

<p>Institution: Coventry University</p> <p>Unit of Assessment: 34</p> <p>a. Overview</p> <p>Coventry School of Art and Design is the focus for unique interdisciplinary and collaborative research in design, communication, media, the visual and performing arts. It forms a hub for cross-university research in pedagogy, engineering, health and linguistics. This range embraces most of the Panel D disciplines by locating them within a coherent Unit. The ambition has been to promote our considerable research strengths, enhance our vigorous research environment and undertake further research which fully exploits opportunity, demand and capacity. The core ambition has been to establish strong leadership through the recruitment and development of outstanding researchers and to pursue robust and innovative research, across four complementary groups:</p> <p>A: Performance – embraces dance, theatre, drama and music</p> <p>B: User-Centred Design, Transport and Mobility – includes industrial design, human factors, health design, automotive, transport/mobility systems and logistics</p> <p>C: Media and Learning in the 21st Century – explores disruptive social and open media, creative archiving, immersive, mobile and interactive media, design of learning environments and art and design pedagogy</p> <p>D: Visual Arts – encompassing art theory and practice, and art and design history</p> <p>b. Research strategy</p> <p>The Unit fully exploits the interplay between research, creative and professional practice and learning innovation within and across groups, assuring the long-term vitality of our research culture. It addresses both problem-focused (e.g. health and transport design) and creativity-led (e.g. arts practice and performance) research and frequently exploits interdisciplinary synergies between the two (e.g. dance injury and prevention). The number of staff submitted has increased from 25.35 FTE to 34.45 FTE over the census period. Research leadership capacity has grown substantially, as evidenced by the professoriate which has increased from 7 to 15. The breadth and depth of interdisciplinary research is evidenced by a six-fold increase in income from £1.1m to over £6.6m from a wide variety of sources. The Unit has maintained its research student numbers (71 enrolled within the census period) but has increased its PhD completions by over 50%.</p> <p>The four groups evidence the achievements of the RAE 2008 research strategy, along with more recent ambitions.</p> <p>A: Performance: Whatley (leader), Collis, deLahunta, Evans M., Gehlhaar, Gibson, Hellaby, McCulloch and Williams. Income: £783k from 37 projects PhD Students: 15</p> <p>Achievements: Research on digital dance archives, choreographic objects and dance documentation is ground-breaking and draws on unique, interdisciplinary expertise. The international standing which this research community enjoys is evidenced by current and awarded funding in excess of £4.5m (AHRC and others). Projects led by Whatley include Motion Bank, Siobhan Davies RePlay, Choreographic Objects, Digital Dance Archives, the Choreographic Language Agent development and ECHO (SW1-4, SdL1-4). Whatley's research also advances extensive collaboration with IPR experts in the UK and Australia (SW3) to investigate the unique digital concerns of authorship, ownership and human rights in performance practices ('Invisible Difference' AHRC £500k). Whatley and deLahunta's paradigm shaping research explores the mobilization of the term 'choreography'. This includes the remediation of the performing body, the conceptualizing of movement practices within an expanding international culture of performance, somatic discourse, and the reception of dance for different environments (SW1-4, SdL1-4). Gibson's complementary research and practice address motion capture and the visualization of human movement on different platforms. Her work advances propositions about identity and subjectivity within artistic practice and writing, and the development of immersive, transformative experiences for exhibitions (RG1-3). Her AHRC Fellowship (£296k) has brokered new relationships with leading games, immersive and virtual environment partners, including Christie Digital Systems (Canada), LA GameSpace (USA), and internally with Coventry University's Serious Games Institute, revealing fresh insights into somatic processes for virtual environments. McCulloch examines the process by which early modern text becomes movement and asks what distinguishes the linguistic content of the play form from the kinetic concept of dance (LM1). Evans authoritatively addresses actor movement and training (ME1,3), self reflection (ME2) and the</p>

French Ensemble tradition with reference to Jacques Lecoq (**ME4**). This makes an important contribution to the cultural history of movement training for actors, establishing an historical and theoretical landscape. **Hellaby's** (**JH1**) performance-based analysis pioneers a new understanding of 'performance' as opposed to 'music' within interdisciplinary models of interpretation. **Williams** leads the INTIME (INTErrogations Into Music Experimentation) symposia, which have delivered ground-breaking compositional and performance work to new audiences. His recent shortlisting in the 2013 British Composer Awards, through a performance by New York cellist Madeleine Shapiro, demonstrates global interest in his approach which explores new sounds, new material, and the tension between the visceral resonance and the compositional imperative (**TW1-4**). **Collis** has similar research interests which link sound-generation and a processing engine to music performance (**AC3**). **Gehlhaar's** 2012 TEDx Talk 'performance' and supporting research (**RoG1**) introduced the first ever instrumental interfaces for professionally skilled disabled musicians. He won the Prime Minister's Big Society Award 2013 for his work as a founder member and technical director of the British Paraorchestra who performed at the London Paralympics 2012.

