



AHRC Design Leadership Fellowship Final Report

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DESIGN RESEARCH FOR CHANGE

Celebrating UK Design Research Excellence

Design Research for Change is a showcase of 67 Arts and Humanities Research Council (AHRC) funded Design research projects. The projects traverse disciplinary, methodological, geographical, and conceptual boundaries. The work showcased here was developed by researchers and practitioners from a range of Design disciplines including product, graphic, fashion, architecture and from other specialist areas such as healthcare, business, engineering, and elsewhere. The projects illustrate wide-ranging social, cultural, and economic impact and highlight the significant roles that UK-based Design researchers play in some of the most complex and challenging issues we face both in the UK and globally and the positive outcomes that are being designed and developed.



2017

2018



1

Introduction

This report documents the work undertaken as part of my Arts and Humanities Research Council (AHRC) Design Leadership Fellowship between January 2017 and December 2019. Over the course of 36 months, I have conducted a series of events and activities aimed at enhancing the design research community across the UK. This work has included organising and holding a variety of workshops developed to support the next generation of design researchers in the UK, writing a first AHRC funding application, UKRI Future Leaders Fellowships' workshops for design researchers, two international Does Design Care...? workshops, a number of invited lectures and conference presentations, and two Design Research for Change showcase exhibitions at the London Design Fair. Moreover, early in my Leadership Fellowship, I conducted a survey of the UK's design research community eliciting responses from over 300 participants from a wide range of career stages and design disciplines.

A key message from over three-quarters of those who completed the design research landscape survey highlighted the complexity of the AHRC bid writing process. To address this, we developed and delivered a series of ten Next Generation Design Research (NGDR) workshops across the UK. The Next Generation Design Research workshops are half-day workshops that explore the processes involved in applying for an AHRC grant. The workshops are particularly helpful for researchers looking to secure their first AHRC funding grant and for other researchers looking to find out more about the funding schemes offered by the AHRC. The NGDR workshops have

been designed to engage with early career design researchers whilst providing wider advocacy for UKRI and AHRC design programmes as well as building confidence and skills in the design research community. To date, over 1,000 early career design researchers have signed up to receive support and information here.

Following the success of the AHRC Next Generation Design Research workshops and in response to substantial participant feedback, we designed and developed a second "hands-on" workshop entitled "Writing an AHRC proposal in 2 hours..." for early career design researchers. The feedback from the attendees in the first series of workshops revealed clear knowledge gaps in the processes and language used in bid writing and demand for support in writing and structuring an AHRC design research proposal. Individuals from the AHRC and experienced design researchers attended the "Writing an AHRC proposal in 2 hours..." workshops to offer support and expert feedback.

In June 2018, the UKRI Future Leaders Fellowship scheme was announced. The UKRI Future Leaders Fellowship scheme is a £900 million fund that aims to establish the careers of world-class research and innovation leaders across UK business and academia. This cross-UK Research and Innovation scheme supports early career researchers and innovators with outstanding potential in universities, UK registered businesses, and other research and user environments including research councils' institutes and laboratories. The support will enable each fellow to tackle ambitious and challenging research and innovation and develop their own careers. The UKRI FLF scheme is open to the best researchers and innovators from around the world, which aims to ensure that the UK continues to attract the most exceptional talent wherever they may come from. Given the rich and lengthy history of design talent in the UK, the UKRI FLF scheme is one that the next generation of design researchers are particularly well suited to. We, therefore, designed and developed new workshop tools specifically for this scheme that are aimed at supporting early career design researchers to develop their UKRI FLF application. Four UKRI FLF workshops for design researchers were held at the four doctoral training centres in the UK - Design Star CDT, University of Reading, Northumbria-Sunderland CDT, 3D3, Falmouth University, and LDoc, Royal College of Art between February and May 2019.

In 2018 we launched a call for contributions for a Design Research for Change Showcase at the Truman Brewery in London as part of the London Design Festival. From a wide range of responses, 67 AHRC funded design research projects were chosen. The showcase took place over the duration of the London Design Fair in September 2018, which was visited by over 30,000 visitors including

trade, press and the general public. Design Week, one of the key design trade magazines in the UK, listed the Design Research for Change Showcase in the Top 10 list of things to see during the London Design Festival, 2018. A catalogue entitled Design Research for Change, that comprises further information on the 67 projects featured in the showcase, was produced in an edition of 1000. The catalogue has been distributed to visitors to the exhibition and also recently to over 160 of the leading design schools across the world from India to South Korea; Slovenia to Estonia; Australia to USA and many other countries. Based on extremely positive feedback received during and after the Design Research for Change Showcase in 2018, we organised and held a second Design Research for Change Showcase in 2019. The second Design Research for Change Showcase focused on early career researchers and the contributions they have made in over 60 design-led research projects that seek to break new ground in significant and complex challenges such as developing design tools and processes that will support people living with dementia to live high quality lives, designing systems that ensure childrens' educational rights are met, designing interventions for supporting more sustainable and inclusive breastfeeding practices, and designing methods for producing more sustainable food practices.

Context

The world that we inhabit today, where swift and momentous changes in society, sciences and technologies occur, is thick with examples of design acts and design processes from a wide range of creative disciplines such as product design, fashion design, architecture, and many others. The capability of design research to engage with a wide variety of different forms of knowledge across the social and physical sciences, the arts and humanities and transform this into new visions of the future through processes, products, systems, services and policies means design acts as a facilitator of knowledge, an implementer of actions, and is a key actor in shaping our futures. Emerging forms of design research are particularly well suited in framing and addressing the contemporary global issues we face. Design research is a creative and transformative force that can help to shape our lives in more responsible, sustainable, meaningful, and valuable ways. In fact, it has been said that design is now the best tool we have available to us in making sense of the increasingly complex and challenging situation we find ourselves in. Similarly, it is clear that design research pervades an increasing number of places and this plurality is evident given the wide range of conceptual, methodological, technological and theoretical approaches in contemporary design research. Various forms of design research now routinely appear in a vast array of disciplines in and around modern design praxis, including business, engineering, computing, healthcare and management.

This plurality brings a number of issues for design research. We need to ensure that design research is useful and enacted in order to be useful. Design research must not only comprise an understanding of historical, cultural, and social perspectives, but also be critical and challenging of these perspectives. Design research should be enduring and avoid the trap of only focusing on current "hot" topics. Well-structured design research should reflect a profound evolution in our vision of the world and our way of inhabiting it. Design research must be thoughtful and serious about what it is doing and it needs to be clear and bring clarity to its processes, activities, roles, and value. At its best, design research is self-explanatory; it is viewed as a highly desirable asset in various forms of professional practice. The trend to use design as a transformational tool has also brought more focus on design, requiring design researchers to be more open and co-operative in how they work, demonstrate talent with both quantitative and qualitative research methods, have the ability to analyse and synthesise data, and communicate findings in objective and compelling ways.

We will not address the complex global problems we face using the same kind of thinking and knowledge we used in the first place. In short, the world needs fresh approaches to contemporary society's issues and truly alternative, innovative, and collaborative design thought and action is the answer. If design is the best tool that we have available to us to shape the world, how might design researchers best critically reflect, collaborate, contest, create and articulate new visions for local, regional, national and international contexts? How will designers best develop new ways of participation to create truly desirable futures? My role as the AHRC Design Leadership Fellow will be to work closely with the AHRC's Director of Research, Associate Directors of Programmes, and other senior Research Council staff to address these questions and others whilst enriching the intellectual agenda for design by:

- (1) building upon the activities funded by the AHRC.
- (2) identifying opportunities to add distinctive value to the existing research landscape.
- (3) broadening engagement with other research funders in the UK and internationally.

Vision

My vision, for the AHRC Design Leadership Fellowship, and in line with the AHRC Design initiative "Design for Change", is to achieve real and long-lasting transformation and impact; to enact alternative, positive, and help achieve real developments within the culture of design research that will equip it for the challenges of the future. This has required more than traditional

quantitative and qualitative research. It has required evidence to become informed and intuition to inspire us in imagining and creating new and better possibilities. My aim is to achieve change that will make real differences to the lives of individuals, groups, communities and society as a whole. Working collaboratively with researchers in other disciplinary areas, I will take the lead in identifying opportunities for collaboration, trends in research, and organising events on behalf of the AHRC and work to shape preferred realities and positive future visions around key challenges (e.g. sustainability, health and wellbeing, security, care, education, employment) where design thought and action is key. For example, this may involve the co-design and co-development of novel products that will lift people out of poverty. It might include the design of innovative services in care that will improve the health and wellbeing of families across the country. It may comprise the design and development of new policies that will reduce further harm to our planet.

My vision will be inclusive in its scope and encourage projects that adopt and utilize a mélange of different types of design research including experimental, practice-based, and hybrid approaches and methods. This will show the various cultures of design research that coexist and celebrate this pluralism in what is rapidly becoming a very healthy and mature field of research. The fellowship role will allow me to encourage and enhance projects under the “Design Research for Change” banner to utilize research approaches and methods that fit their purpose. “Design Research for Change” will borrow methods and approaches that fit from the physical sciences, the social sciences, and the arts and humanities if and when the situation arises. Adopting a pluralistic approach will allow for a flexible and open-minded exploration across the breadth of design and other disciplines and will support bringing these cross-disciplinary methodologies and communities together to strengthen the design research base. By building purposeful relationships design researchers (working with other disciplines, professionals and citizens) will enhance their own and others’ abilities to challenge existing economic, social, environmental, and political models. This will help us to understand and strengthen the inter-relationships between design research and design practice (i.e. design consultancies / agencies and design teaching), and end-users. Creating, for instance, more sustainable product design, services, and processes, whilst rethinking how policy might work better. Collaboration alone, however, will not be enough. We require shifts in our cultures of co-design, co-innovation, and co-production, collectively deciding and socially organizing the future world that we will all be proud to share. My belief is that design is the best tool that we have for making sense of the complex, multi-faceted world we all inhabit. Design in the way that it can holistically explore, critique, and define what needs to be done, synthesize and propose future scenarios, and present, visualize, and communicate those ideas to others can be at the forefront of shaping preferred realities and future experiences. The objective being to develop mechanisms for enhanced co-design, co-innovation, and co-production, collectively deciding and shaping preferred situations.

To achieve my vision of enhanced cultures of co-design, co-innovation, and co-production, collectively deciding and shaping preferred situations, I will act as an ambassador for the design research area. I will be a design champion on behalf of the AHRC and the design community and work tirelessly in partnership with the AHRC in undertaking the leadership fellow role. My aim is that the 3-year programme will result in a transformational shift in the focus, quality and impact of design research, and the fellowship will leave a legacy of evidence and examples, and a bolder, stronger interdisciplinary design community with a new generation of early career researchers engaging with a “Design for Change” agenda.

Aim 1

To increase both the quantity and quality of design-led research proposals.

Aim 2

To strengthen the research capacity of the next generation of design researchers.

Aim 3

To act as an ambassador for design research across all sectors of UK society.

Aim 4

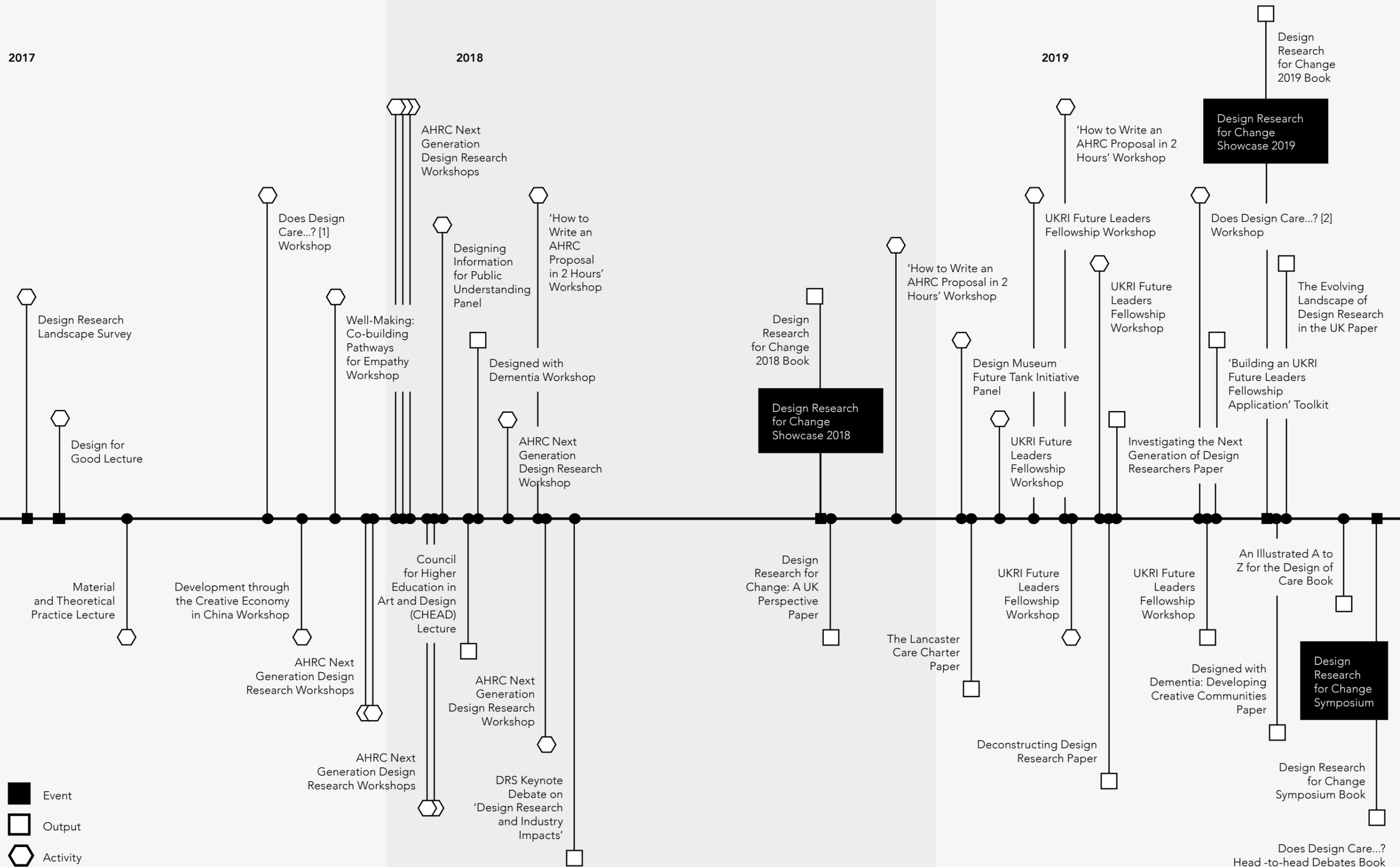
To use design research as a tool for delivering positive social change.

