

Institution: De Montfort University
Unit of Assessment: 32
1. Unit context and structure, research and impact strategy 1.1 CONTEXT AND STRUCTURE Research in UOA 32 at DMU is primarily centred within the Faculty of Arts, Design and Humanities (ADH) where it sits across the three constituent schools: Art, Design and Architecture; Fashion and Textiles; and Humanities and Performing Arts. However, as a consequence of its highly multidisciplinary nature, this Unit also has research members in DMU's Faculty of Computing, Engineering and Media, its Institute of Creative Technologies, and collaborates frequently with the Leicester Media School. In line with the University's research strategy, equality, diversity and inclusivity considerations have driven the appointment of new staff, and the recruitment and development of early career researchers (ECRs) has been prioritised. Research in the Unit falls into two broad areas, Design and Art, each of which includes a number of research groups, centres and clusters, as follows. Design: • The Design Unit Research Group is a highly innovative, design-based research group with a 25-year track record of research-informed New Product Development and design implementation strategies. Directed by Ford for part of the census period, it is now led by Bingham. • The Textile Engineering and Materials (TEAM) Research Group undertakes research in textiles with the overarching goal of improving materials' performance and processing through applied research. Directed by Shen, TEAM includes the Fashion and Textiles research grouping. • The Holographic Research Group (HRG), directed by Richardson, is one of the very few holographic research groups in Europe. HRG produces innovative, world-leading research into holographic imaging materials, methods and applications, including holography as an artistic medium. Art: • The Visual Arts research grouping gathers researchers who undertake practice-based and theoretical research across a broad range of visual media with an emphasis on new art media, curation and co-curation, politics and social justice including ecological issues. • The Photographic History Research Centre (PHRC), directed by Edwards for part of the census period and now by Wilder, is committed to international and interdisciplinary research on cultural histories of photography, extending both the theoretical and historiographical base of photographic history and access to its primary sources. In 2017 research and teaching in all areas of Art, Design and Architecture was moved to the new £46,000,000 Vijay Patel Building – a demonstration of DMU's long-term commitment to research and teaching in Art and Design which further grounds the vitality and sustainability of UOA 32 within the institution (see section 3.2). In 2018, as part of DMU's strategy to consolidate research strengths (see REF5a), a new Institute of Art and Design was created as an umbrella structure with overarching responsibility for the support and strategic direction of research in these areas. The Institute was directed first by Ford, and now by Wilder with Lambourn as Deputy Director. In line with University strategy, since 2018 our research explicitly works towards the United Nations' Sustainable Development Goals (SDGs). The vitality of our research and research infrastructure contribute to DMU's ambition to 'be one of the pre-eminent modern UK universities for excellent and challenging research'. Our submission of 21.4 FTEs underscores the sustainability we have achieved over the last six years (REF 2014, 22.5 FTE) during a challenging HE environment.

1.2 RESEARCH AND IMPACT STRATEGY**Research strategy**

The Unit entered the present census period with a well-embedded and mature research culture including rich networks of collaborations and partnerships in the UK and internationally. Our stated ambition in REF 2014 was to 'deepen and broaden' the scope of our research, and to continue to support a blend of novel/fundamental and applied, impactful research. The last six years have seen significant progress in the reconfiguration of the Unit in order to meet these ends. Our strategy has prioritised:

- strengthening practice-based research and industry collaborations for the design and delivery of new sustainable products and processes in line with the SDGs;
- amplifying the already broad scope of our Visual Arts activity, with a particular focus on pioneering new art media and art, politics and social justice;
- enhancing the development of links between theoretical, empirical and practice-based research across all specialisations; and
- growth of our postgraduate researcher (PGR) community (see section 2.2).

Research in New Product Development and sustainable technologies, prominent in REF 2014 through Product Design (Design Unit), has been strengthened by the integration into the Institute of research groups in Holography and Textile Engineering. Submitted in the previous census under Engineering, research in TEAM finds a natural place alongside Product Design and within our growing activity in fashion and textiles research which was consolidated in 2019 in the new School of Fashion and Textiles. Holography, previously submitted as part of Photography and Video Arts Practice, is now a stand-alone Research Group. This new configuration better allows holography's commercial and industrial applications to interface with the industrially focused, applied research of the other Design groups, while still recognising holography's potential as an artistic medium.

Research in Fine Art and Photography and Video has been consolidated under a broader Visual Arts research grouping which also includes artists and theoreticians from DMU's Faculty of Computing, Engineering and Media and its Institute of Creative Technologies. This umbrella structure better represents the diversity of artistic media practice, researched and theorised across DMU and greatly enables communication between practitioners. The Design Unit and PHRC remain substantially unchanged.

Impact strategy

Research in Art and Design aims for a broad range of impact beginning with the academic community, and extending via the commercial, industrial and cultural communities to wider society. During the current census we have developed and supported these activities through:

- our applied research in the design and delivery of new products and industrial processes to industry and consumers contributing to innovation, sustainability and improved health and well-being and aligned with the SDGs (see 'Impacting by Design' Impact Case Study, hereafter ICS);
- renewed emphasis in Art and Photographic History on supporting collaborations with professionals in the arts, in particular with museums and arts venues, and with society more widely. PHRC's work with institutional photographic collections and doctoral training of museum curators and archivists has had a substantial impact on the protection of photographic cultural heritage nationally and internationally (see 'Reframing Photographs' ICS); and
- across both Art and Design, supporting public-facing events (for example, via the new state-of-the-art DMU Gallery in the Vijay Patel Building) and outreach activities that improve creativity and raise aspirations among local communities and schools (details in section 4.2), as well as enhancing access to DMU art.

Impact is supported, developed and tracked by dedicated REF Impact Officers in the Research Services Directorate (RSD) and via central Impact Case Study funding. DMU has invested substantially in software and database solutions to support impact: Vertigo Ventures (VV) Impact Tracker software for the cataloguing and analysis of evidence of impact, and open data repository Figshare. Both are supported by Researcher Development training sessions.

Design: achievement of strategic aims

During the census period the Design Unit, TEAM and Holography have collectively pursued research into industrial and commercial applications of digital design and new technologies, and new sustainable industrial processes and products. The two SDGs for Aspects of Responsible Consumption and Production (SDG 12) and Industry, Innovation and Infrastructure (SDG 9) have underpinned our research in product design and textiles since the early 2000s.