Future Strategic Plans and Aspirations: The research objectives for the next five years are to:

- Pursue new research that will inform policy and legal frameworks for protecting artistic works and cultural heritage, as explored through the EU-RICHES project (£2.1m FP7, 2013-2016).
- Build on successes in digital archiving, choreographic objects, motion capture, and somatic practices with international partners using the secured, three year EuropeanaSpace project (£3.4m FP7), led by Coventry, for research exploring the body in performance.
- Refine processes to document and share the physical intelligence embodied in dance and understand the sensory and sense-making modalities in dance practice.
- Interrogate compositional methods and the currency of, and audiences for, experimental music. Research into distributed performance will aim to develop cultural knowledge that is sustainable, generative and communicates performance heritage more effectively and widely.
- Extend dialogues with the international experimental music research community and explore new audiences, contexts and platforms. For example, via virtual performance in real time with a global reach to partners in the USA, Columbia and Japan, and via 'INTIME OUT' to establish outreach programmes for colleges and schools.

B: User-Centred Design, Transport and Mobility: Woodcock (leader), **Jostins**, **Konstantopoulos**, **May**, **McDonagh**, **Moody**, **Roworth-Stokes**, **Shippen**, **Stedmon**, **Tovey**, and **Woolley**. **Income:** £3.8m from 80 projects **PhD Students:** 16

Achievements: Positioned within a world-leading manufacturing region, particularly in automotive production, the group places users at the heart of research into design related products, services and systems, with a strong emphasis on methodology. Research takes place in a range of contexts, extending from transport to mobility (addressing practical concerns of pedestrians, cyclists, drivers, passengers) and often through the co-generation of user data. The group offers a unique proposition which interweaves design creativity, usability expertise, and advanced research skills. It exploits interdisciplinary synergies with scientific, engineering, and psychological research to achieve innovative design outcomes.

Woodcock's research encompasses collaborative user data on the 'whole journey experience' and transport infrastructures, contributing to the European objective to encourage new driving behaviours through vehicle interface design (METPEX FP7 £2.6m). **Shippen's** research with General Motors and SAIC Motor Corporation Limited (SAIC), resulted in a completely new biomechanical analysis software tool to assess door aperture designs, implemented on the Vauxhall Meriva. **Konstantopoulos' research** used driving simulation to investigate drivers' eye movements in day, night and rain, as an intrinsic aspect of interface design to improve reaction times (**PK1**). **Stedmon** developed and employed a unique motorcycle simulator to examine rider behaviour with respect to levels of competence (**AS1**) and **Woolley's** research explored craft influences on contemporary niche manufacture (**MW1,3**).

Jostins' pioneering, long-term research on the design and niche production of the second Microcab series continues its ambitious evolution (**JJ1**). As part of the Technology Strategy Board's Ultra Low Carbon Vehicle Demonstrator Programme (CABLED), Microcab was the first

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hydrogen powered car to be extensively tested in end-user trials, in an evaluation of hybrid vehicles from Tata, Jaguar, Nissan, and other global manufacturers (**JJ2**).

Moody and **Woodcock**'s research deployed User Centred Design (UCD) principles combined with novel health and assistive technologies such as tele-health, in both domestic and institutional settings, to enhance dignity and quality of life (**LMo2**). New methods also involved harder-to-reach users through co-design processes, to gain empathy and provide a positive user experience (**LMo1**). **McDonagh**'s related research linked empathetic product design strategies to disability needs (**DM1**). Novel applications in the field of education involved working with children during the design process, resulting in new theoretical models for school building refurbishment (**AW1**). The gamification of real-world problems encountered by young people with autism points to the design of more effective learning environments (**AW3**). **McDonagh**'s public dissemination of her research has brought UCD to new audiences through two TEDx talks with over 3,600 views.

Researchers also explored the wider context of the field. **Roworth-Stokes**, for example, examined emerging themes in design research in relation to the product innovation process (**SRS1**). **Tovey**'s recent book as editor and main author, 'Design for Transport: A User Centred Approach to Vehicle Design and Travel', is original commentary on the territory (**MT1**).

