

Institution: Buckinghamshire New University

Unit of Assessment: 32 - Art and Design: History, Practice and Theory

1. Unit context and structure, research and impact strategy

UoA 32 is an established unit at Buckinghamshire New University (BNU), with previous submissions dating to RAE 2001. Due to institutional structural changes and subsequent staff changes in the latest assessment period, BNU has experienced a significant change in strategic direction within Art and Design compared to REF 2014. The departure of lead researchers and subsequent launch of the University's Transformation Programme has led to the shift in research focus away from Art Contexts, Practices and Debates (Simpson), Furniture (Kaner), and Creative and strategic communications research (Springer). Furthermore, the successful incubation of UoA 7 at the University meant that some research staff in Art & Design refocused their work towards this UoA (loras, Buck). Despite these changes, the strength of this established UoA and the continued support for research in the subject enabled this submission.

Our key ambitions for REF 2014 included:

1. supporting specialist niche expertise to attain a worldwide reputation through strategic collaborations;
2. driving innovation in wider international subject communities by encouraging the growth of externally funded research centres;
3. developing a track record in research into learning, teaching and knowledge acquisition (practice and theory).

We have achieved some of these objectives, specifically in relation to supporting specialist niche expertise (for example, in the ceramics industry), as well as developing a track record into research in learning, teaching and knowledge acquisition. New staff have enhanced our focus on research-based pedagogies contributing to interrogative critical studio practice and stimulating connections between practice and theory: our critical, cultural and contextual research-led teaching informs students' studio work and makes it more responsive to current global challenges and conceptual issues. An example of this within fashion design, is the integration of the 'Cultural Triangulation Theory' (Future Laboratory) which provides a structure to concept research and trend forecasting, promoting skills in critical thinking and intellectual engagement.

The departure of key research leaders over the REF period has limited the ability to drive innovation in wider international subject communities by encouraging the growth of externally funded research centres. With new roles in place, this will be achieved with a shift in discipline focus. Successful incubation of design and sustainability research previously submitted in this UOA (loras) has attracted high profile international, externally-funded projects and has led to a new submission in UOA 7 (Earth Systems and Environmental Sciences).

The current submission comprises 6 staff (4.2 FTE). Chance and Crawley were submitted in REF2014, with other staff joining BNU during the REF period (Leet, Kalpaxi, Arya, Cseh). Reference is made to Brownsword and Buck, who left during the REF period and new developing researchers (Stockton, Marasini, Murphy).

During the REF period, Brownsword, Crawley and Chance continued to develop their research in design and culture to achieve impacts on cultural and environmental institutions locally and nationally, and the introduction of new courses to the portfolio in the last two years has attracted staff with a range of research interests and broadened the scope of research activity in the School. These include photography (Leet, Kalpaxi), creativity and positive psychology (Cseh) and solar-based design engineering (Arya). Research in art and design focuses on the following developing themes:

1. Heritage of industrial and post-industrial space

Research during the REF2021 period has focussed on design and culture within social and industrial heritage (Chance, Brownsword), with the strategic goals to develop partnerships offering new understandings of industrial heritage, highlighting the loss of heritage skills, shaping the direction of heritage organisations, and connecting communities to their tangible and intangible heritage. Through artistic interventions engaging over fifty artists and ten cultural institutions internationally, Brownsword's research has revitalised the heritage of the North Staffordshire ceramics industry and addressed the wider effects of post-industrialisation on people and places. Brownsword's artistic interventions and residencies have impacted policy and curation decisions. These have included events at the Gyeonggi International Ceramic Biennale in South Korea (2015), British Ceramic Biennial (2015), the First Central China Biennale (2016), the Crafts Council, the Victoria and Albert Museum, Oslo National Academy of the Arts, Shrewsbury Museum and the Ashmolean Museum.

Chance's research on the history of industrial landscapes has raised awareness of the social and economic impacts of non-elite 20th century industrial landscapes and the need to record them. Stakeholders utilising Chance's research include Historic England, the Garden History Society and the Friends of the Landscape Institute Archive at Reading University. Chance has developed partnerships to protect and better utilise the unique Landscape Institute archive. Chance has built project partnerships in the heritage and landscape conservation sectors in Buckinghamshire - Wycombe Museum and the Chilterns Conservation Board - to benefit people, communities and the environment. Her 5-year social history project in Buckinghamshire, 'Woodlanders Lives and Landscapes' has proven impact on people's sense of place, identity and health and wellbeing. Going forward, this research impact will build capacity and sustainability through new projects developing in partnership with museums, archives and other stakeholders, connecting people to their industrial and landscape heritage. Connecting communities and people to place and past is a theme within the unit's strategic goal to develop research into design and its impact on health and wellbeing.