Industrial and commercial applications of digital design and new technologies

The Design Unit has invested heavily in research on the practical application of digital design and manufacturing technologies in industry and SMEs (**Ford, Dean**). This research underpinned the subsequent success of the £4,650,000 collaborative grant Impacting Business by Design (IBbD) award (see section 3.1). Design Unit member **Bingham** has researched the use of additive manufacturing to produce stab-resistant armour. **Dean** led the two-year project 'Precious' (TSB Consortium Project) examining the viability of precious-metal 3D printing within the jewellery industry (2013–2015). In Holography **Richardson** is pioneering the industrial application of holographic optical elements in optical security devices and safety critical items. New work explores the potential of using interactive holographic projection systems for Holographic 3D Tele-presence remote working. A patent was awarded in 2015 (Application Number: D108.042.00) and HRG is developing this further with Holoxica Ltd following receipt of Innovate UK funding (£9,700, 2020–2021). During this census period TEAM has led research into the development of wearable technology for smart textiles, enabling non-contact opto-physiological monitoring, and published in the journal *Biosensors* (2018) (Cotton Incorporated (USA) US\$77,432, 2015–2016; SDG 2: Health and Well-being). ECRs in TEAM's Fashion and Textiles research grouping are developing new research areas in electroforming for textile surface patterning (**Horton**) and textile performance in the healthcare setting (**Davies**).

Sustainable industrial processes and products

Sustainable products and processes form another important vein of research across these three research groups. TEAM has developed several sustainable alternatives to harmful chemicals involved in the preparation, printing, dyeing and finishing of fashion and textiles. Some of the principal methods involve the use of enzymes and biotechnology, lasers and Sol-Gel technology in place of traditional methods. Novel laser-based research was supported by **Shen's** AHRC-funded project (AH/J002666/1) 'Laser Enhanced Biotechnology for Textile Design' (LEBIOTEX, 2012–2015, £234,238). This green technology has received positive appraisal from industry partners for its considerable environmental impact, and new approaches to Design, as evidenced by Innovate UK funding of £164,500 (2014–2015) and AHRC follow-on funding (AH/P014925/1) for the project 'Industrial Exploitation of Laser-Dyeing Processes for Apparel and Furnishing Textiles Markets' (2017–2018, £98,220) with **Shen** as Principal Investigator, in collaboration with Loughborough University's Wolfson School of Mechanical, Electrical and Manufacturing Engineering and international industrial partners. This grant enabled the group to build on the results of the previous study, which had involved the use of CO₂ laser technology to achieve 3D colour and surface patterning effects. The research was disseminated through two book chapters (2019, 2020), a paper in the *Journal of Textile Design and Practice* (2018) and 7 conference papers.

TEAM's novel research into biotechnology and oxidoreductase enzymes has allowed the generation of a full range of colours for textile coloration, resulting in energy and water saving and improved working environments. The research article published in *Coloration Technology* (2018) was the journal's top download that year. The research has generated a further 3 journal articles in the *Journal of Cleaner Production* (2019), *Coloration Technology* (2018) and *International Dyer* (2017) as well as 10 national and international conference papers.

Holography also shows potential for product sustainability with **Richardson's** work on the industrial application of holographic optical elements for resource-efficient lighting design for the lighting industry. **Richardson's** work on holography for remote working has the potential to reduce carbon emissions through the reduction of work-related travel. After the incorporation of TEAM into the newly created School of Fashion and Textiles (2019) a new Fashion and Textiles research grouping within TEAM focuses on the larger context of circular economy sustainability within the fashion and textile industries and on related conceptual frameworks (**Lerpiniere**) (SDG 12: Fashion Recycling and Upcycling). It also works across Product Design with **Sung**.

Research breadth

The Unit continues to support a broad portfolio of design research beyond these two major strands. Researchers have been active in exploring the interfaces between digital technologies, traditional hand-making and art, notably in the areas of metal-based jewellery and tableware (**Gogna, Dean**), architectural woodwork (**Dean, Ford**), lighting (**Dean**) and prosthetics manufacture (**Dean**). **Dean** and **Gogna's** extensive international and national exhibitions (see section 4.2) evidence their status within the design community. **Lee's** theoretical work on the meaning of the handmade in the ages of technological revolution, globalised production and consumption (*Seamlessness: Making and (Un)Knowing in Fashion Practice*, 2016) and on the nature of surfaces (*Surface and Apparition the Immateriality of Modern Surface*, 2020) provides an important theoretical context to our design research.

Over the census period Design researchers across these three groupings have produced over 50 peer-reviewed journal articles and conference papers, 6 book chapters, 1 research monograph (**Lee**), and 1 edited volume (**Lee**). They have had 3 solo exhibitions (**Dean**) and exhibited in 18 group exhibitions (**Gogna, Dean**).

Design: future aims and goals

During the next REF cycle the main aims are:

- 1 to maintain the Unit's blend of fundamental and applied research, in close collaboration with industry partners, with a special focus on sustainable design and the SDGs; and
- 2 to ensure the area's sustainability by supporting external grant applications for new projects and growing opportunities for PhD research.

The current and successful IBbD programme will continue into the next REF period (see section 3.1). The project already allows the Design Unit to facilitate academic collaboration with SMEs in the design aspects of technically challenging New Product Development and so provides a platform to identify new opportunities for applied and industry-relevant research projects while facilitating wider academic engagement.

TEAM expects to consolidate its established activities in core areas concerned with reducing energy, waste and effluent within the textile industry through: (1) studies of enzyme applications in textile processing, (2) innovative and sustainable technologies for textile surface design and patterning, and (3) research into natural fibres (including bast fibres: flax and hemp, wool, cotton). From 2020 TEAM will also consolidate and build upon the specialist research interests of group members in electroforming for textile surface patterning (**Horton**), and textile performance in healthcare settings (**Davies**) and the practical application of these technologies. Work in response to SDG 12: Fashion Recycling and Upcycling is expected to grow, led by **Lerpiniere's** work on the circular economy and sustainability in fashion and **Sung's** research on upcycling in the fashion context.

In Holography, novel research by **Richardson** on Multi-Colour Holographic recording of complex data fields promises applications in state-of-the-art digital holography; and new patents are pending for DMU through Prospect IP. The research takes academic concepts from 'proof of principle' to future industrial mass replication.

Art: achievement of strategic aims

In line with the research strategy aims of REF 2014, during 2014–2020 our objectives were in deepening and broadening our research, especially in relation to pioneering art media and arts,

politics and social justice, and in diversifying gender and ethnic representation among our researchers (see section 2.3). This strategy was supported by the formation of a new Visual Arts research grouping, which includes both the Fine Art and the Photography and Video groups previously submitted to REF 2014 and the foundational research in Computational and Algorithmic Art undertaken by members of the Institute of Creative Technologies. Although functionally separate, the creative holographic practice of Richardson's Holographic Research Group also intersects with this grouping. This new, broader structure strengthens the identity of this area of research within the University and facilitates its support and strategic overview. With 9 researchers (**Brand, Edmonds, Gbadamosi, Meredith-Vula, Pell, Poltronieri, Roberts, Streffen, White**) including three professors (**Edmonds, Meredith-Vula, White**) it equals Design in size.

