

Institution: Wales Institute of Research in Art & Design (Cardiff Met, USW and UWTSD)
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Unit of Assessment: 34

a. Overview

The Wales Institute for Research in Art & Design (WIRAD) was established in 2007 as a strategic response to developing the research infrastructure in a challenging HE environment. Comprised of seven Welsh centres of Art & Design in four institutions, WIRAD coheres what was previously a proliferation of small, geographically dispersed groups of art and design researchers. It is managed by a Board with equal representation and rotational Chair and Vice Chairs.

b. Research Strategy

In 2008 the panel recognised the quality of WIRAD's research, grading 75% as *World Leading or Internationally Excellent*. Since then, WIRAD has expanded, consolidated and matured, making significant progress against its original aims. Some of those outlined in 2008 are ongoing concerns, such as developing an internationally recognised presence or attracting strategic external funding. The key strategic aims for what was then a new institute were (i) pan-Wales membership, (ii) to enable critical mass and (iii) to develop into a sustainable, membership organisation, have been largely achieved: In 2008 WIRAD was comprised of two colleges of the University of Wales. Since then the Welsh HE landscape has been transformed and Wales will shortly have eight universities as opposed to the twelve of 2008. All Welsh universities with substantial Art & Design profiles are members of WIRAD and the institute brings together over **90** researchers from three universities. Membership is a formal process and members pay fees. WIRAD has its own budget and runs events including staff development training, public talks, exhibitions and symposia. Students and staff reap the benefits of both worlds: they are based in independent institutions but part of a wider, broader practice and research community with access to facilities, staff and events in other HEIs and the National Museums. Since 2008 WIRAD has offered **114** research seminars open to all partners and **17** public lectures. Research Degree Awarding Powers, another key objective of 2008 are now held by all members. The Research Degree structure has also progressed: The Vitae framework and formal PDPs have been universally implemented and formal registers of suitably qualified Supervisors and Directors of Study are maintained by all. WIRAD has **60** registered A&D research supervisors. MPhils and PhDs are offered across the full range of the portfolio and **102** candidates are currently enrolled in WIRAD research degrees.

WIRAD's near universal representation of Welsh Art & Design research positions it well for the next phase of strategic development. Its continued goal is the development of research at the highest levels of significance, quality and rigour. The 2014 – 2019 strategy will consolidate WIRAD as a sustainable base for Welsh Art & Design research, focussing on five strands: **People; Impact; Strategic external funding; Policy influence** and **Collaboration**.

- **People:** The next five years will see an increasingly centralised organisational and funded approach under the leadership of Cazeaux. All WIRAD's emerging researchers will have access to mentors across institutions and central WIRAD funds will encourage cross-institutional working at all levels. Staff development for e.g. Art & Design specific research degree supervision or PhD examination will also be increasingly managed centrally by Riley. These will build on successful programmes such as Smith's AHRC funded '*Research Methods for Practice-based Doctorates in Creative Arts*' and the '*Sink or Swim?*' residential seminar for early career researchers.
- **Impact:** Applied research centres such as the National Centre for Product Design & Development Research (PDR) and Creative Industries Research and Innovation Centre (CIRIC) were developed specifically for impact. They nurture and evidence impactful research as a matter of course and will continue to in the next period. Art & Craft based research is more problematic: Impact's long gestation and relatively recent arrival as an assessed factor has so far made evidencing it in these areas difficult. A key challenge for WIRAD will therefore be 'designing in' both Impact and its evidence collection for these areas. One strategy involves actively nurturing cross-disciplinary, practice-based research with impact evidence potential,

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e.g. Ingham's interdisciplinary public collaboration, *Pollinator Frocks* with Swansea University's Welsh Centre for Printing and Coating, and the National Botanical Gardens of Wales.