Timeline

2017

2018

2019



2

Landscape

The world that we inhabit today, where swift and momentous changes in society, sciences and technologies occur, is thick with examples of design acts and design processes in a wide range of creative disciplines.

This world is increasingly complex and interdependent; the problems of society are not isolated to particular sectors. Typically, these problems can be characterised as emergent phenomena with non-linear uncertainties. Collectively we are having a negative impact on some of the most important features of life that we claim to hold most dear (i.e. our planet, our society, our spirit, and our health). Our ecological crisis, wherein we continue to deplete our natural capital on a massive scale will inevitably lead to food supply crises and an anticipated doubling of food prices by 2030. Our social crisis sees nearly 2.5 billion people on our planet living in abject poverty. We are in the midst of a psychological crisis where 3 times as many people die from suicide as die from homicide or in wars.

Our health crisis in the UK will see over 80% more people aged 65 and over having some form of dementia by the year 2030 compared to 2010.

Given these startling statistics, we have to face the reality of being woefully under prepared. More importantly, these challenges are collectively creating a world that nobody wants and may well constitute the most significant failure of our time.

These crises, however, present incredible challenges and opportunities for design research. It is now propitious for design research in all its guises to grasp these opportunities to envision and realise future visions for the planet that we will all be proud to share.

Design is one of the most extensive ethical theorems of European thought, as well as one of the higher and more problem-conscious points of reflection on the project of modernity in Europe. In terms of its genesis, design has always been deeply concerned with all parts of contemporary life - with the economic situation as well as the ecological; with traffic and communication; with products and services; with technology and innovation; with culture and civilisation; with sociological, psychological, medical, physical, environmental and political issues and with all forms of social organisation.

Given its complexity, design has thus meant working on history, on the present, and on the future. design is a balance between the technological and humanistic aspects of culture. It has always aimed to make the industrialised world both human and habitable, as well as to generate a better quality of life within artificial environments.

The capability of design research to engage with a wide variety of different forms of knowledge across the social and physical sciences, the arts and humanities and transform this into new visions of the future through processes, products, systems, services and policies means design acts as a facilitator of knowledge, an implementer of actions, and is a key actor in shaping our futures. Emerging forms of design research are particularly well suited in framing and addressing these global issues.

Design research is a creative and transformative force that can help to shape our lives in more responsible, sustainable, meaningful, and valuable ways. In fact it has been said that design is now the best tool we have available to us in making sense of the increasingly complex and challenging situation we find ourselves in. Similarly it is clear that design research pervades an increasing

number of places and this plurality is evident given the wide range of conceptual, methodological, technological and theoretical approaches in contemporary design research. Various forms of design research now routinely appear in a vast array of disciplines in and around modern design praxis, including business, engineering, computing, healthcare and management. This plurality brings a number of issues for design research that I would wish to explore during my Leadership Fellowship. These include how we can ensure that design research is useful and enacted in order to be useful. Design research must not only comprise an understanding of historical, cultural, and social perspectives, but also be critical and challenging of these perspectives. Design research should be enduring and avoid the trap of only focusing on current “hot” topics.

Well-structured design research should reflect a profound evolution in our vision of the world and our way of inhabiting it. Design research must be thoughtful and serious about what it is doing and it needs to be clear and bring clarity to its processes, activities, roles, and value. At its best, design research is self-explanatory; it is viewed as a highly desirable asset in various forms of professional practice. This emphasis has coincided with an expansion of user-centred and participatory design practices including service design, design for social innovation, and co-design.

The trend to use design as a transformational tool has also brought more focus on design, requiring design researchers to be more open and co-operative in how they work, demonstrate talent with both quantitative and qualitative research methods, have the ability to analyse and synthesise data, and communicate findings in objective and compelling ways.

We will not address these complex problems outlined above using the same kind of thinking and knowledge we used in the first place. In short, the world needs fresh approaches to contemporary society’s issues and truly alternative, innovative, and collaborative design thought and action will be the answer. If design is the best tool that we have available to us to shape the world, how might design researchers best critically reflect, collaborate, contest, create and articulate new visions for local, regional, national and international contexts? How will designers best develop new ways of participation to create truly desirable futures?

Based on a survey conducted with over 300 members of the design research community in the UK (see Section 3 - Activities) in conjunction with a wider analysis of the design research landscape in the UK and overseas, 16 key recommendations were articulated to focus on in my AHRC Design Leadership Fellowship. These were grouped into one of three activities – (i) Things to Do, (ii) Things to Communicate, and (iii) Things to Influence (opposite page).

Things to do

1. Implement better means of communications between the AHRC, design researchers and the design research community at large. This could include online “showcases” that highlights funded design research, events and workshops providing relevant master classes, and expositions of design research to share outputs and impact stories in dynamic ways.
2. Create alternative and more flexible bidding processes, including schemes that encourage industrial and other partnerships and/or smaller more experimental approaches.
3. Address the difficulties faced by design early career researchers (ECRs) and ensure that they can compete in the current environment.
4. Engage more fully with architecture and design research areas associated with the built environment.

Things to communicate

1. The AHRC need to more clearly communicate the full range of funding schemes on offer and the role other research councils play in supporting design research.
2. We must dispel the myth amongst design researchers that there is a high administrative burden for only modest funding, that AHRC funding is tough to obtain.
3. We need to dispel the myth that design research is best suited to being a bit part player in research led by other disciplines and funded by other councils.
4. We need to acknowledge and support better architecture and architectural design research.

Things to influence

1. The creation of small grants to help design researchers establish their careers.
2. The creation of larger grants to encourage interdisciplinary research including with non-academic partners.
3. Experimental collaborations that have a strong emphasis on practice led/based research.
4. The AHRC to launch more specific and bolder design calls.
5. The establishment of more formal links with other funding bodies such as the ESRC and the EPSRC (e.g. through joint funding calls).
6. Increased levels of funding for design research (“design research offers the most potential to achieve societal impact.”)
7. Ensuring that design research funding is not dominated only by established academics.
8. The creation of alternative and more flexible bidding processes (e.g. the AHRC could initiate a two-stage process similar to other funding bodies.)

Who funds Design research?



Gateway to Research (GtR) is part of the Innovation and Research Strategy of the UK Government's Department for Business, Innovation and Skills (BIS) and includes data from the following funding organisations:

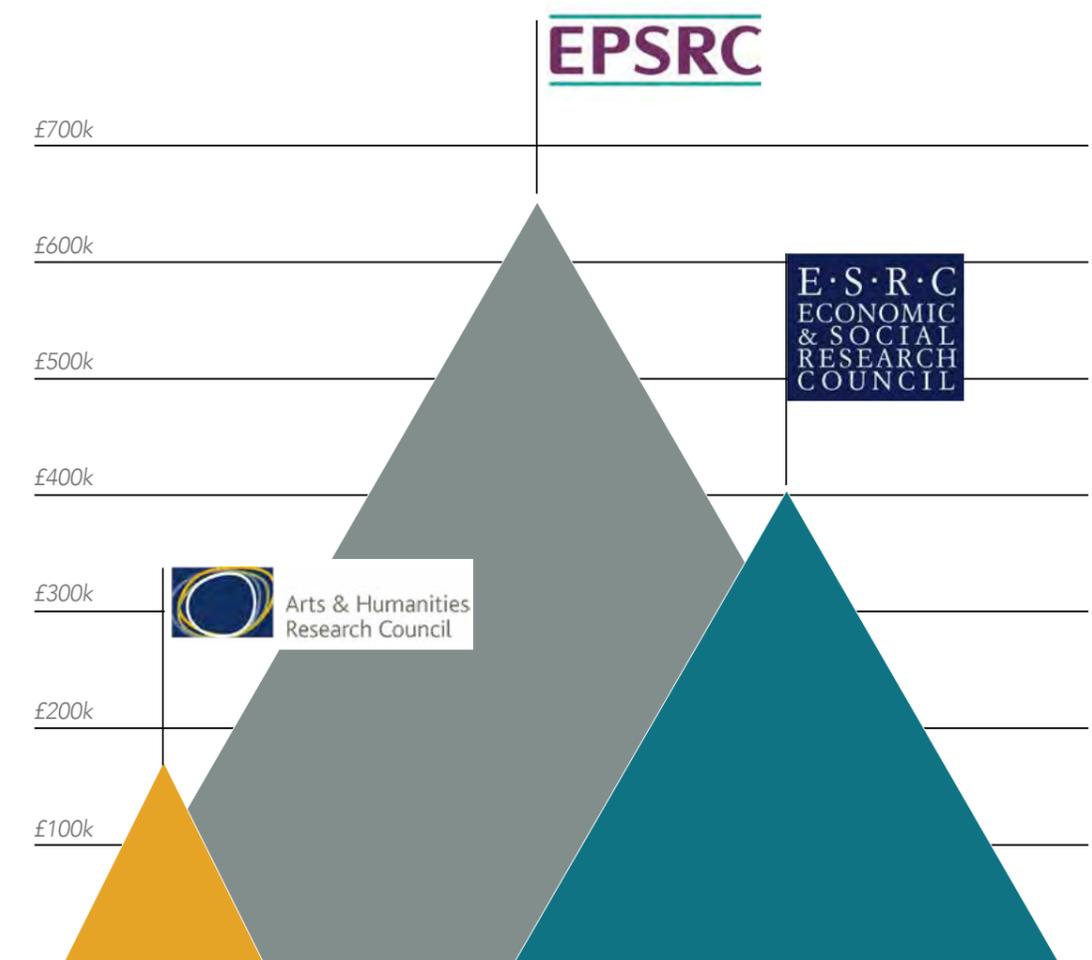
- Arts and Humanities Research Council (AHRC)
- Biotechnology and Biological Sciences Research Council (BBSRC)
- Economic and Social Research Council (ESRC)
- Engineering and Physical Sciences Research (EPSRC)
- Medical Research Council (MRC)
- Natural Environment Research Council (NERC)
- Science and Technology Facilities Council (STFC)
- Innovate UK
- National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs)

There are over 21,500 funded research projects with the word "DESIGN" in their title and / or abstract on the Gateway to Research (GtR) website. "Design" projects span all 9 funding bodies in the UK, from:

"Exploiting Sequence Variation to Guide Drug Design" (Medical Research Council) to "Novel Formulation Design Strategy" (Biotechnology and Biological Sciences Research Council); from "Dynamics and the Design of Social Policies" (Economic and Social Research Council) to "Interaction Design with Functional Plastics" (Engineering and Physical Sciences Research Council); from "An Enclosure Design Tool to enable zoos to create integrated, wild-type enclosures for great apes" (Natural Environment Research Council) to the "Tweed: History, Culture and Design" (Arts and Humanities Research Council).

Source:
GtR API search using the term 'design' in the grant titles and abstracts. December 2019.

Average award value



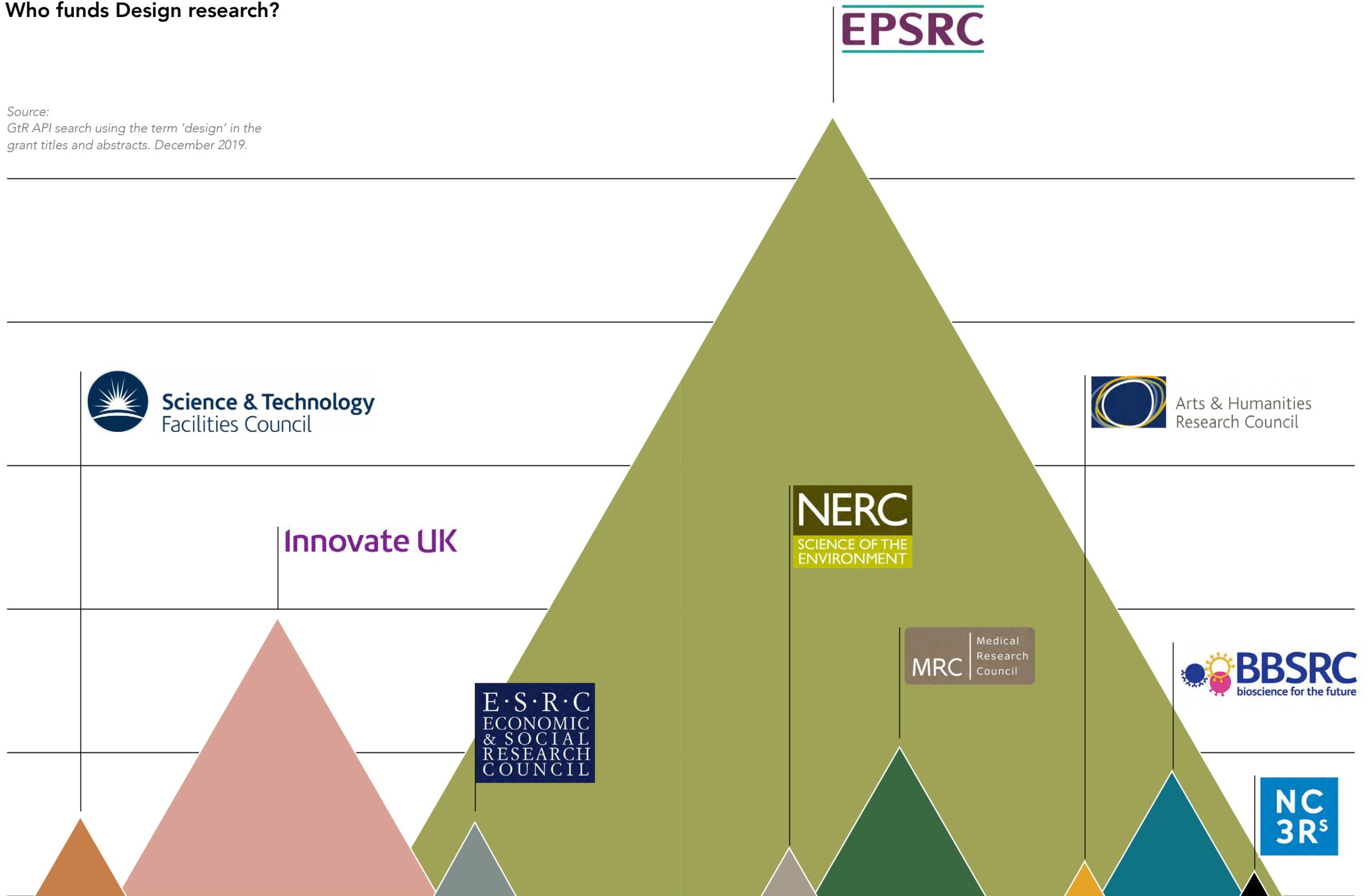
The average award value made by the Arts and Humanities Research Council, the Economic and Social Research Council, and the Engineering and Physical Sciences Research Council is shown opposite.