Visual Arts

During the census period our artists have pursued a broad research agenda encompassing work on new art media, curation as artistic practice and co-curation, and politics and social justice. Research in these areas contributes towards the SDGs for Health and Well-Being (SDG 2), Terrestrial Eco-systems (SDG 15) and Inclusive and Just Societies (SDG 16). During the census period members of the Visual Arts research grouping have held 16 solo exhibitions or installations and over 40 screenings of audiovisual work; they curated more than 10 exhibitions and participated in some 70 group exhibitions, nationally and internationally. Excluding creative written outputs, researchers have published 3 books, 20 chapters in edited books or exhibition catalogues, co-edited two volumes and published 44 journal articles or conference papers.

Pioneering new art media

DMU has a long history of challenging received art practices and media through interdisciplinary approaches. Over the last five decades **Edmonds** (Institute of Creative Technologies) has pioneered the development of, and research into, Computational and Algorithmic Art, a role recognised in 2017 by two Lifetime Achievement Awards and international retrospectives (see section 4.2). With **Streff**'s use of video-sharing platform algorithms to appropriate imagery in digital curation (*Ways of Something*, 2014–2016) and the applied and theoretical research of **Poltronieri** on Creative Coding and Visual Art in the Era of Artificial Intelligence (2019), our research continues to redefine Computational and Algorithmic Art. **Poltronieri** co-curated the pioneering exhibition *Primary Codes* (Oi Futuro Flamengo, Rio de Janeiro, Brazil, 2017) the result of more than three years of investigation into the then largely overlooked history of computer art. Both **Edmonds** and **Poltronieri** have authored foundational texts in this area (see section 4.2).

The integration of **Richardson**'s creative practice in holographic portraiture and 3D Imaging within the Unit brings another important new artistic medium into our portfolio. A hologram of David Bowie and experimental film footage was shown in Berlin at the Haus der Berliner Festspiele (May–June 2020) with a VR version in preparation in the renowned Festspiele-ARTE 'Immersion' series. The recruitment of **Streff** (Vice Chancellor's Lectureship, VC2020, see section 2.1) and **Pell** has added artists whose work consistently challenges the boundaries of art media extending into the use of fiction as a mode of artistic practice (**Streff**, *The Catalogue of Unsatisfied Desires*, 2018), sound (**Pell**, *Bridges*), and modes of digital curation and collaboration (**Streff**, *Ways of Something*, 2014–2016).

Politics and social justice

Politics and a wide variety of topics relating to social justice form an important focus of research. This has been given new prominence since DMU's nomination in 2018 as Global Hub for SDG 16, Peace, Justice and Strong Institutions. The hiring of **Gbadamosi** (solo shows in South Africa: *Cemetery*, 2014–2015; *Negotiation*, 2017; *Ghost, Thieves and Poets*, 2018) directly strengthens this vein of research into race, nationality and belonging. Through written essays and articles **Brand** and **Gbadamosi** explore critical theory on issues of feminism and cultural production within the capitalist system, race and racism. **Meredith-Vula**'s two corpora of photography *Haystacks* and *Blood Memory* focus on regional identity and culturally specific practices of justice in Albania and Kosovo (see '*Blood Memory and Haystacks*' ICS).

The engaged art practice of **White** and **Clarke** further builds into these themes. Clarke has established a long-term working relationship with Fermynwoods Contemporary Art in Northamptonshire producing both commissioned work and workshops for excluded and otherwise disadvantaged school-age children (see section 4.2). White's installations *A Gift for Eleonora* (Basilica de Santa Croce, Florence, 2015, Roman Baths, Bath, 2016 and Chatsworth House, 2016) and *Apothecary's Cabinet II* (Derby Hospital and GPs surgeries, 2016–2019 and DMU The Gallery, 2019–2021) both investigated the cultural value of the arts for health, happiness and well-being.

Curation as artistic practice and co-curation

The recruitment of **Steffen** and **Roberts** (VC2020s) strengthens existing research in curation and co-curation. Projects have addressed a wide range of publics and topics, nationally and internationally. Among them are **Steffen's** series of online exhibitions, co-curated with the &/Or Collective, exploring the reconciliation of the conventional demands of the museum and the academy with digital media (*Command Plus*; *Pacific Binaries*; *Travel Patterns*). The latter was singled out as a case study in Costache and Kunny (eds) *Artists, Academics and Museums: 21st-Century Partnerships* (2019). Curation is central to **Roberts's** interest in the relationships between artist, space and audience as explored through the project *Connect: Katowice-London* (Poland and UK, 2016–2017). In *Xenotopia* (Gibberd Gallery, Harlow, 2015) **Clarke** curated the work of leading printmakers around the topic of psychogeography.

Photographic History Research Centre

PHRC entered the census period in the last stages of **Brown's** AHRC-funded FuzzyPhoto project (AH/J004367/1, £313,756) to develop and test what were then cutting-edge algorithm-based 'finding aids' for online image searches (2012–2014). The project marked the culmination of a period of substantial investment and research into open data projects for photographic primary sources and PHRC continues to host 6 databases central to its field. This foundational research has led to numerous collaborative doctoral and postdoctoral projects involving national institutional archives. The databases have been consulted by millions since their establishment (see 'Reframing Photographs' ICS).

As PHRC has matured, its research has focused around visual anthropology and colonial photography (**Edwards**), the practices of photography within Western science and medicine (**Wilder, Pichel**), photography's business history (**Wilder**), photography's role in social politics and cultural diplomacy (**Pasternak**) and the impact of new forms of image-making and digital heritage on contemporary engagements with the past, notably in museums (**Edwards**) and communities (**Pasternak**). **Pasternak's** growing research profile was recognised by the €569,585 award for Digital Heritage in Cultural Conflicts (DigiCONFLICT; 2018–2021, Pasternak, Project Lead) from the EU's Joint Programming Initiative on Cultural Heritage. DigiCONFLICT contests common convictions about the allegedly universal and democratic nature of digital heritage and the ways in which visual digital heritage reflects and frames given societies and their complex historical and cultural power structures.

Over this census period PHRC researchers have published 14 peer-reviewed journal articles, 9 book chapters, edited 2 special journal issues, produced 5 edited volumes, delivered 41 conference papers and hosted 8 international conferences (for further key textbooks and entries see section 4.2).