2. Design for Performance

Since REF 2014, the strategic goal to develop the number of collaborations, networks and partnerships in the museums and galleries sector has significantly increased public and stakeholder engagement with research (Crawley). Crawley's research and professional practice spans the visual arts and architecture, scenography, science and geopolitics, and her interest is in design for performance as an expanding practice that can engage an audience beyond theatre through external collaborations and creative partnerships across disciplines. Her research works from the premise that the function of design is not merely to illustrate the performed text, music or movement, but to provide a further layer of visual narrative. Bringing together academic networks with curators, artists and heritage professionals from national and international agencies and organisations, new knowledge and understanding of the interplay between scenography and exhibition design has been disseminated through exhibitions in London, Paris and Oslo, and through publications and conference presentations. Her paper for the NORDIK XII conference session entitled "Untitled Spaces: Scenography and Nordic Art History" (Copenhagen, Denmark 2018) related to practice-based research in the design of scenographic solutions which brought about new understandings of the performative aspects of space and possible interpretations of site-specific iconography. Teaching and learning within the design curriculum at BNU benefits from this research and its networks, and in the future will ensure the sustainability of its impact in design for exhibitions, film, television and theatre.

3. Photography: Practice and Theory

New staff members to the University have introduced photography research as a new area of development within this UoA. Leet's research covers both photographic practice and theory, with particular interest in the use of photography in participatory arts practices, constructions of place, and its applications within a larger cultural context with reference to migration and identity. Her participatory project, *I Dream of Home* (2014) was externally funded by California-based Photowings, with outputs presented at exhibitions (UK, USA) and at a *Photography and Anthropology* conference at the British Museum. She was also lead author for the second edition

of *Context and Narrative in Photography* (Bloomsbury/ Taylor and Francis 2019). Kalpaxi's discursive interests lie with practice-based research in art, narrativity and photography's contemporary criticality; also, with current discursive shifts in art history, theory and practice and changing narratives influenced by technological and socio-political/economic developments. The goals of her research activities and publications are to foster better understanding of photography's mediumistic specificity and narrative potential and promote the broader relevance of photography in cultural history and knowledge production within and outside art. Her work, theoretical and practical, has been presented in a number of exhibitions and conferences. Publications include *Context and Narrative* (2019) written with Leet; 'Photography and Museums of Mutuality' (2019) in *Stedelijk Studies*; and 'Self-portraiture: On Photography's Reflexive Surface' (2016) in *JAR: Journal of Artistic Research*.

4. Product and Design Engineering (Solar-based technologies)

Design engineering has a long history at BNU. Research and development in Design Engineering has been in the forefront to devise design solutions that are not only advancing engineering design and technology but also adding social value towards quality of life, environmental protection and support to businesses. Key projects developed include the Horizon2020 funded WATERSPOUTT project (Buck), where the aim was to design, develop and pilot solar-based technologies for treating drinking water at the point of use. This is a key example of successful incubation of design and sustainability research which has led to a new submission in UOA 7 (Earth Systems and Environmental Sciences). A follow-on project, also funded by Horizon-2020 is in progress and is led by current staff in the school (Marasini). PANIWATER (Photo-irradiation and Adsorption Novel Innovations for Water-treatment) is a joint EU-Indian funded project through the Horizon2020 programme and Indian Department of Science & Technology (DST) which consists of 18 partners in 6 countries. The aim of the project is to develop a range of prototypes and technologies for the treatment of wastewater and drinking water to remove contaminants of emerging concern (CECs) and other pollutants. PANIWATER aims to work with end users on site with actions such as mapping CECs, removing CECs, health impact assessments, assessing social impacts of these interventions with the prototypes to invoke awareness for safe reuse of wastewater for irrigation, and preservation of potable water sources.

Two projects in the field of Solar Energy systems (Arya) include a three-year EPSRC funded research project (EPSRC/ EP/K010107/1) for the development of an evacuated flat plate solar collector, and Concentrating Photovoltaic Evacuated Glazing, the latter funded under the Invest Northern Ireland 'Proof of Concept' scheme (POC 302). Research relating to the development of Energy Saving systems has involved the design of a novel, highly insulating energy efficient glass façade for cost-effective retrofitting and construction of new buildings. This project has been funded under the Horizon2020 funding scheme and has involved collaboration with a group of 14 universities and industry-based research groups from across the EU. This solar-energy and energy saving systems research helps to deliver a sustainable built environment (and reduces building carbon emissions), playing a significant role in improving building energy performance and increasing benefit for building owners, users, and governments.

Future strategic aims and goals for research and impact

Our ambitions for the next REF will include:

- Developing research clusters within the School of Art, Design and Performance, aligned with the University's planned research impact centres
- Extending our external collaborations and partnerships
- Supporting future research development in key areas, including, sustainable design, digital design/culture, museum and heritage studies, photography, and design engineering.

Following a portfolio review (2018-9) and staff changes in the REF period the School has invested in new staff who are research-active in disciplines relating to curricula and new course

development, specifically photography, visual culture, dance science, performing arts and engineering. Additionally, the re-launching of BA (Hons) Fine Art in 2021 (as interdisciplinary, socially engaged and collaborative) will be key to attracting relevant research-active staff who will contribute to this UoA in the next REF. As a School, the plan going forward is to develop research clusters around art & design, performing arts, and the built environment. This will align with the University's setting up of impact centres to develop and support research.

