

**Institution: University of the West of England, Bristol**

**Unit of assessment: 32 Art & Design**

### **Section 1. Unit context and structure, research and impact strategy**

#### **Context and Structure**

The unit conducts research focusing on the complex and mutable relationships between established and emergent artistic practices, technologies, communities of practice and their impacts in the wider cultural and industrial sectors. This is carried out in both scholarly and applied contexts, most significantly through a sustained body of practice-as-research. Two University-recognised Research Centres – The Centre for Fine Print Research (CFPR) and the Digital Cultures Research Centre (DCRC), provide the interdisciplinary foundation for research in this unit, enhanced by a suite of Research Groups, providing incubation and support for research activity outside the Centres.

This submission comprises research based in the Faculties of Arts, Creative Industries and Education (ACE) and Environment and Technology (FET). This vibrant and interdisciplinary research environment with its loci in creating critical focus and innovative research, informed by present and past artistic practices, in turn shapes future academic practice. CFPR and DCRC sit within a broader university environment where “Research with Impact” was prioritised as one of the four core themes of the UWE Bristol 2020 Strategy.

**CFPR** undertakes research that spans 19<sup>th</sup> century historical photo-print processes to 21<sup>st</sup> century industrial print technology and fabrication, specifically the properties and performance of colour, ink, paper, ceramics and glass. More recently CFPR has expanded its applied materials research into graphene, textiles and the bi-products of agriculture and the paper industry. CFPR is an internationally renowned leader in its field, bridging the boundaries of arts, engineering and industry. The team includes interdisciplinary researchers from: art and design, chemistry, physics, engineering, product design, architecture, computer science, ceramics and robotics.

Led by **Parraman**, CFPR’s ethos and motivation is in interrogating good design through expert understanding of materials, fabrication, product design, fine art, imaging and in holistic expertise and specialisms in artefacts and objects. In 2019 CFPR was awarded £7.7m funding from Research England’s **Expanding Excellence in England (E3)** fund for an extensive research programme which will include innovative surface print, design and fabrication in 2 and 3 dimensions combining a multi-technology approach to novel materials and processes. Four core themes guide this programme of work: *‘Novel Print Processes and Materials for Physical and Tactile Surfaces’*, *‘Establishing the Canon of the Artists’ Print from a Practitioners’ Perspective’*, *‘Innovative Print Technologies for Reconstructing Historic Reprographic Methods’*, *‘Industry and Transformative Technologies for Practice-led Design’*, each developed from established practice within CFPR’s core activity.

**DCRC**, led by **Rose** (submitted to UoA34) but including **Mosely**, **Schuman** and **Embury** from this unit, has as its core focus the interrogation of established and emergent digital technologies to create practical approaches to responsible digital futures in the arts and wider creative fields. In addition to those named above, DCRC supports researchers across this unit, providing critical and practical space within which to test, iterate and develop practice-based digital research. The scale and complexity of DCRC’s engagement with the rapidly changing dynamics of the creative economy led to its swift expansion and the creation of the **Creative Economy Lab (CEU)** in January 2017, a complementary, multi-disciplinary research and impact unit supporting a wide range of research in digital media, economics, geography, urban planning, media industry studies and arts practice. DCRC is housed in Bristol’s Watershed Media Centre, and offers real-time cutting edge research opportunities to work with burgeoning technological artistic practices that test and research the creative economy in situ.

Research Groups, encouraging an active research culture outside of the Faculty's Research Centres, include the **Visual Culture Research Group (VCRG)**, a group of cross-disciplinary art and design practitioners, historians and theorists interested in visuality and visual culture. VCRG's purpose is to generate new knowledge and innovative methodologies by putting practitioners into conversation with writers, critically exploring the relationship between 'making' and 'thinking', practice and theory and an overarching concern with challenging cultural representations of under-represented groups.

**Document + Location (D&L)** generates practice-led research developed by UWE academics working across different disciplines in response to an interest in specific locations, intersecting researchers within an Art & Design practice with colleagues in Architecture, exploring the way in which these locations are communicated and consequently how they are understood.

The emerging **Drawing Research Group (DRG)** explores the expanded role of drawing across interdisciplinary contemporary practice, and comprises art and design practitioners from both academic and technical departments. These groups offer a venue for articulation of research ideas and an interdisciplinary development space for artistic practice and research development.

### Research and Impact Strategy 2014-20

Closely aligned to the University's Research 2020 strategy, the broad spectrum of research conducted by UoA staff is integrated through a shared research-with-impact strategy that had four main aims:

- (i) To produce internationally excellent research that has real world impact and contributes to a sustainable economy and society.
- (ii) To enable staff to undertake ambitious projects – developed through partnerships, collaboration and co-creation with regional industry and stakeholder networks – as the platform on which national and international research-with-impact is based.
- (iii) To support and grow a diverse complement of PGRs, PDRs and Fellowships in order to broaden the UoA's research base and ensure sustainability.
- (iv) To contribute to UWE's mission to be a locally-embedded civic university with national and international reach.

To ensure that activities within the unit exemplified the University's overarching strategy to produce *world-class performance in selected areas of research that meets the needs of a sustainable economy and society, and feeds the scholarship and enquiry underpinning our learning and teaching*. (UWE Research Strategy 2020), the unit's Centres and Groups prioritised, and continue to prioritise, research that is highly ambitious and collaborative.

**CFPR** supports individual research and researchers within a broader framework of developing partnerships and collaborations with industry, artists and cultural institutions and internationally significant research. Unit researchers are tasked to work with a variety of business, industry, practicing artists, cultural institutions and civic stakeholders as active partners, responding to their interests, needs and priorities whilst undertaking rigorous conceptual enquiries in order to address significant issues for the arts and creative industry sector as a whole. CFPR is tasked with engaging actively in industrial innovation and public debate, ensuring that their research informs and is informed by the most up to date knowledge, expertise and thinking.

**DCRC** supports individual and collaborative research in digital media and creative technologies. This sits alongside an overarching strategy to encourage staff to undertake ambitious projects to demonstrate culturally engaged methods and practices developed through collaboration and co-creation with regional industry and stakeholder networks. This provides a platform for DCRC to engage with academic, industry, cultural and third-sector partners on a national and international stage.