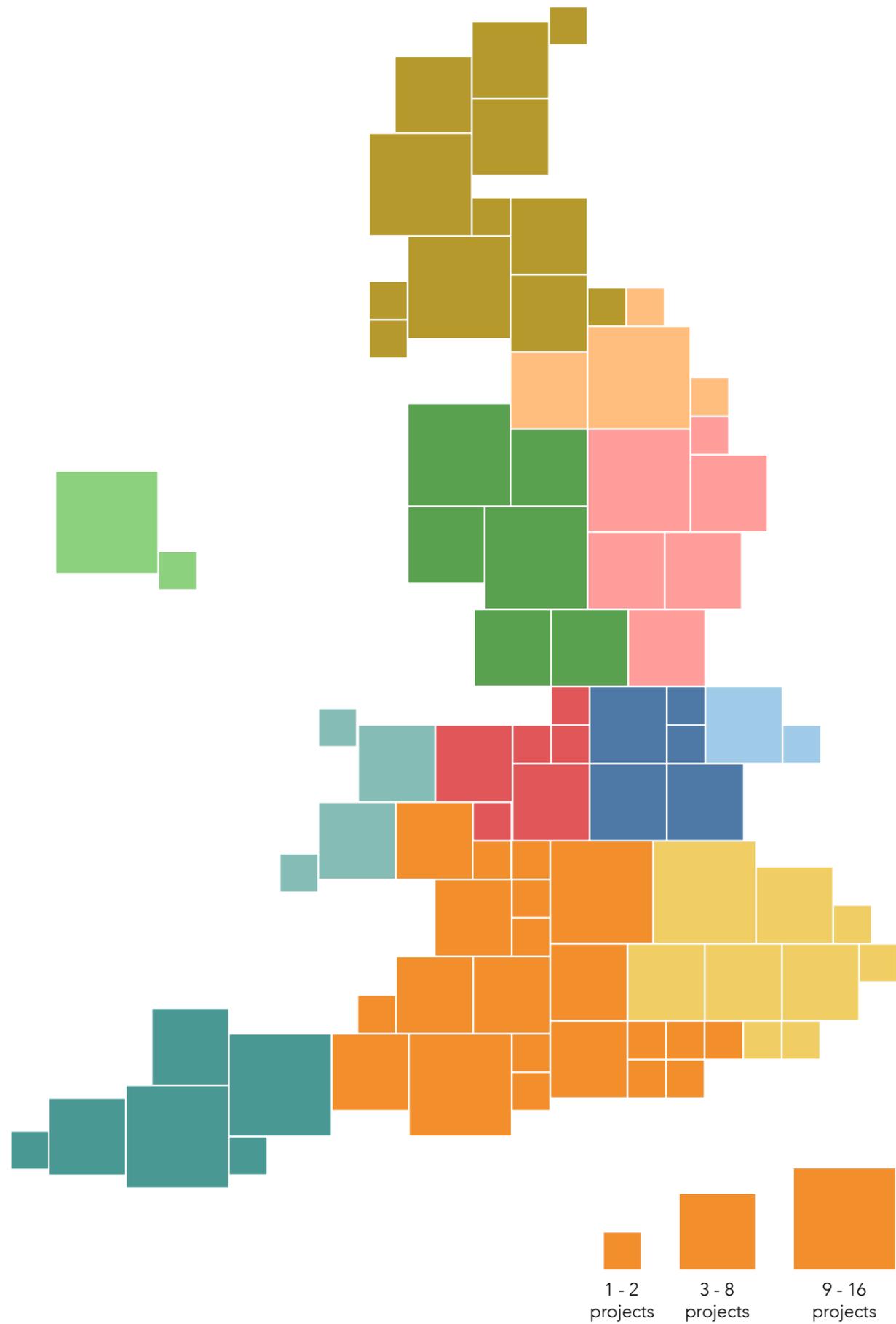
The AHRC's average award for design is £176,187.
The average award from the ESRC for design is £400,415.
The average award from the EPSRC for design is £652,300.

Source:
GtR API search using the term 'design' in the grant titles and abstracts. December 2019.

Who funds Design research?

Source:
GtR API search using the term 'design' in the
grant titles and abstracts. December 2019.





Where is Design research funded?

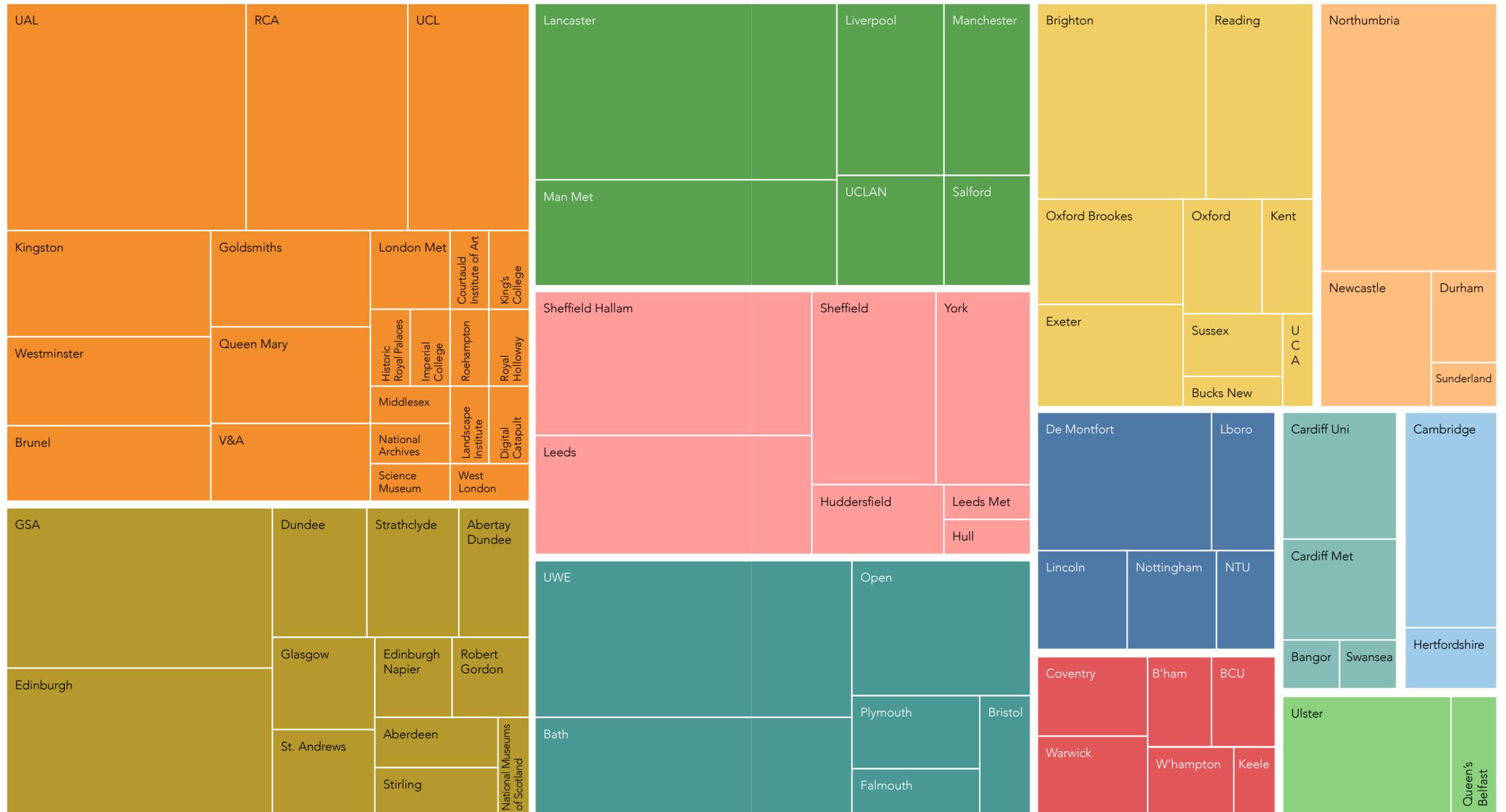
Considering each of the 12 UKRI regions, the figure opposite shows that London is the region with the highest number of AHRC-funded projects (i.e. 85) from 2006 to 2018, followed by Scotland (where 53 projects received AHRC funding). Conversely, Northern Ireland and the East of England are the regions whose Research Organisations (ROs) have held the lowest numbers of AHRC-funded design research projects (i.e. 9). In particular, the size of the rectangles represents the number of design research projects funded in each RO.

Furthermore, if we focus on each of the UKRI regions, it emerges that the portfolio of projects funded in London is spread amongst the highest number of Research Organisations (i.e. 22), while only two ROs in both Northern Ireland and the East of England have received funding from the AHRC in the period analysed here.

Moreover, at a temporal analysis of the geographical spread of design research projects, it results that some regions – such as London, Scotland, the South West and the North West of England – have received AHRC funding almost every year from 2006 to 2018, whilst funding has been rather discontinuous in other regions. While the North East and Wales regions experienced little-to-no AHRC funding from 2007 to 2011 and from 2007 to 2012 respectively, the East of England did not receive any funding in the period 2009 to 2010 nor between 2013 and 2016 inclusive.

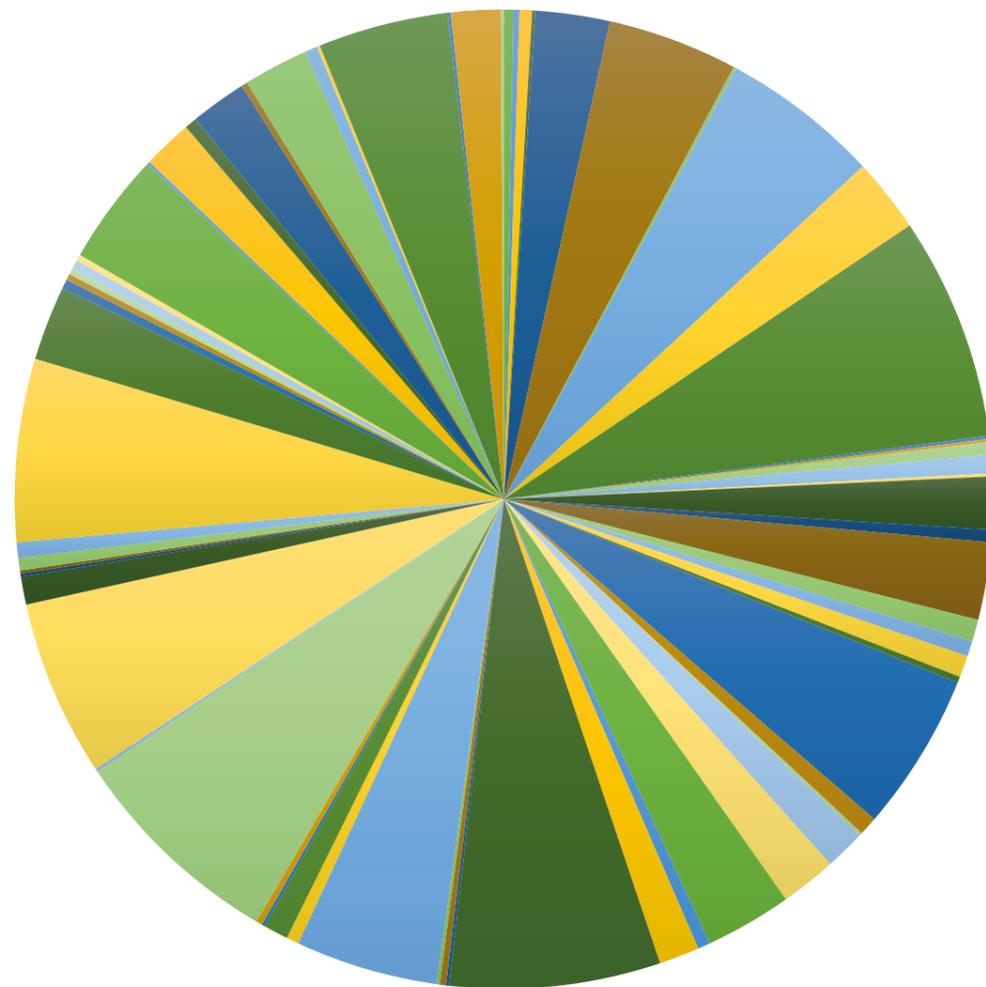
Source:
GtR API search using the term 'design' in the grant titles and abstracts. March 2019..

Number of design research projects funded across lead ROs in each of the twelve UKRI regions



- East Midlands
- London
- North West
- Scotland
- South West
- West Midlands
- East of England
- North East
- Northern Ireland
- South East
- Wales
- Yorkshire and the Humber

Depts. where AHRC Design Projects Reside



- American & Canadian Studies
- American Studies
- Anthropology
- Arab & Islamic Studies
- Archaeology
- Architecture
- Area Studies
- Art & Design
- Art History
- Arts
- Asian & Middle Eastern Studies
- Biological & Environmental Sciences
- Built Environment
- Business
- Childhood, Families & Health
- Classics
- Communication Studies
- Computing
- Creative Industries
- Critical Studies
- Culture, Communication & Media
- Dance
- Design
- Digital Design
- Digital Humanities
- Divinity
- Drama & Theatre
- Education
- Electronics
- Engineering
- English
- Film & Television Studies
- Film Theatre & Television
- French Studies
- Geography
- German
- Health & Wellbeing
- Heritage
- Hispanic Studies
- History
- Housing Policy
- Humanities
- Information Studies
- Innovation
- Irish Studies
- Italian
- Journalism
- Languages
- Law
- Library Services
- Linguistics
- Literature
- Management
- Mechanical Engineering
- Media & Communication
- Museum Studies
- Music
- Oriental Studies
- Philosophy
- Planning & Geography
- Politics
- Psychology
- Sign Language & Deaf Studies
- Social Sciences
- Surgery & Cancer
- Technology
- Welsh & Celtic Studies

3

Activities

During my AHRC Design Leadership Fellowship, I have developed and organised multiple strands of activities which have facilitated meaningful and impactful engagement with a wide range of researchers in design and other disciplines across the length and breadth of the UK. We have successfully delivered for the design research community a number of workshops and events to support the next generation of design researchers in the UK write their first AHRC funding application, two international Does Design Care...? workshops that have explored and provoked conventional notions of care, and two Design Research for Change showcase exhibitions at the London Design Fair in 2018 and 2019. The workshops have been particularly successful with, to date, well over 1,000 people signing up and participating. These workshops have been designed to engage more fully with design Early Career Researchers (ECRs) whilst providing wider advocacy for AHRC and UKRI programmes and building confidence and skills in the growing UK design research community. This section of the report details the range of activities, workshops and events which we have delivered during my AHRC Design Leadership Fellowship.