Research activity and emerging core themes identified above will continue to feature strongly within our future strategic aims, such as the development of research into design and its impact on health and wellbeing, extended to familial and social considerations within kitchen and interior design. Strategically, emerging themes with new staff recruited cover photography (Leet, Kalpaxi, Murphy), Psychology (Cseh) and Engineering materials and design (Arya). This is supplemented by an emerging profile in learning and teaching research in art and design (Chance, Traversing Creative Digital Perspectives), and developing-researcher Stockton, whose research focus relates to pedagogy and diversity in design education. The research aims to extend the discourse on how pedagogy can consciously extend diversity in student thinking. Research interest in a number of new staff relevant to curatorial practices will continue to develop; for example, exploring the relationship between photography and the taxidermy specimen, primarily through the natural history museum collection and its representation through cultural theories on metapsychology, museology and photography; as well as interest in sustainable design practices with a focus on global challenges, democratic practices and issues of identity representation.

Furthermore, there is a body of research emerging around the application and impact of digital technologies in art and design. Extending conventional methods of design development, staff are engaged in practice-based research into 3D digital garment prototyping using Clo3D Software. With an increasing focus on sustainability within the industry and the impact of Covid-19 on physical shows, virtual product development is being rapidly adopted. At the same time, the use of 3D printing technologies in stage and production design, and the 'expansion' of narrative environments is being explored.

Further emerging research in design engineering includes Building Information Modelling (BIM) process improvements in the design and management of construction engineering projects and the use of life cycle analysis approach (LCA) encapsulating the use circular economy concepts. (Marasini) LCA modelling is currently being developed to evaluate the design and performance of TJs in the PANIWATER project. BIM consists of the development of intelligent 3D building models that are developed collaboratively by various engineering and built environment professionals to co-ordinate building design, run what-if scenarios, carry out life cycle analysis and manage buildings and facilities throughout their whole life cycle. Recent publications explore the use of additive manufacturing for electric propulsive leg to improve a product used in the shipping industry and has helped a SME to adapt new designs to improve the efficiency of the ships.

2. People

The staffing strategy for this unit reflects the university commitment outlined in the Strategic Plan and People Strategy. This strategy includes the implementation of the Bucks Academic Framework (BAF) which was introduced in 2019, through which staff have been able to prioritise research alongside their teaching responsibilities. It also provides staff with the opportunity to identify training needs, including applications to support research development and conference attendance. Further, when coupled with the impact of the current university strategy document (2020) "Impact 2022" which emphasises research, enterprise and staff development this streamlined approach has resulted in increased recognition of and support for both experienced staff and ECRs undertaking research activities and enables a greater focus of tailored support and development opportunities – including mentoring from experienced researchers - for those staff where research is a significant focus within their role. Academic staff contracts provide

dedicated time to undertake research, scholarly, enterprise or professional practice activity of up to 550 hours per year.

BNU is a teaching-focused institution, and the applied learning approach to course delivery and emphasis on industry embeddedness within art and design led to the appointment of staff mainly engaged with professional practice. These staff are mentored by the Research Leader and senior colleagues active in research, and future training is planned to support them in translating their professional practice into critically engaged outcomes. Furthermore, in 2019, job descriptions as well as guidelines for the appointment and interviewing of new staff were updated to place equal emphasis on research experience and quality, hence re-shaping the profile of staff attracted to the institution. Whilst this approach has worked for subjects with established areas of research, there are new areas of the School's portfolio which are embedded in vocational practice (such as Hair/Wig Design and special effects make-up for film and television). Tutors in these fields are engaged in professional practice and whilst they are supported to participate in ECR networks, they have made more active and immediate contributions in relation to knowledge exchange with industry, as well as setting up industry liaison panels to connect HE with industry.

Staff development

All researcher development opportunities are run centrally, as outlined in the institutional environment statement, with a specific focus during the period on developing early career researchers. Activities have focused on developing academic writing, research funding bids and research impact. Additionally, staff are supported through central funding to undertake research qualifications, including Doctoral study as many staff join Bucks from industry or professional practice in their first academic post.

Staff are supported financially and with allocated time to disseminate research within both academic and professional practice forums. In 2019, Bucks commenced production of a biannual Research newsletter "*Research Notes*", and a research journal, "*NOVOS*", as a forum to encourage staff and students to publish their research and impact.

Academic staff have been supported to present at national and international conferences: The University supported Chance to deliver papers on her research on the history and contemporary practices of design for corporate landscapes at two conferences in the USA; the International Conference of the Constructed Environment (University of Pennsylvania, Philadelphia, 2014), and the Design History Society conference at the California Institute of the Arts in San Francisco in 2016. These papers contributed to her submitted output, a monograph '*The Factory in a Garden*'. *A History of Corporate Landscape from the Industrial to the Digital Age* (MUP 2017), in which she compared the history and practice of design for corporate landscapes in Britain and the USA. These visits to the USA also gave Chance the opportunity to undertake additional primary research for the book. Site visits to the Facebook and Google campuses in Silicon Valley and research in the San Francisco library were of central importance to the completion of the last chapter. A three-day research visit to the town of Hershey in Pennsylvania and to the company archives led to the publication of this new research (Hershey was not included in the book) in Chance's output (2019) '*Chocolate heaven: productive consumption and corporate power in the recreational landscapes of Cadbury, Bournville and Hershey, Pennsylvania in the early twentieth century. Studies in the History of Gardens and Designed Landscapes. Special Issue 'The Didactic Landscape'* 39(1) pp.22-29. Chance co-edited this special issue of six articles with Dr. Megha Rajguru from the University of Brighton.