**Research Groups** (VCRG, DRG, and D&L), based within ACE, organise seminar series, invite talks from a range of academics, practitioners, cultural intermediaries and policy leaders from across the country and further afield, in order to provide a supportive and stimulating research

environment in which PGR students and postdoctoral fellows sit and work alongside academic staff, industry leaders and artists. Support for the development of individual and collaborative projects and production of high quality outputs is provided through mentoring and peer review. These groupings are outward-facing, encouraging and supporting researchers to build real world impact into their research activity at every level, beginning with the conception and design of the research project itself.

### **Achievement of Strategic Aims during the Reporting Period**

During the reporting period, the unit focused on fostering a research culture within its primary centre – CFPR – and outside of that nucleus through DCRC, Research Groups and individual practitioners and researchers. CFPR has increased substantially its range of collaborations and reach into materials development and industrial design, leveraging funded programmes of work to solidify its position as a leading international centre for interdisciplinary print technology research.

To encourage staff to undertake ambitious research projects within the wider research culture, and providing a framework of intellectual rigour, time, and support mechanisms for progression to larger scale projects, a programme of internal research investment was made available to academic staff through the REF period, working at a number of scales of activity and career stages, led both centrally and at Faculty level:

- the Vice-Chancellor's Early Career Researcher scheme (**VCECR**), supports outstanding early career researchers to undertake preliminary research that can be developed into major funding applications and outputs;
- the Vice-Chancellor's Interdisciplinary Research Challenge Fund (**VCIRCF**), encourages cross-Faculty collaborations in direct response to UWE's Research Beacons;
- the Vice-Chancellor's Accelerator Programme for Mid-Career Academics (**VCAP**), a tailored programme to build research skills and confidence, to make new collaborations, develop strategic approaches to research, and deliver applications for significant external funding.

In addition to these strategic opportunities at University level, the ACE Faculty provides five competitive schemes – ECR applications are considered separately to ensure parity – that support the unit's research: (i) Research Support Time (**RST**) provides dedicated research time to complete research projects and generate internationally excellent outputs; (ii) the Research Collaboration Fund (**RCF**) provides up to £12,000 to support staff working with colleagues across UWE, other HEIs and industry; (iii) the Research Impact Fund (**RIF**) provides money to further impact activities and gather evidence; (iv) the Research Publicity and Dissemination Fund (**RPDF**) enables staff to promote their research inside and outside the academy; (v) the Research Group Scheme encourages the creation of new research groups around strategically significant themes and supports the ongoing work of established Groups (for examples of these awards in the unit, see section 2).

To increase capacity to win external funds for research, the Faculty ran a 6 month pilot Mentoring Scheme in 2017 led by Professor Jon Dovey for eight ECR and mid-career researchers, and also invited 11 selected staff to an intensive bid-preparation Summer School in 2019 for emerging researchers. Since early 2020 the Faculty has run a Priority Bidders' Programme which targets support for researchers who are less experienced in external bid-writing and planning, and in 2021 a Faculty Peer Support Programme will be launched to provide 1:2:1 peer support to staff who are less-experienced in writing external grant applications, particularly Early Career Researchers (ECRs).

In order to facilitate take-up of these programmes, a series of research workshops in 2017 brought research-active and new researchers together to consider how creative arts research could be further articulated and developed within the University. A Manifesto for Arts Research, published at the conclusion of this series, provided a summary of findings which has been employed in part to develop the future research strategy outlined below.

Subsequent to this programme of work, during this REF period, researchers in the unit have developed foundational activity in print technologies and practices (**Chamberlain**), colour theory (**Webb**), reportage illustration (**Embury**), the practice of theory in HE Art education (**Rintoul**), narrative devices in material objects (**Laidler**), aging and dress (**Franklin**), curatorial practice (**Morrissey**), and documentary photography (**Schuman**). A community of artists' books practice has been established thanks to the work of **Bodman**, which has led to the creation of a network hub - expanding the field of practice and connecting geographically isolated artists in countries such as Australia, Brazil, Russia and South Africa and public understanding of artists' books through participatory projects, exhibitions, publishing and events. Other key initiatives include a 'realistic physical model (manikin) for simulated medical training in abdominal surgery' (**Huson**), 'Glassworks: an interdisciplinary exploration of digitally aided fabrication' (**Jorgensen**); impact and dissemination through 'Queer Visibility: Thirty years after Section 28' (**Miles**) and reportage illustration (**Embury**).

These internally funded projects are designed to encourage external bidding, alongside publication and exhibition of work. Notable downstream successes that have benefitted from prime funding under these scheme are **Bodman's** development of an international artists' book creators network and Nordic Culture Point (2020), **Embury's** subsequent publication of *Reportage Illustration: Visual Journalism* (Bloomsbury, 2018), and **Webb's** award of a Joseph and Anni Albers Foundation Residency Fellowship (2020).

Both DCRC and CFPR prioritise programmes of outward facing dissemination and impact. DCRC's stewardship of the REACT (Research & Enterprise in Arts and Creative Technology) AHRC Cluster connected researchers from the arts and humanities with many creative businesses to make new prototype products and services. As a whole, REACT funded over 30,000 hours of work in 53 collaborations between 73 academics and 55 businesses. Within this unit for example, REACT supported **Laidler** in work to develop digital tools to extract the colours from an image and display them proportionally as transpositionally mediated prints, creating a sustainable commercial output.

### Future Plans 2020-25

The unit's overarching aims for the next REF period are to:

- (i) Increase the breadth, scope and diversity of its externally funded projects, strengthening their international reach and ambition.
- (ii) Enhance the scale, range and impact of its collaborations and partnerships with other HEIs and creative providers locally, regionally, nationally and internationally.
- (iii) Further strengthen its PGR culture with a particular focus on developing collaborative doctorates and building on the legacy of the 3D3 AHRC Centre for Doctoral Training as a centre for practice-based research through international collaborations.
- (iv) Further integrate PGRs and PDRs into the unit's research culture to help ensure continuity and sustainability across its research activities with a focus on increasing the diversity of its research base.

Alongside these specific aims, UWE Bristol's own 2030 Strategy identifies four Research Beacons; *Digital Futures*, *Health and Wellbeing*, *Sustainability by Design* and *Creative Industries*; in response to UK Government's Industrial Challenge Strategy and UWE's strengths and capabilities in interdisciplinary research (see Institutional Statement). Three of these four (*Digital Futures*, *Sustainability and Climate Change Resilience*, *Creative Industries and Technologies*) speak directly to this unit's strengths in creative practice and impactful research, and have seen researchers and groups within the unit benefit from strategic investment towards the end of this REF period and into the next.