- **Funding:** In 2011 a Capacity Building Block Grant award was used on cross institutionally relevant PhD and Masters scholarships. Since then WIRAD has broadened its membership significantly and so a key strategic aim for the 2014 – 2019 period will be the achievement of a single AHRC Art & Design Block Grant for the whole of Wales. The Board has appointed Gill to the role of Funding Coordinator, leading a group charged with formulating a pan-WIRAD funding strategy. There will be two distinct strands: 1. *Building WIRAD for Wales:* In order to develop WIRAD as a social, cultural and financial resource for Wales the institute will focus on potential Wales-specific support mechanisms to build capacity. These will include HEFCW funding, ERDF and ESF Convergence monies (the next tranche of which runs from 2014 - 2021). 2. *Funding from cherished sources:* An AHRC Block Grant is mentioned above but a key strategy will be accessing the other research councils. Although WIRAD itself has a wholly Welsh wholly Art & Design membership, its outlook is international and trans-disciplinary. Research Council, EC Horizon 2020, Leverhulme, Wellcome Trust, TSB etc. requires world class collaborations and the current UK focus on STEM subjects makes working with science and engineering researchers (the so called 'STEAM' model) a key strategy. The less STEM focussed European funding mechanisms such as Horizon 2020 may offer good opportunities for other types of partnerships, particularly for WIRAD's more applied subjects such as design and this will be another key focus.
- **Policy influence:** WIRAD enjoys three advantages over most Art & Design research groups in this aspect: 1. it represents a near pan-Wales research base; 2. Welsh Government makes itself accessible; 3. it has a strong record of influencing Welsh and European government (see Design Policy REF3b). Under the leadership of Cawood, WIRAD will build capacity further to ensure delivery of social and economic benefits to Wales and beyond.
- **Collaboration:** WIRAD is collaborative by nature, with funding used to promote collaborative and interdisciplinarity practice as often as possible. Its use of the AHRC Capacity Building Block Grant is a good example: Each studentship has discipline relevance to at least two WIRAD partners, and so all WIRAD partners have a stake in the programme, including National Museum Wales (NMW). Another example is *Experiential Research Atelier's* (ERA) research into methods of depicting visual experience. ERA's head is a Cardiff Met Prof. (Pepperell) funded to work with Plummer (UWTSD) and Thornton (NMW) on research exploring the contribution of 20thC British artists to our understanding of visual perception. The project culminated in a symposium at NMW with an invited speaker from the Tate. A bid was subsequently submitted to the Paul Mellon Foundation to develop the project with the Slade School of Art and the University College, London Art Collection. For further collaborations *outside* WIRAD, see (e.) below.

c. People, including:**I. Staffing strategy and staff development**

Most of WIRAD's research is cohered around centres, groups and atelier style studios aligned to the five research themes mentioned above. This clustering provides mentorship and integration into active research environments for emerging researchers, project management experience for mid-career researchers and support for senior researchers. Early career researchers not aligned to a research group are assigned mentors. Staff needs and development opportunities are monitored through annual performance reviews. These include personal research plans aligned to the corporate strategic goals that are agreed and later evaluated. Time given over to research varies within WIRAD: PDR research staff hold 'research only' contracts. Cardiff School of Art & Design (CSAD) aims to limit research active staff teaching to around 350 hours p/a maximum during the next period. Research active staff at UWTSD have a maximum of 450 hours p/a. During the period staff at USW were able to devote 30% of their contractual hours to recognised research activity.

Career Progression: New staff at Senior Lecturer level are expected to have a research track record with one criterion being whether they are likely to be returnable in a future REF. Lecturer level appointees and existing staff are given the opportunity to become research active (see below)

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and staff without a doctorate can enrol without charge. Experienced researchers have the option of a doctorate by publication (e.g. Gill, Keay-Bright, Pepperell, Sear (all 2009)). Appropriately qualified academics can apply to supervise research degrees and **21** have become registered Directors of Studies and Supervisors since 2008. There are clear lines of promotion to Reader and Professor. **13** Professorial appointments were made in the period (Atkins, Cazeaux, Davies, Donne, Ferry, Jones, Gill, Ingham, Morris, Penaluna, Pepperell, Riley, Walker). There were also **seven** Readerships (Houtman, Ingham, Keay-Bright, Russell, Sear, Treadaway, Walters), **four** Visiting Professorships (Dix, Parks, Eskildsen, McCann), **one** Honorary and **three** Emeritus Professorships awarded.