In 2016, the University supported Chance in developing the social and economic impact of her research on corporate landscape design, She delivered a paper '*Tech Nirvana: Why gardens at the office are good for you.*' at the '*Workplace Wellbeing*' conference at the City of Glasgow College, organised by Impact Engagement. At this continuing professional development conference for planners and architects, Chance raised awareness of historical contexts for, and good practice in, corporate landscape design.

In 2015, the University supported Chance to co-deliver a paper 'Gardens for well-being in workplace environments' with Bell (Bucks New University), Wagenfeld (Rush University USA), Winterbottom (University of Washington, USA) at the Design4Health conference. The paper was published in 'Proceedings of the 3rd European Conference on Design4Health, Sheffield, July 2015' https://research.shu.ac.uk/design4health/wp-content/uploads/2015/07/D4H_Chance_et_al.pdf

Support for conference attendance in 2017 led to opportunities to build new partnerships to develop research impact in the Landscape Design and in the Heritage sectors. Chance delivered a paper 'Ecological Humanism and the Design of Corporate Environments' at the Design History Society Conference, University of Oslo. This led to a partnership with four other HEIs to seek funding for a networking grant to protect and better utilise the Landscape Institute Archive at the University of Reading.

Research Development Funding supported Crawley, in curating the exhibition *Traces of the Future: archaeology of modern science in Africa* (2017), at the Nunnery Gallery in Bow Road, London. It showcased new work from photographer Evgenia Arbugaeva and multi-media artist Mariele Neudecker alongside objects and materials collected during historical-anthropological research at Amani Hill Research Station, Tanzania. (<https://bowarts.org/nunnery/traces-of-the-future>).

The University central research fund also supported research and publication activity including £5K to support writing the book *Factory in a Garden*, 2017 (Chance).

Staff have access to research supervisor training through Staffordshire University and Epigeum's suite of online supervisor development modules. Three members of staff (Bell, Kirby-Ginns, Penhaligon) have received/ are currently receiving financial support to undertake Doctoral study aligned to this UOA. Staff development for practice-based research has also been organised, for example, on the subject of Research integrity in the Arts and Humanities, led by Dr Fenby-Hulse, in a School development session on ethics in practice-based research.

Training and supervision of PGR students

Approximately 3-4 applications are made each year to undertake Doctoral study in Art and Design. The offer of our Vice-Chancellor's PhD Awards encourages further interest.

Five PGR students have completed during the REF period aligned with this UOA. (Circuit, Tear, Oliver, Grover, Lee) and two are current (Harlow, Aborode). Harlow has a full-time bursary through Horizon2020, and the other students are self-funding.

From 2019, students have had access to the UEA PGR online programme, covering quantitative and qualitative research methods, academic writing, teaching skills and completing a Doctorate. Monthly newssheets are disseminated, summarising local and external events and development opportunities. Students are required to use the Vitae Researcher Development framework planner and given individual support for their researcher development plan.

In addition to centralised development activities, the following activities have been funded for PGR students aligned to this UOA:

- Visit to Bath Spa University to discuss ethics of proposed PhD research Art residency, Italy
- Product Design students exhibited work at Taiwan-Britain Design Camp, National Taipei University of Technology (Taipei Tech) in an exhibition of outcomes in May 2018 sponsored by Taiwan Ministry of Education/Taiwan Forestry Research Institute/NTUT Design
- Glasgow design conference
- Attendances at GuildHE Research Summer School

Students (and graduates) have ongoing access to the University's MyBucksCareer platform, which provides support for future employability. Additionally, a skills review identifies areas of development for the undertaking of the PhD, and the School allocates resources to support individual needs (e.g. 3D CAD knowledge and training). Furthermore, PhD students are supported, wherever possible, to contribute to UG teaching as Associate lecturers (maximum of 6 hours a week). This also enables them to engage others in their ongoing research. PGR students are also invited to engage with the School's annual Creative Futures Week event, a programme of visiting talks and workshops by a range of artists, researchers, and design professionals. Specific talks also focus on developing resilience in the face of uncertainty, as well as sessions to promote health and wellbeing. Both staff and students have access to support all year from the Health and Wellbeing Unit of the University.

Equality and Diversity

Buckinghamshire New University is a vibrant, inclusive learning community that strives to create an environment free from discrimination and which actively celebrates and values diversity. We are committed to the fullest equal opportunity. Equality, diversity and inclusion (EDI) underpins the University's values and influences everything we do, with annual action plans led by an EDI working group, reporting to a new University-wide EDI committee chaired by the Vice-Chancellor.

Research support and facilities are open equally to all staff, irrespective of circumstances, contract hours and periods of absence. The University's provision of flexible development resources widens access to part-time staff and staff who cannot always be on-site. All staff recruitment and appointment of research positions are in line with institutional policies on equality and diversity.

Across the sector, the track record for BAME appointments in Art and Design has been significantly low. There has been a concerted effort made in recent years to attract a diverse range of staff to the institution. As an indication, during the REF period, less than 5% of staff in Art and Design at Bucks were from BAME backgrounds in 2017, compared to 25% of non-white staff in the School in 2020. This includes a research associate contributing to a funded project for outputs in UoA 7, as well as technical staff who support our students in our workshop areas. As a School, we broadly have 33% of students from BAME backgrounds, and it was essential to have a staff population which aligned with this profile.