Furthermore, Bidding Action Plans are in place within the E3 programme, aimed at increasing the international reach of CFPR's work with selected partners. These respond to the four core themes within the strategic structure of E3 (see above) and are supported by bidding teams within E3 comprising Professors, Associate Professors, Research Fellows and Business Managers.

Research Groups (VCRG, DRG and D&L) are charged with developing bidding in line with UWE's Research Beacons, building early stage networks and developing programmes of work at a foundational level with a view to grow and sustain their research trajectory. Additionally, individual researchers are supported through Research Bidding Support, an interventionist programme of writing and development enabling the design of projects and submission of funding bids by researchers whose work is situated outside of Research Centres.

Underpinning these aims are a series of Faculty initiatives to support the implementation of research strategy:

- The ACE Research & Curriculum Group was set up in September 2020 to integrate ACE research into curriculum design.
- UWE's Professional Development Programme for Researchers: Invest in Yourself, proposed for 2021 onwards and led by RBI, provides researchers (from PGR to Professor) with development/training, from becoming successful independent researchers to gaining leadership skills for senior researchers.
- ACE Faculty Peer Support Programme for external bidding is proposed for 2021 onwards, assisting in developing early stage ideas into clear and compelling proposals. In particular, this programme addresses the need for support for first-time grant applications, especially those by early career researchers, and Fellowship applications.
- ACE Priority Bidders programme coordinates RBI support for a priority list of bidders (updated annually).

The unit recognises the importance of establishing a mature research base outside of Centres and, while CFPR and DCRC will continue to provide research leadership through 2021-25, a staged plan to build research capacity and ambition outside of these Centres is also in place. To that end, the unit will benefit from a programme of internally-funded researcher development via doctoral opportunities from 2021-2027. These will be aimed at ECRs within the unit and comprise 18 doctoral (PhD, DPhil and EdD) opportunities. The focus will be on further developing a practice-as-research community across the unit, leveraging the Manifesto for Arts Research (see above) as a tool for good practice and rigorous research performance.

The unit also recognises the important contribution made by non-academic staff within the institution, and in order to develop its research culture further, particularly amongst practice-led researchers, staff employed in a technical teaching capacity will be encouraged to bid for internal funding support alongside their academic colleagues. These funding programmes will also be opened to Associate Lecturers employed on a permanent basis.

These actions, it is intended, will result in a broader, more diverse base of strategic beacons-aligned research activity generating excellent research and feeding curriculum development and teaching, representative of the ambition to grow activity right across the unit and develop new streams of work.

## Section 2. People

### Staffing Strategy and Staff Development

The unit's strategy is to recruit and promote high-achieving researchers at all career stages. This is achieved by a combination of investment, coaching, and culture development, with a specific focus on equality, diversity and inclusion. The unit encourages interdisciplinary research, providing opportunities to form collaborations across subject disciplines and within the broader University and Faculty structures.

The unit continues to recruit and promote researchers at all career stages as demonstrated by the addition of **D'Agnano, Klein, Karim, and Butler** at Associate Professor, and **Schuman, Jorgensen, Rintoul, and Morgan**, at Senior Lecturer/Research Fellow, during this REF period. Also during the period, **Johnson, Jorgensen and Parraman** were promoted to Associate Professor, and **Parraman** subsequently to Professor.

**Investment**

Investment in the unit is targeted at all research career stages.

Recipients of the institutional awards noted in section 1 in this unit during the REF reporting period include: **Johnson** (2020, VCIRCF) to explore how to support women with learning disabilities to make infant feeding decisions; **Morgan** (2020, VCECR) on digital processing for biomaterial design and **Calvet** (2020, VCECR) on Surface Scanning; **Parraman** (2019, VCIRCF) to re-imagine musical interfaces through printing tactile surfaces in collaboration with practitioners and **Jorgensen** (2019, VCAP).

Recipients of Faculty funding through the awards noted in section 1 above during the REF period include: **Chamberlain** (2017-20) to develop a body of practice-as-research exploring the language of etching and brutalist architecture; **Laidler** (2019-20) exploring print and post-digital practice; **Jorgensen** (2018-20) establishing interdisciplinary collaboration in digitally aided glass fabrication techniques; **Rintoul** (2018-20) and **Johnson** (2017-18) outlining the merging of theory and practice in art schools nationally; **Embury** (2018-20) establishing internationally recognised work in reportage illustration; **Schuman** (2019-20) in post-truth photographic representation; **Franklin** (2018-20) addressing the relationship between aging and fashion design; **Morrissey** (2017-20) instigating and supporting a national arts curation programme with the schools sector; **Parraman** (2017-18) supporting network development in artists' print editions. These awards have produced numerous outputs, collaboration, network opportunities and further external funding awards.

In 2020, inter-faculty collaborative schemes were established to promote cross-disciplinary research with a longer term goal of encouraging external funding applications for large scale projects. The Faculty of Health and Applied Sciences and ACE awarded collaborative funding to **Karim** for the early detection of hypoglycemia in Type 1 Diabetes (T1D) via graphene-based wearable electronic textiles, **Johnson** for exploring the perceptions of health visitors and charity workers on the use of artworks as a tool to promote discussion with new mothers, **Huson** for bio-based antimicrobial food packaging by 3D-printing against high-threat foodborne pathogens, and **Mercier** for exploring the role of drawing as a research tool for collecting data in medical practice. Research Network Funding in 2020 was also awarded to **Johnson** for Immersive Visual Cultures, an emergent project addressing the development of innovative approaches to writing *with* art as an immersive experience, as opposed to writing *about* art, in the context of visual culture pedagogy.

**Coaching/Professional Development**

Staff who have particularly benefitted from investment and career coaching during this reporting period include **Jorgensen**; employed in a New Blood post (50/50 research/teaching) in 2017, supported through internal funding, he went on to gain an AHRC Fellowship award in 2019, and was subsequently promoted to Associate Professor in 2020; **Morgan**; employed as a Wallcourt Fellow (50/50 research/teaching) in 2018, was mentored by Parraman through UWE's Postgraduate Certificate in Academic Practice, and subsequently won a VCECR award in 2020; **Parraman** promoted to Associate Professor (2015) and subsequently to Professor (2016), mentored by **Hoskins** to succeed him as CFPR Director, led the successful Expanding Excellence in England (Research England) award to CFPR in 2019.