Design Research Survey

In order to understand how design research is conducted in the UK, I designed a survey in consultation with members of the Arts and Humanities Research Council and with input from the Design Theme Advisory Group. In February 2017, the survey was disseminated to the Design Theme Advisory Group for distribution to their networks along with Centres for Doctoral Training, Pro Vice Chancellors, Heads of Departments in design in UK Research Organisations, design-related mailing lists, social media channels and other relevant contacts. 300 responses were received from a wide range of career stages and design disciplines, and just over half of the responses were completed in full.

The highest number (30%) of respondents were Professors. 19% were Senior Lecturers and 12% were Lecturers. Interestingly, 2 PVCs, 2 Deans, and 1 Associate Dean responded to the survey. Thus, we achieved an excellent cross-section of respondents at all career stages in the survey. Other career stages who responded included: Independent Researchers, Post-Doctoral Researchers, Entrepreneurs and Consultant, Heads of Department, Principal Lecturers, PhD students, Associate Professors, Readers, Assistant Professors, Research managers, Early Career Researchers, Senior Researchers, Visiting Lecturers, Research Associates, Research Fellows, Directors of Research, Associate Lecturers, and a Knowledge Exchange Manager (Figure 1).

The design research landscape survey also elicited findings in relation to potential barriers for researchers to apply for external funding. Over three quarters of the survey participants responded Yes they perceived or experienced behaviours to funding, and just one quarter said No (Figure 2).

The potential barriers that prevent the design researchers (who responded to the survey) from applying for external funding included the following: insufficient level of funding for their research area; perceived low success rates for design research projects; irrelevance of funding schemes for their research areas; lack of available seed funding to put together a proposal; lack of support to build essential collaborations for large grants, lack of institutional support for design-led research projects, and others (Figure 3).

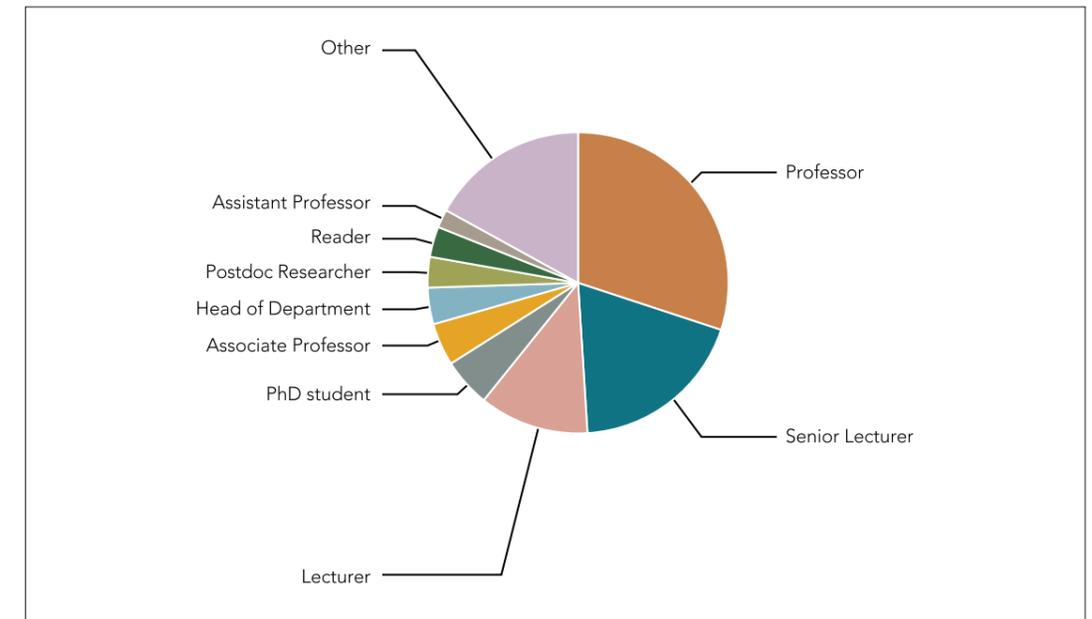


Figure 1

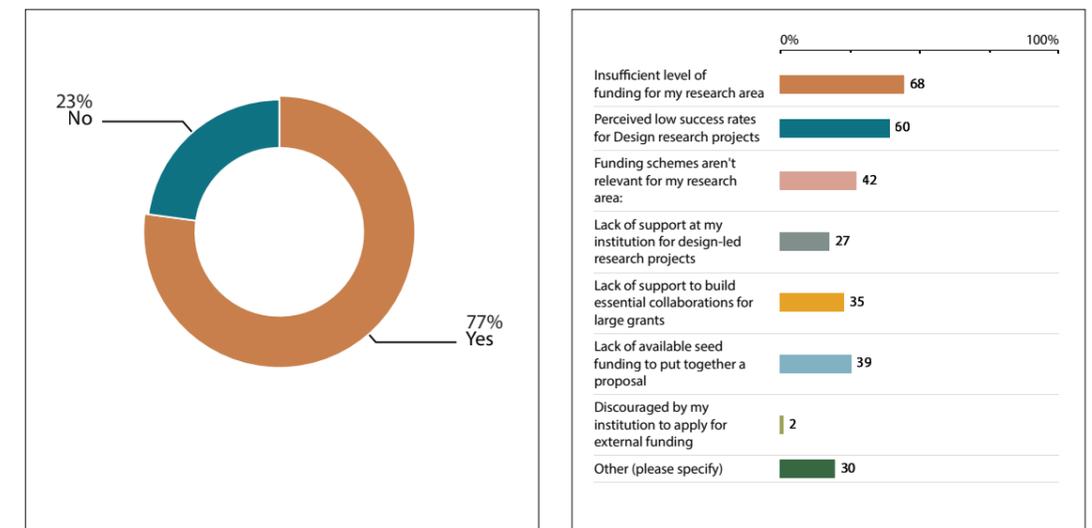


Figure 2

Figure 3

"Design research is not widely understood or accepted, so it needs careful articulation to achieve funding".

Survey Response

"Design rarely features in themed calls – therefore, applications are mostly dependent on open calls".

Survey Response

"Funding calls are overly technology-centred and focused on technology 'solutions'. Uncritical and lacking in real research depth".

Survey Response

"The complexity of the bid writing process".

Survey Response

Workshops

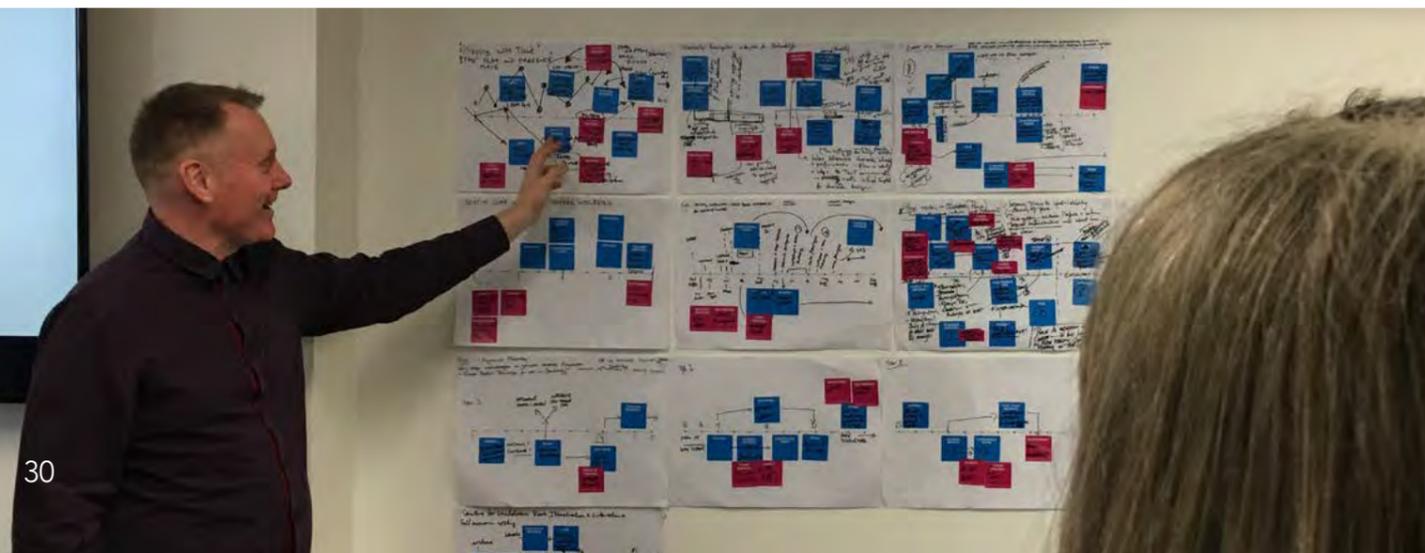
A major focus of the AHRC Design Leadership Fellowship was on supporting a growing number of talented early career researchers (ECRs) to overcome the challenges they face at the beginning of their academic careers (i.e. within eight years from the award of their PhD, or within six years from their first academic appointment). In fact, as evidenced by Nurse (2015), a number of early career researchers are worried that funding opportunities for them are drying up, or they don't receive enough support, or are not in a position to apply for large grants. This, at a time where research funding councils appear to be shifting away from funding for small grants towards longer and larger research programmes. Having these challenges in mind, and with the aim to advise the AHRC on its design funding schemes and to ensure relevant audiences communications, we facilitated a series of Next Generation Design Research (NGDR) workshops across the UK, exploring the processes involved in applying for an AHRC grant.

The Design Leadership Fellowship has successfully delivered 18 workshops with 989 people signing up to attend. Over the course of the fellowship, three distinct workshops were designed, the first in response to the Landscape survey calling for more engagement and communication support for early career researchers in understanding the current research landscape and opportunities for networking. The subsequent workshops were designed in response to feedback from previous workshops and supported by comments identified in the landscape survey conducted in early 2017.

Nurse, P. (2015). *Ensuring a Successful UK Research Endeavour: Consultation and Evidence Gathering*. Retrieved October 15, from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/477930/BIS-15-633-ensuring-a-successful-UK-research-endeavour-consultation-and-evidence.pdf

Workshop Sign-ups

Workshop Title	Date	Attended
AHRC Next Generation Design Research Workshop Cardiff Metropolitan	12.12.17	17
AHRC Next Generation Design Research Workshop Central Saint Martins	13.12.17	100
AHRC Next Generation Design Research Workshop Loughbrough University	23.01.18	47
AHRC Next Generation Design Research Workshop Sheffield Hallam	24.01.18	67
AHRC Next Generation Design Research Workshop Manchester Metropolitan	31.01.18	92
AHRC Next Generation Design Research Workshop University of Edinburgh	12.02.18	76
AHRC Next Generation Design Research Workshop Glasgow School of Art	14.02.18	84
AHRC Next Generation Design Research Workshop Ulster University	23.04.18	32
How to write an AHRC proposal in 2 hours Workshop Royal College of Art	14.05.18	47
AHRC Next Generation Design Research Workshop Royal College of Art	14.05.18	73
How to write an AHRC proposal in 2 hours Workshop London Metropolitan University	26.11.18	52
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Next Generation Design Research Workshops

The Next Generation Design Research workshops were half-day workshops that explored the processes involved in applying for an AHRC grant. The workshops were particularly helpful for researchers looking to secure their first AHRC funding grant and for other researchers looking to find out more about the funding schemes offered by the AHRC. There was an extraordinary demand for these workshops and, as such, additional workshops were added.

In total over 600 Early Career Design Researchers (ECDRs) attended one of the 10 Next Generation Design Research workshops held across the UK between December 2017 and February 2018. With limited resources, the fellowship team was keen to reach the largest possible audience and as such there was a need for the workshops to be as brief as possible whilst providing the maximum possible impact. Each Next Generation Design Research workshop comprised presentations from 3 or 4 early career researchers (ECRs) in design, a presentation from Professor Paul Rodgers, AHRC's Harry Kerr, and a presentation from the host organisation's Research Office. Time was allocated for Q&As and networking amongst the workshop participants as well as discussing the amount of effort, infrastructure, and support that goes into writing, reviewing, submitting and managing a research proposal and its processes.

A key part of each NGDR workshop involved collecting qualitative data from the participants on their perspectives for the future of design research (including their personal future research plans). Through a six-question feedback questionnaire, we collected almost 200 responses from the NGDR workshop participants in relation to what they enjoyed about the workshops, what they would have liked to have seen or heard more, what ideas they had for similar future events, what they need help with as ECRs, what the AHRC could do better, and their design research interests. We transcribed the feedback forms and analysed them in order to identify themes in relation to the NGDRs' research interests, needs, and wants. This has provided us with an up-to-date and wide-ranging picture of the next generation of design researchers in the UK. Taking into consideration the feedback we collected from the next generation of design researchers, we have addressed some of their needs, especially in relation to bid writing.

How to Write an AHRC Research Proposal in 2 Hours

Following the huge successes of the Next Generation Design Research workshops, we announced a second series of "hands-on" workshop entitled "How to Write an AHRC Proposal in 2 Hours" focused on Early Career Design Researchers. This series of workshops was developed in response to demand identified from feedback from over 300 design researchers. The feedback from the attendees of the "Next Generation Design Research Workshops" revealed a clearly articulated demand for support in writing and structuring an AHRC Design research proposal. This workshop series was intended to address this demand from Early Career Design Researchers. In order to best facilitate these workshops in the short amount of time we had, tools were developed to help attendees to structure their proposal effectively in line with the requirements of the Je-S system and provided participants with a visual device to go away with to help organise their thoughts and write their proposal.

