

Institution: Arts University Bournemouth
Unit of Assessment: 32
1. Unit context and structure, research and impact strategy

Research Strategy and Structure in UOA 32

1. The work submitted under this UOA is that of researchers predominantly based in the School of Art, Design and Architecture. Researchers are aligned to four specialist sub-group areas: **illustration and graphic design; textiles, fashion and dress; materials and design; and fine art and drawing**. The unit also includes work from our researchers in **photography** who are based in the School of Media and Performance but whose outputs fall mainly into art and design. At AUB research is led by the Dean of the Graduate School and Research, supported closely by the Vice-Chancellor Paul Gough and his academic leadership team.
2. Although all AUB academic staff are eligible to be returned to the REF, many academics in the UOA are active creative practitioners. In accordance with our code of practice and academic pathways we applied an additional filter to determine significant responsibility for research resulting in 47% of those eligible in this UOA to be returned. Reflective of this our UOA submission includes 48% of staff being returned employed on fractional posts and 10% employed on fixed term contracts. The UOAs base currently consists of nine professors/associate professors, 24 senior lecturers and seven lecturers including six early career researchers (ECRs).
3. For REF 2014 AUB returned just 16 staff (12.1 FTE) to one UOA 34 (Art and Design). For REF 2021 we will return 40 staff (29.83 FTE) to UOA 32 alone and make a separate return to UOA 33. Staff were eligible for submission based on having a primary responsibility for research in their contract, determined by their choice of an academic career pathway that explicitly includes research. These pathways are based on the Academic Career Framework, instituted in 2016, and allow staff to determine their career pathway aligned with their areas of expertise and discipline strength.
4. The university's (and therefore the UOA's) broad research strategy for the period was focused on growing the research environment (staff and activity), embedding impact in our research and developing our PGR offer. We believe we have made excellent progress in all three areas:
 - Our commitment to the strategy to grow the research environment has resulted in the recruitment of an increased number of PhD-holding academics in the unit. More significantly, AUB has actively supported existing staff through the application, registration and the successful completion of doctorates. Consequently, doctoral holding staff has risen by 22% during the period and we have appointed our first post-doctoral researcher.
 - The strategy to embed impact in our research activities has resulted in many different types of beneficiaries and engagement with a wide range of partners. These activities have also had significant geographic reach from **Waring's** work with the local council and community partners, to create a new public artwork re-energising Anthony Caro's

work on Poole Quay; **Hunt's** work on the design legacy of iconoclastic textile designer Lucienne Day with the **Lucienne Day Foundation** and **Gough's** work on Australia's heritage and war art supported by the **Australian Research Council Discovery Project Grant**. We have been successful in attracting external funding, seeing a 153% increase, including achieving our first **AHRC research network**.

- The strategy to grow our PGR community has also been fruitful. We have successfully supervised three practice-based PhD students to completion in this period producing original work in art and design. We have seen a twofold increase in staff with experience of supervision; fivefold increase in experience of supervision to completion and a sevenfold increase in the number of staff with experience of examination. Over the period the unit has offered one fully funded studentship in drawing ('Discarded garments in motion: exploring female affect in narrative film through contemporary drawing practice') and three fees only bursaries in drawing and materials including one that explored the influence of plastics on architectural modelmaking.

Research objectives, plans and how we facilitated impact in the unit in the past five years

5. In addition to the broad strategy discussed above we had a number of clear and specific objectives during the period, these were: to develop research groups, to enable ECRs to flourish, to increase impact reach beyond traditional academic boundaries and to build a Research/Knowledge Exchange pipeline.
6. Once again progress has been significant, with research groups quickly developing as pivotal structures to support the growth of research. There are several research groups in the School, some are nascent but others have gained traction over the period of assessment. Our main areas of strength in disciplines under this UOA include the **Materials Group** (formerly Design in Plastics) who held an international conference *Provocative Plastics* in 2015, a drawing research group - **Transformative Matter, Material Trace** who will contribute to the *Trinity Bouy Wharf Drawing Prize, 2020*, and a group researching the occult in visual arts known as the **Black Mirror Network** who have set up a peer reviewed journal of the same name. Research groups are led by members of the Professoriate. The university has supported the establishment of new groups with staff proposing new academic themes. This approach to nourishing the ecosystem has supported the establishment of new groups in emerging areas such as **Digital Coding** and **Cognitive Arts**.
7. Notably, research groups are active beyond their membership, for example in 2020 the **Materials Group** hosted a symposium **Materials: The stuff of research**. The drawing research group staged **Mechanical Human Matter** in 2019. Activity under the UOA has also been greatly enhanced by strategic investment in our infrastructure. In 2017, the newly constructed award-winning **Drawing Studio**, the first of its kind to be built in the UK this century, enabled the university to make a successful application for an externally funded post of *Professor of Drawing*. With core funding from the Linbury Trust, the successful post-holder, **Bowen**, set up and led the new drawing research group **Transformative Matter, Material Trace** into which the university successfully recruited new doctoral students, including one examining 'Layered visions in the teleorama: constructing sites of ruination through contemporary drawing practice'.
8. Research groups also have significance in attracting and supporting ECRs (discussed

further in the next section) enabling them to attach themselves to more experienced staff and to test their ideas and work in a relatively safe environment. As outlined in our institutional statement we aim to support ECRs, including those coming from less traditional progression routes, consequently we have reviewed our funding schemes to enable ECRs to attend or present their work at conferences, including **Lund** (Craft History Conference, UCA, 2016) and we have engaged academic skills staff to support academic writing and drawn on senior research staff as mentors.