Future Strategy and Aspirations: To advance participatory methods and optimise UCD by:

- Addressing the emerging mobility-related challenges of low carbon vehicles, deploying a user-centred approach and developing sustainable transport for those on low incomes in rural and urban areas via the 'METPEX' project (EU FP7 £2.6m) led by **Woodcock**.
- Designing sustainable transport solutions leading to intelligent, connected vehicles, with the Transport Catapult and MIRA Ltd as partners targeting Horizon 2020 funding.
- Producing new guidelines and training for the design of ergonomic workplaces, particularly for people with disabilities via the 'Ergowork' project (EU Erasmus £43k) led by **Moody**.
- Driving forward methodological development by combining established UCD (**Woodcock**, **Moody**) and emerging empathetic design (**McDonagh**) to improve the fabric of everyday life, targeting science and culture funding (RCUK and Leverhulme).

C: Media and Learning in the 21st Century: **Hall** (leader), **Adema**, **Borg**, **Clouder**, **Evans A.**, **Gardner**, **Ghassan**, **Herbrechter**, **Lopez-Pelaez Casellas**, **Morris**, **Mottram**, **Mudhai**, **Nesi**, **Newman**, **Packer**, **Savin-Baden** and **Tovey**. **Income:** £1.7m from 90 projects **PhD Students:** 28

Achievements:

This theme critically explores how media technologies are disrupting some of the arts and humanities' core foundational concepts, values, learning, genres and practices, both theoretically and performatively. There are two distinct strands - *Open Media* researchers who take a critical stance on emerging media; *Learning Innovation* researchers who investigate the design and use of technologies within the learning environment.

Open Media: The emphasis of the research is on emerging disruptive media within social, technological, creative and scholarly contexts, with specific reference to open access, open media, open data and open archiving. This includes the radical reconceptualisation of 'authoring' (**Hall**), 'audience', and identity/subjectivity in challenging territories e.g. sexuality (**Evans A.**), the 'book' (**Adema**) and even 'the human' (**Herbrechter**). **Hall**'s monograph on the CSeARCH archive (**GH1**) was the first to be written on the open access publication of arts and humanities research.

Mudhai's unique research on openness, networked media, and the digital public sphere (**FM4**) is the only work to have focused on e-governance in Nigeria and South Africa. **Herbrechter**'s research champions a critical European approach to the human, the animal and the technological. His monograph (**SH4**) is one of the first accounts of the new paradigm of posthumanism, appearing in German publication a year before Cary Wolfe's seminal book, *What Is Posthumanism?*

Learning Innovation: This strand has grown from an early focus on research into design pedagogy, previously situated in the Centre of Excellence for Product and Automotive Design (established in 2005 with £2.5m CETL funding). It has now expanded to include problem-based learning, the design of learning environments, doctoral training and new areas of design pedagogy.

A major activity of the strand advances broad-based research into the design and arts doctorate, specifically through Durling's Design Advanced Research Training (DART) initiative and **Borg**'s

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research into art and design student writing support (**EB1**). **Gardner's** work on student writing genres situates specific models in art and design pedagogy within a generic framework (**SG1**). Research into art and design research itself is the focus of **Mottram's** analysis of UK doctoral activity and its relationship to the professional fields of art and design (**JM2,3**). Her new collaboration with **Nesi** employs corpus linguistic techniques to investigate the emergence of themes and approaches to research in the field and is based on research into student writing in Higher Education (**HN1, EB3,4**). A second activity is exemplified by **Savin-Baden's** use of technology to inform research into new media for learning including 'chatbot' technology, cyberinfluence, remote and virtual labs and funded research into digital influence. More specifically she has examined the socio-political impact of immersive virtual worlds on learning (CURLIEW project, £518k Leverhulme), along with methodologies in qualitative research synthesis and arts-based inquiry. The research has also investigated new media design for learning, including immersive environments, problem-based learning in virtual worlds (PREVIEW project, £200k JISC), and the design of reusable learning scenarios (**MSB2-4**). **Morris** conducts extensive complementary research into the design of e-learning tools (**DM1-3**). **Clouder's** related work on the learning environment has addressed communication design for interprofessional learning contexts (**LC2,3**), whilst **Ghassan's** work examined student peer learning in relation to information and communication technologies and cross-cultural communication (**AG1**).

Future Strategic Plans and Aspirations: In the next period this group will address fundamental research into the future of the university in the age of disruptive media (OpenCourseWare, MOOCs, TED) including:

- Examining the linguistic features of academic discourse in relation to geographical contexts, modes of reception and delivery, disciplines and levels of expertise. This will be supported by major funding applications to consolidate and expand the investigation of the use of English as a spoken lingua franca in global academic discourse.
- Extending existing research on digital influence (socio-political impact and digital learning), innovative methodologies (qualitative research synthesis, participatory action synthesis and arts-related research) and improving learning (problem-based learning, student engagement). Funding applications to AHRC, Leverhulme and Nominet will be made.
- Exploring new data sets and analytic tools to map relationships between public space discourse and knowledge production across fields of creative practice
- Expanding the research environment on Open Higher Education and Online Scholarly Publishing, to stimulate further experimentation and critique. Research will focus on the future of university teaching, learning, research and publication in the context of 'post-digital' media.