Art: future aims and goals

During the next REF cycle, our main aims are:

- 1 to continue and expand our research in pioneering art media and our commitment to researching and creating socially, politically and environmentally engaged art;
- 2 to build on our partnerships with public arts and heritage organisations; and
- 3 to ensure the area's sustainability by supporting external grant applications for new projects and growing opportunities for PhD research.

We have already started making progress with these aims via new and ongoing research projects.

Brand is researching the performance artist Stuart Brisley with a view to producing an exhibition and monograph, and continuing research for a further monograph on the role that the construction of gender has played in the role of capitalism. **Gbadamosi**'s new work focuses on representations and definitions of albinism with the solo show *The King Family and f__k BAME* in planning. Landscape forms an important new area of thematic research including: **Pell**'s *Soundwalks*, a local community co-curation project centred on a local suburban nature reserve, **Steffen**'s *Recuperating the Garden* project which evaluates the garden as a site for audience engagement with planetary politics, and **Clarke**'s work on primal landscapes and the idea of the feral.

In the next cycle the PHRC aims to consolidate its current range of research while also identifying and growing the opportunities for Research Council-funded projects. The Centre sees important opportunities for research on social politics and cultural diplomacy (**Pasternak**), scientific archives (**Wilder**), and medical imaging and ethics (**Pichel**). Besides 'traditional' outputs such as monographs, special issues, edited volumes and articles, it is also interested in exploring applied outputs such as community archives and exhibitions, including transnational tangible and living heritage (**Pasternak**).

2. People

2.1 STAFFING STRATEGY AND STAFF DEVELOPMENT

Staffing strategy

The Unit's commitment to maintaining a vibrant culture of research excellence is underpinned by a strategic approach to new staff appointments. We appoint the best researchers, who can advance our distinctive strengths and make an impact in wider society, with a particular focus, since 2014, on the development and recruitment of ECRs (see REF5a), so that early career lecturers and senior lecturers now make up 52% of the Unit (versus 28% in 2014). To ensure alignment of hires with research strategy, the Director and Deputy Director of the Institute of Art and Design participate in the recruitment process, which is underpinned by equality, diversity and inclusivity considerations, in line with University strategy. This approach has helped us enhance the sustainability and the gender and ethnic diversity of the Unit since 2014 (see section 2.3).

Two University-level schemes, the VC2020 Vice-Chancellor's Lectureships and the Early Career Academic Fellows (ECAFs; see REF5a) have proven especially valuable in recruiting early career staff and supporting their research during their first years by protecting them from a full teaching load and providing access to dedicated research funds (**Lee**, **Pichel**, **Roberts**, **Steffen**, **Sung**). An overall balance is maintained between established research leaders and the new generation through research mentoring and funding for all staff in the Institute.

Bingham was recruited externally in 2018 as the new director of the Design Unit after **Ford**'s departure, with **Sung** (VC2020) bringing new expertise in upcycling and fashion and (ECAF) **Lee** adding theoretical work on globalisation and hand-making. Internal promotion saw **Wilder** appointed Director of PHRC after **Edwards**'s departure in 2016 with new hire **Pichel** (VC2020) expanding research expertise in photographic history to health and well-being. Visual Arts research benefited from two VC2020 hires (**Roberts**, **Steffen**) as well as the recruitment of **Gbadamosi**, **Brand**, **Pell** and **White**. Staff also benefit from DMU's Flexible Working policy (see REF5a) and a clear and transparent progression structure with opportunities for promotion from Lecturer / Senior Lecturer to Associate Professor and Professor. Promotions in the census period include **Pasternak**'s promotion to Associate Professor (Research) and **Meredith-Vula**'s and **Wilder**'s promotions to Professor.

Staff development

Career and research development are managed by a combination of University-wide schemes and Faculty- and Institute-level systems. All new staff members are offered induction training on research infrastructure and processes as well as research mentoring by senior research-active staff. All research-active staff are able to apply for an annual Research and Innovation Allowance (RIA) (see REF5a). Researcher in Training (RIT) allowances are designated for those wishing to begin research activity, for example, in the case of staff entering the university system from industry or staff who have previously been mainly engaged in teaching. UOA 32 applicants

are supported in the process by the Institute Director and Deputy. All holders of RIT allowances are allocated a mentor to support their research goals and aid progression to full RIA allocation. For the academic year 2019–2020 our 21.4 FTE researchers were allocated a total of 9,056 RIA hours, an average of 424 hours/person/year (which equates to just under 1½ days per week), in addition to the 10% scholarship allowance granted to all academic staff.

Research is further supported by Faculty and University Research Leave Schemes which allow for teaching buy-out of one term. Beneficiaries of these schemes during the census period include **Horton**, **Dean**, **Meredith-Vula** and **Pichel**. The Future Research Leaders scheme, from which **Horton** and **Pichel** have benefited, is designed to identify and support exceptional research staff from early to mid-career stage and foster their development (see REF5a). In addition to the staff submitted here under UOA 32, the Institute of Art and Design currently has 13 Researchers-in-Training across subject areas, showing a steady increase in the research community.

2.2 SUPPORT, TRAINING AND SUPERVISION OF PGR STUDENTS

There have been 43 PhD completions since 2014 in Art and Design; this more than doubles the 19 PhDs awarded during the previous census period. There are currently 37 PGR students registered to UOA 32 researchers; 15 members of the Unit are currently supervising doctoral students, with 4 new researchers currently in supervision training.

DMU's central Doctoral College is responsible for the oversight and monitoring of all research students, offering training and administrative support to doctoral programmes. At Faculty level, students benefit from the support of a Faculty Head of Research Students (who also sits on the University's Research Degrees Committee) as well as an Institute Head of Research Students (**Lerpiniere**) who coordinates the PGR cohort and cross-faculty or cross-school supervision. All supervisors are Certificate in Research Supervision-qualified and are offered additional supervision training throughout their careers.

Internal doctoral scholarships and bursaries have been offered in a variety of forms and have supported 9 of the Unit's students in the census period. Students also have access to external scholarships. For example, five PGR students from PHRC have benefited from the AHRC Collaborative Doctoral Award scheme working with the Victoria and Albert Museum (the V&A), The British Library and The Science Museum Group. A Midlands4Cities Creative Economies Postdoctoral Fellowship with the Natural History Museum supported the first overview of their 250,000 strong photographic holdings.

PGR students receive training in generic research skills and in communication skills, teamworking, intellectual property, publishing research findings, employability, career planning and development, and research ethics from the Doctoral College. At Institute level, PGRs receive training in areas appropriate to their area of research, including design skills, practice as research and material culture studies. At the individual level, specialised training is provided through contact with supervisors. PGR students have access to all the infrastructure and technical support set out in section 3.2 (below) in addition to designated PGR study areas in Kimberlin Library and dedicated PGR spaces in the Doctoral College (Gateway House).