9. We believe that during the period of assessment we have also met our aim to increase impact and reach beyond traditional academic boundaries: **Lambert's** work around understanding the value of plastics has transformed the development of workforce skills in heritage collections enabling the correct identification, curation and interpretation of plastic objects. **Gough** is regularly interviewed for international media (ABC, BBC Radio 4, Radio 5 Live, print and online news media, etc.) to share his knowledge of the work of the artist Banksy; **Wenham-Clarke's** photographic project on the **Portland Stone quarry workers** was exhibited as part of the **B-side Festival** (2016); his work on urban gypsies was published in **Marie Claire**, CNN Style, USA, and news.com.au (Australia) in 2019, and his work on genetic conditions was exhibited to law makers at the National Assembly in Edinburgh (2020).
10. There is significant interplay between research and knowledge exchange (KE) and this has been proven to be instrumental in facilitating a Research/KE pipeline between the university and industry in the local region, leading to innovative, collaborative research projects such as **Conrad's Design out drowning** with the RNLI (2019).

Research objectives, plans and how we will facilitate impact in the unit five years forward

11. As noted in the institutional Environment statement, the arrival of a new Vice-Chancellor, **Gough** (2020) has heralded the development of a new University Strategy which includes a new Research and Knowledge Exchange Plan. Of the three key ambitions of the Strategy, the first is to achieve Research Degree Awarding Powers within the ten-year lifetime of the Strategy i.e. by 2030.
12. To achieve this ambitious target, our **Research and Knowledge Exchange Plan** will expand and deepen research with relevant aligned professions and industries in the UK and overseas. The application of our specialist technical knowledge in model-making, future fashion technologies and diverse modern materials will be developed through adventurous schemes of knowledge transfer and exchange. Drawing on our unique archives and collections in materials such as plastics we will accelerate interaction with material scientists, environmentalists and industrial designers.
13. In 2021 our Innovation Studio will open (the build having been delayed by COVID-19). Built using a £1.2m investment from the ERDF to support research and innovation projects with industry and a further £1.4 million from the Dorset Growth Deal, the Studio will support start-ups in the region. Drawing on our unique assets as a Maker Culture underpinned by bespoke infrastructure and equipment and informed by the disruptive possibilities of Industry 4.0, we will establish a **Lab 4 Creative Technologies** (LCT). This will physically and conceptually fuse our workshop expertise and other spatial assets with the Innovation Studio to create a Creative Technologies House, which will aim to accelerate our collaborative works across design,

innovation and technology. New appointments at professorial level and through industry fellows in 2021 will further develop the Lab's research activities and supervision. These initiatives are seen as key mechanisms to provide pathways to impact for our research, and are a major plank of the new AUB Strategy.

14. Incremental, planned growth in higher degree supervision, a higher percentage of staff with research credentials and professional recognition, and a record of successful PhD completions will support the attainment of research degree awarding powers (RDAP).

Approach to interdisciplinary research

15. Central to the university's revised Values, (innovative, collaborative and connected) we are passionate in our belief that creative disciplines can contribute significantly to other disciplines. Our REF 2021 return demonstrates creative arts' direct engagement with diverse subjects such as illustration with cultural geography (Edwardes' co-edited book *Non-Representational Theory and the Creative Arts*), finance & anthropology (**Rosamond**) and radio-active waste disposal (**Weir**). The work of **MoDiP** cuts across a number of disciplines from design history and museology through to material science and sustainability. Our documentary photographic practice crosses genetics (**Wenham-Clarke**), embroidery and sport (**Ellison**) and war (**Lloyd Lewis**). **Bowen's** work brings together fine art, botany, marine archaeology and archival studies, whilst **Jones** explores cognitive linguistics and graphic design ('The book as a tunnel', 2014).

Progress towards opening research and open access in UOA 32

16. We have encouraged staff to make their outputs publicly available wherever possible but open access remains challenging for practice-based research where research methods can involve the collection and use of a huge number of 'found' and curated visual artefacts. The REF has proved a catalyst for changing the processes of research administration as well as individual researcher behaviours. The Research Office delivered a number of sessions on open access compliance to academic staff in the UOA. The importance of compliance has been reinforced with academics on an individual basis for new starters, when applications are made for research funding or when submitting work to the AUB Research Repository.
17. Nevertheless, it is the case that practice-based research is often disseminated via exhibition that is free to public access for example, **Bowen's** work *After Hortus Malabaricus*, shown at the Royal Botanic Gardens, Edinburgh (2020), or **Gough's** research-grant funded exhibition at Domain House, Melbourne (2019). The university website repository system enabled practice-based research to be uploaded and has been further populated and made complete by uploading our REF contextual information to a new research repository AUBREI, from summer 2020. Encouraged to make their work available via online platforms such as *Academia*, *ResearchGate* and other sites, our researchers are keen to make their research openly available wherever possible in order to realise impact. For example, **Lambert's** *A Curator's Guide to Plastics* and *Identifying Plastics Toolkit* was published as a free web resource so that the materials could be accessed by heritage staff anywhere in the world, many of whom are often working in small heritage organisations with modest budgets, often without access to scientific expertise.

Ensuring a culture of research integrity

AUB UOA 32 Unit-level environment template (REF5b)

18. Work submitted under this UOA has been created within a culture of research integrity. During this period of assessment, we have set strategic goals to advance our understanding of research ethics across the board, from those undertaking research to those giving research ethics approval. We have achieved this through a number of initiatives such as the new role of *School Ethics Adviser* introduced in 2015 with a remit to support, review and 'pre-approve' all proposed research projects and research funding applications. This has been a key development in raising everyone's understanding of ethics as the *School Ethics Adviser* is able to draw on specific discipline expertise to support staff, but will know when to refer more complex projects (such as, for example, the use of actual text messages in a fine art research project) to *Research Ethics Committee* for wider discussion. These new roles have proved to be a very useful conduit between the School and the Central Committee.
19. We have also reviewed our training to raise awareness of ethics and our ethical approval processes amongst academic researchers. For example, all course leaders were required to confirm that course teams had completed the in-house ethics refresher training module. This module was tailored to the types of scenarios that creative practitioners are likely to encounter rather than relying on off-the-shelf packages more suited to science/social science research. Our graphics team devised a library of customizable forms to aid staff when seeking ethical approval and also visual representations of ethics approval processes.
20. We have ensured that professional standards from our creative disciplines are adopted in research. To support *Global Ethics Day 2019*, the unit held a symposium and series of events led by staff and designers and artists to explore the role of ethics in an interconnected world and confront the issues that creatives face, such as our photographic staff working with young people and our design staff exploring projects on circular design.

