 PT PhD students registered. Four students are externally funded (Mersey Care NHS Trust) and 18 receive University funded bursaries. This level of funding is likely to be sustained in future years. Research supervision is provided in teams of two/three supervisors. Additionally, members of staff contribute to multidisciplinary supervisory teams of research students in other Schools and Institutions (**Abbott, Qualter**) and the School hosts visiting international students who undertake part of their award in the School.

UCLan has a dedicated Research School Registry (RSR) that supports the recruitment, induction, progression and examination of Postgraduate Research Students. They offer research skills training compliant with RCUK, HEFCE and QAA. All full-time and part-time students are required to attend a comprehensive induction day (provided with Student Handbooks, Vitae publications etc.). Additionally, all full-time students attend a compulsory two week block, the 'Graduate Research Skills Programme' (Communication and Presentation, Reflective Practice, Project Management, Academic Writing, RefMan/RefWorks and NVivo etc). Part-time students may attend, or complete the on-line Research Masters Programme from Epigeum. Additionally, a psychology specific Statistical Methods Masters Programme is run within the School and undertaken in the first year of study. This includes advanced statistical methods: data screening, multiple regression, logistic regression, exploratory and confirmatory factor analyses, structural equation modelling, and latent growth curve modelling for analysing longitudinal data. The module combines lectures and SPSS, AMOS, and MPlus workshops. The School has a clear structure of support for post-graduate students, with two Research Degrees Tutors (**Qualter** and **Graham-Kevan**), who administer the process at a departmental level and are members of the Research Degrees Sub-Committee that oversees the processes. Progress through the PhD is closely monitored to ensure a programme of original and robust work: from programme approval for an MPhil, which is transferred to PhD registration in the second year (FT) following a viva by an independent panel of staff. In addition to regular supervisory meetings, students attend an annual series of monitoring interviews with their Research Degree Tutor. To enhance employability, students undertake teaching activities, are

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provided with a mentor for teaching and marking and complete the 'Teaching Toolkit'. The vast majority of our previous research students are employed in academic, research or clinical posts.

Each year the RSR hosts a University-wide Research Student Conference over a three day period. It showcases individual research student's research by oral and poster presentation with cash prizes awarded to the best research. It provides a stimulating environment for interdisciplinary networking, is well attended by both staff and students and receives excellent feedback. Above all, students learn the valuable skill of disseminating their work to non-specialist audiences. Research students form an integral part of our research groups, where they present and discuss their work at the seminars in a supportive setting. The Postgraduate Research Society, 'PROGRESS', acts as a support group. It highlights high quality research and enhances the research experience by bringing together students from across the institution via a range of academic and social activities. We currently have students developing bidding skills by applying for funding, towards a research enterprise, to the 'Progress' Research Grant Scheme.

University/School Research Internship Scheme: Staff bid for funding to secure student "interns" for 10 weeks over the summer. Over the past five years we have been successful in obtaining more than 40 interns leading to competitive student applications. Several publications have resulted and one intern, Susanne Wolf, received the prize for the best student poster at the Society for the Scientific Study of Psychopathy (2011). In 2012, four Research Interns presented work at the International Conference of Undergraduate Research (Weber State University, Utah) and two presented their research in 2013 (Wisconsin USA).

d. Income, infrastructure and facilities

Income: Internal QR research investment during the REF period was approximately £1.62 million. External research income was approximately £1.98 million. This figure reflects the actual income to UCLan, not the total amount from grants awarded to staff, some of whom were co-applicants on grants held at other Institutions. (e.g. **Abbott:** Arthritis UK, £98K held at East Lancashire NHS Trust; £1.2 million Hanover Medical School; **Bray:** NIHR programme Grant, £2 million; National School of Primary Care Research, 58K - both held at Birmingham University). Our Research Strategy is beginning to reap rewards evidenced by a very recent ESRC grant (**Qualter:** collaboration with University of Liverpool; £336K). The School has benefited from an internal competitive process to the University Research Equipment Development Fund. In 2009 we obtained a state-of-the-art automated liquid handling system (PerkinElmer JANUS workstation, £100K). In 2011, a VR100 suite (£90K) integrating a powerful virtual reality workstation and software package of extensive programmable worlds, scenarios, and avatars to populate them (dynamic environments include Fear of Flying, Public Speaking). In 2013 we invested in a 64-channel Neuroscan Electroencephalography/Event-Related Potentials system (£65K).