We have established a solid, developing relationship with the recently formed Bucks Cultural Strategy Partnership to set up projects that specifically create opportunities for BAME staff and students, for example, in exhibition or curation projects such as Storytelling (2020/1). At the same time, discussions are ongoing with OYAP (Oxfordshire Youth Arts Partnership) to explore funding opportunities to run a leadership programme for BAME Level 6 and PG students. We have supported ongoing community collaboration and research engagement with existing networks and embedded an inclusive approach in our practice (for example, with colleagues in Dance who undertake intergenerational projects within the broader community). Staff development opportunities are set up to promote inclusivity and diversity, for example, a workshop was organised with Shades of Noir, an anti-racism platform that challenges and encourages dialogue and cultural value, promoting diversity and inclusive practices in the arts.

The institution is in the process of applying for the Race Equality Charter mark and as such all recruitment processes are aligned with our developing robust approaches to Equality, Diversity and Inclusivity. More recently, a BAME network has also been set up to promote greater awareness and inclusivity in our staff and student populations.

3. Income, infrastructure and facilities

External funding awarded:

- Design History Society publication bursary (£1000, Chance, 2016) Contributed to permissions fees for 8 colour plates and 60 black and white illustrations in monograph *'The Factory in a Garden'. A History of Corporate Landscapes from the Industrial to the Digital Age.* (Manchester UP 2017)
- Heritage Lottery Funding, Woodlanders' Lives and Landscapes - Chalk, Cherries and Chairs Landscape partnership scheme (£55k, Chance, 2019). Provided funds to buy out Chance's time to lead community social history project investigating domestic and social lives of people working in home-based industries in the Chilterns – chairmaking, lacemaking, straw-plating and tambour-beading. Grant also funds a part-time research associate and project expenses. Feedback from project partner, local museums and volunteers reveals impact on methodologies for recruitment and management of volunteers and on motivation and wellbeing of volunteers, particularly during the pandemic.
- HEFCE (now OfS) funding for Traversing digital-creative perspectives: preparing design and technology students for interdisciplinary work (£39,000, Mather, Chance). The project improved the work-readiness of graduates by delivering authentic work-related experiences. Working with local and district councils, interdisciplinary student teams produced two web/mobile-ready applications drawing on digital, creative and design skillsets. Funding enabled course teams to deliver and evaluate the project over two years.
- Bergen Academy of Art "Resurrecting the Obsolete: Exploring the Site Specific and Associated Histories of Post-Industry - Phase 1 and 2" (£12k, Brownsword) provided ongoing support to 'Topographies of the Obsolete' (TOPO), a research collaboration co-curated with Ann-Sophie Mydland from Bergen Academy of Design, 2012-2020. TOPO is an expansive programme of collaborative investigation, including symposia, publications and exhibitions, which engaged 91 cultural commentators from 16 institutions internationally.
- Arts Council England, Factory Project: Icheon World Ceramic Center South Korea/British Ceramics Biennial 2017 (£15k Brownsword): supported development of 'Topographies of the Obsolete' project (above) including exhibition and multi-media installation in the UK and South Korea. Supported by these funding streams, Brownsword's research and practice has had significant cultural impact at local, national and international level, in re-activating post-industrial spaces, raising awareness of the impact of globalization on industrial craft skill, shaped curatorial and artistic practice and decisions made by local authorities and national heritage organisations.

NDACA Archive

The National Disability Arts Collection and Archive (NDACA), is a repository of items and a research centre hosted by Bucks New University giving physical access to the NDACA digital archive which was launched in June 2018. The archive, the first in the world to offer a major retrospective of disabled people's art and activism, was developed in partnership between Bucks New University and the disability-led organisation Shape Arts and funded by the National Heritage Lottery Fund, Arts Council England and the Joseph Rowntree Foundation. The purpose-built learning wing and repository was installed in the BNU library in 2019, giving researchers direct access to over 3,500 images and objects celebrating the history of the Disability Arts Movement. The archive is embedded into levels 5 and 6 modules in the School of Art and Performance as a key research and learning resource. Students are engaging with oral history films, original works of art and many other resources about the Disability Arts Movement. Between May 2019 and March 2020, researchers from the Universities of Brighton, Glasgow and Doshisha University (Japan) have used the archive.

High Wycombe Furniture Archive

The University continues to fund the costs of the High Wycombe Furniture Archive - £11,000 since 2014. The archive, originally funded by an AHRC grant and launched in 2009, is an online searchable database of more than 60,000 documents and photographs relating to the High Wycombe furniture industry in the nineteenth and twentieth centuries. High Wycombe was the leading centre for chairmaking in the UK and second only to London in its significance in furniture-making. The website is a research valuable resource, receiving about 650 new users per month and the users look at approximately 130,000+ assets per month. Dwell time is high, and the website bounce rate is low, meaning visitors who come spend time exploring the archive. Images are free to download for research purposes only.

The University is also seeking to enhance its collections of furniture company archives with the acquisition of the archive of High Wycombe furniture company Nicholls and Janes, a key resource for understanding the history of UK furniture-making in nineteenth and twentieth centuries.