2. People

Staffing strategy, development and recruitment**Working Environment**

21. AUB is committed to the provision of a working and learning environment founded on dignity, respect and equity where unfair discrimination of any kind is treated with the utmost seriousness. The comprehensive HR Plan for the period made explicit reference to building research capability but also significantly to:
- Embed fairness and transparency within reward and recognition practices
 - Improve employee engagement through fair and transparent practices/processes
 - Implement wellbeing practices to balance duty of care aspects of Health and Safety
22. Staff with diverse personal, cultural and societal backgrounds in the UOA have been able to expedite their research in an atmosphere of support and encouragement. Equality and diversity are considered from the point of application to join the AUB community as an ECR to becoming an experienced researcher. This is evidenced in our recruitment policies, in staff training opportunities (for example E&D training and training to support the REF process), our wider HR policies on staff conduct and behaviour, (Equality at Work Policy,

2016).

23. During the period several research policies were reviewed to confirm they were fit for purpose and robust in terms of E&D, these included: internal funding schemes for research leave and financial support; Professorial awards and ECR support.
24. These reviews resulted in the following changes:
 - **Internal funding** criteria was reviewed to ensure funding schemes were fully cognisant of the needs of those on permanent part-time and fixed-term contracts and for those with protected characteristics. The outcome of this was that part-time staff could take blocks of research leave or time in addition to their existing contracts.
 - **Changes to the criteria for the Professorial awards** were revised to take account of recommendations from the Equalities Committee to better accommodate academic staff with a disability.
 - We have reviewed our funding schemes to enable **ECRs** to present their work at conferences, engaged academic support staff to support their academic writing and used senior research staff as mentors.
25. Researchers have attended mandatory workshops on topics such as inclusivity and diversity and mental health awareness. They have also engaged in a number of opportunities for training and development including online resources such as *unconscious bias* training, also mandatory.
26. The university prides itself on being a caring community where mental health and well-being is discussed and openly supported. All staff in the UOA have access to an AXA resource which, where required, arranges free, face to face confidential counselling sessions. PGR students also have access to excellent mental health support at the university. In February 2020, in recognition of the excellent work being done to better support students, AUB was top of a league table for mental health first aid provision in UK universities. AUB has trained many academic staff in a Mental Health First Aid two-day course that is also offered to graduating students as part of an employability training programme.

Development of our academic staff

27. The sustainability of research within the UOA rests with the recruitment and development of our academic staff. The period has seen a strategic review of staffing, with significant investment in this area. The HR Plan 2014-19 included the following key aims:
 - to strengthen academic staffing with a focus on academic leadership resulting in the appointment of two new deans;
 - to introduce progression routes for academic staff, to review and strengthen the processes for awarding professorial posts, resulting in five promotions to the professoriate in the period;
 - to reward research and academic leadership and to consider performance expectations at all academic levels, achieved through a revised appraisal and recognition scheme.

28. Reward and recognition in the UOA has been achieved through AUB's Academic Career Framework (ACF). The ACF was introduced in 2017 with the intention of aligning AUB academic staff contracts and contract expectations with other similar institutions and recognising contribution wherever it is made (research, teaching, leadership, etc.). The ACF was also designed to reward excellent teaching, research and knowledge transfer that contributes to the institutional strategy to meet Teaching, Research and new Knowledge Excellence Frameworks. We recognise that there are a number of new staff working **towards research** and the ACF is flexible enough to give staff the option to change pathways at their annual review meetings. We expect this to facilitate even more staff to choose a research pathway over the next period as they complete their PhDs.
29. Primary outcomes of the Academic Career Framework have been as follows:
- to open up the existing hierarchy of career progression beyond that of managerial roles;
 - to consolidate a base of new academics through the introduction of the role of *Early Career Academic* for staff including those from creative industry backgrounds who want to move into HE teaching and research;
 - to increase the number of members of the Professoriate within the UOA. Membership of the professoriate rose: Full professors by 60% and associate professors by 50% during the period. These include staff whose work rests primarily in practice-based research (**Shepherd**) as well as those who undertake more historical research (**Rose**).
 - to extend the range of experienced and established academics through new Associate Professor and Professor roles. The new Associate Professor and Professor job descriptions include research leadership which explicitly encompasses the mentoring and support of less experienced colleagues.

Succession planning and career progression

30. Of the 16 staff who were returned to the unit in 2014, at least half remain with us and are still research active and included in the 2021 return. Numbers for the 2021 return are now 40, a significant increase on 2014. More importantly a number of senior staff with significant international profiles have joined the university, for example: **Gough**, as Vice-Chancellor brings extensive research experience and international knowledge to AUB and a Professor of Drawing, **Bowen**, brings substantial expertise in research activity and external funding including a **Leverhulme Research Fellowship**.
31. AUB is securing a pipeline of new researchers through various routes: we have former doctoral students, (one of whom started with us as an undergraduate, Lund) who are now on the teaching staff and entered in this unit; we have Associate Professor roles with a route to application for full professorship (Hardie, Shepherd); and as demonstrated below we have a career framework that enables staff to move from ECRs/Early Career Academics to senior lecturers and beyond to professors (Wenham-Clarke).