PGR students are a fundamental part of our research community; they participate in School-based and Institute-level research events and conferences. PGRs regularly deliver external conference papers, independently or with their supervisors, and are active in co-authoring papers. Holography PGRs and postdocs have been regular attendees at the annual International Symposium on Display Holography and the conferences of the International Society for Photonics and Optics (SPIE); Textile Engineering PGRs present at the Textile Institute World Conference, the International Conference on Fiber and Polymer Biotechnology and other subject specialist venues.

Our students' research has been recognised by national awards and prizes. A current textiles student won highly commended in the RSA Student Design Awards 2019–2020 / Make Fashion Circular; and one of our holography PhD researchers was named *Craft and Design Magazine's* 'Best Newcomer' at the British Craft Trade Fair 2018. Our graduates are working in academia and industry and in archives and museums (such as the Royal Photographic Society, National

Archives of Canada, Neimënster Luxembourg, California Museum of Photography, National Trust England).

2.3 SUPPORT AND PROMOTION OF EQUALITY AND DIVERSITY

DMU has strong policies and structures to support and promote equality and diversity throughout staff careers: these include leadership programmes and staff network groups specifically targeted at BAME, LGBTQ, disabled and female staff and allies (see REF5a).

New hires since 2014 have overwhelmingly been female (**Lee, Pichel, Roberts, Streffen, Sung**) and over the last census period the participation of women researchers in the Unit has risen from 41% to 57% aided in part by VC2020 appointments (**Roberts, Sung**). BAME representation has also increased from 7% in REF 2014 to 17% in REF 2021. In line with the University's prioritisation of ECRs as a way of growing a sustainable research base, the Unit has also seen the proportion of junior colleagues increase from 28% (2014) to 52% of the Unit. Since 2018 two mid-career female researchers have also been promoted to professorships (**Meredith-Vula, Wilder**) so that 43% of the Unit's professors are now female. Furthermore, although, directorship of our research groups remains overwhelmingly male with only one female director (**Wilder** for PHRC), the Institute's Director and Deputy are both female (**Wilder, Lambourn**). We are confident that our mentorship programme and the University's leadership programmes will allow staff members to progress upwards, embedding gender and ethnic diversity even further within the higher echelons of Art and Design research at DMU.

3. Income, infrastructure and facilities

3.1 UNIT INCOME

External research income to the submitting Unit was £1,185,110 over the assessment period. This is lower than the equivalent income reported in REF 2014. This is, in part, a result of DMU's strategic focus on appointing and nurturing emerging rather than established researchers in this census period, and the Unit's increasing, and successful, focus on applied research and the generation of commercial research income. However, a new iteration of peer reviewing is in place (2019) to improve non-commercial research grant income by utilising experienced reviewers to mentor ECRs throughout the entire process of funding applications.

Over 50 external funding awards have been made, including the following grants above £100,000:

- **Pasternak** (PI): DigiCONFLICT Joint Programming Initiative on Cultural Heritage (European Commission) Research Grant, €569,585 (£503,000) (2018–2021)
- **Shen**: Laser Enhanced Biotechnology for Textile Design: Three Dimensional, Colour and Surface Patterning £234,238 (AH/J002666/1) (2012–2015)
- **Poltronieri** (Co-I): Immersive performances of the future, AHRC £205,527 (2019–2021) part of the Industrial Strategy Challenge Fund's Audience of the Future programme, delivered by UKRI.

Significant grants below £100,000 included: AHRC Follow-on funding £98,220 (**Shen**), Cotton Incorporated US\$77,432 (**Shen**); EU Marie Curie Traineeship £83,308 (**Wilder**).

In parallel we have a strong record of personal awards and commercial income generation. Among others, direct research awards have come from the following:

- Western Balkan Fund (**Meredith-Vula**, £10,000)
- Ministry of Culture, Youth and Sport, Kosovo/British Council (**Meredith-Vula**, €12,000)
- German Federal Cultural Foundation for *documenta 14* in Kassel and Athens (**Meredith-Vula**, £40,000)
- Artists International Development Fund (**Roberts**, £5,000)
- Keiko University Japan (**Dean**)

- the Sandberg Institute, Amsterdam and Creative Scotland (**Steffen**)

Significant commercial research income has come from Research England's Connecting Capability Fund (IBbD, £4,650,000 (2018–2021), a collaboration with Nottingham Trent University and Brunel University, with DMU as lead institution and **Bingham** of the Design Unit as PI); and Innovate UK (**Shen**, £164,500).

3.2 INFRASTRUCTURE AND FACILITIES

Administrative infrastructure

Unit research is supported at Institute, Faculty and University level. The Research Services Directorate (RSD) identify and support external applications to UKRI and other funders through dedicated pre- and post-award support. RSD also advertise and distribute external funding calls. At Faculty level the ADH Research and Innovation Office supports the day-to-day administration of research notably for costings, suppliers and disbursement of Institute funds.

The Institute of Art and Design plays a central role in research development and coordination, managing Faculty research funds across UOA 32, identifying and fostering new and existing research talent, supporting RIA and RIT applications and promoting the research culture and environment. With an annual budget in the region of £14,000, the Institute dedicates the majority of this to direct support of staff research through travel, materials costs, publication and teaching buy-out. Funding calls are issued throughout the year through a mixture of open and timed calls. Applications are evaluated by the UOA 32 Funding Committee made up of senior and junior research-active equality, diversity and inclusion-trained staff. A smaller proportion of funds are dedicated to bi-annual research networking events which bring together researchers and PGR students in all aspects of Art and Design from across DMU as well as research support staff. In addition to workshops and seminars run at School or Research Group level, the Institute organises termly research showcases which provide researchers the opportunity to share research results or trial new material for public presentation or project development.

Facilities

As anticipated in the last environment statement, researchers and PGRs in the Unit have benefited from the substantial investment in campus infrastructure undertaken during the course of 2015–2017, most directly through the construction of the £46,000,000 Vijay Patel Building to house all teaching and research in Art, Design and Architecture. Designed with the philosophy of 'actively promoting collaboration and openness between departments', since it opened fully in 2017 the Vijay Patel Building has had a major impact in facilitating interactions between all of its users and providing new state-of-the-art facilities. The building was named Best Building in the Local Authority Building Control 2017 Building Excellence Awards for the East Midlands and won the RIBA East Midlands Award 2018. The building, in fact a complex, includes a dedicated Design Wing, the Arts Tower, as well as the 'POD' which houses the Design Unit and The Leicester Gallery exhibition space. For technical reasons two Holography Labs are situated in different locations on campus (see below). This major infrastructure project gave the Faculty a unique opportunity to include purpose-designed workshop spaces to support art and design research.