Horizon2020 projects have been awarded for product design research related to solar water disinfection (Also referred to in UOA 7). BNU is partner in two Horizon 2020 projects led by the Royal College of Surgeons in Ireland, providing product design and social science expertise for sustainable solar water disinfection in Africa (WATERSPOUTT: Sustainable Point-Of-Use Treatment Technologies, £141k) and India (PANI WATER Photo-irradiation and Adsorption based Novel Innovations for Water-treatment, £222.5k). (Buck, Marasini)

Arture EU Erasmus+ funded project (Art and Furniture Strategic Partnership) and IM Future projects (totalling £700K, 2015-9) A consortium led by Buckinghamshire New University, the aim of the ARTURE Project was to create a strategic partnership between VET (vocational education and training) and HEI in the arts as well as the organisations that support the furniture industries. The partnership sought to facilitate the exchange, flow and co-creation of knowledge to address the vocational skills mismatches and shortage of skilled workforce.

A Cloud-based repository template for training material was the main intellectual output of the project. This MOOC platform template contains content accessible by Higher Education and research institutions active in aesthetic design and the visual arts

(<http://imfuture.cetem.webfactional.com/>) Buck was co-investigator; Product Design students exhibited furniture work produced as a collaborative research project (2019)

£1.3m (March 2017) **Digital Innovation Hub at BNU (Aylesbury)** including a virtual/augmented reality engineering design studio. The development will incorporate a business service to meet graduate level skills gaps and a technical design facility to support the development of technical businesses and inspire the region's young people to consider careers in STEM (science, technology, engineering, and mathematics) subjects.

LEP funding: BTVLEP, in its Local Industrial Strategy, identifies creative and digital economy with Pinewood studios at its core as an alignment between the aspirations of young people and the skills needs of creative industries. The plan cites investment in skills and talent, connectivity as a means to invest in skills infrastructure and programmes to encourage young people to pursue higher level skills. The University's development of an industry-based learning environment at Pinewood Studios (2018) as a result of a successful LEP bid – including a range of cutting-edge equipment for staff and students, to support a suite of courses such as BA (Hons) Costume Design and Making, BA (Hons) Production Design, and BA (Hons) Hair and Make-Up for Film & Performance, will improve our infrastructure and support emerging research projects. (£1.645m of which £900K allocated to the purchase of equipment).

BNU has 4,000M2 of specialist facilities supporting design research including prototype labs, 5 axis router CNC, laser cutting, Stoll digital flat-knitting, 3D scanning (including a Creafom Metrascan) and printing. Facilities supporting make, including wood, metal, ceramics, mixed media and printmaking enable postgraduate researchers and staff to develop collaborative practical research. All specialist facilities are supported by technical staff and tech tutors.

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

The different components of our research strategy support our staff in participating in a range of research activities that sustain the vitality of our discipline. The contributions of staff research are recognised nationally and internationally through the following activities:

Research Collaborations and joint research projects

Chance collaborates with local authorities, museums, the landscape and wildlife conservation sector and with community groups in her aim to connect people to their landscape and industrial heritage. Research impact evidence has been collected for her Impact Case Study. Chance is currently in partnerships with Wycombe Museum, the Museum of English Rural Life at the University of Reading, Buckinghamshire Archives, and the Chiltern Conservation Board (CCB). She worked in partnership with the CCB in the £2.8 million National Heritage Lottery funded bid to deliver the 5-year project 'Chalk, Cherries and Chairs' a landscape partnership scheme with the aim to connect local people to the wildlife and cultural heritage of the Central Chilterns. Chance was awarded £55k to deliver one of 18 projects within the scheme 'Woodlanders Lives and Landscapes'. Chance's project, which began in 2019, has contributed cultural impact in shaping the planning, development, methodology and success of the landscape partnership and the local heritage sector. She is collaborating with local museums and libraries, heritage and family history organisations and local historians, informing their research methodologies data collection methods and archiving systems and improving participants' resilience, wellbeing, motivation and skills during the Covid-19 pandemic.

Chance has brought together an international team of academics from the universities of Oxford, Kingston, Tusuda University Tokyo and Columbus State University in co-editing a special issue journal, 'The Didactic Landscape' (*Studies in the History of Gardens and Designed Landscapes*) (2019) to define and explore for the first time a typology of institutional gardens and designed landscapes, conceived and designed with agendas, explicit or implicit, to advise, educate, or moralise. She has created a network of academics from the universities of Brighton, Newcastle, Manchester and Reading and with the Landscape Institute, the Museum of English Rural Life and English Heritage to develop a research project raising awareness of the Landscape Institute archive in Reading and its value as a resource for design practitioners. The network is collaborating on a bid to the AHRC for a networking grant to support the project.