Support for appraisals and career planning

32. AUB has implemented a unique and innovative means of capturing staff Research/KE intentions and activities through a bespoke on-line appraisal system. During the period the Research Manager and HR department worked closely with software developers to extend the simple on-line appraisal screens to include the recording of Research and KE outputs. This includes logging events/exhibitions and their impact and reach which historically has been difficult to capture, (for example the number of people attending a private view). The AUB Research Manager has access to an overview of only those sections of the staff reports and can compile a database of publications, activities, audience numbers etc.
33. The existing appraisal system also enables staff to input their career planning, for example, a plan to apply for a professorship. Then, in the context of the annual staff appraisal meeting, the content of the on-line form enables a formal commitment to future intentions on the part of the academic and a return commitment to support time, funding or staff development on the part of the line manager.
34. The explicit and formal inclusion of individual research and KE plans and outcomes has done much to raise the awareness and understanding of institutional plans and activities. As part of the dynamic ecosystem of the university, research and KE are seen as priorities in a way they may not have been in the previous period of assessment.
35. The Research Office supports contract arrangements, patents and links to the university knowledge exchange activities. It has delivered and facilitated a number of workshops aligned to the UOA: PhD by Publication (external Professor), REF Portfolios (Chair of UOA 32), international linkages (through our Partnership Plan), and bid writing workshops (externals supporters and facilitators with experience of presenting bids to the AHRC) to name a few.

Supporting and developing researchers in the unit

36. AUB has a commitment to the continual professional development of staff in this UOA. This commitment is evidenced by the opportunities offered to staff to undertake in-house and external training.
37. ECRs are provided with an experienced mentor for the duration of their probationary period. ECRs were invited to attend a Vitae Researcher Development Framework event in conjunction with Bournemouth University to support their career planning.
38. Notably, a number of academic staff who have joined the university with creative industry backgrounds have been supported to study for PhDs, for example Jones, (2017) and Edwardes (2016) and have gone on to conduct highly productive research projects.
39. For a number staff who are primarily creative practitioners within the UOA, a key challenge has been the lack of historical opportunity to practice writing. To meet this challenge AUB has appointed a tutor to support staff, in particular ECRs, to develop their academic writing skills. Participation in a wide range of initiatives such as writing 'boot camps', 'get writing' lunchtime drop-in sessions and a series of writing workshops has been instrumental in empowering staff in their writing for traditional journal publication and in support of their creative outputs.

Sharing Research Expertise in the unit

40. Staff in the UOA have presented their research work to colleagues either to seek guidance or by way of sharing considerable experience - for example, **Worth** has led sessions on *Writing for publication*. AUB hosts an internal annual research conference with open attendance for all those interested in research (including PGR students) and staff in the UOA contribute regularly on various subjects aligned to their research. For example, focusing on the dissemination of research: **Rosamond** - *The Future-oracular: prediction, divination and the politics of certainty* and **Weir** - *Perpetual uncertainty: Contemporary art in the nuclear anthropocene*, or on topics such as research methodologies: **Bowen** - *Navigating creative practice through research methodology*, **Lambert** - *Design history with visual analysis*. In 2020, the conference led by **Gough**, *The ecology of research*, moved to a virtual setting, and without the physical limitation of space, more staff were able to attend.

Time to research

41. A key enabler of research is the ability to set aside and plan time effectively. All academic staff are allotted 20% of their work time for research activity including fixed term and part-time posts. During the period, work scheduling for academics was reviewed and organised into trimesters that covered the entire calendar year, aligned to the annual leave cycle. This seemingly minor reconsideration of the shape of the academic year had a significant impact on staff who were able to use the summer trimester as a block of time to concentrate on research.
42. Attendance and presentation at conferences has always been key for making contacts, developing networks and testing ideas. AUB has a funding mechanism for staff in the UOA to engage with national and international conferences and exhibitions. For example: **Larkin** attended *Euoracademia* and **Shepherd** showed his paintings at *Volta* in New York, 2017. Many staff have been funded to present at conferences: **Gough** presented at numerous historical conferences linked to the commemorative events for the centenary of the Great War (Macedonia, New Zealand, Ypres in Belgium as well as London and Paris, as he transitioned to the new role in AUB in late 2019).

Research student culture

43. The period has seen a significant growth in the ambition and scope of our research student body. The first PGR students were recruited under a partnership agreement with University of the Arts London (UAL) in 2012. Since REF 2014 we have established a steady pipeline of new students successfully confirming to PhD. We have achieved our first three completions under this UOA primarily in practice-based subjects focused around fine art and design. A further five students have successfully upgraded to PhD. The partnership with UAL went through successful interim reviews in 2014 and 2019, and a full review in 2017 when we agreed a cluster of new KPIs: the experience of supervision to completion, completion rates and experience of examination. These are monitored through our Research Degrees Committee (RDC) and by UAL.
44. We have used modest QR funding to offer one fully funded studentship in the period in the

area of Drawing supervised by the Professor of Drawing and attached to our new Drawing Studio and research group. Other internally funded opportunities, i.e. part-time fees-only bursaries are also aligned to our research groups including two for design in the Plastics/Materials research group and linked to our Museum of Design in Plastics (MoDiP).

45. We have also actively sought external funding partnerships. We were successful in securing a student bursary from the John Lewis Partnership (JLP) for research aligned to the JLP archive and linked to our Dress History/Textiles Research group.
46. In 2019 we re-energised our growth strategy for PGRs by establishing a Graduate School as a viable pipeline for PhD candidacy and to meet our strategic intention to double our MA provision. Within the UOA we have validated new postgraduate courses in *Design and Innovation*, *Digital Fashion Innovation* and *Master of Research*. All three masters courses build on existing opportunities, strengths and expertise in the UOA. *MA Design and Innovation* will be housed in the new Innovation Studios co-funded with the Dorset Local Enterprise Partnership. *MA Digital Fashion Innovation* is built on significant and externally-recognised expertise in pioneering digital pattern-cutting and *MRes Arts* will prepare students directly for doctoral study with an aim to increase the number of those wanting to pursue PhD study at AUB.