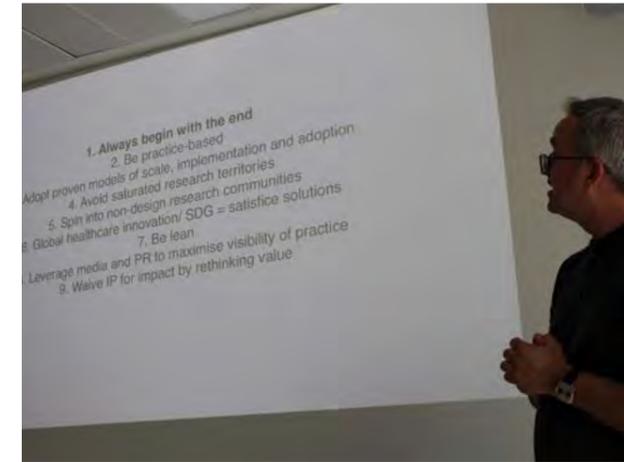
It was important to design the workshop and tools to be as efficient as possible in assisting the ECRs to develop and articulate their proposals in a way which would enable them to produce a well-rounded proposal without too much prescription on the day. It was also important that the tools were able to be used by the ECRs after the workshop without facilitation. Much of the feedback we received was around wanting to see examples and walk through research proposals. The tools we developed allow the user to develop their own individual structure for their project based on their own ambitions rather than follow a prescribed or perceived "best practice" approach. The resulting project map produced by participants is individual and personal and provides the ECR with a visual and adaptable structure for their proposed project that will in turn assist them to write a coherent narrative.

We tested this tool first at the "How to Write an AHRC Research Proposal in 2 hours" workshop and received extremely positive feedback which has since helped us to refine this tool further. The Project Timeline tool has been adopted and adapted by the Research Office at Ulster University, a number of ECRs have expressed that they will be using or developing versions for use in settings outside of the workshops due to the flexible nature of its design and we look forward to seeing how this progresses. We ran a further workshop on this tool on request for funding council members at AHRC, Polaris House and we have had feedback that this is now in development with the skills team at AHRC. We had feedback that many of the participants had never used this method to design a project proposal before and a number of them expressed that they would be utilising this method in future to help to structure their thinking.



"I would like more workshops bringing together researchers and spending time authoring/ brainstorming specific ideas for bids"

Participant Feedback



"We would like to see not only how success was achieved in funding, but also how failure could be used to learn about the funding process"

Participant Feedback



"I would like more opportunities to go through the application form, learn the language, share hacks, common mistakes, peer learning through the process"

Participant Feedback



"We need easier to navigate funding guidelines, which are very daunting especially at first glance"

Participant Feedback



"The current application process is long and drawn out ...Rapid failure will help ideas to evolve more quickly and further support the strongest projects being funded"

Participant Feedback



"How do you find collaborators without having to trawl through the university web-profiles that are possibly out of date?"

Participant Feedback

UKRI Future Leaders Fellowship Workshops

The UK Research and Innovation (UKRI) Future Leaders Fellowship (FLF) scheme has been created to support Early Career Researchers (ECRs) and innovators who have outstanding potential. The support offered will be long-term and flexible, with four to seven years of support available of up to £1.2 million per applicant. The scheme is designed for Early Career Researchers and innovators who are transitioning to and/or establishing their independence. In fact, senior academics and innovators are not eligible to apply. There are no eligibility rules based on the numbers of years since the PhD completion nor whether the applicant currently holds a permanent or open-ended academic position. As the FLF scheme aims to enable the fellows to transition or establish their independence as researchers or innovators, applicants who have already received such independence (e.g. by securing funding aimed at this career stage) will not be competitive.

In 2019 we have led a series of four workshops across the UK to help the design research community to understand the Future Leaders Fellowship scheme and best prepare their funding applications. The workshops were hosted by four different Universities members of the four AHRC-funded Centres for Doctoral Training (CDTs), respectively, the University of Reading (part of the Design Star CDT), Northumbria University (part of the Northumbria-Sunderland CDT), Falmouth University (part of the 3D3 CDT) and the Royal College of Art (part of the LDoc CDT).

At each of the four workshops, there were opportunities for about 30 Early Career Researchers to meet with AHRC representatives and experienced design researchers to ask questions and to network with other ECRs. The workshop agenda included a briefing from Professor Paul Rodgers and a presentation about the scheme delivered by Dr Joanna Dunster (Strategy and Development Manager, AHRC). This was followed by a series of hands-on activities focused on helping the workshop participants in structuring their Design FLF proposals and developing aspects of them. Each workshop also included time for open discussions and a working lunch with opportunities for networking. The participants were grouped in tables of 3 to 5 people, having enough desk space to work on a range of A3 sized tools. These were filled individually by each participant, yet in collaboration with other ECRs sitting at the same table and in consultation with the team of workshop facilitators.

Does Design Care...?

Does Design Care...? are workshops/seminars for academics and practitioners from various disciplines at any level of experience who are involved and/or interested in the gesture and/or practice of "Care" at large. We sought participation from researchers and practitioners across a wide range of disciplines to attend and contribute to a 2-day workshop in 2017 at Imagination, Lancaster University, UK and a 3-day workshop in 2019 at Chiba University, Japan.

These thinking, making and doing workshops explore different ways to examine, conceptualise, provoke, contest and disrupt care, and served as a venue for synthesising future visions of care. We encouraged both inexperienced and experienced researchers, novices and experts, and practitioners involved in and/or interested in care to submit initially a short position paper. In their initial position paper (1 page maximum), participants are asked to select one from a given range of problems with care and make some sort of careful proposal.

Does Design Care...? [1]

On 12 and 13 September 2017, the first Does Design Care...? workshop took place at Imagination, Lancaster University, UK. A group of 28 researchers and practitioners from 16 nations across 5 continents discussed, acted and reflected upon "Care". Via a series of conversations, stimulated by a range of presentations that explored a range of provocations, insights and more questions, the group provided answers for the contemporary context of Care. The workshop activities led to the collaborative essay - The Lancaster Care Charter, published in Design Issues in 2019, which was written in response to the vital question "Does Design Care...?" and presents a collective vision and new pragmatic encounters for the design of Care and the care of Design.



Does Design Care...? [2]

From 1 to 3 July 2019, we conducted the second Does Design Care...? workshop at Chiba University in Japan. The capital of Japan, Tokyo, finds itself in the difficult position of having to face one of the most severe demographic emergencies in human history, with a population that is ageing at a very fast pace, and rural areas seeing their younger citizens depart to the cities. In the past, the elderly was taken care of by families and communities, now they face loneliness and regular struggles with running their lives. In Japan, this situation has led to an unusual trend. Many elderly Japanese women are committing petty crimes in the hopes of being sent to prison, because they have nowhere else to go. However, Japan is also the home of omotenashi, arguably the best hospitality manners, in the world; of karoshi, literally the death from overwork; of kodokushi, the Japanese phenomenon of people dying alone and remaining undiscovered for a long period of time; of amae, the sense of loyalty and shared responsibility that allows, for example, young children to take the train and run errands in complete safety. Like the manufacture of 'things', Japan is moving aged-care offshore where the labour for care is cheap and abundant (like any raw material) by designing and building facilities for the elderly. In the midst of such extreme contradictions, Tokyo seemed to us like the best place to host the second Does Design Care...? workshop,

Over 50 multidisciplinary researchers and practitioners from all over the world participated in the workshop. They were asked to respond to the following 4 conditions for the design of possible futures:

We call the first condition "Care of Complexity" – to design-with-care being sensitive and responsive to the boundaries between human and non-human (e. artefacts, animals, nature), local, global, and temporal contexts, and the value in both the commonality and diversity in post-global, post-national, and post-individual contexts.

The second condition is "Care of the Project" – to design-with-care acknowledging the complex network of relationships between the material and immaterial, and challenging the dichotomy between human and non-human worlds. To achieve this, design must shift its existing paradigm and lead fundamental shifts in other disciplines.

The third condition is "Care of Relations" – to design-with-care asserting that people today must repair, instead of cutting off, the relationship between people, things, environments, and ecology, not only to maintain a good balance, but also to emphasize the interdependence between these entities.

The fourth condition, about the future of care and care for the future, that we have to live with, is "Care of Carelessness". We are inevitably careless and we need to be careful about our carelessness. To be care-full, care cannot be designed easily (e.g. into a service). Care must remain distinctive from commerce and care cannot be an optional extra.



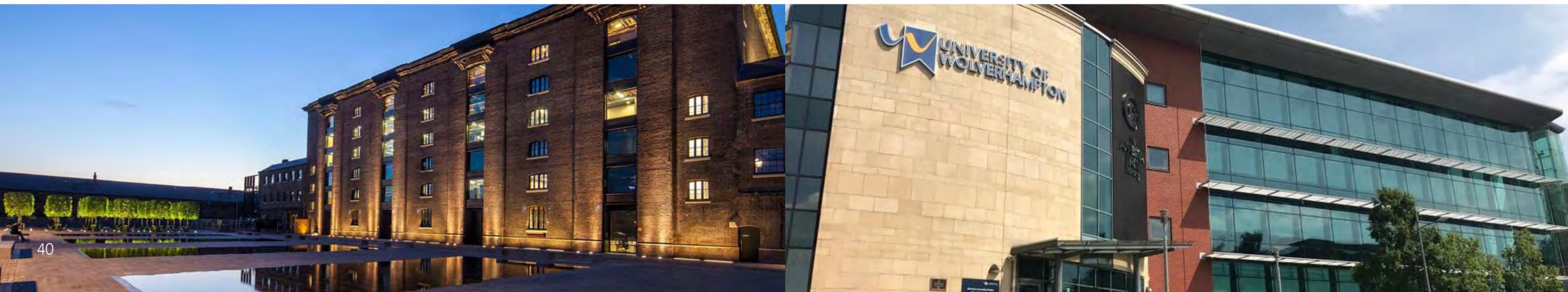
Design for Good... Guest Lecture

I was invited to give a lecture for the THIS WAY UP Public and Collaborative Lecture Series on 23 March 2017. My lecture entitled 'Design for Good...' outlined my role as the AHRC Design Leadership Fellow, which aims to develop the design research area to be inclusive in its scope and encourage projects that adopt and utilise a mélange of different types of design research including experimental, practice-based, and hybrid approaches and methods. The lecture also outlined design's role in society at large and how design research can be key for a transformational shift in the focus, quality and impact of research that will leave a legacy of evidence and examples, and a bolder, stronger interdisciplinary design community with a new generation of early career researchers engaging with a "Design for Change" agenda.

Material and Theoretical Practice Guest Lecture

On 23 May 2017 I was invited to give a Public Lecture on my design research including my AHRC Design Leadership Fellowship at the University of Wolverhampton's Centre for Art, Design, Research and Experimentation. Audience members comprised staff and students from the University of Wolverhampton and other external organisations and institutions. The lecture initiated further questions and discussions surrounding design research in the UK.

[https://www.wlv.ac.uk/media/departments/research/documents/Research-Student-Almanac-16-17-\(Sem2\).pdf](https://www.wlv.ac.uk/media/departments/research/documents/Research-Student-Almanac-16-17-(Sem2).pdf)



Development through the Creative Economy in China

A workshop, organised by the AHRC in partnership with the UNESCO Creative City (Shanghai) Promotion Office, Shanghai Promotion Centre for City of Fashion, Shanghai Theatre Academy, and Jiangsu Department of Culture. It brought together leading researchers and industry representatives from the UK and China to explore the potential of the creative and cultural industries as drivers for growth and innovation in China. As well as focussing on the three thematic areas of Design, the Creative and Performing Arts and Heritage, it also facilitated discussion on broader issues such as partnership building, research cultures and interdisciplinary working.

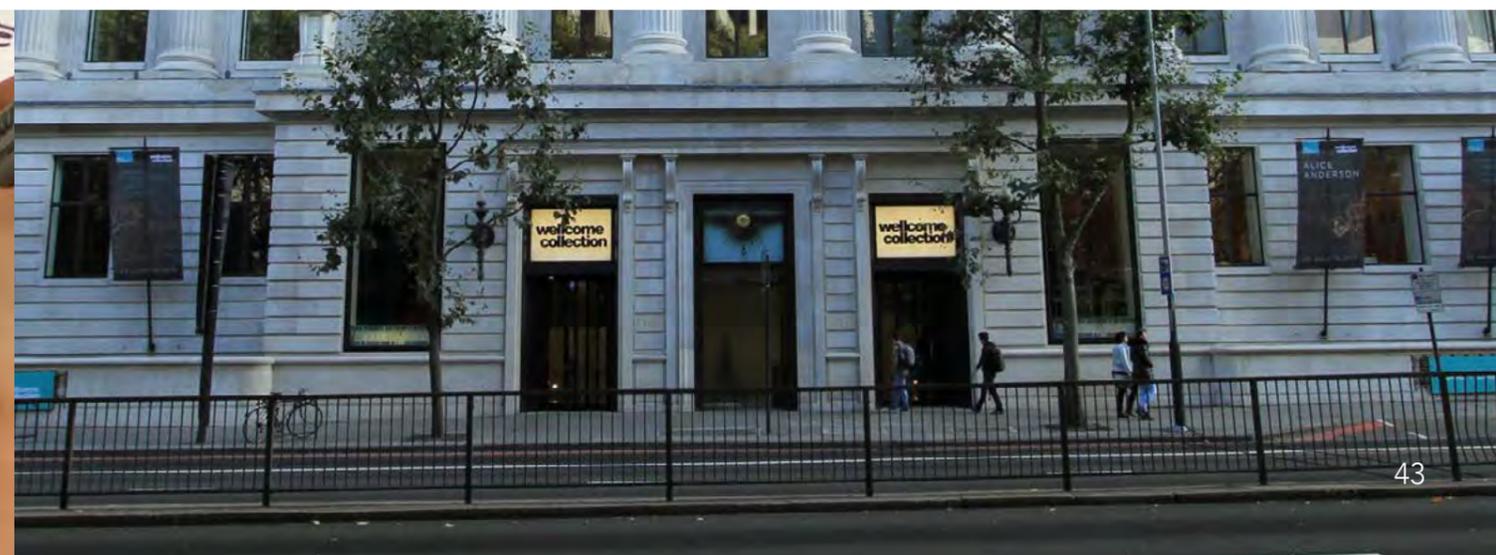
A two-day workshop held on Wednesday 25 and Thursday 26 October in Shanghai, the event was attended by 75 delegates from the UK and China with research interests in Heritage, The Visual & Performing Arts and Design. The workshop was preceded by a PhD Masterclass on Tuesday 24 October, by UK artist Sarah Butterfield and a reception at the 'Science is Art' exhibition at the ART LABOUR gallery, Shanghai.