The Design Unit is distinctive within the sector in that researchers and PGRs have a state-of-the-art Design Studio and fully equipped dedicated Prototyping Workshop adjacent to its offices in the POD. The Design Studio includes dedicated design spaces for individual and collaborative practice and a full suite of industry-standard computer-aided design and digital design software and hardware. This includes the ability to engage with eye tracking and high-resolution 3D scanning. The Design Unit's dedicated Prototyping Workshop enables it to engage in all aspects of contemporary physical and digital prototyping and allows the creation of fully functional and high-fidelity prototypes at a commercial level. The workshop blends the full gamut of prototyping techniques from traditional soft model through to digital prototyping of four-axis CNC milling and 3D printing. Recent investment has also allowed the creation of our Electronics Prototyping facility to fully support commercial level, prototype functionality of embedded control systems.

All Design researchers also have access to workshops in the Design Wing for traditional manual making, with technical support, for glass, ceramics and metalwork. This includes: a 'hot shop'

and cold working workshops for glass; a plaster workshop, glaze and kiln rooms for ceramics and an electroforming room for metalwork. Resin and spray rooms, and workshops for water-jet cutting, vacuum forming and enamelling are used across disciplines.

TEAM has dedicated facilities for research into enzyme biotechnology, textile colouration and finishing. The lab is equipped with a range of dyeing machines, colour measurement system, centrifuges, Micro-dust and trash analyser (MDTA) of fibres, and laser scanning system for fibre diameter measurements. A mechanical decortication system for bast fibre extraction and a wool sample carding machine are housed off-site with agricultural producers.

In 2017 the Holography Lab (set up in 2011 with a £1,700,000 Technology Strategy Board award) was reinstalled in the basement of Portland Building in order to meet vibration isolation requirements of $\pm 1\mu$. The main facility consists of two specialist optical-isolation tables, coherent lasers and an historical archive. The main Photonic Laboratory is equipped with unique specialist optics, microscope objectives and large format collimating mirrors; the Materials Testing Lab (supervised by **Bassford**) includes a dedicated darkroom, a coating facility for the processing and making of super high-resolution silver halide recording material and a chemical processing area. The Lab also houses the Holographic Archive, a unique collection of holograms, research papers and correspondence and interview recordings with hundreds of seminal figures donated in 2016 by Professor Sean Johnson. The cataloguing and recording of the archive received a Royal Photographic Society bursary in 2016 (£6,000).

For Photography, Video and Fine Art DMU has invested in the complete refurbishment of the 1960s Arts Tower which now has extensive studio space with technical support for painting, printing, sculpture, photography, film and video. These include: traditional darkrooms for non-digital film processing, film and video editing suites; a film studio, printwork studio, and woodworking workshops for stretcher manufacture and sculpture. The new building also includes dedicated exhibition spaces. Besides smaller display and exhibition spaces located throughout the Vijay Patel Building to showcase staff and student work, we enjoy The Leicester Gallery, a dedicated exhibition space within the Vijay Patel Building, staffed by a full-time curator (**Worthy**). At 300m² the space is the largest art and design venue in Leicester; it operates with a public-facing remit to ensure free access to world-class visual art for the University community, the city and region, hosting a core of monographic artist exhibitions (e.g. Jonathan Monk, Jamie Shovlin, Walker & Bromwich and Grayson Perry) often supported by partner organisations (such as Art Fund, Contemporary Art Society, Outset). The space also welcomes work by staff (**Roberts, White**) and PGR students. Since opening, The Gallery has averaged 19,000 visitors annually.

The PHRC has offices in the Clephan Building on campus with a dedicated research space for PGR students and visiting scholars. PHRC hosts and maintains 6 photographic databases central to photographic history. These are used by millions in research, education and the commercial sector (e.g. booksellers / auction houses) (see 'Reframing Photographs' ICS). Research is supported by a comprehensive research library for photographic history in the Special Collections unit in Kimberlin Library.

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

4.1 RESEARCH COLLABORATIONS, NETWORKS AND PARTNERSHIPS

Designers have been extensively involved in national and international collaborations to undertake multidisciplinary research and innovation. The Holography Research Group collaborates actively at a national level with the University of Southampton and Glyndŵr University's Centre for Ultra-Realistic Imaging. Design Unit's **Bingham** is PI for IBbD, a £4,650,000 commercial research project involving a wide array of university and industry collaboration. **Sung** has developed a close working relationship with Nottingham Trent University and Lund University (Sweden) running a one-day stakeholder event on 'Scaling up SMEs utilising reuse/upcycling' (2018) and subsequently working with them on the 2020 Upcycling Symposium held at DMU.

TEAM has collaborated with Loughborough University on 3 projects to develop laser technology for textile surface colouration and patterning, and with the National Physical Laboratory,

Nottingham University and Loughborough University to develop wearable technology. TEAM also has long-term research relationships with commercial industrial partners in the garment and upholstery fabrics sectors including Camira Fabrics, Petland (Speedo), Stretchline, Crystal Martin Fabrics, and Cotton Incorporated (USA). Internationally, TEAM works closely with the Danish biotechnology company Novozymes in the development of environmentally friendly enzyme-based bioprocesses in textile production. TEAM also collaborates with Jiangnan University and Donghua University in the development of enzyme-catalysed colouration of textiles, garment laundry and care through exchange of researchers. These successful collaborations have generated 10 refereed co-authored journal papers since 2016. TEAM and DMU's Faculty of Health and Life Sciences are currently involved in the EU funded 4½ year COST Action project (CA16227) for developing mosquito repellents and protective textile materials for Avant-garde Disease Control with **Shen** a member of the UK Management Committee.

Designers have also collaborated with the University of the Free State, Netcare Rehabilitation Hospital Johannesburg and Altair Software Corporation (South Africa) on a 3D-printed prosthetic limb (**Dean**, 2017); with Keio University, Japan on the digital reproduction of Gutenberg type (**Dean**, 2016–2017), and with Deakin University Australia on colour printing (**Dean**, February–March 2020). **Richardson** has begun a new collaboration with Holoxica Ltd through Innovate UK on Holographic 3D Tele-presence for remote working.

Through its AHRC-funded FuzzyPhoto project (2012–2014) PHRC built important institutional networks early on (with Birmingham Central Library, the British Library, the National Science and Media Museum, St Andrews University, the V&A, the Musée d'Orsay, the Louvre (Paris), and New York's Metropolitan Museum). UK universities and institutions such as the V&A and the Science Museum Group remain active partners today. PHRC's international networks have grown considerably in tandem with its reputation. **Wilder** holds a Research Fellowship with the Science Museum (2019–2021). **Pasternak**'s Horizon 2020 DigiCONFLICT research consortium includes Poland's Society Liber pro Arte and Linköping University (Sweden), in addition to collaborations in Poland with the Institute of Art of the Polish Academy of Sciences, the UNESCO Chair of Cultural Property Law at the University of Opole, and in Sweden with Linnaeus University.