Nurturing Research: WIRAD's success in supporting research is evidenced by a measurable increase in research activity. In CSAD alone the number of research active staff has risen from **36%** in 2008 to **67%** in 2013 and **33** staff across WIRAD are currently enrolled as PhD students. Support for emerging researchers is offered throughout WIRAD. For example the 'DevR' fund at USW awarded up to £5K and the Research Investment Scheme both of which gave preference to applications from emerging researchers or for interdisciplinary research. UWTSO support staff research proposals for up to £4K and CSAD offers guaranteed financial support and a bespoke two-day residential course at the Missenden Centre (2008, 2009, 2010) with the course itself open to WIRAD members. Other support includes the WIRAD Emerging Researcher symposia (2009, 2012) or events such as the *Practice Makes Perfect* conference (2012) or *WIRAD Grade: Exhibition and Symposium* (2012). Individual institutions offer a suite of in-house research training programmes, including: *Developing Funding Applications*; *Project Management*, *Enterprise* (including impact); *Ethics and Research Supervision*. These are complemented by bespoke WIRAD research training in the form of specialist residential workshops (2008, 2009) and symposia (2008, 2009, 2010, 2011, 2012). Staff are encouraged to attend specialist events hosted by other organisations, such as the 'Welsh Crucible' (a programme for early- to mid-career researchers at Welsh universities) and to work outside Higher Education. WIRAD offers cross-institutional supervision without charge and shares best practice e.g. through residential Research Supervisor training sessions (2008, 2009), cross-WIRAD events such as *Super Vision: Insight and Interaction in Graduate Art and Design Research* (2011) and institutional training for Research Supervisors on supervision, examining PhDs and chairing exam boards.

Sabbaticals: Options for research leave and research sabbaticals are provided at individual institutional level. *Extend Research Leave* programmes provided grants for six-months teaching replacement at USW and Cardiff Met; **five** awards were made to WIRAD staff: (Bobby, Canavan, Lee, Little, Pickles). UWTSO staff have the opportunity to apply for a Semester Two sabbatical.

Equal Opportunities: All WIRAD members are equal opportunities employers with *Investors In People* accreditation. They also serve their local communities e.g. by working with *Objective One* and *Community First* areas (e.g. all CIRIC researchers, Mayo), and with organisations providing support for excluded or vulnerable groups (Ayisi, Keay-Bright, Morris, Treadaway) as well as other third sector organisations (Gill, Loudon, Riley).

Engagements outside academia: One of WIRAD's primary functions is to facilitate exchanges with industry and public sector bodies. NMW are full WIRAD members, and HEI staff at all levels are encouraged to engage with third parties and use their research to drive enterprise activities. Since 2008 **91** have been awarded HEFCW Strategic Insight Programme (SiP) funds for placements with public, private and third sector organisations. Consultancy activities range from major: (e.g. with a turnover of **£3.2 million** in the period, PDR have provided consultancy for **84 hospitals** and **607** unique businesses including **Ericsson**, **Bosch**, and **Siemens**) to minor: (e.g. Moving Image Wales has worked with NMW to develop 3D display methods for History of Welsh Animation exhibitions at National Museum of Cardiff and the National Waterfront Museum, Swansea). **11** KTPs have successfully been completed since 2008 and other Knowledge Transfer schemes such as KESS and POWIS have supported **18** PhD scholarships in collaboration with industry partners based in the Convergence area of Wales. Individual institutions have also provided research studentships, for example, Research Innovation Awards at Cardiff Met that encouraged engagement with external partners.