D: Visual Arts: Mottram (leader), **Chorlton, Devane, Journeaux, McLeer, Newman, Racz, Saxon** and **Woolley**. **Income:** £341k from 36 projects. **PhD Students:** 10

Achievements: Visual arts research has moved from concentrating on the rapidly changing nature of the artist, to focus increasingly on how to generate a robust and meaningful location for visual arts research, in a balanced relationship between scholarly and professional worlds. It has greatly extended the strategic aims for practice identified in 2008 and includes a new strand with additional appointments and changing roles. **Chorlton, Devane** and **McLeer** have addressed new challenges in relation to scale, complexity and duration. **Newman** has curated challenging interdisciplinary exhibitions for the Foundation for Art and Creative Technology (FACT) in Liverpool, one of the UK's leading media arts centres (**KN1,2**). **Devane's** contribution to contemporary portraiture won 2nd prize in the 2013 BP portrait award (**JD1**) and his critique of drawing combined new practices and theoretical frames (**JD2,3**). **Chorlton's** painterly innovation on the contemporary city (**GC1-3**), included site specific works (**GC4**) taking material responses into new territory. Site, objects and rule systems characterise **McLeer's** significant works in this period, shown in Ireland and New York (**BM1,2**). Digital and analogue electronic media also drives **Saxon's** collaborative and solo practices (**GS1,2**) across gallery and film venues.

A new strand of historical and theoretical research includes **Mottram's** work with interfaces between research and practice, explored collaboratively (**JM4**). **Journeaux's** work with professional groups informs reflection on the management of creative assets and knowledge (**JJ1**). **Mottram's** discussion of colour (**JM1**) and **Journeaux's** work on drawing and digital animation

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(**JJ2**), exemplify interest in expert knowledge and its articulation. **Woolley's** collaborative research investigates the historical and contemporary design influence of cultural nostalgia (**MW4**). **Racz's** focus on the objects of art or craft practice maps the interplay between intentionality and reception (**IR2,3**), myth and tradition (**IR1**).

Future Strategic Plans and Aspirations: in the next period this group will intensify the exploration of the research question of how technologies and subject knowledge stimulate aesthetic and conceptual innovation. Plans include:

- Extending methods by deploying eye-tracking technology, talk-aloud protocols, interview-based and linguistic analyses. This will advance the scrutiny of studio practices and hitherto unexplored data, alongside innovation through practice.
- Exploring the impact of conceptual positions upon practice and teaching, through projects on Terry Atkinson's writing (with Edinburgh University), through an anthology project and a major retrospective exhibition (with Modern Art Oxford, Herbert Foundation Ghent, and a New York venue). We will also be researching the impact of Art and Language on Fine Art pedagogy.
- In the current REF period, the Lanchester Gallery Project (2012-2014) funded by ACE begins our analysis of gallery events as vehicles for discourse or dissemination (partly through new curatorial researcher **Newman**).

Finally, ambitious plans have been announced (ca. £4m investment) for the Unit to lead a University Digital Cultures Research Group and Disruptive Media Learning Lab in anticipation of REF2020. A Transport Research Centre is also being developed in partnership with a world leading automotive research organisation (currently subject to Non Disclosure Agreement).

c. People:

i. Staffing strategy and staff development

The development of the intellectual and creative capital of our staff is at the heart of our staffing strategy. Prominent, visionary research leadership is fundamental to our approach, ensuring that researchers are appropriately managed and supported. Each of the four research groups is led by an experienced professor - Performance (**Whatley**), User-Centred Design, Transport and Mobility (**Woodcock**), Media and Learning in the 21st Century (**Hall**) and Visual Arts (**Mottram**).

Staff Development: The University was awarded the European Commission HR Excellence in Research Award in 2013. It uses the 19 agreed measures of progress drawn from CROS, PIRLS and HESA to implement the principles of the Concordat to support researcher career development. This activity is overseen by the Research Concordat Sub-committee and ensures that all researchers can access comprehensive learning and development programmes. Individual needs are considered during staff appraisal and resources support all levels of experience, from early career mentoring to research leadership training (**Williams, Woodcock**). Regular calls to fund small projects up to £3k are provided on a competitive basis (e.g. **Racz**, £2k for teaching remission to complete a monograph). Diagnosis of particular group requirements from review of appraisals leads to targeted workshops (e.g. academic writing retreats).