Well-Making: Co-building Pathways for Empathy

I presented my AHRC Design Leadership Fellowship work at the Wellcome Trust in London on 20 November 2017 at an event part of a Catalyst project funded by the Arts and Humanities Research Council. In particular, I presented findings from the Design Research Landscape Survey that included responses from nearly 300 design researchers across the UK. This one-day interactive workshop explored new research on inclusive design and empathy with a particular focus on how makerspaces might be better understood as 'well-making spaces': spaces that promote health and wellbeing. We focused on imagining spaces, material and otherwise, that promote well-making and thinking about the particular values of specific maker activities/skills/techniques/communities.

The event included presentations, discussions and break-out groups, the demonstration and testing of well-making methods, and prototyping well-making/empathy tools that might be applied in a range of 'well-maker spaces': community venues, hospitals, online, educational environments, health settings, makerspaces, homes. The event included a keynote by Professor Lizbeth Goodman, Chair of Creative Technology Innovation at University College Dublin, founder/director of the SMARTlab and MAGIC (Multimedia and Games Innovation Centre) about her current European Horizon 2020 project.

<http://smartlab-ie.com/wp-content/uploads/2017/11/Wellcome.pdf>



Designing Information for Public Understanding

On 5 February 2018 I was invited to contribute to an event at the House of Commons in Westminster. The aim of the event was to draw attention to the role of design in making complex information clear, with the needs of users at the core, and in particular to draw this potential to the attention of parliamentarians and civil servants concerned with getting messages across and encouraging behavioural change. Information design may use words or pictures, on paper, digital devices or public information displays, such as directional signs. Designers consider the selection and presentation of the information provider's message in relation to the purposes, skills, experience, preferences and circumstances of the intended users. Through user-centred methods, they elicit users' information needs and test design proposals to ensure effective information provision. Organisations stand to benefit from design that communicates messages clearly to their members or consumers. Failures in information design may incur costs due, for example, to forms that are completed incorrectly or are laborious to process; instructions that cause frustration, even danger, and that may damage the reputation of the provider; or websites or smartphone apps that are difficult to navigate, miscue interactions and lead their users to seek phone or face-to-face interactions to get the service they need. As panellists, we talked about the role and potential of information design in making everyday life easier for people, and stressed the role of the end-user as a key stakeholder in the process of designing effective material. To support the panel discussion, attendees were able to view the latest, comprehensive compilation of research and practice in information design in the book 'Information Design: Research and Practice' which affirms its relevance as a discipline.

<http://www.policyconnect.org.uk>

Design Museum Future Tank Initiative

On 24 January 2019 I was invited to take part in a closed roundtable discussion about a new initiative the Design Museum, London is preparing to launch. At a moment of unprecedented change, the Design Museum, London are conscious of the challenges this country faces in the near future. The nation's economic stability will depend on keeping up with a rapidly changing landscape of technological innovation, climate change and an ageing population. We believe that design has a crucial role to play in harnessing the potential of technological innovation. We also believe that museums are increasingly places where we can stimulate alternative futures. As such, we proposed to establish what we are calling a Future Tank (working title) at the Design Museum, London with precisely that purpose. Our idea is to create a dedicated programme in which we can connect innovators, designers and policy makers to address a set of key issues that will define the future, from ageing to urbanisation, automation, mobility and manufacturing. Through dedicated exhibitions and a public programme, the Future Tank aims to help drive the next industrial revolution and anticipate the social and civic changes that will accompany it.



4

Design Research for Change Showcases

Design solves problems, from the molecular to the multinational, design is inherent to human activity and creativity, but design at its best is a self-effacing discipline. Its simple, efficient and useful results, the products and services which we use throughout our daily lives show nothing of their iterative, painstaking evolution and development. This is seen nowhere more clearly than at the London Design Fair, which showcases the most beautifully simple products and services available today.

However, design is also disruptive. It does not simply build on what has gone before: it overhauls, starts again, rethinks and remoulds. It returns to first principles to avoid the assumptions, both good and bad, of earlier iterations, and in doing so, it finds answers to questions it has perhaps not even been asked. This is why design research is so important, and why it is such a force for change.

Curated by the AHRC Design Leadership Fellowship team and members of the Design Theme Advisory Group, the projects included in the Design Research for Change Showcase in 2018 and 2019 represent the best of UK-based design researchers. Investigators from over forty research organisations, undertaking projects lasting from a few months to several years, have been working

at the cutting edge of issues that affect us all. These projects already make significant impacts on our culture, society, economy and the environment; yet, being featured in these two Showcases at the London Design Fair, which underlines the UK's leadership in design, has contributed to giving this outstanding design research the global visibility it deserves.



Design Research for Change Showcase 2018

In 2018 we launched a call for contributions for a Design Research for Change Showcase at London Design Fair. We identified via Gateway to Research 359 research projects funded by the AHRC between 2008 and 2018 which were classified by their Principal Investigators as 'Design' in the Research Topic or Subject field in the Je-S application. Of those who responded, 67 of the AHRC-funded design research projects were selected for inclusion in the Design Research for Change showcase 2018 by a curatorial panel consisting of members of the Design Leadership Fellowship's Theme Advisory Group.

The showcase took place at the Old Truman Brewery in London from 20 to 23 September 2018 as part of the London Design Fair, which was visited by 29,236 visitors including trade, press and the general public. Design Week, one of the key design trade magazines in the UK, listed the Design Research for Change Showcase in the Top 10 things to see during the London Design Festival.

A catalogue entitled Design Research for Change, that comprises further information about the 67 projects featured in the showcase, was produced in an edition of 1000. The catalogue was distributed to visitors to the exhibition and also recently to over 160 of the leading design schools across the world from India to South Korea, from Slovenia to Estonia, from Australia to the USA and many other countries.

The Design Research for Change showcase presented 67 AHRC-funded design research projects which traverse disciplinary, methodological, and conceptual boundaries, typify the diversity of AHRC-funded design research and show the wide-ranging social, cultural, and economic impact of this work to industry, government bodies, and the wider public. Collaboration is key in these projects with experts in criminology, dementia, business, engineering, health and wellbeing working alongside design researchers. These projects highlight the significant roles that UK-based design researchers play in some of the most challenging issues we face, both in the UK and globally, such as creating new products with reduced environmental impact, design research that enhances policy-making through greater citizen involvement, gaming interventions that prioritise the rights of girls and women to live a life free from violence, and design research that helps address recidivism by re-framing prison industries as holistic "creative hubs". While 21 of these projects were physically showcased as artefacts, all of the 67 were included in a showcase catalogue, in a digital showreel of images and on a visual timeline of projects displayed on one of the stand walls.

In the following pages we have included abstracts from a selection of these projects, illustrating how UK-based design researchers, working with others, can be at the forefront of creating new visions for a future UK that we will all be proud to share.

"Congratulations! This exhibition should be in a more prominent and public position, within or outside the fair. I look forward to seeing more Design Research and public discussion"

Participant Feedback



"You need to shout to the audience, not whisper in the corner! A large banner: You pay for this research and design. A great project!"

Participant Feedback



"So useful to see a collection of all these AHRC funded projects, to look at trends, to explore trajectories."

Participant Feedback



"I really loved the concept, I appreciated the help that the government is giving to designers to make the world better"

Participant Feedback



Telling the Bees

Deborah Maxwell, Niamh Downing, Tobias Pillatt, Rachel Newman, Dave Fleming, Elizabeth Edwards / University of York

Beekeeping is currently experiencing a surge in popularity, while our global environment is changing. Is traditional knowledge being lost, and what might the future hold for the honey bee? Telling the Bees explores these issues, drawing on the past to gain new perspectives on the present, and create provocative visions of the future. Using making and drama to foster ideas, the project developed novel ways of storytelling, by designing decorated wooden beehive boxes containing children's imaginative bee stories. The Beespoon is an interactive exhibit featuring a spoon that contains the amount of honey a single honey bee can produce. The display also included futuristic 3D printed artefacts created by primary school pupils.



FIREup: Fashion Innovation Research and Enterprise

Sandy Black, Adam Thorpe, Rebecca Earley / UAL, London College of Fashion

The UK is renowned for its creative and innovative design-led fashion businesses, many of which are micro enterprises. However, they face challenges such as lack of a formal R&D culture, access to new research and facilities and weak knowledge exchange (KE) practices. The FIREup project researched new models of knowledge exchange for this sector of the fashion industry, including a prototype KE digital platform. FIREup developed four new academic/business collaborations as case studies of interaction between university researchers and fashion and textile designers, focused on integrating research methodologies and innovation beyond the next season's collection. For example, Michelle Lowe-Holder, a craft-based maker of textile accessories was supported to incorporate virtual design and 3D printing into her process for small batch production.



Designing a Sensibility for Sustainable Clothing (S4S)

Clare Saunders, Joanie Willett, Fiona Hackney / University of Exeter

The project aims to understand how creative activities might shape individuals' sensibility for sustainability in relation to clothing. An interdisciplinary approach grounded in social design and co-production methodologies is adopted to push forward the boundaries of work on pro-environmental behaviour change and contribute to the emergent field of sustainable fashion. The research team argues that participatory arts and craft practices are potentially an important tool for generating a sensibility of sustainability and therefore for informing policy on behaviour change. Arts and crafts therefore require a serious test bed as a behavioural intervention, not least because political scientists have recommended, for a number of decades, that multiple knowledges need to be drawn together to solve policy problems.



Co-producing CARE

Fiona Hackney, Ann Light / Falmouth University

Millions of people every year engage in creative hobbies, activities undertaken voluntarily for pleasure. However, the skills and knowledge, if recognised at all, are often dismissed and devalued even by those who practice them. This project aims to co-create a methodology around making, narrating and sharing as a means of promoting self-reflection in ways that develop community strengths, skills and creativity. Multiple methods (e.g. film, visual storytelling, podcast, diaries, mapping, etc.) were used to help individuals unpack the deeper meanings involved in hobby crafts. Having confidence in one's own abilities is a powerful position from which to take on new skills. A belief in the value of intergenerational skill-sharing through learning by doing between community participants and the research team underpins the project's ethos.



Woven Communities

Stephanie Bunn / University of St Andrews

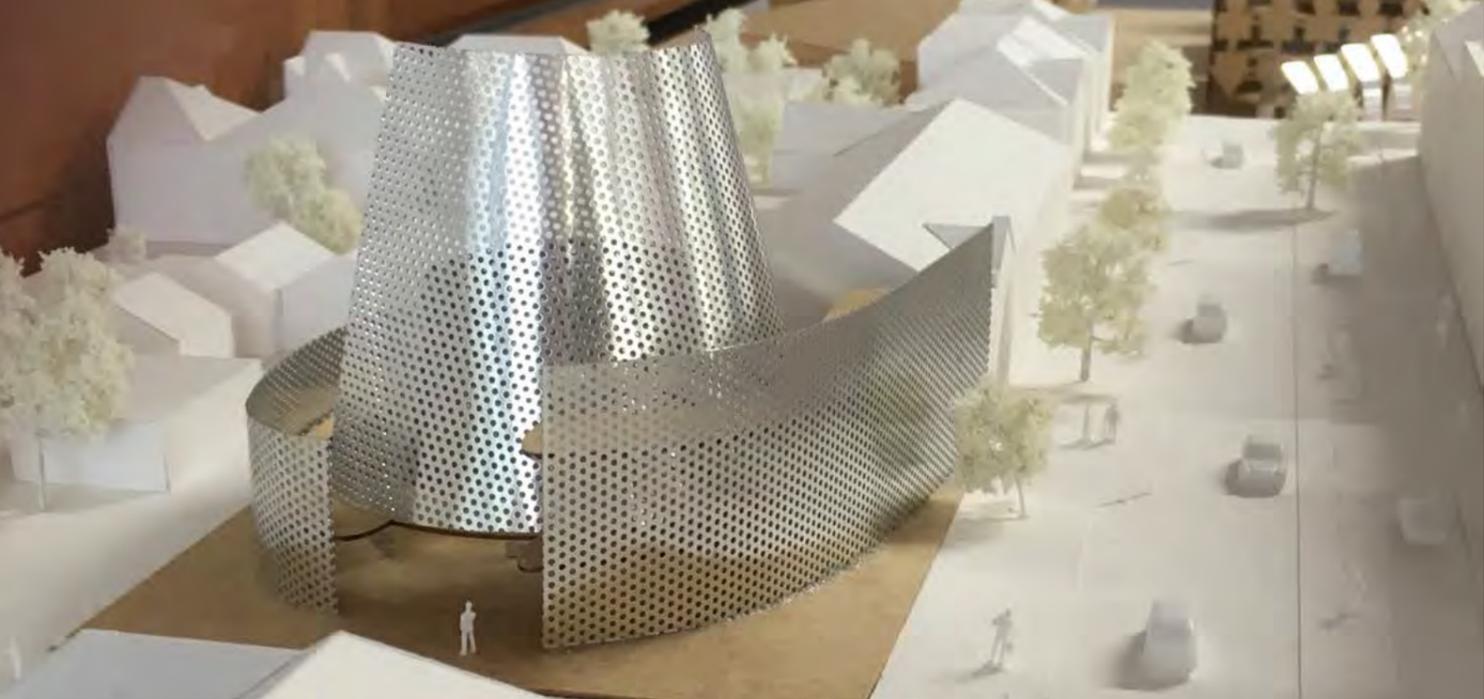
This project aims to draw on practical basketry as an important tool for enhancing public engagement with museum collections and as a means of extending reminiscence work within museums and promoting design thinking. Making and demonstrating craft activities such as basketry are very productive in reminiscence sessions; yet, while artefacts are often employed as important reference points for eliciting social memories, the actual practice of making such artefacts is only now being considered. The project led to greater understanding of the benefits of handwork for people with dementia, and of the value of handwork for design thinking through a policy document for craft and design education.