Contribution of post-doctoral researchers: Post doctorate researchers have made important contributions to WIRAD's research environment. E.g. Culverhouse brought his research into PDR's commercial operations using techniques and skills developed during his PhD to deliver numerous professional design outputs. When he moved to a different consultancy, PDR took on another Research Student nearing completion of a WIRAD PhD (Andrews) to implement the results of her research and expand on Culverhouse's work. Green, Monahan and Bartussek are due to complete their theses in 2013; they have already been employed in WIRAD as Lecturers in Fine Art and Photography where they now deliver their research to undergraduates. Dorrington was employed from Cardiff University while in the latter stages of his PhD to manage the Medical Applications Knowledge Transfer Centre. Wilkinson gained a PhD from Cambridge in 2012 and now works closely with PDR's commercial UCD professionals, extracting applied research themes to inform UCD theory through empirical research. McLaughlin is in the closing stages of her PhD on the use of video in professional practice and is now an RA in CARIAD where she is using digital media both to inform and disseminate the work of the centre. Woolley completed his PhD in 2009 and was paid with L&T funding to develop an electronic device partly based on his research as the heart of a toolkit for designing computer-embedded products by students, researchers and industry. Lastly, USW Leverhulme post-Doctoral fellows Longhurst and Simon have been involved in developing the research culture in Photography to beyond Doctoral level.

c. II. Research students

Research student integration: WIRAD research students are based in shared office spaces within their 'home' institutions to promote cross-disciplinary exchange and support across the research student network. They are members of focussed research groups through the affiliations of their supervision team. Research students are represented at all levels in WIRAD institutions, and have their own committees which reports to and is funded by university level Research Degrees Committees. Many WIRAD Research Students contribute to taught programmes. They are eligible to apply for formal tutoring or technician roles that, after training allows them up to six hours of paid lecturing per week. **14** WIRAD PhD students currently contribute to taught programmes. AHRC-funded training workshops provide opportunities to develop cross-institutional networks beyond WIRAD. Research students are also encouraged to present their research and receive funding for conference attendance and other development activities both from within WIRAD institutions and from external funds, such as the *Santander Mobility Award* scheme. WIRAD seminar programmes such as CSAD's SU bar-based evening seminar series, UWTSO Faculty of Applied Design & Engineering's Post-Graduate Forum events, or USW's Floc Gallery seminar series help them prepare for participation in international conferences and exhibitions linked to research. WIRAD students have achieved notable successes at these, e.g. Moorhouse's PhD ceramics pieces won first prize in the Vessel / Form / Décor category at the *Westerwald Ceramics of Europe* exhibition in 2009.

Research student recruitment: WIRAD research student numbers have **tripled** since 2008. This is partly due to expansion, but even a like-for-like comparison including 2008 PhDs levels at Swansea Met shows **100%** growth. This was partly fuelled by funding successes: These included two open competition AHRC studentships, an ESRC NDA bursary and the AHRC Capacity Building Block Grant Partnership. Opportunities for Research Students to engage with industry and third sector bodies have also been created through the above mentioned KESS and POWIS funded studentships (see above) with e.g. Coastal Housing Group, Orangebox and Peepo GPS.

Equal opportunities for research students: WIRAD does not discriminate on disability, race, age, gender or any other grounds. PhD through part-time study options are available at all institutions. Cardiff Met's Professional Doctorate promotes Widening Access by enabling doctorate level study in the workplace and USW's Research Investment Scheme includes a work-based research strand available to part-time students based in their place of employment. Formal procedures for changing from full-time to part-time study (or vice-versa) allow flexibility should circumstances change. The Widening Access agenda is also served by **24** institutional research degree bursaries and **four** CSAD fees bursaries from which WIRAD students have benefitted.

Monitoring and Support: WIRAD has had **38** research degree completions in the period, a **19%** like for like increase since 2008. This is partly due to good monitoring which starts at induction with a formal training needs assessment. Research Degree Proposals are approved within 3-6 months (FTE) and supervisors meet candidates at regular intervals. Most students are enrolled as MPhil/PhD and require a transfer viva, the panel for which includes a member external to the supervisory team. Annual monitoring reports summarise progress and identify milestones for the following year. They are signed by student and supervisors, and include a confidential section for the student to raise concerns directly with the university. Compulsory PDPs are used to self-monitor progress and identify needs. When a student nears completion the examination board is approved at School and Institutional level to ensure quality and ethics standards.