Support for Early Career Researchers (ECRs): Induction covers research opportunities and needs assessment by the research leader and departmental manager. ECRs join an appropriate research group and development activities include co-authorship and peer-support for bidding. Senior researchers mentor and co-publish with ECRs (e.g. **Shippen** mentors **May**) either within the Unit or as part of the cross-University Mentoring Scheme. Development funding enables ECRs to access travel, resources and training.

Dedicated Research Time and Sabbatical Leave: All academic staff have a research allocation of at least 20% of duties (plus 5 weeks for scholarly activity), with experienced researchers and those on major projects normally allocated over 40%. The University Applied Research Fellowship Scheme (ARF) has made 6 awards (value £28k) to Unit staff to develop work with international institutions: **Shippen** received £3k for research at the Analysis of Dance and Movement (ADAM) Center, Long Island University, New York and £6k for work with the University of Wyoming, both resulting in peer reviewed journal papers (**JS3**). Research Sabbatical Fellowships (RSF, 8 awards, £49k) provide funding to release academic staff to concentrate on high quality research. **Devane's** award-winning BP National Portrait Gallery work (**JD1**) was completed during a RSF, with other recipients including **Mudhai, McLeer** and **Williams**.

Career Progression: The University's Open Promotion scheme is the procedure for progression,

with 2 readerships and 2 professorships awarded within the period in this Unit. Research activity is also required for promotions to SL/PL. Promising researchers are given appropriate increases in research time (**Moody**) and/or sabbaticals (**Shippen**) to accelerate progression.

Contribution of Post-doctoral Researchers: To build capacity, the Unit encourages progression from fixed-term to permanent employment for postdoctoral research associates, and for promising post-doctorates, through migration to research fellow contracts (**May, Adema**).

Equality and Diversity: The University has embraced the Athena Swan Charter and has been awarded the bronze level. The Equal Pay Audit identified the Gender Pay Gap for Academic Staff at Coventry to be 2.81%, compared with 13.5% for the Higher Education Sector (Source ECU 2010). The commitment to equal opportunities in recruitment and support of all staff is evidenced by the wide range of schemes and policies to support Equality and Diversity including: Flexible Working Scheme, Career Break Scheme, Maternity, Paternity and Adoption Scheme, Child Care Vouchers, On-Site Nursery, Breastfeeding Facilities, Job Share Scheme and Sabbatical Arrangements. Coventry University is a Diversity Champion within Stonewall and the Workplace Equality Index. The Unit's research addresses equality and diversity issues e.g. **Whatley (SW3)** dance and disability, **Gehlhaar's** collaboration with Charles Hazlewood on the British Paraorchestra and **Moody**, see **case study 34.1**.

Support for Interdisciplinarity and Collaboration: includes the International Visiting Professors Scheme which enables visits of up to three months by overseas academics. For example, the Fulbright Senior Scholar and dance scientist Dr Glenna Batson was resident in 2013, and delivered workshops, papers and symposia, resulting in a joint bid to Leverhulme and co-authorship of a book on dance, somatics and spirituality. Collaboration through researcher mobility is also provided by the Applied Research Fellowship (ARF) programme. The University funds development work to help researchers establish or join networks, for example the successful EU- RICHES (FP7) application was facilitated by funding visits to international heritage partners Stichting Rijksmuseum Voor Volkenkonden and Stichting Waag Society in the Netherlands, and Hansestadt Rostock and Stiftung Preussischer Kulturbesitz in Germany. Similarly the appointment of a Business Development Manager helped form the consortium, led by researchers in the Unit, for the 'New Connections' archive project with the National Archives and BT Heritage.

ii. Research students

Development of Research Culture: The thriving research degree culture also contributes to the national infrastructure of researcher development. This is manifest through Unit leadership of Design Research News (editor Durling, list owner **Woolley**, with over 8,000 international members) for the Design Research Society (chaired by **Roworth-Stokes**). The global perspective for this work is underpinned by our engagement with the International Association of Societies of Design Research (Durling is Secretary-General). We have been partners in collaborative research training programmes (AHRC). Research students join a community where there is a higher than average proportion of postdoctoral academic staff: three quarters of staff submitted have a PhD, providing a wide pool of supervisory capacity. In addition to the normal resources available to PGR students, such as dedicated research offices, the Unit offers gallery spaces, a usability lab, and recording, art and dance studios, which together facilitate a wide range of practice-related work. All PGR students become part of one or more Unit-led research groups and participate in conferences and workshops. The innovative online ethics system, used by PGRs and staff researchers, ensures standards are consistently and effectively applied. Extensive University support is available in the form of careers advisors, short courses, workshops and skills development, plus networking opportunities. This includes an ERDF-funded Creative Enterprise project with external mentors. All students are offered the opportunity to develop academic skills through contribution to teaching, in parallel with a recognised postgraduate teaching qualification.