Living Design

Stuart Walker, Martyn Evans / Lancaster University

Small-scale local enterprises generally do not have the wherewithal to provide dedicated roles and expertise in sustainability and environmental stewardship. This problem can be overcome by university researchers, working closely with small enterprises to create mutually beneficial and economically viable solutions. This project carries out practice-based research in Cumbria (UK), working with micro-enterprises (<10 employees) to develop a practical Guide and online resources for the implementation of design for sustainability in local 'making' businesses (manufacturing furniture, lighting, ceramics, etc.). The Guide is conceived as a practical resource for designers and local enterprises and provides a basis for these enterprises to upload examples, share insights, and offer feedback – thus offering a continuous improvement model of real-world value.



Design, Material Culture and Popular Creativity

Claire Lucy Dwyer, David Gilbert / University College London

The project explores the creativity of diverse West London faith communities. Collaborative creative projects enabled participants from different backgrounds to share creative capacities. Architectures of Shared Space, led by Mangera Yars Architects, invited high school pupils to design a shared religious space for local faith communities. Student designs reveal careful thought about how diverse faith traditions could be communicated in the design and building use. Fabric of Faith brought together women from different local faith communities. Led by artist Katy Beinart, the women designed a collaborative piece of embroidery (My Life is but a Weaving) incorporating excerpts of prayers from different faith traditions.



Leapfrog: Transforming Public Service Consultation

Leon Cruickshank, Tom Inns, Irene McAra McWilliam, Garrath Williams, Rachel Cooper, Paul Smith, Madeline Smith, Roger Whitham / Lancaster University

Public bodies have always been involved in consultation with their communities and there is a strong desire for this to increase in the future and to support communities in playing a more active role in society. However, the need for more consultation coincides in dramatic reductions of Council funding. Leapfrog aims at helping create and evaluate new consultation practices, working initially with communities which are hard to engage. The communities were engaged in co-design processes resulting in a range of new consultation tools. These were designed to be directly used by communities, who were encouraged to appropriate and adapt the tools to fit their own needs. Finally, a series of new evaluation frameworks were used to understand the value and impact of the new tools.



Hearing Trouble

Gascia Ouzounian, Sarah Ouzounian / University of Oxford

This is a cross-disciplinary research project that aims at better understanding the urban environment through an examination of sound and sonic art, focusing on the particular conditions of post-conflict cities undergoing rapid and radical change. The project focuses on Berlin and Belfast, cities that support vibrant communities of sound artists and have similar architecture and planning cultures. In contrast to the vast majority of research projects that examine the built environment through a visual focus, this project analyses and responds to rapidly changing cityscapes via multiple aural perspectives. The ultimate goal is for the research to inform the future development of Belfast, as a potential exemplar for other EU cities.



Scaling up Co-Design Research and Practice

Theodore Zamenopoulos, Andy Dearden, Ann Light, Aikaterini Alexiou, Busayawan Lam / Open University

The co-design and co-delivery of research and practice in community-academic partnerships is increasingly seen as a valuable paradigm for tackling complex social problems. However, this requires the development of a shared vision, equitable involvement and trust, and overcoming limitations in resources, differences in culture, language and methodology. The project proposes and reflects on a process for co-designing research in community-academic partnerships based on a set of co-creative techniques called 'Design by Consensus'. The process is based on 'role playing' and collaborative visioning techniques. The aim of the process is to unleash and build upon the intrinsic capacities of communities, community organisations and academic institutions in order to form a common research vision, helping scale up their practice and extend their reach.



Design Thinking for Prison Industries

Lorraine Gamman, Praveen Nahar, Adam Thorpe / UAL, Central Saint Martins

Across the world inmates often work for prison industries to keep busy, earn some income and learn new skills that may lead to future employment opportunities. However, prison industries rarely focus on creative thinking processes that help educate prisoners to become more resilient in the highly competitive and changing workplaces of the city. Therefore, marginalised groups in huge numbers fail to find legitimate employment and thus resort to crime. This project aims to help break that cycle and empower prisoners to learn new skills (e.g. improved communication, collaboration and empathy) through co-designing and making anti-theft bags that protect potential victims from crime and generate an income stream for prisons. These skills were achieved via an experimental approach to teaching 'design thinking' to inmates both in London and Ahmedabad.



Ludic Artefacts: Using Gesture and Haptics (LAUGH)

Cathy Treadaway, Amie-Louise Prior, David Prytherch, Darren Walker, Andrew Walters, Gail Kenning / Cardiff Metropolitan University

Many older people enjoy leisure activities that involve making and crafting. People with dementia may be able to continue to practice craft skills learnt earlier in life. However, memory of the structure and rules of making, reliant on cognitive function, may decline. Caring professionals have observed the comfort children's toys bring to people with dementia (PwD). Nevertheless, they have also acknowledged the stigma attached to PwD playing with children's toys due to a perceived loss of dignity. The project proposes an investigation into handcraft and playfulness in relation to dementia in order to inform the development of ludic artefacts (age appropriate toys) to support the wellbeing of PwD. Participatory design research was undertaken to integrate smart materials and digital technology into designs to supplement physical and material properties.



The Time of the Clock and the Time of the Encounter

Johan Siebers, Michelle Bastian, Chris Speed, Anne Douglas, Elena Fell
/ University of Central Lancashire

We live in a world dominated by the time of the clock, yet many aspects of life have a different rhythm and temporality. Researchers from different disciplines in the arts and humanities and practitioners in community organisations explored ways by which communities can acquire a more diversified relation to time. The project aims to develop interventions enabling communities to reflect on common assumptions about time and explores what researchers can learn from engaging with other communities. The experiences of children with time, and how ways of dealing with time can include and exclude, were examined in the context of a Special Needs School. The findings were connected to an artistic practice intervention on alternative clocks – measuring different times from normal clock time – which were designed and made in collaboration with the school.



Stories to Connect With

Candice Satchwell, Cath Larkins, Helen Day, Bernie Carter, Paul Coulton
/ University of Central Lancashire

This project is a collaboration between Barnardo's, children and young people, academics from different disciplines, and children's authors. The core group of Barnardo's young people was trained as co-researchers to collect stories from other children and young people who access Barnardo's services about their lives and experiences of overcoming adversity. The stories were transcribed, re-written, narrated, and placed in phygital (i.e. physical-digital) objects, designed by the young storytellers themselves in collaboration with digital design academics. These Stories to Connect With challenge preconceptions about people who access children's social services. The phygital objects enable the stories to travel outside of the locale in which the stories have been produced and to connect more widely in both the virtual and physical world.



Information Design and Architecture in Pharmacy Space

Sue Walker, Sue Hignett, Rosemary Lim, Flora Samuel / University of Reading

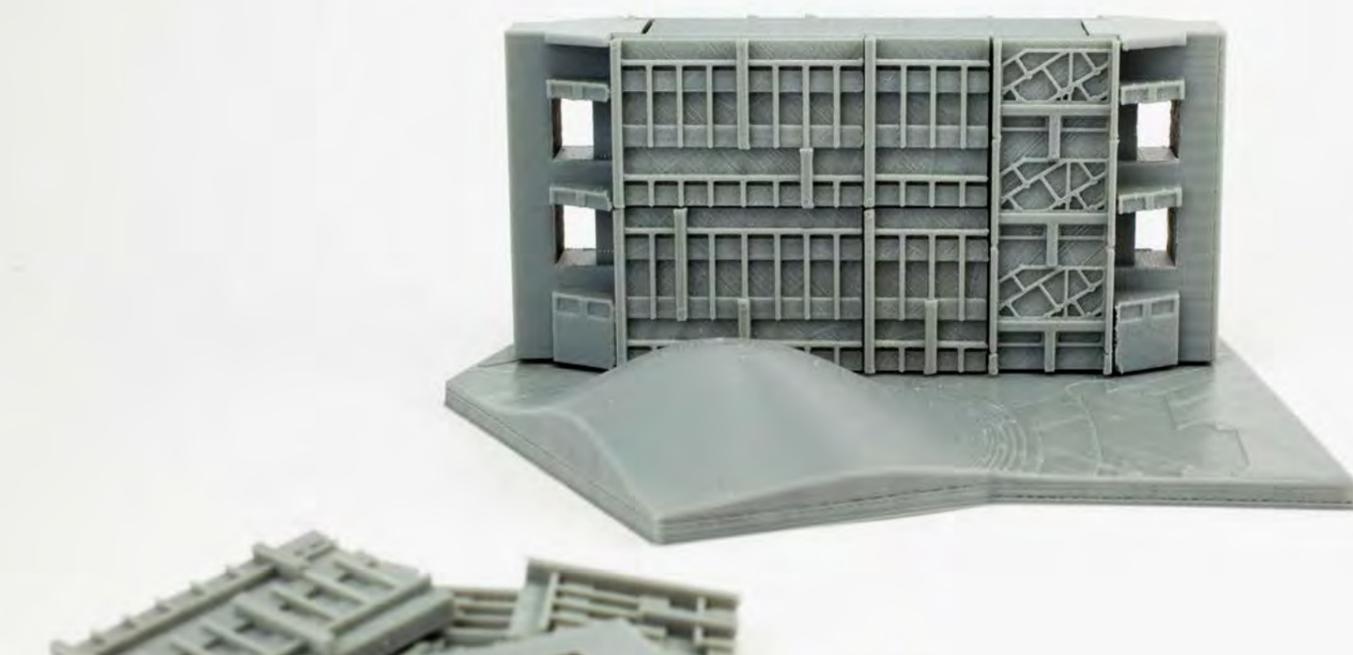
The project brings together academics and practitioners in graphic and information design, architecture, ergonomics and human factors, and pharmacy to consider how to improve the knowledge and understanding of antimicrobial resistance (AMR). The project introduces 'persuasive space' in thinking about the presentation of information, its situation within an environment, and how users interact with it, in the context of a community pharmacy. A competition to design persuasive pharmacy space resulted in the development of a winning prototype set up in a pharmacy. A report containing good practice guidelines for persuasive space in community pharmacies contributed to expanding knowledge on the impact of the built environment and information design on wellbeing and education.



VisitorBox

Benjamin Bedwell, Steve Benford, Katharina Lorenz / University of Nottingham

Stakeholders operating in the culture economy struggle to access digital technologies due to lack of an overview of available technologies and low confidence and expertise to experiment with such technologies, especially at the early stages of design and prototyping. The project aims to harness digital technologies to enhance access to and engagement with collection assets. The project produced a toolkit that combines physical ideation card with a mobile app and web-based idea repository to enable heritage organisations to rapidly generate and share ideas for new visitor experiences. Through co-design workshops and piloting with national and international heritage organisations, feedback on the value of the toolkit was gained to inform the development of a sustainable business model for VisitorBox.



Enhancing the Authenticity and Sustainability of the Visitor

Samantha Vettese, William Titley Constantia Anastasiadou / Edinburgh Napier University

Gift shops are a common part in most museums and galleries that provide visitors with the opportunity to transform their intangible experience visit to a tangible memory through the purchase of souvenirs. However, sometimes souvenirs are inauthentic and homogenised imitations. Instead, this project offers an alternative approach to the contemporary heritage souvenir experience transforming the visitor from a consumer to a co-creator of meaning and co-producer of products, to which he/she may assign more emotional value and attachment. The project provides a desirable, customisable, co-created range of products, based on scanned versions of artefacts within museums, galleries and heritage sites, produced remotely in the nearest 3D printing facilities, without an in-between 'gift shop' provision.



Design Futures

Mark Evans, Timothy Whitehead / Loughborough University

Through the development of tools, design has reached high levels of sophistication in the developed world, where outcomes have a major impact on quality of life embodied in manufactured products and a contribution to wealth generation/employment. However, the economic and social benefits of such programmes remain problematic in Official Development Assistance (ODA) recipient countries due to a lack of appropriate training and education in opportunities and nature of the creative process. The project integrates arts and humanities research methods in product design to share, discuss, co-create and envisage ways in which the discipline can build on local crafts and design expertise and experience, contribute to emerging creative economies, and provide employment to tackle poverty.



Design to Manufacture of an Aesthetic Eco-material

David Binns, Alasdair Bremner / University of Central Lancashire

The aim of this project is to exploit the creative and commercial potential of an eco-material, which offers architects and designers a cladding and surface product imbued with a unique aesthetic and sustainable properties. The kiln casting process converts locally sourced 'low value' into a 'high value' product, made from 97-100% recycled waste, without any cementitious or synthetic polymers, used in many existing 'green' composite products. All manufacturing waste can be re-introduced into the input stream and can be recycled at the end of life. The project involves establishing a pilot-manufacturing unit, enhancing development of the material and facilitating increased scales of production (in terms of size and volume). The project demonstrates how design research can lead to the delivery of significant economic, social and environmental impacts.



Extending the Potential for Digitally Printed Ceramics

Martin Smith, Peter Oakley, Steve Brown / Royal College of Art

Directly printed digital inkjet technology is used in the decoration of some flat ceramic tiles. In contrast, ceramic objects such as tableware, figurines and other forms with complex surfaces are still decorated by the older and indirect system known as ceramic transfer printing. Whilst it is possible to use laser printing to produce ceramic transfers, this has remained a marginal technology, used only for single print or small batch productions. The project aims to extend the use of digital laser printed transfer systems in large-scale manufacturing by exploring the use of new materials, methods and economies within a commercial context. The research contributes to revitalising the UK ceramics industry and supporting regeneration across the UK in locations where ceramics manufacturing is situated.



Woven Concrete

Patricia Belford / University of Ulster

The project brings together concrete and textile technologies, testing ideas of concrete as textile and textile as structure. The aim of the project is to develop specialised woven fabrics specifically designed to be embedded into concrete panels. The project also investigates variations in weave structures using combinations of metal and natural fibres, and the properties of the resultant fabrics. By applying creative and social thinking to traditionally technical building products, the project transforms a low tech, low cost material into highly tactile, aesthetic and high value products.

"The most meaningful exhibition I've seen at LDF this far! It is inspiring and impactful. Thank you for teaching me something new about the world and societies around us."

Participant Feedback



"The wall of projects is a very illuminating visualisation, and gives useful historical context to the exhibited projects. Could you feature updates of past projects since completion?"

Participant Feedback



"Truly excellent exhibition and so important to support such innovative and significant talent especially in the current world. Thank you for supporting this. Keep it going"

Participant Feedback



"You need to shout to the audience, not whisper in the corner! A large banner: You pay for this research and design. A great project!"