Skills development programmes in WIRAD are based around the Vitae 'Researcher Development Framework'. **98** research events were held in the period, and research students are strongly encouraged to present work in progress at these to develop writing and presentation skills. WIRAD researchers access training across the consortium, with partners contributing to a collaboratively designed and delivered 'Effective Researcher' programme and other regional events with Cardiff University. Subject-specific skills training includes formally accredited programmes of skills development (PG level Certificates in Research Skills). Where additional training needs are identified, individual institutions respond. E.g. Cardiff Met delivered a training session that paired Research Students with journalists to help develop writing skills. With Board encouragement and funding students have also take their own lead, for example with their 2008 WIRAD research poster competition or the student-led public talks programme at the 2011 Cardiff Design Festival. Students and early career staff both also particularly benefit from the WIRAD funded and organised Emerging Researchers symposia (2009 & 2012).

d. Income, infrastructure and facilities

Research Income: In addition to a series of **nine** Research Council grants won in the period totalling **£822K** outlined in the REF4a, WIRAD also received a Capacity Building Collaborative Block Grant from the AHRC of **£103K** (2011 - 2015) a **TSB/EPSRC**-funded collaboration between PDR and *Renishaw* PLC (total value just under **£1 million** (start date November '13)). The project will research the translation of medical imaging data into Computer Aided Design data for the digital manufacture of medical implants and devices. The TSB also awarded **£31K EcoDesign Wales** for a project starting in December 2013. More than **£1.8 million** in European funding was won in the period. The major components include a multi-million grant for UWTSD and Cardiff Met's *Institute of Sustainable Design*, which supports industry-based research. Academics for Business A4B funds for **three** Knowledge Transfer Centres funding at PDR and a 2011 IP award for Pepperell account for the remainder. The *Central European Initiative's* Knowhow Exchange Programme awarded UWTSD, Cardiff Met and USW a **£149K** grant for the *Design for Successful Ageing* programme which shares of information between academics, business and clinicians to provide design solutions for assisted living. In 2008 Ingham won a **£29K Wellcome Trust Arts Award** for the exhibition and publication *Narrative Remains* in collaboration with the Hunterian Museum at the Royal College of Surgeons, London. In 2012 the Creative Industries Research and Innovation Centre (CIRIC) at UWTSD won a *Welsh European Funding Office* grant of **£299K** for the Advanced Communication Technologies (ACT) project which offers Knowledge Transfer to support businesses wishing to adopt internet related business models and associated ICT. The *Cerebra Innovation Centre* (CIC) is a Knowledge Transfer Collaboration between UWTSD and *Cerebra*, a UK wide charity for brain injured children. *Cerebra* have contributed **£188K** sponsorship to the Centre which develops unique equipment for disabled children. Keay-Bright's *Somantics* project benefitted from an award from the *Higher Education Academy, Business Innovation and Skills, Technology Strategy Board TechDis and the Small Business Research Initiative*. Together these totalled **£60K** in the period. *Somantics* researches how to promote greater self-awareness, confidence and independence through a suite of applications that encourage, capture and amplify the interests of young people with Autistic Spectrum Conditions.

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Other funds that do not appear in the REF4b data include: PDR's receipt of a little less than **£1m** funding from industry and health board sponsored research. WIRAD also won **124 other** awards for smaller amounts with a combined value of over **£1.5m**. They include **£600K** for **11 ESF-funded Knowledge Economy Skills Scholarships (KESS)** and **£595K** for **seven ERDF-funded Prince of Wales Innovation Scholarships (PoWIS)** were also awarded. Both funds support Knowledge Transfer and include contributions from the commercial partner. **£227K** was won from HEFCW for **Strategic Insight Programmes (SiPs)** which enabled WIRAD staff to share their research with industry and public sector organisations. SiPs have supported collaborations with e.g. Omlet (Johnstone), Frontier Medical Group (Gordon), National Trust (Waddeston Manor, Lawrence), Autism Cymru (Keay-Bright) and Keep Wales Tidy (Moseley). Awards won by individuals include **nine Arts Council, Wales Creative Wales Awards (£161K)** to established artists for research and informing their work without the need for defined outcomes, Davies' **Colwinston Trust** award of **£19K** to support his solo *Year to Heaven* exhibition (2010) and **Leverhulme Trust** Artist in Residence funding of **£14K** for Webster (2012-13). Lastly Keay-Bright also won an additional **£20K** from the Rayne Foundation and *Rhondda Cynon Taf* County Council in November 2013.