Recruitment of Doctoral Students: Students are recruited to strengthen and complement particular projects or groups, increasingly via internal and external funding including AHRC and EPSRC studentships. The number of University and external studentships awarded has increased from 17 to 23 in the current census period and the number of completions has grown by more than 60% in the same period.

Equal Opportunities in Recruitment: The University's equal opportunities policies, and

monitoring processes, track “protected characteristics” of applicants and accepted students, with regular review at University level. The proportion of our current PGR students with a registered disability is higher than the sector norm. A recent University studentship on disability in dance extended our established research in this area. A disabled student is also currently completing a PhD on disability and design. The Faculty Research Degree Leader and the Research Degree Tutor provide support to prospective and current students and staff on equality matters, as part of the academic support framework.

Monitoring and Support: From 2008, PGR students have undertaken their studies under the ‘Curriculum Framework for Research’ with its robust progression process of fully embedded induction, training, staged review, recording, monitoring and examination. A major feature of the framework is the annual progress panel review incorporating relevant subject expertise, supervisory input and an independent chair.

Research student skills development: Specific skills development through Unit-focussed events and generic elements of the ‘Curriculum Framework’, combine with externally funded programmes to give PGR students a rich portfolio of training opportunities. Student-led research seminars are held regularly, for example through the DART initiative which networks nationally. Research students are encouraged and funded to participate in international conferences, editorial work, liaison with external partners and shadowing/supporting senior lecturing staff, providing experience and insight into future work environments. The annual University PGR student symposium and competition promotes conference dissemination skills and an understanding of the University community. Collaboration with potential research users is supported through the AHRC-funded Knowledge Exchange in Design programme. The placement of a PhD student with the ‘Bracket Creative’ consultancy under this programme resulted in both a job offer and significant business development benefit for the industry partner. The Unit was awarded a student-led AHRC Collaborative Skills Development project in 2013. Subject-specific expertise in the provision of supervision for design PhDs has led to the Unit providing ‘split-site’ PGR skills development. This includes courses designed specifically for experienced American academics and practitioners at the Segal Design Institute at Northwestern University. This ‘co-tutelle’ model draws upon the DART framework and applies the Curriculum Framework to the professional context. The Centre for Academic Writing (CAW) has developed its own specialised knowledge base and research outputs focusing on doctoral training (**EB2-4**). A £200k JISC-funded project supported by **Morris** extended the range of this Centre via the Coventry Online Writing Laboratory (COWL).

d. Income, infrastructure and facilities

Income: Overall, the income shown in REF4b represents a £5.5m increase over the previous census period (£1.1m) and reflects the diversity and level of external engagement across the research groups. The interdisciplinary character of our research has led to the implementation of an equally wide-ranging funding strategy, whereby specific research ambitions are matched to appropriate funding models. So for example, European Commission framework programmes have been specifically targeted in relation to large scale research which requires extensive network support (e.g. METPEX, RICHES and EuropeanaSpace FP7 projects). RCUK and TSB awards have been sought for projects which link scholarship and theoretical analysis to practice (e.g. Siobhan Davies Replay, AHRC). UK central government calls have been pursued for projects which link user needs to design outcomes, in areas such as healthcare and disability (e.g. Wheelchair Stability Assessment System, National Institute for Health Research 'Invention for Innovation' NHS). The vitality and sustainability of our research income is also evident through a total of £3m in recent awards which fall outside the financial census period. These include projects for AHRC, TSB, EU Commission and leading automotive companies such as Ferrari, Rolls Royce and Morgan. Funding from sources not reported through HESA returns totals £117k for three projects. This includes £94k from ACE for the Lanchester Gallery Projects programme, which has enabled new work to be commissioned from artists affiliated with Sheffield Hallam University (Jasper Joseph Lester), Glasgow School of Art (Craig Mulholland), CalTech (Amanda Beech) and Royal College of Art (Milly Thompson). Funds from the Irish Arts Council (£12k) supported **McLeer** for One+One (**BM1,2**) and ACE supported the Dialogues show in Bordeaux (**GC4**).