The Faculty's Senior Lecturer Summer School supports early career researchers through the articulation of their work as suitable for competitive funding. **Embury**, **Chamberlain** and **Laidler** took part in this programme (2018-19), and all now have externally funded projects in progress. Bespoke support for external bidding is provided by the Faculty's Grant Capture Group which provides individual mentoring toward external grant submission. **Morrissey** and **Embury** are supported in 2020 through this programme. Personal Development Reviews for all staff in the institution address the development of research interests on an annual basis, and are overseen by the Associate Head of Department for Research.

**Culture**

Within the academic year cycle, an annual Research Celebration Event typically takes place in June bringing together researchers and projects across the whole ACE Faculty for a combined research symposium and promotion of the year's activity. High profile communications within the Faculty are provided by the University's internal communications channels, including a weekly news digest, which has included research-specific editions. CFPR's 21<sup>st</sup> Anniversary was marked by a series of events in summer 2019, inviting researchers from outside the Centre inside the processes and partnerships that comprise existing and emerging projects. A series of workshops was convened in 2017 to consider how creative arts research could be articulated and developed within the University. The Manifesto for Arts Research, published at the conclusion of this series, provided a summary of these findings and was distributed across the Faculty and wider University. Research Groups and individuals are also encouraged to develop visible research outputs. For example, the Drawing Research Group convened its first Drawing Symposium (2019), including artists and educators from the UK and Europe, building on their Drawing Review exhibition, showcasing practice within the Faculty (2019).

Research-active staff are further supported by the Faculty's Associate Dean for Research and Innovation, its Director of Research and Associate Heads of Department (Research) who allocate from a pool of £30,000 for conference presentations and operate the competitive research funding schemes noted above, organizing review panels that scrutinize applications in terms of research excellence, career progression and alignment with research strategy, liaise with department heads about workloads and monitor progress and outcomes against agreed targets.

UWE's Research, Business and Innovation unit (RBI) provides additional support through monitoring and disseminating research opportunities and best practice, running a broad range of research and impact events, workshops and training sessions linked to the Vitae Researcher Development Framework, as well as supporting bid development and evaluation through the University's Peer Review College (including **Parraman**), and assisting with impact evidence-gathering.

CFPR and DCRC each recruit visiting fellows and professors to extend their research base. Visiting scholars and artists have included Anita Taylor (Bath Spa University, 2015), Stanley Donwood (2016), Sir Peter Blake (2017), Alma Daskalaki (Crafts Council, 2018), Jessica Ho (Hong Kong Design Institute, 2019), and Joseph Prunfield (National Gallery, 2020) amongst others from industry and the arts. These scholars play an active role through mentoring staff and PGRs, providing access to global networks, sitting on advisory groups, and collaborating on projects, conferences and symposia.

UWE is fully committed to the Researcher Concordat as evidenced by holding the HR Excellence in Research Award since 2012, and has a Researcher Skills Development Programme that provides bespoke support for research staff's career development. UWE also provides development programmes in Research Leadership and Invest in Yourself, a programme of workshops designed to hone the skills necessary for a successful research career. A dedicated Researchers' Forum for Research Associates, Research Fellows and Senior Research Fellows provides a venue to exchange ideas and best practice, discuss matters of common concern and provides a voice for the researcher community (see Institutional Statement).

**Equality, Diversity & Inclusion**

Within a broader framework of EDI initiatives, UWE has signed up to the Athena SWAN principles and currently holds bronze institutional status (since 2013, renewed in the context of its wider scope in 2017). Athena SWAN at University level includes a priority action to raise aspirations of women to become research leaders. Activities to achieve this include actively promoting the Women in Research Mentoring Scheme (WRMS), considering women's research careers in the PDR process, monitoring uptake of University investments such as VC ECR

awards by gender, and considering unconscious bias and equity in recruiting staff and PGR students, allocating time and in allocating resources to attend conferences (see Institutional Statement).

The unit benefits from a series of intervention strategies within the institution, designed to foster equality of opportunity across all research-active staff. The WRMS (in place throughout this REF reporting period) pairs women researchers with other more experienced researchers to increase the number of women in senior roles and enhance the research careers of women. Over 300 mentees have been supported by the institution during this period, including 32 in the unit's home Faculty. Specific to 2020, the WRMS has addressed the challenges facing women researchers recently, partly prompted by the disproportionate impact of COVID 19 and lockdown on their ability to publish and progress their research careers. This initiative has included **Butler**, as Head of School for Art & Design, and **Parraman** as Professor in CFPR.

The Faculty's **Critical Race and Culture Research Network (CRCRN)** brings together scholars, students, alumni and independent researchers who are engaged in exploring questions in relation to race and culture within their discipline areas. CRCRN acts as a repository of race and culture related research studies to act as a database for future reference, and a solidarity base for scholars, students, alumni and independent researchers to build a visible presence and research profile of this area of critical study. CRCRN is contributing to Bristol City Council's Bristol History Commission, established in 2020 after the events of the summer to re-examine the history of the city as it pertains to Bristol's role in the slave trade, Chartism, the Suffragette movement, and more.

The Faculty has also established an EDI task force (2020), with a specific remit to decolonise the teaching curriculum.

Within the unit, staff have been identified as having SRR and outputs selected in accordance with the University's Code of Practice. This includes selecting outputs based on quality as determined through a peer review process involving senior researchers and external experts. As stated in the Code, there was no expectation about the number of outputs any one individual contributed. Where it was necessary to choose between outputs with the same quality score to reach the required total, account was taken of the distribution of outputs between individuals and across the subject areas of the submission.

### **Research Governance and Integrity**

The Faculty Ethics Committee supports staff across the unit adhering to rigorous ethics processes and preparing ethics approval applications, underpinned by the University's Code of Good Research Conduct. Support from this committee provides training and guidance and addresses conduct with regard to research methodology including work with human subjects, interview design, GDPR requirements for data storage and maintenance, and public involvement within creative practice.

Ethics approval is mandated prior to any project's commencement of such activity, and is conducted in a transparent, visible process, guided by a number of documentary sources:

- UWE's Research Governance Record collects all information as to the status of a research project in a single place, and provides active guidance and risk management throughout the lifespan of all research activity.
- A Research Governance intranet site provides framing advice covering principles, legal and regulatory provisions, standards of good practice, policies, guidance, systems, management and supervision.
- From January 2021, the Faculty Research Governance Management Group, including **Parraman** and **Johnson**, will meet quarterly to increase engagement with governance across the unit's research community.
- Processes addressing Research Misconduct are documented, with infringement and investigatory procedures clearly outlined in line with UKRIO guidance.



**Research Students/Post-Doc Fellows**

The unit's doctoral cohort is largely centred within two streams of activity:

- The Research England-funded E3 programme (starting in 2020)
- AHRC-funded doctoral training programmes.