Scholarly support infrastructure: The scholarly infrastructure surrounding practice-based research requires making facilities. Investment in the period has focussed on digital fabrication, including Wales' first MIT accredited Fab Lab in a purpose-built facility. Digital equipment investments totalling **£823K** include large scale CNC in the form of a 2400mm X 1200mm bed machine in CSAD, a **£150K** water jet cutter in UWTS'D's Faculty of Art & Design, a RED One Camera, a stereo shooting rig, **two** laser cutters and **one** A0 digital textiles printer, **two** CNC machines, **one** 3D Scanner and **nine** 3D printers. Archives are another important resource: CSAD's Ceramics Archive houses **1,658** ceramics records including practitioner interview videos and show, festival and symposia catalogues. In 2010 it moved to a permanent home in Cardiff Met's library and became fully available as reference material to staff, students and the general public. Metadata records are in the Cardiff Met repository and the digitisation of the archive to make full records available online is being piloted. Other developments include plans to link the Cardiff Met archive with Aberystwyth's ceramics archive and, in 2014, to make the *Rackham Collection* publically available via Cardiff Met's library for the first time. CSAD is also home to the world's first international peer reviewed journal on Ceramics: *Interpreting Ceramics (IC)*. IC is a collaboration between CSAD, Aberystwyth, Bath Spa and NMW. Talks are underway aimed at broadening the scope to include Glass in recognition of WIRAD's interests in that area via UWTS'D.

Supporting operational infrastructure: WIRAD is managed by a Board with equal representation and rotational Chair (Hanton) and Vice Chair (Mulholland) positions. An Operational Committee, chaired by Gill deals with operations and oversees the work of various sub groups, e.g. Emerging Researcher Support (led by Cazeaux) and staff development (led by Riley and Smith). Research and Enterprise Units in each HEI provide support, with WIRAD providing Art & Design specific supplemental training. WIRAD's growth and skills mix, together with the natural progression of knowledge and researchers' interests in new fields has meant a restructure: In 2008 there were four research clusters, now there are five: *Pedagogical Research; Film, Photography and Digital Media; Applied Arts; Applied Design Research; Fine Art and Performance* and *Design Policy*. A total of **28** research groups sit within these clusters, nearly double the fifteen presented in 2008. All the units within WIRAD's HEI partners have Directors of Research except USW which is in the process of establishing a separate Research Institute. The pre-merger Research Leader was Atkins who has since been promoted. Research Directors are backed by administrators and facilitators. Where possible, individual researchers are backed by RAs and ROs.

WIRAD's HEI partners have invested **£57 million** in Art and Design facilities in the period, all with dedicated research facilities. A brand new **£14 million** building at Cardiff Met will open in December 2013. In 2011, USW's Newport City campus represented a **£35 million** investment in a city centre location for Arts and Business. With research facilities at its core, it complements the graduate facilities at their Caerleon and Treforest campuses. Meanwhile UWTS'D has invested **£8 million** in a city centre site for the Institute for Sustainable Design and the Architectural Glass Centre. Housed in Swansea's historic former Central Library building the new institute will focus on applied research, enterprise and spinout activities.