Visual artists at DMU are widely networked. **Meredith-Vula** has extensive and long-standing networks with the art world and cultural institutions in the Balkans, including the British Council, the Ministry of Culture, Youth and Sport, Kosovo, the Western Balkan Fund and the South East Europe Social Contract Institute. New hire **Gbadamosi** brings new networks with galleries and institutions in South Africa and Germany and is a member of the Interdisciplinary Research Group 'AfroEuropeans' at University of León, Spain and of the 'Black Body' group at Goldsmiths, University of London. **Roberts** has been active in partnerships with the Academy of Fine Arts Katowice (Poland) and the Mediadesign Hochschule Berlin (MD.H). **Steffen** collaborated with colleagues from the universities of Manchester, Edinburgh and Southampton and the Northern Gallery for Contemporary Art in Sunderland on the AHRC-funded touring exhibition '*Show Me the Money*' (2014–2016). **Poltronieri** (Institute of Creative Technologies) has strong links to art institutions and universities in Brazil. In the UK artists have developed long-standing working relationships with local bodies and national arts organisations including Leicester City Council (**Meredith-Vula**, **White**) and Fermynwoods Contemporary Art (**Clarke**, **Meredith-Vula**).

4.2 WIDER ACTIVITIES AND CONTRIBUTIONS TO THE RESEARCH BASE, ECONOMY AND SOCIETY

Unit researchers have made a significant contribution to the economy and society beyond the ICSs submitted. Indicators of wider influence, contributions to and recognition by the research base include, but are not limited to those listed here.

Contributions to the research base

Membership of peer review colleges, Research Council or national grants committees (c. 25% of members of Unit):

- **Bingham, Pasternak, White, Wilder:** AHRC Peer Review College

- **Bingham:** Engineering & Physical Science Research Council (EPSRC)
- **Pasternak:** Austrian Science Fund, Polish National Science Centre, Israel Science Foundation, The Netherlands Organisation for Scientific Research, Czech Science Foundation
- **Wilder:** National Swiss Science Foundation, DFG
- **Richardson:** Optical Society of America
- **Poltronieri:** Foundation for Research Support of the State of São Paulo, Brazil

Juries:

- **Meredith-Vula:** jury member DokuFest 2019 (International Documentary and Short Film Festival, Kosovo)
- **Clarke:** judge (The Saatchi Gallery Showdown: Drawing)
- **Gbadamosi:** ABSA Art Prize and Atelier Art Prize, South Africa

Members of editorial boards (journals and book series):

- **Edmonds, Richardson:** *Leonardo*
- **Edmonds:** *Knowledge Based Systems, Digital Creativity, Cultural Computing*
- **Edwards:** *History of Photography* (Bloomsbury)
- **Pasternak:** *Photography & Culture, Jewish Film & New Media*
- **Wilder:** *PhotoResearcher, Studies in History and Theory of Photography*
- **Poltronieri:** LICCA Book Series, *KINO – International Journal of Film and Media Arts* and *Gaming and Virtual Worlds Journal*
- **Shen:** *Journal of Textile Design Research and Practice, Journal of Textile Engineering and Fashion Technology*
- **Gbadamosi:** *Journal of African Studies, Open Arts Journal, SAVVY Journal*
- **White:** *Scene Intellect*

Scientific committees/conference peer review:

- **Edmonds:** International Symposium on Electronic Art (Chair of Board, 2017–) and Art Sheffield (Chair of Board 2015–2016)
- **Poltronieri:** SBGAMES Conference (2011–), DIGRA, Digital Games Research Association Conference (2014–), FDG, Foundations of Digital Games Conference (2017–) and CHI, *Conference on Human Factors in Computing Systems* (2018–)
- **Pasternak:** Photographic Histories in Central and Eastern Europe conference series (2016–2018)
- **Shen:** International Conference on Polymer and Fiber Biotechnology (2014–2018), International Wool Research Conference (2013) and AATCC Sustainability Symposium Hangzhou (2015)

External PhD examining:

Nationally:

- Birmingham City, Huddersfield University (**Poltronieri**)
- Newcastle College, Leeds Metropolitan University (**Richardson**)
- University of Manchester, Bolton University, University of Leeds (**Shen**)
- Anglia Ruskin University (**Clarke**)

- Queen Mary and Goldsmiths, University of London (**Edmonds**)
- University of Glasgow (**Steffen**)
- University College London, Courtauld Institute of Art (**Pasternak**)

Internationally:

- University of Trento, Oslo School of Architecture and Design, Griffith University (**Edmonds**)
- HK Polytechnic University (**Shen**)
- Cleveland School of Art (**Richardson**)
- Universidade Anhembi Morumbi, Brazil (**Poltronieri**)
- Ulsan National Institute of Science and Technology, Korea (**Sung**)
- University of Sydney (**Pasternak**)

Visiting Professorships:

- Kun Shan University, Taiwan (**Richardson**)
- Zhejiang Sci-Tech University (**Shen**)
- Wuhan University of Technology (**White**)
- University of Bayreuth, Germany (**Gbadamosi**)

Prizes and other markers of esteem:

- **Edmonds:** Association for Computer Machinery's SIGGRAPH Distinguished Artist Award for Lifetime Achievement in Digital Art and Lifetime Achievement Award for the Practice of Computer Human Interaction; Lifetime Achievement Award, CHI Conference on Human Factors in Computing Systems 2017
- **Meredith-Vula:** Nominated Deutsche Börse Foundation Photography Prize for the most significant contribution, through an exhibition, to photography in Europe in 2017; shortlisted Shpilman International Prize for Excellence in Photography 2020 awarded by the Israel Museum in Jerusalem
- **Edwards:** Fellow of the British Academy 2015 and J. Dudley Johnson Award for major achievements in the field of photographic history 2020
- **Poltronieri:** Lumen Prize short-list 2017, Rumos', Itaú Cultural, Art Award 2018

Conferences/workshops:

Designers and artists at DMU regularly organise workshops and conferences. Since 2013 PHRC has run an annual Photographic History conference that attracts international speakers in addition to offering opportunities to our own PGRs. More typically however we run one-off events. Over the last two years events have included:

- conference on *Apparition: The (Im)materiality of Modern Surface* (**Lee**, 2018)
- International Upcycling Symposium, 2020: Research and Practice (**Sung**, co-organised with Lund University, Nottingham Trent University and Newcastle University) and
- *Adventure and Legacy – The Science and Technology of Textiles, Jewellery and Materials* (**Horton**) both in 2020
- one-day RSA, *Make Fashion Circular* workshop (**Lerpiniere**, 2020).