Support for PGRs - skills development and career preparation

47. Under the partnership agreement with UAL, PGR students must attend three block weeks of research degree training held at UAL during their first year of study. Costs for attendance are met by AUB. The university also supports students to attend bespoke training events targeted at key progression stages (registration, confirmation and completion). Students are encouraged to be active members of our research groups, attend research workshops focused at academic members of staff, including the RKE seminars, and attend the university's annual research conference. More recently students are invited to attend the Graduate School lecture series and engage in our KE workshops.
48. In recognition of the challenge of being part of a small community of research degree students, where each student may be at a different stage of their doctoral studies, we have made an allowance of £500 available to support those students in their skills development. This has facilitated access to bespoke training, networking and conference attendance. Students have also engaged in diverse activities such as attending the *V&A Architectural models research network*; *Arts in society conference*, Lisbon, 2018; and *Thinking drawing 1960 to now* held at the Courtauld Institute of Art, 2019.
49. Staff in the unit have contributed to internal PGR symposia including **Lambert** on object-based research, **De Bruijn** on visual research methods and **Wenham-Clarke** on ethics.
50. A desire to engage in not only the practices of wellbeing but also with the discourses of wellbeing, is demonstrated in research practice too. The university was successful in securing *Research England* funding with Bournemouth University for a project to explore PGR student transition and wellbeing with a particular focus on induction. This research has resulted in a better awareness of the challenges of study at doctoral level and changes to our induction processes and ongoing monitoring for PGR Students.

Support for PGRs – supervision

51. We recognise that the growth of our research degree provision is contingent on increasing the number of staff who can supervise. In line with university strategic aims, the number of staff with experience of supervision to completion in the UOA has been increased through several new strategic senior appointments: in 2016 **Mclening** Dean of Art, Design and Architecture joined AUB and in 2020 **Paul Gough** became the new Vice-Chancellor. We have been proactive in seeking out funding opportunities that would allow us to recruit at professorial level securing funding from the Linbury Trust to appoint the new Professor of Drawing who had the necessary PhD completions (**Bowen**). The strategy to increase the number of staff holding doctorates has increased by 22% in the period creating a clear pathway to growth in the numbers of supervisors available in the future.
52. These key senior supervisors have enabled us to build capacity by guiding the supervision process so that staff new to supervising gain valuable experience. The period also saw a strategic move to include additional experienced internal supervisors on PhD supervision teams across the university wherever possible. In this way we are building the number of individuals with the necessary completions to lead supervisory teams.
53. External advisers are appointed to give specific advice, usually of a technical nature, where required. All AUB supervisors must successfully complete a 20-credit PGR supervisory training unit delivered through UAL when they are appointed to supervisory teams.
54. Staff have also taken up opportunities to supervise at other institutions (**Shercliff**, University of Bath; **Gough**, Australia and New Zealand) which brings additional expertise of processes and approaches to supervision to the institution. Numbers still remain modest, however, and the growth of staff with supervision to completion remains a priority.
55. Similarly, we have grown our capacity in doctoral examination. The UOA has seen a threefold increase in staff with experience of examination including **Jones** (Winchester, Portsmouth); **Frith** (University of Ancona, Italy), **Mclening** (Aston); **Gough** (Australia, New Zealand, UK).

3. Income, infrastructure and facilities**Using our facilities, estate and learning spaces to support research and research impact**

56. AUB has always operated a policy to invest strongly in its estate and facilities. The reasons behind this are two-fold: 1] to ensure that students of all levels have access to industry standard work environments and can learn the necessary skills sets for professional practice and 2], to support technically innovative creative practice and research by the whole community. Although facilities are notionally looked after by one School or another, they are in reality shared across disciplines, a good example of this is the film and photographic equipment which is accessed by the whole university although its 'home' is in the School of Media and Performance. The facilities referred to throughout this section are genuinely available to support research in the UOA.
57. Since the last REF research activity in the UOA has benefitted directly from a £28 million building programme to create new studio spaces. The building programme included

refurbished photographic studios and dark rooms, a new high-end large-scale digital printing system, a new industry-standard digital screening room and an extension of the Gallery space. Further investment was made in equipping our fashion studios with cutting-edge digital resources including LECTRA and CLO pattern cutting software; refurbishing our graphics studios to provide a dedicated 'maker' space housing up-to-date software and hardware; and a new dedicated letterpress and book binding department.