E3's funded students are investigating a range of research topics including 'Cultured Crystals in Contemporary Jewellery', 'Printed Images as Repositories of Gesture', and 'The role of Print Artists in understanding changes in landscape in the Anthropocenic Age'. These map against core research themes identified in E3 ('Transformative Technologies for Practice-Led Design', 'Innovative and Disruptive Print Techniques', and 'Novel Print Processes and Materials' see section 1).

Since 2014, funded research scholarships have been provided through the UWE-led AHRC-funded Centre for Doctoral Training (CDT) programme in Digital Design, Arts and Media (3D3). Over the five years of 3D3's instantiation, UWE-based students have enjoyed the benefits of the research expertise and additional facilities at Plymouth and Falmouth Universities including co-supervision. Through the founding partnership with REACT, (AHRC 2012-16) 3D3 PGR students have been connected to various SMEs, arts and cultural organisations engaged in emergent digital concepts, design and media technologies and their international networks. Through the Student Development Fund, they have undertaken extended training activities including placements that have developed their practice and enhanced their employability. Using Consortium Development Funding, 3D3 co-ordinators have organised various seminars, workshops and training events that have included a focus on research impact, networking, partnership building, establishing a public research profile and enhancing future employability, IP and community research ethics. There have been several workshops focusing on Practice as Research and annual international summer intensives in Berlin, Linz (Ars Electronica), Finland and Lisbon. CFPR currently supervises 3D3 projects examining 'City Migration', '3D Woven Materials', 'Inkjet Printing in Textile Design' and 'Mixed Filament 3D Printing'.

Participating in the 3D3 consortium reinforced UWE's reputation nationally and internationally as a centre of practice-based research. As a result, 3D3 was awarded 12 National Productivity Investment Fund (NPIF) studentships (6 UWE-based) in 2017, each a collaboration with an industrial partner that guaranteed training and access to facilities, a variety of internships and placements and in some instances co-supervision. These students formed an interdisciplinary, collaborative Design Futures Lab (DFL) the aim of which was to reshape industrial technologies and processes through embedded practice-based research. These relationships extended 3D3's existing industry-academia collaborations through a sustainable and growing network of co-located incubation spaces, providing collaborating partners with the research capacity needed for sustained growth, enhancing their economic potential and contributing to an expanding regional industrial and creative economy. Within this unit, 4 NPIF PhD researchers were attached to supervisors in CFPR, researching 'Human-Computer Interfaces', 'Data-Driven Design for Wheelchair seats', 'Underglaze Transfer' and 'Alternatives to Pixel-Based Colour Rendering'.

In 2017, 3D3 was awarded further funding to establish six Creative Economy Engagement Fellowships enabling the consortium to extend its existing engagements and to create the potential for substantial economic growth and productivity. CEE Fellowships address several core themes of the Industrial Strategy, combining a focus on sectoral needs in the health, tourism and heritage industries with enquiries into the uses of emergent immersive technologies and the changing nature of creative labour. The Fellowships are collaborative and interdisciplinary, fusing artistic and creative practices with computer and coding skills and, although mentored and closely monitored, have considerable scope for independent research. Across the Faculty as a whole, PGR conferences are held annually to encourage best practice and develop a supportive PGR research culture. The University-wide Graduate School, formed in 2012, provides robust research governance through a consistent and rigorous framework for monitoring progression, as well as organising supervisor training and a range of student workshops and residentials that are mapped to the Vitae Research Development Framework.

The Faculty's Director of Research administers the PGR study fund, dispersing £15k annually to support conference attendance, equipment purchase and professional development activity within the PGR cohort.

The unit continues to recruit and supervise PGR students across all its research themes including self-funded PGRs researching topics such as 'Feminist Theory and Dress', the 'Expanded Field of Drawing Practice', 'Gallery Education and Curation', and 'Print Narrative and Landscape'.

The unit has continued to focus on enhancing the diversity, quality and completion record of its PGR students and to extend its complement of Post-Doctoral Research Fellows. Two bespoke taught modules – Research Methodologies and Research Portfolio – have provided a tailored programme supporting arts and humanities research projects, complementing the generic training provided by the University's Graduate School. UWE's leadership of the 3D3 Centre for Doctoral Training has created a step change in PGR provision, training, and completions with 12 doctoral awards by 2019/20. Through its reputation as a leading centre for practice-based creative technological research and training, UWE was invited to be one of two additional partners in the reconfigured South, West and Wales AHRC Doctoral Training Partnership (SWW2: 2019-24), led by Bristol University with Aberystwyth, Bath Spa, Cardiff, Cranfield, Exeter, Reading and Southampton Universities. UWE plays a full part in the recruitment, training and supervision of SWW2 students.

### Section 3. Income, infrastructure and facilities

#### Research Income

In this REF period, unit researchers have been successful in gaining income from a wide range of funding bodies, including AHRC, EPSRC, KTP, Heritage Lottery Fund, Research England and the European Commission (Marie Curie). Overall, the unit secured a substantial increase in external income: from £2.8m over the REF2014 period to £4.6m in this REF period. Total income secured since 2014 is £11m.

The unit has responded to UKRI's strategic priorities and spending plan 2016-2024, which states that: 'Real World Problems are inherently interdisciplinary. To make progress and for translation to occur, the expertise of different disciplines must be combined'. Unit staff have been particularly successful in gaining cross-disciplinary funding that benefits *real world applications*, as demonstrated for example by their Knowledge Transfer Partnerships and collaborative research projects with industry (see examples below).

#### Funding Strategy

The unit has traditionally focused its efforts with regard to external funding income on the activities of the CFPR. Here, institutional support (Research Manager 1.0FTE) and capacity exist and can be leveraged, alongside long standing partnerships, to build bidding and project management capacity. Inter alia, this has led to CFPR being awarded funding from Research England's Expanding Excellence in England (E3) programme to enable a step-change in the scale and scope of CFPR activities, to capitalise on current strengths and capacity to develop new and innovative ways of working. This has enabled the centre to significantly scale up its staffing from 10 FTE prior to the E3 award to over 30 within the project's scope. Moving forward, CFPR's priority is to capitalise on the body of work within E3, and secure external funding to provide surety for the research centre as the E3 funded period draws to a close. To that end (as described in section 1, above), CFPR is focused on expanding their funded research portfolio and capitalising on the staff appointments made through E3, in particular **Karim, Klein, Jorgensen** and **D'Agnano's** wider connections and experience in industrial collaboration outside of a traditional arts base.