Brownsword has collaborated with multiple agencies across sectors and cultures locally, nationally and internationally in his strategic aim to enhance public understanding of the value of post-industrial space and the legacy of endangered industrial crafts. Brownsword's research has led to the safeguarding of industrial sites and practice, attracted funding, enhanced international relationships and shaped physical and cultural regeneration. His research impact evidence informs his Impact Case Study for REF 2021. Working in partnership with Bergen Academy of Art and Design, (2012-2017), Brownsword has engaged over ninety artists and cultural commentators from institutions internationally. These institutions include Shrewsbury Museum and Art Gallery, the Victoria and Albert Museum, the Ashmolean Museum and the First China Central Biennale and the Icheon World Ceramic Centre in Korea. His exhibition *Factory* was endorsed as a key exhibition within the UK/Korea season initiated between Arts Council Korea, British Council and Arts Council England to promote cultural exchange and 'showcase the UK's innovation and excellence in the arts and creative industries'. Brownsword's research has been central in the renewal of Stoke-on-Trent as a centre for excellence in ceramics history and in contemporary ceramics. His research has contributed significantly to 'the expanded field' of ceramics and created opportunities for artists to traverse disciplinary boundaries. His work has been acquired by permanent museum collections including the Victoria and Albert Museum, the Potteries Museum and museums in Taiwan and South Korea. According to Alun Graves, the Senior Curator of Ceramics and Glass at the V & A, Brownsword 'has arguably had a greater impact on the study and appreciation of contemporary ceramics than any other contemporary practitioner.'

Leet was awarded an international grant by California-based PhotoWings in partnership with Ashoka U for *InSights: Past, Present, and Future Self through Photography* (2014). The goal of

InSights was to demonstrate ways that photography and the ideas around it could act as triggers in cross-disciplinary, cross-cultural, and cross-generational contexts, engaging communities and catalyzing social change. In addition to a physical exhibition, a paper 'I Dream of Home: Constructing an Archive of the Intangible', was presented for the conference Photography and Anthropology, organized by the Royal Anthropological Institute, Clore Centre, British Museum, London (2014). As part of the PhotoWings network (led by Suzie Katz), a further opportunity to collaborate with fellow grant-awardees at Dublin City University on an intergenerational photography project was developed on Irish migration into Northampton. 'Homeplaces: A Visual Exploration of Migration, Photography and Memory', presented at the Inaugural Age-Friendly Universities Conference, Dublin City University, Ireland (2015). Ongoing discussions currently with colleagues in the Dance team interested in intergenerational projects in the community.

Crawley works on projects that cross disciplinary boundaries, collaborating with academics and practitioners within the fields of performance, landscape design, museums and curatorship. Her publications and curatorship have placed the art of scenography within a broader conceptual, literary and historical artistic framework. Examples of collaborative research outputs/projects include: *Costume and New Materialism* with Donatella Barbieri, Senior Research Fellow and Principal Lecturer in Design for Performance, UAL; project with Kate Bailey, Senior Curator and Creative Producer, V&A Theatre and Performance Collections; presentations in Copenhagen and Prague with Dr Harriet O'Neill Assistant Director British School in Rome and Rebecca England, Exhibitions Manager, Royal Academy.

Crawley is a practising landscape designer, editor, curator and researcher, Associate of the Museums Association, Editor for Blue Pages the quarterly journal of The Society of British Theatre Designers, of which she is Director; member of exhibition co-ordination committee and editor for UK Design for Performance UK, and commissioner for OISTAT Publications commission. Crawley has also collaborated with Professor Mariele Neudecker, Bath Spa University and Wenzel Geissler, Professor of Social Anthropology University of Oslo - a series of parallel interventions combining artistic, scientific and public engagement work, which will produce published and public outcomes – from literary and academic writing to exhibitions. involving a series of installations and expositions in London, Paris, Oslo and other sites). Future installations will be mounted based on creative re-sitings of African laboratory materials and memorabilia to UK scientific locations and exhibition spaces; engendering public engagement and debate on the past futures and present potentials of research in Africa. The research involved in this project and its dissemination through exhibition makes an original contribution to knowledge. It also provides the opportunity to give wider exposure to Buckinghamshire New University's research and enable access to the partners' established networks of national and international organisations and agencies.

Cseh collaborated with academics on two outputs - David Pearson (now at Anglia Ruskin) and Louise Phillips (University of Aberdeen), Karl Jeffries (University of Central Lancashire). A book chapter review on theoretical conflicts between theories of flow and creativity was written as part of a collaborative book with members of the European Flow Researchers' Network (EFRN), and she is currently collaborating with fellow researchers in the MAPP (MSc Applied Positive Psychology) teaching team at BNU – Piers Worth, Matthew Smith, Ceri Sims. At the same time, she is working with other creativity researchers at UCLan (Linden Ball) and elsewhere towards a book chapter in a handbook of creative cognition. Cseh is also waiting to hear back about a possible grant for a collaboration with a researcher in China, Yanhui Mao on flow, identity, culture, and creativity.

Arya has been actively participating in writing research proposals for research funding from national and international funding bodies and made significant contributions to the development of several research projects on Solar Thermal Collectors, Photovoltaic Evacuated Glazing and Highly Insulation Glass Façade Systems. Since 2016 Arya has been involved in a research project funded under the Horizon2020 funding scheme collaborating with a group of 14 universities and industry-based research groups from across the EU. He has prepared a few research proposals for research funding; he is in touch with several universities from UK

especially the University of Warwick, Loughborough and Ulster Universities to collaborate on these proposals.

Supervisory and Examining Roles

In addition to supervising internal PhD candidates, colleagues have undertaken external examiner PhD roles, including: PhD Programme in Architecture and Visual Culture University IUAV Venice; External examiner Nevena Mrdjenovic's doctoral thesis University of Technology, Sydney Graduate Research School; External advisor Doctoral candidate, Department of Film, Television and Scenography, School of Arts, Design & Architecture, Aalto University, Helsinki, Finland; External advisor Doctoral candidate Leeds Beckett University.