58. Investment in our well-equipped workshops has been enhanced with successful bids from European Structural Investment Funding (£1.2million, 2016-22). This has allowed investment in the equipment supporting research in the unit for a digital fabrication lab which includes 5-axis and 3-axis machining, CNC routing and SLS 3D printing facilities and additional laser cutters.
59. A new Innovation Studio, attached to the digital fabrication lab will open in 2020 bringing graduate start-ups onto the campus to research, innovate and prototype. New facilities include a *Large Object Scanner*: a precision 360° scanner capable of building a detailed digital avatar of any object, including the human body. It can be used for prototyping and production in clothing design & manufacture; a *Digital Loom for Technical Fabrics* enabling rapid-prototyping; and a *Waterjet Cutter* which allows precision cutting and engraving of almost any material, including metal, rubber, glass, ceramics and synthetics.
60. In addition to technology and workshop facilities to enable research, the university has invested in contemplative and contextualising spaces to exhibit, view/handle and interact with the outputs of creative art and design and research:
 - **CRAB Drawing Studio.** In 2018, the university built the first dedicated Drawing Studio to be constructed in the UK for more than a century. Designed by the respected British architect Sir Peter Cook RA (an AUB alumnus), this was the first Cook / CRAB building to be commissioned in the UK. The Drawing Studio won an RIBA National Award and achieved a World Architecture Federation nomination.
 - **MoDiP.** The Museum of Design in Plastics (MoDiP) is the only accredited museum dedicated to design in plastics in the UK. With some 10,000 artefacts in its collection and over 9,000 digitised artefacts, documented by 26,203 images it is the world's largest and best quality database of design in plastics. It is noteworthy that MoDiP and its objects have inspired and/or shaped the content of research in three PhD projects in the period ranging from poetry to product design. In the summer of 2018, MoDiP moved to a new, bespoke location with new exhibition cabinets to allow permanent and changing displays and increased storage facilities. A much larger communal space has facilitated public engagement activities more effectively. The appointment of an Engagement Officer has ensured the maximum exploitation of the resource both within the university and beyond. As reflected in our impact case studies, the Museum has played an international role in contributing to understanding around the preservation and care of plastic objects within heritage collections around the world.
 - **Gallery.** The Gallery is a unique, commercial standard exhibition space where work by staff and students can be shown but also significantly, has been able to showcase work of high-profile artists such as Morag Myerscough and the renowned architect Zaha Hadid. The prestigious touring exhibition of drawing, the Trinity Buoy Wharf Drawing Prize (which featured work by AUB PGR students), was held at TheGallery (2018). AUB

practitioner researchers in this UOA such as **Shepherd** (*Black Mirror*, 2017), **McLening** (*Zaha Hadid Architects: Evolution*, 2018) and **Hunt** (*Lucienne Day*, 2016) have been able to disseminate their research through exhibition, talks and workshops with Hunt's Lucienne Day exhibition moving on to tour internationally.

- **AUB Library.** Investment in digital and print based library resources for research has seen a 194% rise in the number of ebook subscriptions over the period alongside traditional key resources such as Arts Bibliographies Modern. A number of subscriptions to new e-databases such as Material Connexion and Building Design online, support our design and architectural staff and student researchers. The library has established an artists' book collection and most recently, in 2020, a new materials library, which includes a collection of new and innovative samples including ceramics, plastics, glass, paper, metal and timber. Bespoke software allows users to scan in QR codes to open an information sheet for each material. This resource will directly support the *AUB Materials* research group in investigating applications of current and future materials in design and manufacture including the influence of bio-inspiration. To increase research potential, **Stojkovic** was granted £5k from the Japan Foundation (2020) to purchase Japanese photobooks for the library.
- **Archives.** Since 2014 AUB has developed an archives policy to support the creation of archives and collections at the university where they have the potential to make a significant impact on our research environment. The unit has acquired the *Thorp Archive*, a unique architectural modelmaking resource charting the history of the first architectural modelmaking company, which links also to the AUB Hooton Pagnell textile archive. A 'paper library' has also been established emphasizing the importance of paper in creative processes. These include not only papers from major European handmade paper makers, but also those from Japan, China, India and Nepal. In addition, it houses rare examples of papers held in the personal archive of John Purcell and which were commissioned by international artists including Frank Stella, Howard Hodgkin and David Hockney.

Using funding to support research and research impact

61. An increase in research and KE income was one of the strategic aims of the RKT Plan 2014-18 and 2018 onwards. Research income across the assessment period stands at £261k having risen from £100k returned to REF 2014.
62. The unit has successfully secured its first AHRC Research Network (**Shercliff** - £30k, 20019-21) led by AUB in partnership with Nottingham Trent University and Derby Museums to explore participatory textile making.
63. **Lambert** has had particular success in applying for and achieving additional external funding for MoDiP to enable some exciting high-quality research to take place including the following awards:
 - The Museum, Galleries and Collections Fund (HEMG) (**Lambert** £76,625 per annum for six years 2017 – 23)

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- Arts Council of England funding for *Symbiosis* (**Lambert Museums Resilience Fund**, £36,400 from October 2016 to 31 March 2018) and *Plastic Vanitas* (**Lambert** £14,936, 2014)
- Arts Council of England Subject Specialist Networks grant - *Confronting plastic preservation* (**Lambert**, £9,900 2014 -2019)
- *W-rap/Polyphonic w-RAP / Synthetica* (**Lambert** £14,548 + £14,225 = £28,773, 2018-20) (*Synthetica* has Arts Council National Lottery Project Grants funding with additional support from the Cultural Hub)
- Art Fund Curatorial grant (**Lambert** £14,450) for a partnership project between the Plastics Subject Specialist Network (PSSN) and the Dress and Textile Specialist Network (DATS) to explore synthetic garments and fastenings. The British Plastics Federation, Plastics Historical Society and Horner's contributing additional funding of £1k, £350 and £500 respectively.

64. Other examples of external awards are:

- Funding from the Linbury Trust to support a new post of Professor in Drawing (**Bowen**, £55k, 2017-20)
- **Beeson** was awarded a prestigious Research Fellowship from exhibitors *Stiftung Hans Arp and Sophie Taeuber-Arp* based in Berlin (Beeson, £1,200, 2019).
- The unit was also successful in a bid to Research England for catalyst funding to improve support for students transitioning to PGR. This was achieved in partnership with Bournemouth University (£2,756, 2018-19).
- **Wenham-Clarke** secured £5k to support *Our Human Condition*, (Genetics Society, 2019)
- **Granel's** project *A Machine Aesthetic* was supported by Arts Council England (£5,790, 2014)
- **Waring** was awarded Heritage Lottery/Arts Council funding for *Sea Music* in partnership with Poole Borough Museum (£1,800, 2017)
- **Gough's** recent interdisciplinary work with military and cultural historians was supported by a major Australian Research Council Discovery Grant (\$310,000) with outputs realised since his appointment to AUB
- **Bowen** secured a Leverhulme Research Fellowship of £39,747 (2017) to support *Sensing and Presencing Rare Plants through Contemporary Drawing Practice*

65. In most cases, the outputs from these awards lead directly to impact. For example, *Symbiosis* explored models of industry engagement with a view to helping small specialist museums, whatever their industry focus, to develop workforce skills in this respect. One outcome from the research was a collaboration between the Poole boat builder Sunseeker and MoDiP to develop a guide to the plastics materials used in boat building, demonstrating the essential part played by this varied group of materials in the manufacture of these luxury products. The findings of the research led to the development of a generic guide to

support small specialist museums in working with industry.