In order to build capacity outside of CFPR, the unit is the beneficiary of investment annually to provide workload for research-active staff to develop, prepare and submit external funding bids. These build on internally funded programmes of work, and include support from RBI teams in

order to develop ambition and external funding applications, especially addressing work originating outside of CFPR's remit.

Significant grants, in chronological order, awarded during the REF reporting period include:

**Bristol and Bath by Design - What is the Value of Design in the Bristol and Bath Region?** (2014-2016) (AHRC and Design Council.) This major research project (£697k), led by **Parraman** and **Hoskins**, undertook a comprehensive analysis of the value and impact of design in the region. Using quantitative and qualitative methods, the team articulated the social and economic value of design, in addition to assessing the nature and quality of the regional design networks. The project created an alternative framework for understanding and evaluating design in the region. These findings were of benefit to research councils, government, HEIs and industry. Published findings have been cited by the Department for Business, Energy and Industrial Strategy.

A collaboration with the universities of Bristol, Exeter and Cardiff (2015 – 2017) funded by the EPSRC, **Re-Distributed Manufacturing and the Resilient, Sustainable City**, total value £491,658 (CFPR £73,500) was led by **Hoskins**. This project concentrated on the issues of resilience and sustainability in manufacturing looking at design, logistics, operations management, infrastructure, engineering systems, geographical sciences, and mathematical modelling.

**Klein** (2017) was awarded an **EPSRC Manufacturing Fellowship** (£1,238,329) for a project on the reinvention of old printing technologies, such as Woodburytype and Lippmann photography, in collaboration with the School of Physics and Astronomy, University of Leeds, Hewlett Packard Enterprises and Siltech Europe.

**Jorgensen** (2019) won an **AHRC/ Early Career Innovation Fellowship** to consider 'Smart Tooling for Ceramic Profile Extrusion: New Approaches to Industrially focused Interdisciplinary Practice Based Research' (£201k). This Fellowship explored how digital fabrication technologies could be used to establish new approaches with a ceramic profile extrusion technique that extends conventional capabilities to provide new creative and commercial outcomes. The project partners were the Centre for Window & Cladding Technology, Wienerberger Ltd, Sibelco UK, Ove Arup and Partners Ltd.

As noted above, in 2019 CFPR (led by **Parraman**) was awarded £7.7M from Research England's **Expanding Excellence in England** programme. This programme will more than double the scale of current activities, expand the scope and reach of leading-edge research, and extend the scope of collaborative R&D with multiple industry partners.

**Knowledge Transfer Partnerships** during the reporting period have addressed the application of research undertaken in CFPR leading to new opportunities for economic growth. These include:

- **Huson** (2018) with Craven Dunnill Jackfield (£184k), to explore ceramic encaustic tile production and historic architectural ceramic restorations in order to embed 3D digital fabrication technologies combined with traditional craft skills.
- **Hoskins** and **Huson** (2015-17) with Burleigh Pottery (£129k) sought to combine digital print technologies with 19th century underglaze ceramic printing to retain an industrial heritage. The research proved the concept of using digital technology to create rollers and flat plates was possible using new methods, and tackled the issue of retaining the art of the engraver by adapting and embedding the process into Burleigh's design and production workflow, with a combination of digital and traditional skills. This project was shortlisted for the 2018 Times Higher Awards for the Most Innovative Contribution to Business and gained a special commendation.

Smaller research awards include:

- **Walters** (commenced 2014), to explore 'Bio-Inspired Control of Electro-active Polymers for

Next-Generation Soft Robots' (£5k, ES/PRC).

- **Parraman** (2018) an NPIF (£14.5k) funded project with Bristol Legible City, to scope and research appropriate methods of tactile map making and maps for the visually impaired that could improve their navigation around the city of Bristol.
- **Walters** (2017/18) to develop multi-material 3D printing for the fabrication of human body supports for multiple sclerosis patients, and to investigate postural support systems for wheelchair users with MS, to help improve trunk stability and reduce tremor.
- **Huson** (2018/19) to develop a realistic physical model (manikin) for simulated medical training in abdominal surgery, using 3D scanning, 3D CAD and 3D printing technologies to fabricate physical components that closely resemble the look and feel of human abdominal anatomy.
- **Jorgensen** (2018/19) for 'Glassworks', an interdisciplinary research sandpit to test new approaches with Fused Deposition Modelling 3D printing technology and glass investment casting.
- **Bodman** (2018/19) on 'Artists' Books in Australia, Brazil and the UK', considering aspects of artists' books in Australia and Brazil with further links to Australasia and South America. This was developed as part of a project to investigate links and histories that have led into current practice.
- **Laidler and Buxton's** (2014) project 'Colourstory, to extract colour profiles from artworks and transpose to new forms', was a successful recipient of the REACT support scheme.
- **Johnson and Miles**, (2019) looked at 'Greenham Women Everywhere', an exploration of the oral histories of these protests, funded by Heritage Lottery Fund (£5,000).

### PGR Training Grants

UWE was a partner in AHRC PGR training awards to the value of £2.3m for the 3D3 CDT (2014-19), plus £900k for 12 NPIF studentships (2017); £329k for six Creative Economy Engagement Fellowships (2018-19), an additional £30,243 AI Fellowship (2019); and a further £314,650 for 4 NPIF AI studentships (2018). As a member of the AHRC South, West and Wales DTP (2019-2024) led by Bristol University, UWE shares in a £9.25m award. In addition, the CFPR's international profile attracts an increasing number of self-funded postgraduate students and currently has 16 PhD students registered.

Other Phd income includes:

- **Parraman** (2014-18) won a National Gallery AHRC Collaborative Doctoral Award for '2.5D & 3D Image Capture and Printing in the Cultural Heritage Field: Evaluation of current and developing technologies, potential applications & practical work-flows'.
- **Parraman** (2019) also won a Science Museum Group AHRC Collaborative Doctoral Award with De Montfort University and the National Science and Media Museum for 'Investigating Talbot's Experiments in Photomechanical Printing'.
- **Walters** was supported by Motivation (a global disability charity supplying wheelchairs to developing countries): (£5k) for a PhD Studentship to focus on the development and testing of data-driven approaches to the design and digitally assisted fabrication of bespoke wheelchair seating and postural support devices.
- In 2017 **Parraman**, as part of a consortium of northern European universities comprising the European Advanced Research School (ApPEARS), was successful in gaining funding for the management, supervision, mobility and training environment for 13 PhD posts, including two at UWE over 4 years.