Lectures, Keynotes and Visiting Professorships

Colleagues have delivered lectures nationally and internationally (e.g, France, China, South Korea). Brownsword: Nottingham Trent University, Innovation Across Disciplines seminar series (2018); Kookmin University, Seoul, South Korea (2018); ENSAB, National School of Architecture De Bretagne, France, Visiting Professor (2017); Geneva University of Art and Design (2017); Royal College of Art, London (2016-18); Nanjing University of the Arts, China, Visiting Professor (2016); Sheffield Hallam University, Transmissions Lecture series (2016); Place and Practices: Factory, Victoria and Albert Museum (2018). <https://www.vam.ac.uk/event/ovxpXYvX/lunchtime-lecture-artist-in-residence-jan-2018>

Organisation of Research Events

Examples include Brownsword, Place and Practices, British Ceramics Biennial (2017), exhibition performances throughout installation – disseminating research via public facing event; and Pattern Book, Victoria and Albert Museum, London. Live performance 20/21 (2018) Daylit Gallery. Disseminating research undertaken during the residency.

<https://www.vam.ac.uk/event/WLXdO6Lr/neil-brownsword-pattern-book-with-paul-holdway-april-2018>

Crawley has also contributed to the organisation of successful research events, for example, Prague project with the British School in Rome.

Networks

Chance has developed networks in three research areas; cultural heritage, green infrastructure and the history of 20th century landscape architecture. Her networks in cultural heritage in Buckinghamshire led to an invitation by the Chilterns Conservation Board (CCB) in 2018 to develop a social history project as part of their National Heritage Lottery fund bid to develop their project 'Chalk, Cherries and Chairs'. The project leader has confirmed that Chance's involvement in the bid and partnership with Bucks New University contributed to securing £2.8 million to run the 5-year project. Chance was also invited to join the Chalk, Cherries and Chairs' steering group to support the project and she is now embedded in networks supporting landscape conservation, biodiversity, social enterprise and youth action in the region, including the Chiltern Society, Chilterns Rangers, Buckinghamshire Archives, Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust. Chance is also a member of the Bucks NEP Green Infrastructure Task Group to advise on policies to improve green infrastructure in Buckinghamshire and Milton Keynes. In 2019, Chance joined the Buckinghamshire Archives and Heritage Network (BAHN) which meets quarterly and comprises archivists, curators and museum directors across the region with the aim to share best practice in support for tangible and intangible heritage in the region.

Chance has developed academic networks nationally in the fields of design and landscape history leading to publications and funding bids including with Dr. Megha Rajguru, University of Brighton, Dr, Claire O'Mahony, University of Oxford, Professor Daniel Winterbottom, University of Washington; Professor Amanda Rees, Columbus State University, Professor Penny Sparke, Kingston University. She is currently leading a team of academics and heritage professionals to develop a networking bid to promote and interpret the archive of the Landscape Institute at Museum of English Rural Life, University of Reading.

Crawley has broad networks in the field of performance, landscape design, museums and curatorship. Examples include Dr Laura MacCulloch, (College Curator Royal Holloway), Kate Bailey, Senior Curator Victoria and Albert Museum; Sarah Saunders, Head of Learning and Creative Partnerships British Museum; Rebecca England, Exhibitions Manager, Royal Academy of Arts; Farnborough Air Sciences Trust; Ariane Koek, CERN Arts/Science International Director; Alice Sharp curator and director of Invisible Dust; Una McCarthy, curator/ director Limerick City Gallery of Art; James Peto, Director of Wellcome Trust; Brian Dillon, Royal College of Art, international art critic and writer, Editor of Cabinet magazine; Dominic Grey, Opera North Projects; Pontus Kyander, University of the Arts Helsinki, museum director; Harriet O'Neill, Assistant Director British School at Rome; Gareth Bell – Jones, Curator Flat Time House, London; Sophie Hill, Co-director Bows Arts and the Nunnery Gallery, London; Dr Thea Brejzek, Professor for Spatial Theory at the University of Technology Sydney (UTS), Director of the IKEA X UTS FUTURE LIVING LAB and Co-Director of the Joint PhD program 'Critical Spatial Thinking: Performative Practices and Narrative Spaces in Design' in collaboration with the Architecture Faculty at Technical University Berlin.

Partnerships

Partnerships were developed by Chance with High Wycombe Museum on the Heritage Lottery fund bid 'Living Laughing and Learning in High Wycombe Furniture Town', developing a community social history project to raise the public profile of High Wycombe's unique industrial heritage, secure the remaining heritage of the furniture industry, and research its history from fresh perspectives, focusing on the domestic and social lives of the diverse employees and their families and the role of women.

Additionally, she secured a partnership with Chilterns Conservation Board on a successful £2.8 million bid to National Heritage Lottery fund for 5-year Chalk, Cherries and Chairs Landscape partnership. And a further partnership project 'Woodlanders Lives and Landscapes' £56K was developed to research the domestic and social lives of the industrial and craft workers in the central Chilterns. Working with volunteers including students, the project will connect local people to their heritage, connect family and local history groups across the region, provide new data for local history collections, and involve the development of new walking and virtual tours and maps.