66. The *Global Challenges Research Funding* awarded to the university (2017 onwards) has been used entirely by this unit to support collaborative projects with the RNLI aiming to 'design out' drowning. Staff from the AUB Fashion department developed production instruction sheets and manufacturing manuals for high-volume throwlines to be used at sea in Bangladesh, using software by their industrial partner Lectra™. AUB also tested how the maker manuals and videos for low-volume throwlines were used in country in Zanzibar, Tanzania, in particular how the instructions and semiotics were interpreted by local makers. Work in this area of applied research in design technologies will help underpin the forward strategy around creative technology (see 3.0 Future Strategy).

Using infrastructure to support research and research impact

67. Management of research at unit level is through the Dean of the School of Art, Design and Architecture and individual researchers are managed within subject/course groupings. Professors in the unit report directly to the Dean.
68. Staff in the unit are supported centrally by:
- An RKE Office, that extends expert guidance on grant applications, internal funding and advice to senior unit staff on research policy
 - A university Marketing Team that supports the dissemination of research and offers public engagement opportunities related to research in the unit
 - A highly skilled team of IT specialists who have facilitated the setting up of the university research repository as well as upskilling unit staff in the use of digital resources
 - Subject-based technicians to support practice-based research such as photographic print technicians
 - Dedicated subject librarians
69. The period has seen a number of infrastructure developments that have had a direct impact on research in the unit:
- A new appointment of KE Manager (2016) with a specific remit to support bid writing and a new administrative post (2017) in support of post award funding
 - An Innovation Outreach Manager
 - A Digital Communications Officer and Senior Press Officer
70. A major initiative during the period has been to restructure the university Marketing Team to substantially enhance the digital marketing capability of the team. This has led directly to an increase in the exposure of the unit's research to the public. For example, **Wenham-Clarke**, invited to speak on BBC Radio London (2019): **Gough** on BBC Radio 4, Five Live,

etc. (2020).

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

71. As is evident from many examples already mentioned – our *Global Challenges Research Funded* projects in Zanzibar, for example - the work of researchers within the unit is collaborative, interdisciplinary, and engages with diverse publics and communities. We aim, and succeed, in making a positive contribution to economy and society whilst responding to national and international priorities and initiatives.
72. For example, our research conducted into design is particularly linked to materials and materiality. **Lambert** and the work of MoDiP have played a significant role in raising public awareness of the value that objects designed in plastics has contributed to modern life, reflecting the value of plastics e.g. PPE equipment in the fight against COVID-19 (2020) balanced against the challenges that the use of plastics poses for modern life i.e. micro plastics in the food chain. Innovative online exhibitions including *Being me: plastics and the body* (2020) highlighted how products made from plastics have shaped modern life from prosthetics with life-like qualities, supporting amputees both physically and emotionally, whilst *Revolution: environmentally conscious design in plastics* (AUB, 2019) highlighted how plastics can help prevent environmental damage. Lambert's *w-Rap* project addressed the paradox of plastics through the unusual fusion of museum and light opera, working with composer Karen Wilmhurst and engaging with school children and shown in public performance venues including the Lighthouse, Poole (2018). *Synthetica* was performed as part of London's Tête-à-Tête opera festival (2019). MoDiP's contribution to the debate about the value, or otherwise, of plastics contributed to the BBC R4 documentary series on the future and past of this most commonplace, and controversial, material (2019).
73. **Lambert** spearheaded the *Provocative Plastics Conference* (AUB, 2015) bringing together designers including Sebastian Conran, and artists and scientists from six countries to explore all aspects of this controversial material. The preservation of plastics poses significant challenges for the heritage industry. Lambert sits on the international Board of *Complex* a five year, EU funded project led by University College London's *Institute for Sustainable Heritage* contributing museum expertise alongside that of scientists (e.g. National Physical Laboratory) in partnership with chemical engineers (e.g. Lacerta Technology Ltd) seeking to find a new way of exploring plastics degradation that will help museums with their care. Leading the Plastics Specialist Subject Network, which brings together museums, private collectors and universities, Lambert also obtained funding (Art Fund, 2020) for collaborative activity with the Dress and Textiles Specialist Network to explore synthetic textiles and fastenings in heritage collections.
74. Sustainability similarly features in the work of **Mclening** (*Eco car*, 2016) and **Jones and Conrad** have both contributed to collaborative projects with the RNLI under *Design out drowning* exploring how semiotics and low-cost buoyancy aids can address drowning in the third world. **Hunt's** work on the designer Lucienne Day in conjunction with the Robin and Lucienne Day Foundation led to the reissuing of Day's iconic fabric designs, exhibited at Kidderminster Carpet Museum and Dublin Castle. **Gough's** research into street art, graffiti, and Banksy is regularly quoted and called upon in the academic and popular media and press, as is his research into commemoration, remembrance and heritage of memorial sites.