Infrastructure and investment: The Unit continued to enhance the research environment with substantial investment in physical infrastructure (ICE Building research suite 469 sq.m. at £584k;

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refurbished research offices for Industrial Design Department and Graham Sutherland senior researcher suite 79 sq.m. at £5k; Health Design and Technology Institute (HDTI) 35 sq.m. new build research apportionment investment of £218k, see **case study 34.1**, bringing investment in dedicated research space since 2008 to a total of £807k. The University has also invested heavily in physical and support staff infrastructure as follows:

- **Equipment:** The fully equipped Usability Lab includes a new Tobii TX300 eye tracking system (£30k), plus a Dikablis Cable portable head-mounted eye tracking system. The Motion Capture Lab incorporates a Vicon motion capture system (£250k) and a stereo projection system. The fully equipped modelling studio is located adjacent to digital capture and modelling equipment, which facilitates full-scale vehicle modelling in clay and via large scale 4 axis milling machines.
- **Support Staff:** Unit-specific research administrative support comprises three FTEs and technical support one FTE. Business development (BD) support comprises three FTEs in Post-Award, two FTEs in project finance and one FTE in Pre-Award. This BD team provides support on grant funding, bid writing, project management, and financial management. It works closely with the University's legal team and the University's IP specialists.
- **Scholarly infrastructure:** includes the Siobhan Davies RePlay digital archive which has generated numerous spin-off projects (Learning Space); the pioneering online ethics system; 'CURVE', the University's repository for open access research outputs and educational resources. Coventry University was one of the founder members of the 'Art and Design Index to Theses (ADIT)', which is used extensively within doctoral programmes and deployed as a major research resource by **Mottram (JM2,3)**.
- **Lanchester Gallery:** New-build and fit-out of 267sq.m., an investment of £1.58m, completed in 2012 to facilitate Lanchester Gallery Projects ACE-funded programme.

e. Collaboration or contribution to the discipline or research base

The Unit's **collaborations and joint research projects** include **deLahunta's** affiliation with Crucible at Cambridge University and his Fellowship with the Art Theory and Research and Art Practice and Development Research Group, Amsterdam School for the Arts, **Whatley's** role on the Forsythe Company's Motion Bank project, **Woolley's** role as international research advisor to Kolding School of Design, Denmark, and **Mottram** and **McDonagh's** doctoral research programme for Segal Design Institute, Northwestern University.

Research Networks include project teams and expert groups: for example, **Tovey** leads the DRS SIG on design pedagogy. An industry/academic consortium is led by **Woodcock** for METPEX (EU FP7). This includes Interactions Ltd (Irish Transport Research Agency), Zurich University of Applied Sciences, Politecnico de Torino (Italy), KTH Royal Institute of Technology (Sweden) and Fédération Internationale de l'Automobile (France). **Whatley** and **deLahunta** lead the LABO21 EU Culture Programme, with Wayne McGregor I Random Dance (UK), Troubleyn Jan Fabre (Belgium), Bezimeno autorsko društvo (Croatia), and Stichting Zwaanproducties (Netherlands).

Collaborations with Industry: **Shippen** works on vehicle ingress and egress with General Motors and on muscle and tendon loading with Riverdance Company. **Moody** is an Expert Advisor on Devices for Dignity for Unilever. Other collaborations include **Savin-Baden**, **Nesi** and **Woolley** with BT; **deLahunta:** Wayne McGregor Random Dance; **Hall:** Hybrid Publishing Lab, Germany; **Whatley:** Routledge Performance Series; **Stedmon:** Institute of Advanced Motorists; **Woodcock** - Jaguar Land Rover. **Gibson** has worked as a motion capture performer, supervisor and advisor for Vicon, Motek, Animazoo, Televirtual and the BBC.

The Unit's members hold office on many **National and International Committees:** Design Research Society Chair (**Roworth-Stokes**). International Association of Societies of Design Research, (Durling Secretary General), Parliamentary Advisory Council for Transport Safety (**Stedmon**). Our contribution to the AHRCs work includes Chair of the AHRC's Design and Innovation Panel and Member KE Hub Oversight Development Group (**Roworth-Stokes**), Fellowships Panel Chair (**Mottram**), Strategic Reviewers Group (**Mottram, Whatley** and **Roworth-Stokes**), Panel and Peer Review College Memberships (**Mottram, Roworth-Stokes, Whatley, Woolley**). **Mottram** and **Whatley** currently serve on REF2014 panels 34 and 36 respectively, and **Woolley** has twice been on RAE panels.