Balance of scholarly, operational and organisational infrastructures: The operational structures above have one function: support research at all levels and encourage an inclusive approach that leads to research-informed teaching and impact. Research is driven by interest, passion and skill sets, as WIRAD members believe this delivers better research. Operational structures are designed to optimise effort: larger cross-institutional training programmes, funding initiatives and support structures are efficient which means WIRAD's best researchers have more time for research and more funding support. The research clusters and groups described above were developed in consultation with researchers to provide informal support at all levels without a large and overly cumbersome bureaucracy overseeing activities.

e. Collaboration and contribution to the discipline or research base

WIRAD supports a range of collaborations and networks, encouraging cross-institutional or cross-disciplinary activity. As much of WIRAD's research is cohered around research groups and centres, so too is WIRAD's extended research network. Below are selected examples of collaborative relationships, illustrating the varied interests and contributions made by WIRAD academics to wider subject areas. The examples below are not exhaustive, but representative of WIRAD, including activities by staff not included elsewhere in this submission:

- The *Centre for Lens Arts and Science Interventions* (CLASI) researches at the intersection of art and science in collaboration with medical professionals. Projects include **Aldworth's** *Scribing the Soul* with neuroscientist Le Beau of Newcastle, and **Ingham's** *Between: Embodiment and Identity* project & exhibition with UCL's Francis Galton Collection and Cardiff's Neuroscience Research Group.
- The *Centre for Applied Research in Inclusive Arts and Design* (CARIAD) is a multidisciplinary group addressing complex challenges faced by vulnerable individuals. The group works with Birmingham, Glasgow, Liverpool, Southampton and Strathclyde, charities, community groups and with end users in care homes, schools and colleges. E.g.: **Treadaway** and **Thimbley's** OPAN project investigated whether new technologies and smart materials can improve quality of life by extending creative playful activity for older people.
- The *European Centre for Photographic Research* (eCPR) (**Roberts** and **Finnemore**) are working in collaboration with the National Library of Wales and National Museums and Galleries of Wales. Using the *Mass Observation Archive*, they have begun to develop a new field of research into the role of photography in social archives. Outcomes include the *Silent Village* (2008) exhibition.
- **Kontogeorgakopolus** and **Kotsifa** are early career researchers involved with *ERASITECHNIS*, a new, EU funded network (2013) researching increased access to digital creativity and led by *Association pour La Création et la Recherche sur les Outils d'Expression* (France) with partners in Spain, Greece and Germany.

Other notable subject collaborations include: *Botany*: National Botanic Gardens, Wales (Liggins, Ingham, Hunt); *Computing*: Birmingham, Lancaster, Bangor (**Gill, Hare, Loudon**) and Sheffield Hallam (**Stitt**); *Engineering*: Cardiff (**Walters**), Swansea (**Ingham**); *Medicine*: Loughborough (**Eggbeer**), Cardiff (**Gill, Loudon**) Royal College of Surgeons (**Ingham**); *Music*: Stanford (**Kontogeorgakopolous**), Goldsmiths (**Lovett**), Bath Spa (**Piggott**); *Psychology*: Bamberg, Leuven and Sassari (**Pepperell**), RCA, UCL, Swansea and Middlesex (**Riley**); *Social Science*: (Morris), Birmingham, Dundee, Strathclyde, Sussex, Birbeck, Edinburgh, Heriot Watt, Southampton, UCL, Swansea (**Keay-Bright**); Birmingham City, Strathclyde, Glasgow and Liverpool (**Treadaway**) and *Theatre*: National Theatre Wales (**Constantas, Sullivan**), New York University Tisch School of the Arts (**Smith, A**).

Advisory panels and boards: **Treadaway** was consultant on the AHRC's *Development National Peer Review College 2012* strategy while **Kavanagh** was appointed to the Research Council, Norway (2013). Other notable roles include **Treadaway's** consultation on the UK Craft Council strategy 2009 – 2012 and **Ayscough, Curneen, Murphy, Gegenwart**, and **Fyfe** who are national advisors for the Arts Council of Wales. Six WIRAD staff have peer reviewed for RCUK: **Durden, Gill, Pepperell, Riley, Treadaway** and **Walters** on AHRC's Peer Review College while **Walters** is

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also on the EPSRC PRC. **Durden** and **Gill** also served as AHRC Knowledge Transfer peer reviewers. **Eggbeer** reviewed for Portugal's Foundation for Science and Technology and **Smith** acted as a grant proposal reviewer for the Social Science Research Council of Canada in 2008.