### Facilities

City Campus is UWE Bristol's creative and cultural industries campus, made up of sites at Bower Ashton, Spike Island International Arts Centre, Arnolfini Centre for Contemporary Arts and Watershed Media Centre, and has seen significant capital investment across all of these sites over the reporting period. The most substantial investment has been to Bower Ashton Campus with investment of £7M in new buildings to create a new fabrication centre with state-of-the-art equipment and dedicated space for CFPR, staff and teaching spaces for undergraduate art and design courses. Watershed facilities, shared with the Pervasive Media Studio, offer studio space

of 350m<sup>2</sup>, largely administered through DCRC.

The E3 grant has allowed the institution to invest in some £500k of new equipment including equipment for a graphene lab, new robotic arms, laser cutters, and a bespoke 3D printer for developing next generation 3D printable ceramic powder recipes. New lab space includes: disruptive print and ink technologies, an open plan testing lab for multi-users, ceramic labs for development of 3D print materials, a ceramic lab for extrusion tests, a ceramic production workshop, photographic darkroom and studio, traditional print studio, graphene lab for smart textiles, totalling 850m<sup>2</sup>, with an investment of £3.5m from UWE.

City Campus also includes Bush House, which UWE shares with Arnolfini, and Spike Island where several unit staff have studios. Research staff share office space alongside PGR researchers who have access to two dedicated rooms with computers and desk space located at Bush House and studio/seminar space at Spike Island. Arnolfini has been, since January 2019, a subsidiary Charitable Incorporated Organisation (CIO) of the University, which provides further opportunities for collaboration between the two organisations. Technical facilities include print, fabrication and machining equipment utilised by academic staff and research units for activities spanning both teaching and research: Fabrication: 650m<sup>2</sup>, Print: 696m<sup>2</sup> and Fashion: 229m<sup>2</sup>. These facilities are subject to an upgrade and replenishment investment of £1M/annum.

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

Collaborations and co-creation are central to the unit's research; its researchers, within CFPR and without, have partnered with a wide range of organisations on funded projects, regionally, nationally and internationally. These include local community groups, SMEs, national institutions and international R&D companies and organizations. Research is delivered via a network of well-established partnerships with external cultural and industrial stakeholders brokered by the Faculty, Department, Centres and individual researchers.

UWE's City Campus holds formal partnerships with Spike Island, The Arnolfini Gallery and Watershed Media Centre, through which a significant number of research projects are brokered and delivered.

CFPR enjoys partnerships with HEIs on a global scale including: Gjøvik University College Norway, Norwegian University of Science and Technology, Linköpings Universitet Sweden, Conservatoire national des arts et metiers Paris France, Justus-Liebig-Universität Giessen Germany, Technische Universität Darmstadt Germany, Technical University of Denmark, Università Degli Studi di Milano Italy, University of Ulster Belfast; Universitat Autònoma de Barcelona Spain, Université de Reims Champagne-Ardenne, France, Pannon University Hungary, and AKI (ArtEz) Netherlands, as well as University of Leeds, University of Bristol and Bristol Robotics Laboratory. CFPR's current (2020) industrial collaboration base includes: Océ Technologies (France), Fraunhofer-Gesellschaft (Germany), Barbieri Electronic (Italy), Merck KGaA (Germany), Physikalisch-Technische Bundesanstalt (Germany), 3D Life Prints (UK), Bristol Medical Simulation Centre (UK), Stratasys (USA).

Institutionally, and within the research networks of individual researchers and Research Groups, partnerships exist with the British Museum, the National Gallery, Royal West of England Academy, the Victoria and Albert Museum, National Museum Wales, Hauser & Wirth Somerset, Chapter Cardiff, Bristol Museums, Archives and Galleries, SS Great Britain Trust, Architecture Centre (Bristol), Martin Parr Foundation, Association of Illustrators, Encounters Film Festival, UK Crafts Council, West of England Design Forum, National Composites Centre, National Trust, Rising Arts Agency (Bristol) and Knowle West Media Centre.

Contributions to the discipline during the REF period include exhibitions of artwork produced by unit staff in:

- London (Saatchi Gallery, 2014), Los Angeles (LA Convention Centre, 2015), Moscow (Pushkin Museum, 2014), Vancouver (Emily Carr University, 2015), Michigan (University of

Michigan, 2014), Dublin (National College of Art & Design, 2014), Bilbao (Techarte, 2019) and Milan (Salone de Mobile, 2015) (**Jorgensen**);

- The V&A, Tate Britain, RWA, School of the Art Institute Chicago, National Gallery of Australia Canberra and The Print Centre Philadelphia (**Laidler**);
- Royal Academy Summer Exhibition 2018, National Print Exhibition (2017, 18, 19), Krakow Print Biennale (2015), Woolwich Print Fair (2017, 2018, 2020) and the London Original Print Fair (2018) (**Hoskins**);
- Eugeniusz Geppert Academy of Fine Art and Design, Wrocław (2019), Felios Foundation, Athens (2018), Biblioteca Central Cantabria, Santander (2018), Bodleian Library, University of Oxford (2018), Gagosian Gallery, Beverly Hills (2016), The University of Newcastle, Australia and Art (2016) and Landscape Museum-Reserve, Moscow (2014) (**Sowden**);
- Messina (Galleria d'Arte Moderna e Contemporanea), Puget Sound (Collins Memorial Library), Chicago (John M. Flaxman Library, School of the Art Institute of Chicago) (**Bodman**);
- Berlin Museum of Architecture (2018), Edinburgh College of Art (2016), and University of Melbourne (2015) (**Banou**).

Work produced by unit staff is held in permanent collections at the V&A, the Ashmolean (Oxford), the Pallant House Gallery Collection (Chichester), Tate Modern, and the Royal West of England Academy (Bristol) (**Chamberlain**); Yale Center For British Art, Yale University, and the International Center For Photography, New York (**Butler**); the Archival Collection for the Paola and Marco Frascari Room. WAAC Library, Virginia and the Neohellenic Architecture Archives, Benaki Museum, Athens (**Banou**).

Unit staff have curated major exhibitions on Photography; 'Indivisible: New American Documents' (FOMU Antwerp, 2016), "Mixtape" (Riga Photomonth, 2016), JaipurPhoto Festival (2018) (**Schuman**); and on Artists Books in Moscow (State Historical, Architectural, Art and Landscape Museum), Santander (Central Cantabria), London (Centre for Book Arts), Preston (Artlab Contemporary Print Studios) and Plymouth (Counter Art Book Fair) (**Bodman**).