The Unit's leading positions in **Subject Associations and Learned Societies** include: the Design

Research Society with **Roworth-Stokes** Chair, **Woolley**, **Mottram**, **Tovey** Fellows and **Tovey** Elected Council Member. The Unit publishes Design Research News online which has the sector's largest international readership (8,700) and is the owner of the Ph-D Design Discussion List. Subject Association committee roles include: **Journeaux** for the Group for Learning in Art and Design; **Devane**: National Association for Fine Art Education; **Savin-Baden**: Wolfson Open Science Advisory Board; **Nesi**: British Association for Applied Linguistics (BAAL), British Association for Lecturers in English for Academic Purposes (BALEAP), and the Advisory Panel for Macmillan Dictionaries. **Stedmon** is a member of RCUK's 'Global Uncertainties' Strategy Group.

Editorial Positions: the Unit's researchers act as editors, editorial board members and have established new journals. **Hall**: co-founder and co-editor of Culture Machine, an online, peer-reviewed journal of culture and theory; co-founder of Open Humanities Press (OHP), the first open-access publishing house dedicated to contemporary critical and cultural theory, and is a member of four major editorial boards. **Whatley**: Founder and Editor, Journal of Dance and Somatic Practices, co-founder and on editorial board of International Journal of Screendance, Guest Editor (with **deLahunta**) International Journal of Performing Arts and Digital Media. **Mottram**: editorial board for the Journal of Visual Art Practice, the Journal of Textile Design Research and Practice, and the Journal of the Association Internationale de Couleur (JAIC). **Roworth-Stokes** and **Tovey**: editorial board of Design Studies. **Woolley**: editorial boards of the Craft Research Journal and Journal of Writing in Creative Practice. **Evans M.**: Associate Editor of the Theatre Dance and Performance Training Journal. **Evans A.**: editorial board of the Journal of Gender Studies.

Examination of Doctorates includes **Mottram**: Macquarie University, University of Technology Sydney; **Woodcock**: RCA; **Woolley**: Hong Kong Polytechnic University, RCA, Delft School of Design, and Kolding School of Design Denmark; **Hall**: National University of Singapore, Southern Cross University, Australia.

Conferences organised includes **Herbrechter**: Organiser 'Constructions of the Future – Life Beyond Disciplines' 2011. **Whatley**: Organiser 'Digital Archives of the Dance' (HEA), 2010; 'Digital Echoes', 2011, 2012, 2013; 'International Conference of Dance and Somatic Practices', 2011, 2013; 'Dance Transformations' 2011, 'Beyond Copyright; Dance and Law', 2011; Committees: ECLAP (e-Library for Performing Arts) CIP-ICT-PSP Best Practice Network project, 2012, 2013; Transmedia Knowledge Bases for Contemporary Dance, 2013. **Mottram**: Technical Committee: AIC 2013; MIC 2013; IFFTI 2007-12; DRS 2006. **Journeaux**: Co-organiser of GLAD conference 2009. **Roworth-Stokes**: Committee Bangkok 2012 DRS, DRS Experiential Knowledge SIG 2009.

Refereeing Research Proposals in addition to AHRC: ESRC research proposals and research reports (**Gardner**), South African Research Funding Council and Hong Kong Government (**Savin-Baden**); and ESRC Peer Review (**Nesi**, **Savin-Baden**), EPSRC and Transport Research Laboratory (**Stedmon**).

Reviewing for Publications has a similarly wide spread, from Studies in Higher Education, Higher Education, Qualitative Research, Psychology Learning and Teaching, IETI and ALT-J (**Savin-Baden**) to Design Issues, and the Craft Research Journal (**Woolley**).

HEI Consultancies: the Unit's members have been external assessors for many international senior appointments. **Mottram**: Bilkent University Turkey, 2012. **Hall**: University of California (2010), Indiana University (2009) and University of New South Wales (2008). **Woolley**: advisory positions at: Hong Kong PolyU, National University of Singapore and Aalto University Helsinki.

Awards, Keynotes, Lectures and/or Performances **Woodcock**: Keynote, Bali (2010), International Seminar Series Ergonomics - EAFIT, Colombia (2011), NUST, China (2009).

Woolley: Keynote, Danish Centre for Design Research (2011) and keynote Crafticulation & Education Congress, University of Helsinki (2008). Scholarly awards include **Herbrechter**: DFG 'Mercator' Visiting Professorship at the Universität Heidelberg, 2010-11. **Hall**: Visiting Fellow, Centre for Research in the Arts, Social Sciences and Humanities, University of Cambridge 2010.

Savin-Baden: Routledge Author of the Month May 2011 and extraordinary professor at Stellenbosch University. **Williams** currently shortlisted for United Kingdom British Composer Awards 2013, composer of the year (Sonic Arts).