Subject Associations and learned societies: **Cazeaux** has been a Society for European Philosophy's Executive Committee member since 2008, **Jones** has been Archivist for the National Association for Ceramics in Higher Education since 2002, **Littlewood** is a founding member of the Chartered Institute of Architectural Technologists (CIAT) Research Committee and **Riley** is a member of the steering committee for the National Association of Fine Art Education (NAHE). **Burgan** is a member of the NAHE National Executive, and Newport Film School representative at *Centre International de Liaison des Ecoles de Cinéma et de Télévision*.

Ayisi was a jury member for **five** film festivals during the period, including the *International Documentary Festival Madrid*, *Kenyan International film festival*, Nairobi and *One World Broadcasting Trust 'Television Awards'*, London. **Davies** is on the Board of *Artes Mundi*, the biennial international exhibition and prize, and **Jones** was a judge for the Zelli International Porcelain Award and National Craft Competition for The Crafts Council of Ireland, 2009.

WIRAD researchers externally examined **45** Art & Design doctoral theses in the period. Examples include Brighton (**Littlewood**, 2009), Edinburgh (**Atkins**, 2010), Royal College of Art (**Kavanagh**, 2011), Cambridge, (**Gill**, 2012), City University of New York (**Roberts**, 2011), Glasgow School of Art, (**Treadaway**, 2012) Loughborough (**Eggbeer**, 2010, 2013) and TU Denmark (**Smith**, 2012).

International journal editorial board activity includes *Games & Culture* (**Atkins**), *Photography & Culture* (**Durden**), *Journal of Visual Arts Practice* (**Cazeaux**) *Interpreting Ceramics* (**Jones**), *Journal of Assistive Technologies* (**Keay-Bright** 2008-10), *International Journal of Sustainability in Energy and Buildings* (**Littlewood**), *Journal of Art and Perception* (**Pepperell**), *AI & Society* (**Smith**) and *History of Photography* (**Walker**). Guest-editorships include *International Journal of Computer-Aided Civil and Infrastructure Engineering* (**Counsell** 2011), *Interacting with Computers* (**Gill** 2008) and *Journal of Visual Arts Practice* (**Riley** 2012).

Keynote and plenary lectures/presentations include **Littlewood**: *4th International Conference on Sustainability in Energy and in Buildings* 2011, **Keay-Bright**: *National Autistic Society Professional Conference* 2011 and *Inclusion and Personalised Learning with Interactive Whiteboard Technology*, 2009 and **Cazeaux**: *Metaphor Festival*, University of Stockholm 2010. Invited talks have been delivered at the University of Turin, (**Cazeaux** 2010).

Journal reviewing includes *Kantian Review* (**Cazeaux** 2011), *Information & Management*, *The International Journal of Information Systems Applications* (**Dorrington** 2013) *Rapid Prototyping Journal* (**Eggbeer** 2012-2013) *Interacting with Computers*, (**Gill** 2008-, **Treadaway** 2009-), *Design Journal*, (**Gill** 2009-, **Loudon** 2010-), *Arts and Humanities in Higher Education* (**Riley** 2012), *International Journal of Innovation and Technology Management* (**Millward** 2012-2013), *The Computer Journal* (**Treadaway** 2008) and *Leonardo* (**Treadaway** 2009).

Prizes and Fellowships: In 2010 **Mayo** was awarded the Jorum Prize for Innovations in Open Access Learning and Teaching Resources for her use of film for teaching art practice. **PDR** won **seven** international awards in the period, including the 2010 iF Product Design Award, and a Red Dot Design Award for Safeceps: Obstetric forceps designed to prevent injury to babies' skulls. **Keay-Bright** received best paper awards at the *2nd International Design Conference on Principles and Practices Conference* (2008) and *Include 2011*. In 2009, **Jones** won a Henry Moore Fellowship to explore the relationship between ceramics and sculpture. **Shail** holds a Leverhulme Research Fellowship (2012) to investigate the work of the Children's Film and Television Foundation. **Webster** was appointed a Leverhulme Artist in Residence at the School of Geography and the Environment, University of Exeter (2012-13) while USW attracted funding from Leverhulme and *Politécnico do Porto* to support four research fellowships in the eCPR.