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75. **Hardie's** work on design education led to an invitation to sit as an expert peer-reviewer for the Netherlands Initiative for Education Research, established to reduce the gap between scientific research and educational practice. Hardie was also appointed as a member of the Council for Higher Education in Art and Design (CHEAD) Research Alliance Strategy Group (2020).
76. The research conducted by our photography staff, particularly in documentary photography, with a strong exhibition record, has drawn public attention to some of the challenging issues of our times. **Forster's** work with the Salvation Army drew public attention to dying, death, loss and bereavement, (*God has no favourites*, winner, BJP Photography Portrait of Britain Award 2018). **Wenham-Clarke** told the personal stories of siblings in which one or more has a genetic condition. Working with a wide number of charities *Our Human Condition* raised public awareness of social issues relating to genetic medical science through a show at the OXO Gallery, London, 2020, and the Scottish Parliament, 2020, (winner, BJP Photography Portrait of Britain Award 2019; Honorable Mention, International Photographic Awards 2020 - Deeper Perspective category).
77. Similarly, photographic work in the unit has visually captured regional identity from **Ellison's** images of the embroidered garments of wrestlers in the Lake District (*North: Fashioning Identity*, Liverpool, 2017); and shepherding (*Herwick Common*, 2018) to work conducted more locally including **Wenham-Clarke** with images of the islanders of Portland (*The rock above and below*, B-side Arts Festival, 2016) with large scale images displayed on bill boards and bus shelters.
78. An invited member of the international creative practice-led research network, LAND2, hosted by the Universities of Leeds and Dundee, **Lloyd Lewis's** work also explores places that are out of bounds from public gaze, including an unused nuclear war bunker (*Code name: Burlington*, 2017). Photographs from the project are held in the permanent collection of the Imperial War Museum. Other work explored the nature of the Anthropocene, (*Dead Trees*, winner of the Purchase Prize Award, 2016) and was exhibited at the National Eisteddford, Wales.
79. **Stojkovic's** work on photography and surrealism in 1930s Japan, led to key note invitations which included the Hasselblad Foundation, Gothenburg (2019).
80. The work of fine artist researchers in the unit engages within and across subject disciplines. Founded by **Shepherd** and **Noble**, *Black Mirror Network* is a collaborative project between AUB, Plymouth College of Art and Design, the Fulgur Press and New York University Steinhardt to explore ways in which the occult and the esoteric have been at the heart of art practice. **Noble** co-organized the interdisciplinary conference: *Visions of Enchantment: Occultism, magic and visual culture* (Cambridge University, 2014); both co-edit the *Black Mirror* journal. **Bowen** collaborated with the herbarium at the Royal Botanic Gardens, Edinburgh (RBGE) to realise an exhibition (*Hortus Malabaricus*, 2020), including work from a residency in northern Kerala at the remote Gurukula Botanical Sanctuary, India. The project included an interdisciplinary micro-conference (*Sensing and presencing the imperceptible*, 2020) to celebrate RBGE's 350th anniversary bringing together visual artists, botanists and poets. **Weir** was invited to participate in a *Nuclear Culture Roundtable: Design for the deep future*, (Het Nieuwe Instituut, Rotterdam, 2019) which brought together artists alongside sociologists, scientists and nuclear agencies to consider strategies of dealing with nuclear waste. He also co-edited a special issue of the International Journal of

Creative Media Research, *Digital Ecologies: Fiction Machines*, exploring how fictional methods can be used to rethink and renegotiate our relationship with current and future technologies. **Gough's** exhibitions in Melbourne also resulted in colloquia, journal papers, and an edited book (2019-20).

81. The unit demonstrates novel research affiliations demonstrated in the work of illustration staff led by **Edwardes**. For example, the fusion of art and human cultural geographers is seen in collaborative research undertaken by Edwardes and Boyd (University of Melbourne) culminating in an edited book (*Non-representational theory and the creative arts*, 2019); **Larkin's** work on illustration in the built environment. Innovative work from ECRs in this field include text-based enquiry on reportage and illustration (**Cariolle and Roberts**) which explored the portrayal of refugee camps; and **Lardner's** subversive work on skateboarding, mistakes, risk and drawing and creative strategies. Illustration staff have contributed to regular colloquia including *Varoomlab*, (AUB, 2014) and CONFIA, Europe (2020).
82. Innovative work on social practices of making is being undertaken by the AHRC funded research network *Stitching together* (2018-20) led by **Shercliff** in partnership with Nottingham Trent University (Twigger-Holroyd). In partnership with Derby Museums the Network uniquely brings together researchers in geography, politics, and psychology with professional textile makers and community groups. COVID proved a catalyst for innovative methods of dissemination including a 'creative research methods' chat on Twitter, captured on *Wakelet* which allowed diverse audiences from across differing timezones to engage. Shercliff has co-edited two special issues of the *Journal of Arts and Communities* (2020) to disseminate project findings. **Worth** has produced a series of books and articles related to the history of fashion commerce and merchandising.
83. Work of our art historians links to commercial practice in the 'art world'. Notably **Rose's** work on largely unknown women sculptors working in the early part of the last century and **Rosamond's** work on the arts market economy. **Gough's** widely published research on John and Paul Nash, and Stanley Spencer, has been achieved in partnership with the National Trust UK and major collections in Australia. Many AUB staff serve on editorial panels for journals (**Gough: International Journal of Heritage Studies; Critical Military Studies; Journal of War & Culture Studies**) and as readers for major internal presses (**Gough: Routledge, Ashgate**).
84. **Gough's** record of leadership in research assessment (as chair of the UK and Hong Kong RAE and AHRC panels; membership of assessment panels in Europe, Australia and New Zealand: HEFCE research funding panels) is complemented by a regular pattern of keynote addresses to cultural history and art history research conferences and colloquia in UK (2014), Turkey (2015), Belgium (2016), New Zealand (2017), Macedonia (2018), Australia (2019) and publication projects in the UK from 2020 onwards.