Keynote lectures:

- **Edmonds:** ACMMultimedia, 2018, Seoul and ArtsIT: Interactivity & Game Creation, Aalborg, DK, 2019

- **Poltronieri**: Besides the Screen, São Paulo, Brazil, 2019; Performance art and technology, Fortaleza, Brazil, 2017; TrAIN Lecture Series, London, 2017
- **Pasternak**: Koc University Ankara, 2019; European University in St Petersburg, 2017 and 2019; University of Sussex, 2018; Polish Academy of Sciences, 2016, Saint Petersburg State University, 2019
- **Shen**: 18th AUTEX World Textile Conference, 2018, Istanbul, International Symposium on Advanced Textile Science and Engineering, 2019, Shanghai, 2019 International Conference on Eco-Textiles (ICET2019) in Wuxi
- **Steffen**: Art Research Conference, Glasgow School of Art, 2019 and John F. Kennedy Institute, Freie Universität, Berlin, 2014
- **Gbadamosi**: Afro-Tech Conference 2017, Dortmund; South Africa Visual Arts Historians Conference 2017; BIGSAS Festival of African and African-diasporic Literature, Bayreuth, 2018
- **Wilder**: Getty Research Center / Huntington Library, 2016; Bodleian Library, Oxford, 2019; Czech Academy of Sciences / Art History Institute, 2020

Key texts in their fields:

- **Richardson** has authored key textbooks on holography: *Techniques and Principles in Three-Dimensional Imaging* (2014, translated into Portuguese in 2018) and *The Hologram: Principles and Techniques* (2018)
- **Edmonds** has published key texts in aspects of computational art: *The Art of Interaction: What HCI can learn from Interactive Art* (2018), *Explorations in Art and Technology* (2nd edn, 2018, with **Poltronieri**), and as co-author *From Fingers to Digits: An Artificial Aesthetic* (2019)
- **Pasternak** edited the *Handbook of Photography Studies* (2020)

Unit members also contribute to encyclopaedias and other reference works in their fields (**Sung, White**).

Clarke writes a regular column for the *Saatchi Gallery Magazine*.

Contributions to wider economy and society

Exhibitions, installations and screenings:

UOA 32 research is disseminated widely via public exhibitions. Our artists and designers have held some 19 solo exhibitions or installations and participated in over 88 group shows nationally and internationally. Their moving image work has been screened at over 40 venues and festivals.

Significant solo exhibitions include:

- **Edmonds**'s at Shanghai University (2015), Microsoft Research Asia, Beijing (2016), Fondazione Bevilacqua La Masa, Venice (2017), the SIGGRAPH Art Exhibition, Vancouver (2018) and the major retrospective of his pioneering work in Computer Art shown at Oi! Futuro, Rio de Janeiro (2015), Tsinghua University, Beijing and The Leicester Gallery at DMU (2017).
- **Gbadamosi**'s South African exhibitions: *Cemetery* (2014-15); *Negotiation* (2017); *Ghost, Thieves and Poets* (2018)
- **Poltronieri**'s *Iconic Theogonies – The presentation of Computational Gods* (Oi Futuro Ipanema, Rio de Janeiro, 2014)
- **Meredith-Vula**'s exhibitions at the National Gallery of Kosovo (2015), and *documenta 14* in both Athens and Kassel (2017)
- **Dean**'s travelling solo exhibition (Hong Kong, Melbourne, Brisbane and Rheinfelden, 2016)

Artists' residencies:

- **Dean:** University of Pretoria (2016)
- **Meredith-Vula:** Fermynwoods Contemporary Art, Northampton (2020)
- **Roberts:** Arts Council Funded Artists Access to Art Colleges, Bucks New University (2018–2019)
- **White:** Derby Hospital Residency (2016–2019)

Representation in major museum and private collections:

The work of our artists and designers is widely represented in private and national permanent collections around the world, including:

- the Jonathan Ross Collection, The National Science and Media Museum, Bradford, The Royal College of Art, MIT's Museum of Technology & Art (**Richardson**)
- Tate London, British Museum, Henry Moore Institute, Hayward Gallery, Nirox Collection and University of Pretoria Museums in South Africa (**Gbadamosi**)
- MoMA, New York and DHUB, Design Museum Barcelona (**Dean**)
- Whitney Museum of American Art (**Steffen**)
- V&A (**Poltronieri**)

Activity with professional societies:

- **Richardson:** Co-Chair of the Society of Optical Engineers (SPIE)
- **Shen:** active member of the Society of Dyers and Colourists (SDC)
- **Gogna:** sits on the Executive Committee of Contemporary British Silversmiths (since 2005) and became Vice Chair in 2019; he also sits on the Academic Committee of the Goldsmith's Centre
- **Roberts:** active member of Drawing Projects UK a network for research, development, production and promotion of exhibitions, events and workshops in drawing and contemporary art

Training and accreditation:

- **Shen:** committee member of the Education, Qualification and Accreditation Board (EQAB) of the SDC responsible for SDC Coloration Qualifications
- **Gogna:** steers and advises the Silversmithing Skills Training Programme, a partnership with Goldsmiths Centre, London and the Association of Contemporary British Silversmiths which aims to train future silversmiths

Outreach and educational activities:

- With Fermynwoods Contemporary Art, **Clarke** engages young people excluded from school, dual registered and school-age mothers in programmes of alternative education
- **Sung** ran a one-day co-creation workshop for families with young children 'Art with Upcycling' at Leicester's New Walk Museum and Art Gallery (November 2018)
- **White** has formed connections with local care facilities by installing 'The New Apothecary's Cabinet' at a GP's surgery and at Royal Derby Hospital as an interactive art display between 2016–2018
- **Pasternak** delivered a set of international workshops on photographic digitisation methodology and cultivation of participatory culture to minority community organisations such as Black Country Visual Arts (2018–2020), Jews of Fes (2019–2020), ReFrame – Digital Diaspora (2020)

- Nationally, **Roberts** is active promoting drawing through public workshops (for example as part of the Jerwood Drawing Prize, the Trinity Buoy Wharf Drawing Prize and Drawing Projects UK)

Internationally, **Meredith-Vula** has been prominent in using art and photography as sites for reconciliation and dialogue in the Balkans. Her multi-platform project *Balkan Girl Power* used photography to network, skill and empower young women between the ages of 16 and 24 in the region. As a researcher Meredith-Vula worked on the British Council / Ministry of Culture, Youth and Sport, Kosovo–funded project on regional peace and reconciliation (2015)