Infrastructure and facilities: The School of Psychology moved into the purpose-built £10 million Darwin Building in 2005. The building has extensive facilities for psychophysiology, cognitive, health, forensic, and sport psychology. Cognitive psychology has specialised facilities for memory, perception, reasoning and language. There is a specially designed perception laboratory, an observation suite and an imagery laboratory. Facilities include PC and Mac-based computing, audio-recording equipment, an eye-tracker and driving simulator. There is a Face-Perception Laboratory with interview suite and face construction software. The labs support standard psychology software (e.g. E-Prime, Superlab, SPSS). Facilities for aggression and social cognition research include a child observation suite with computer-based observational systems, facilities for laboratory measures of aggression, a range of psychometric tests and meta-analytic software. Health psychology and human psychophysiology facilities include an anthropometry and exercise room, a well equipped subject stress area connected to the psychophysiology room (e.g. ECG, EGG, Blood Pressure) by an observation window and a Human Tissue Storage Area, equipped for the preparation and storage of human tissue samples. In addition to our first-class facilities we have access to a team of psychology and biochemistry technicians.

Research Governance: Policy and practice in relation to research governance are determined by the University and School Research and Knowledge Transfer Committees. UCLan's Funding,

Development and Support (FDS) Unit undertakes full costing of research and related activities and the Business Partner Unit is responsible for the financial management / audit of projects once a grant has been awarded. FDS operates a critical-friend system to facilitate contracts and projects being completed on time and to budget with the contracted outputs and deliverables. New research programmes with external partners are guided by UCLan's Innovation and Enterprise Unit and Strategic Development Services e.g. writing contracts / letters of agreement and revenue sharing agreements, the identification of IP, Licensing and IP ownership. The University operates a robust e-Ethics Committee including external and service user representation to which all research projects must be submitted for review. This serves to enhance ethical and scientific quality, safeguard participants and investigators in research, monitor practice and performance and promote good practice and ensure lessons are learned.

e. Collaboration and contribution to the discipline or research base

Our Impact Template and Case Studies exemplify, and more fully describe, our collaboration and contribution to the discipline. Here we present additional examples. In 2009 **Ireland** set up the **Ashworth Research Centre (ARC)** at Mersey Care NHS Trust with formal links to UCLan. The Trust fund **Ireland** within their high secure service two days a week, with additional time for **Abbott, Archer, and C Ireland**. Income since 2010 is approximately £410K. Current research includes evaluation of treatment programs, crisis intervention, obesity, seclusion and night time confinement, drug efficacy, aggression management, and self-injurious behaviour. **Gardner** has developed a website [OnlinePsychResearch](#) that provides links to resources on how to conduct internet-mediated research. The site gives links to live psychology-related studies across the world.

Participation in peer review processes: **Ireland** was appointed to the Psychology, Psychiatry & Neuroscience subpanel of the REF 2014.

Editorial responsibility: **Abbott:** Associate Editor, *Journal of Cystic Fibrosis*; Editorial Board, *Disability and Rehabilitation*. **Archer:** Editor-in-Chief, *Aggressive Behavior*. **Ball:** Associate Editor, *Journal of Cognitive Psychology*; *Thinking & Reasoning*. **Ireland:** Associate Editor, *Behavioral Sciences of Terrorism and Political Aggression*. **Ireland, Graham-Kevan** and **Davies** launched *The Journal of Aggression, Conflict and Peace Research*; **Davies** is Editor-in-Chief.

Scientific Committees and external conference organization: **Abbott:** Scientific Committee European Cystic Fibrosis Society (2010-2012). **Archer:** Selection Committee NWO Brain & Cognition programme (2010). **Ball:** Scientific Committee Cognitive Science Society (2013), Organizing Committee International Conference on Thinking (2012). **Ireland:** International Association for Law and Mental Health (2008); International Society for Research on Aggression (2010–2011); **Qualter:** BPS Education Section Conferences: Literacies (2008); Transitions (2009).

Grant Reviewing: **Abbott:** NIHR, Irish Research Board, UK Cystic Fibrosis (CF) Trust, Dutch CF Foundation, Belgium CF Foundation; Australian CF Research Trust; **Brewer:** ESRC, **Davies:** ESRC, **Fisk:** MRC, ESRC, Netherlands Organisation for Health Research and Development.

National and International Appointments: **Abbott:** Expert to the European Medicines Agency; Core Group: International guidelines committee for the screening, diagnosis and management of anxiety and depression in cystic fibrosis; European Lead: Consensus Group for Measuring HRQoL in Cystic Fibrosis; Visiting Professor, University Hospital Leuven, Belgium. **Archer:** Special Professor in Psychology (Nottingham, 2010). **Ball:** Elected Chair of the BPS Cognitive Psychology Section; Honorary Secretary (2008-2011). **Graham-Kevan:** Visiting Professor, Uppsala University, Sweden (2011). **Ireland:** Council member, International Society for Research on Aggression (2000-2009); Chair BPS Expert Witness Advisory Group; Royal Courts of Justice member of Family Justice Council; Consultant to Canadian Correctional Services on violence prevention; Visiting Professor: University of New South Wales and University of Western Sydney, Australia.

Awards: **Ireland:** Senior Academic Award by the BPS Division of Forensic Psychology (2011); Award of Academician of the Academy of Social Sciences (2009).