**Bodman** and **Sowden** co-convene the increasingly popular Bristol Artists Book Event (2015, 2017, 2019), welcoming over 13,000 visitors and 103 exhibitors in 2019.

**Morgan** was Editor of FutureScan Conference Proceedings and Co-Curated the Textile Intersections Exhibition (2019), and Intersections: Collaborations in Textile Design Research Conference and Exhibition (2017), both Loughborough University London; **Johnson** is an Editorial Board member and reviewer for Journal of Gender Studies and sits on the Academic Advisory Group at the Royal West of England Academy; **Banou** is Co-editor on Charrette, journal of the association of architectural educators. **Parraman** is an Editorial board member for IMPACT Multidisciplinary Print Journal and a technical reviewer for Italian Colour Group Conference; **Embury's** work with reportage illustration is supplemented by his role as Editor in Chief of Reportager.org, providing an international venue for reportage drawing projects; **Karim** is Technical Editor for Textile Today.

**Hoskins** has been an External Advisor for REF 2021, UCLAN Preston, Invited Expert Peer Reviewer for AHRC COVID-19 grant applications (2020), Expert Reviewer of applications to join the AHRC Peer Review College (2019), a Member of AHRC Advisory Board (2015-19), External Reviewer Polish Research Grants (2019) and EU Research Grants (2018), international reviewer for Hong Kong REF (2019), international independent reviewer for South African REF (2015/2019); **Jorgensen** is also a member of the AHRC Peer Review College (2019-present).

**Parraman** is Chair of the IMPACT International Multidisciplinary Printmaking Conference (2015-present), and has held the Chair of The Colour Group of Great Britain (2015-17), and the Honours and Awards Committee, for Imaging Science and Technology, USA (2014-15); **Hoskins** was a Jury member for Krakow Print Biennale (2015); **Bodman** served on the Scientific committee for the international colloquium 'L'oeuvre multipliée au prisme de la collection et de

l'archive', Espace d'art Immanence, Paris, France (2019), and was an invited juror on the 'turn the page' artists' book event, The Forum, Norwich (2016); **Butler** sits on the Advisory, Executive and Review Boards of 'On The Image' International Research Network, and the Gallery Board at Open Eye Photography Gallery, Liverpool; **Banou** is External Studio Critic at the School of Architecture, Planning and Landscape (Newcastle University), the Liverpool University School of Architecture, and the Edinburgh School of Architecture and Landscape Architecture (Edinburgh College of Art).; **D'Agnano** is curator of the Immersive Architecture Conference Venice, 'AR-VR for Architecture and Cultural Heritage' and was consultant for Triennale di Milano, as technology expert for the XXI exhibition - 'New Craft'; **Morgan** sits on the Review Board of the IMPACT Printmaking Journal, and the Journal of Textile Design Research and Practice.

As practicing artists within the unit, **Morrissey** chairs the arts organisation Foreground, which, in this REF period has sought to bring the work of Douglas Gordon, Tue Greenfort, Jim Isermann, Cornelia Parker, Lawrence Weiner and Richard Woods into the everyday environment and provides opportunities for emerging artists to create work for innovative contexts; **Laidler** is the founder, publisher and academic lead for CFPR Editions, a commercial fine art print publishing studio within CFPR; **D'Agnano** is the founder and technical director of Tooteko, a creative enterprise which combines 3D printing and electronic sensors in order to let blind and partially sighted people perceive works of art; **Embury** co-created the Topolski Institute Residency programme (annual, 2013-present) which has hosted 42 graduate students for 3 months each year. **Mahmoodian's** work has been recognised through awards from the Humble Arts Foundation (2016), Time Magazine (2016), British Book Design Awards (2016), and LensCulture (2015); **Chamberlain's** prints have been awarded The Hole editions publishing award (2019), the Intaglio Printmaker award (2016), and shortlisted for the Jerwood Drawing Prize (2017), and the John Ruskin drawing prize (2014); **Webb** has been invited to the Josef and Anni Albers Residency, USA, in summer 2020 (now 2021 due to COVID); **Huson's** contribution to CFPR's KTP with Burleigh Pottery was Highly Commended in the Times Higher Education Awards 2018.

**Mosely's** work has been extensively published and critiqued in Atkinson, D (2017) 'Art, Disobedience and Ethics: Adventures of Pedagogy' (Palgrave Macmillan), Wilson, R. (2015) 'Image, Text, Architecture' (London: Ashgate), Smith, E. (2015) 'The Practice of Place' (London: Architecture Association Bedford Press), and Stott, T. (2015) 'Play and Participation in Contemporary Art Practices' (London: Routledge, 2015). **Mosely's** projects have won awards from AHRC, Arts Council England, British Council, Rootstein Hopkins Foundation and Institute Français, for whom he was named Institute Français Laureate (with Sophie Warren) to the French Ministry of Foreign Affairs for project 'Architecture of We'; **Schuman** has contributed writings to books including "Aperture Conversations: 1985 to the Present" (Aperture, 2018), "Another Kind of Life: Photography on the Margins" (Prestel, 2018), "George Rodger: Nuba & Latuka - The Colour Photographs" (Prestel, 2017), "Alec Soth: Gathered Leaves" (MACK, 2015), "Vision Anew" (University of California Press, 2015), "The Photographer's Playbook" (Aperture, 2014), and "Storyteller: The Photographs of Duane Michals" (Prestel, 2014).

**Karim** holds patents on graphene-enabled wearables which are attracting significant commercial and collaborative research interest.

Finally, **Bodman** delivered the Inaugural Professor Jonathan Osmond Lecture on 'The Artist and the Book' at 'Livres d'Artistes, the artist's book in theory and practice', Cardiff University, Wales (2015); **Parraman** has given invited keynote letters at Colour Appearance Workshop, Color Imaging Conference, Paris (2019), Guanlan Print Forum, China (2018), Japanese Colour Group, Tokyo, (2019), Colour Group GB Chairman's lecture, City University, London (2017) and the Impact Conference, China (2015); **Huson** has presented 3D printing techniques and processes at the Museum of Art and Design, New York (2014), Metropolitan Museum, New York (2014), Pôle Européen de la céramique, France (2014), Christies, London (2014), Magdalen College, Oxford (2016), and Kholer Europe, France (2017); **Karim** gave an invited keynote at 2nd International Carbontech Conference and Exposition, Shanghai, China (2019).