Participant Feedback

Design Research for Change Showcase 2019

Following the success of the Design Research for Change Showcase 2018 and the level of demand for another in 2019, we launched a call for participants, this time with a focus on Early Career Researchers leading on design projects. We have received over 75 submissions and members of the Design Theme Advisory Group have selected 61 design-led projects that highlight the range and importance of design research, as illustrated in the catalogue accessible online at: www.designresearchforchange.co.uk. The projects illustrate the relevance of design research as a force for change. The work showcased here was developed by researchers and practitioners from a range of design disciplines including product, graphic, fashion, architecture, and textiles working with others in specialist areas such as healthcare, business, computing, engineering, and elsewhere. Many of the design research projects featured in the Design Research for Change Showcase 2019 are based in one of the four Arts and Humanities Research Council's design-focused Centres for Doctoral Training, which are aimed at fostering the best design talent in organisations throughout the UK.

We currently face numerous issues and challenges both globally and in the UK. These challenges are complex and significant and, for many, the future is uncertain. Today, we face a new industrial age where technologies are rapidly transforming the way we live, work and communicate with one another. Whilst various technologies are making us more efficient and productive at work and changing the way we do business, they are, at the same time, contributing to high levels of stress and unease amongst us. We are also living in an age where political, social, economic, and environmental disruption are having massive effects on how we go about our day-to-day lives. The future for many is uncertain and consequently many questions require answers. What will the future of work look like? What will our cities, towns, and villages of the future be like? How will we better care for the planet in the years ahead? How will we look after an increasingly ageing population? What does the future truly hold for the UK? Buckminster Fuller, the famous American architect, systems theorist, author, designer, inventor and futurist, told us "The best way to predict the future is to design it."

So, as we move through the fourth industrial revolution and witness our lives being changed in ways we never could have imagined, new forms of design research are needed to power our economy, our society and our reputation across the world. To this end, the Design Research for Change Showcase 2019 presents design-led research projects that seek to break new ground in the months and years ahead. These projects are led in many cases by an Early Career Researcher (ECR), an individual who is within 8 years of the award of their PhD or equivalent professional training, or an individual who is within 6 years of their first academic appointment. They are tackling a number of major significant and complex challenges such as developing design tools and processes that will support people living with dementia to live high quality lives, designing systems that ensure children's educational rights are met, designing interventions for supporting more sustainable and inclusive breastfeeding practices, and designing methods for producing more sustainable food practices. All of these research projects highlight the amazing design research talent we have in the UK. Moreover, the research projects included in the showcase illustrate the innovative and creative ways of working that will ensure our designed futures are in safe hands.

While much could be written about these projects individually, the strength of the Design Research for Change Showcase 2019 is in the overall collection, highlighting the important and growing role of design research in the UK to address some of the most challenging issues facing society today, including the climate emergency and access to education, public space, and health care. The following pages include abstracts from a selection of these projects, with the aim to not only shine a light on design research, but also to provoke discussion and collaboration about how we might work better together across disciplines to tackle the most pressing challenges of today's and future's world.

"I think there needs to be much more of this aspect of design visible and embedded in otherwise fairly repetitive and inward-looking design fairs and festivals"

Participant Feedback



"Great range of projects. How can we create bigger impact between Design and Research? What is this space in between?"

Participant Feedback



"All the work looks great. The most interesting aspect is that you are showcasing different disciplines and institutions."

Participant Feedback



"It is bold, big and brave. It is an important cause. Keep it up!"

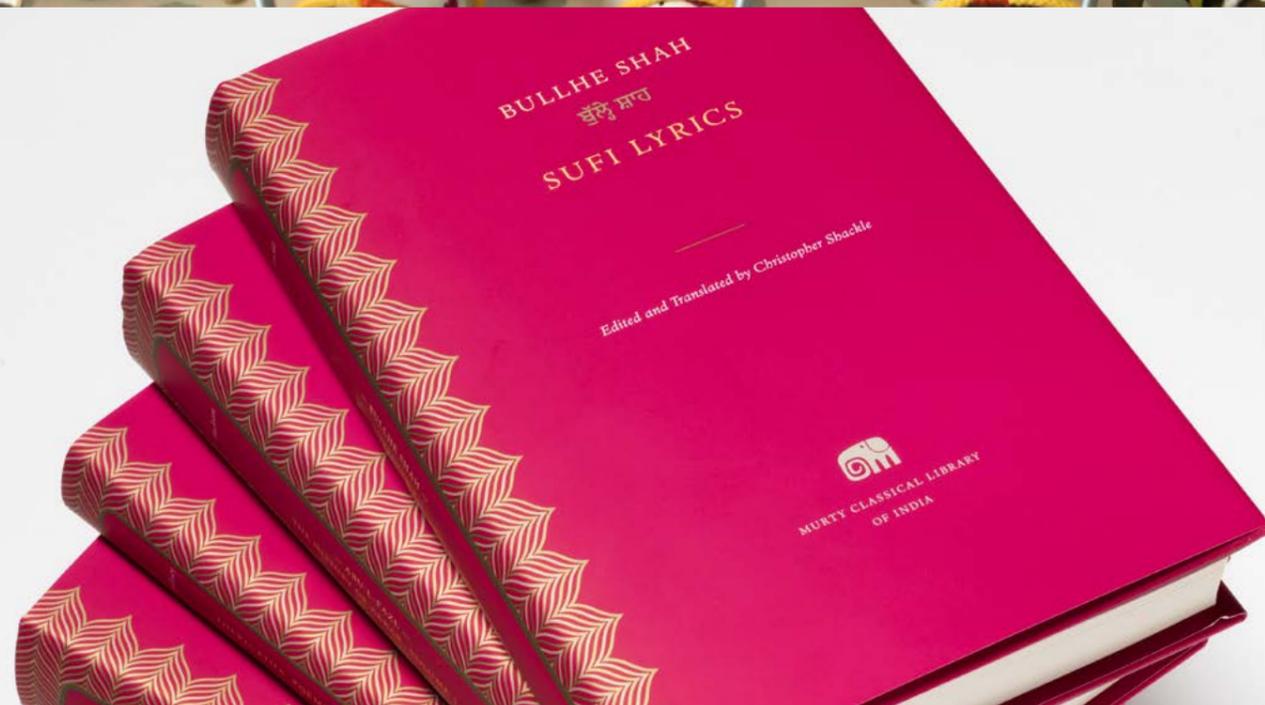
Participant Feedback



Let's Go Walkeez

Kazz Morohashi / Norwich University of the Arts

What happens if you give a child a dog and a camera, and ask them to sniff out great things in a museum? Museums, along with other public institutions, are under continued pressure to capture, evaluate and demonstrate their impact on limited resources. Go Walkeez is an applied design research and design tool to explore how design could efficiently and economically capture family visitors' experiences. It is a child-centred approach to activate interaction, collaboration and communication amongst young children and their family, and assist museums to capture qualitative feedback from family visitors. Families are asked to take a Go Walkeez dog for a museum walk and take "snife shots" of objects they find interesting. Children then recount their experience using their "snife shots" as prompts, which are documented by museum professionals. Go Walkeez is an active project looking to connect with other audience research institutions.



Murty Classical Library of India

Rathna Ramanathan & Guglielmo Rossi / Royal College of Art

Many important classical texts in Indian literature have never reached a global audience; others are becoming unavailable even to Indian readers. This 100-year strategic design research project aims to create an accessible classical library of modern translations of Indian texts. The typesetting of bilingual Indic texts of such range and complexity is unprecedented in modern design practice and poses multiple challenges that are addressed through three lines of enquiry. First, to establish a systematic bilingual book design for English translations of texts in ten different Indian languages and scripts grouped into four categories: North Brahmic, South Brahmic, Perso-Arabic and Prakrit. Second, to accommodate multiple genres – poetry, prose, drama – in the design. Third, to develop an Indic hierarchy and grammar through appropriate typographic rules. The texts are available for university curriculums as well as trade markets. The research informs the development of open source guidelines for contemporary Indian typesetting.



Can't Wait to Learn

David Swann, Kate Radford, Laura Miller & Kirsten Simonsen / Sheffield Hallam University

Article 28 of the UN Convention on the Rights of the Child states that every child has the right to a formal education. In 2011, War Child Holland instigated the Can't Wait to Learn programme (CWTL) to develop culturally sensitive educational games for children who have never seen a teacher as a result of armed conflict. A CWTL trial in Sudan (2014/15) identified an unmet user need. The absence of classroom furniture compelled e-learners to hold their tablet device for prolonged periods while floor sitting. This research project investigates the performance requirements for a novel digital tablet desk (DTD). This study's primary objectives are to co-develop with end users a DTD that improves comfort and posture, to adopt a reductive approach to design, and to determine a production specification to support local manufacture. The research supports an ambitious scale-up phase to reach 170,000 children in Sudan, Chad and Uganda by 2020.



Redesigning the Primary School Chair

Jackie Lightfoot / University of Brighton

Situ is a unique and innovative seat designed with and for young children. The EU registered design is part of a larger body of real-world, design practice-based research, funded by the AHRC and carried out by Dr Jackie Lightfoot, investigating socio-cultural and design factors around school furniture. This research is carried out in working primary school classrooms. Lightfoot's work is participatory and cross-disciplinary. In designing Situ, she incorporated human-centred design practice to understand the relationship between a child and a primary school chair, with applied ergonomic principles, to ensure that the design would provide appropriate postural support. The result is a new concept of sitting. Situ supports children's natural good posture and enables a healthy inclination to move. It moves with the child sitting on it yet, as a one-piece moulded product, it has no moving parts. It is intuitive to use and affords a variety of ways of sitting.

Scotland's Digital Design Futures

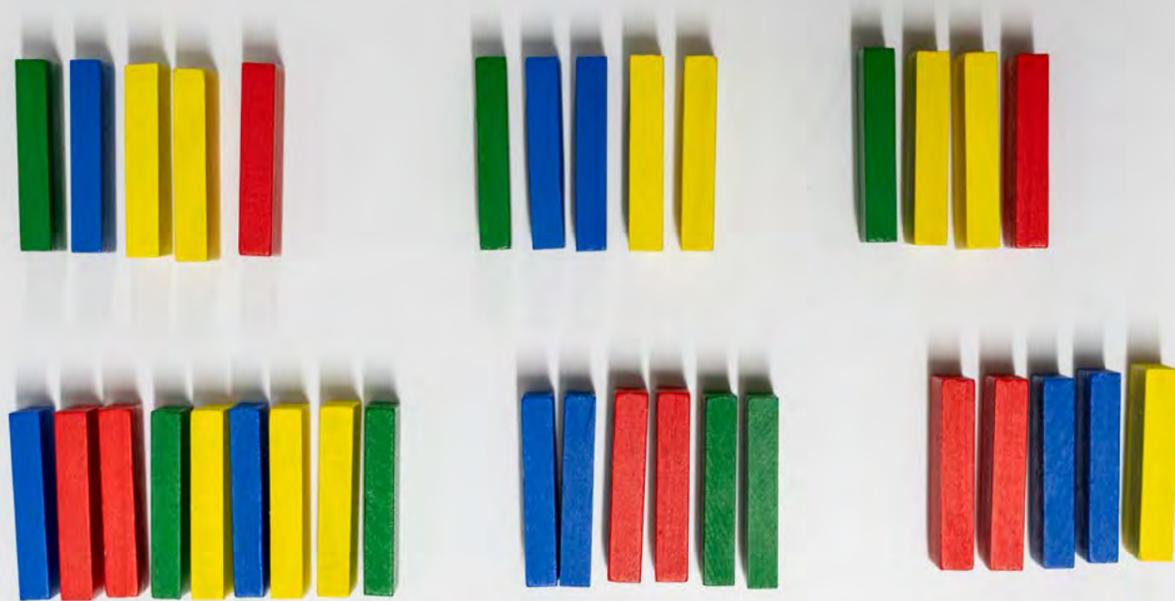
Bronwin Patrickson, James Livesey & Clive Gilman / University of Dundee

This AHRC-funded project explores what blockchain and related data sharing technologies might offer for Scotland's digital design industries. Hypothetical designs included in the final project report include a collaboratively designed Dundee crypto coin intervention, as well as a collective data-sharing initiative designed to reveal optimum production methods, time-scales, average costs and the like. Blockchain technologies power cryptocurrencies like bitcoin, but they are about much more than money. Using the power of the crowd to check that a transaction has indeed occurred as agreed, blockchain related technologies enable secure and direct community exchange, without the need for third party authorities like banks. Through the use of computerised agreements known as smart contracts, parties can ascribe value to preferred behaviours (such as votes, or information exchange) and control how, when and where those behaviours gain value. In this way, a technology for digital value exchange becomes a tool for social change.

Whose Smart City?

Lorena Melgaço, Katharine Willis, Ava Fatah, Satyarupa Shekhar & Ana Paula Baltazar
Plymouth University

An outcome of the AHRC-funded Whose Right to the Smart City research network was the development of the Smart Cities Demo Toolkit. The toolkit was developed out of participatory mapping activities with community organisations in UK, India and Brazil. These workshops identified the need for those without technical skills to view and interact with open data in-situ, and the prototypes are intended for use by community organizations, schools and non-experts. This comprises a series of open source demo and smart technology prototypes that aim to enable citizen participation in smart city projects. Open Data-R: The Open Data Augmented Reality (AR) app enables you to see geo-located data overlaid onto the real city space.





Using Design to Rethink the Policy Process

Anna Whicher / Cardiff Metropolitan University

People Powering Policy was a two-year project funded by the Arts and Humanities Research Council (AHRC) to explore if, where and how design might contribute to the policy process. Government teams using design for policy are slowly adapting entrenched policy processes from inside the machinery of government and their promulgation has been rapid. A Design for Policy Model and a toolkit, called Design for Policy PROMPT, have been iteratively developed, tested and validated in 21 workshops involving 531 civil servants from local, regional, national and overseas governments. They have also been applied to four policy projects with HMRC Policy Lab, Northern Ireland Policy Lab, Financial Conduct Authority and the Welsh Government. Design for Policy can add value at all stages of the policy cycle, particularly in the early discover phases but understanding the policy challenges from the user perspective and involving citizens in iteratively developing and prototyping policy.



Body-led Participative Social Design in Youth Changemaker Settings

Claire van Rhyn / Royal College of Art

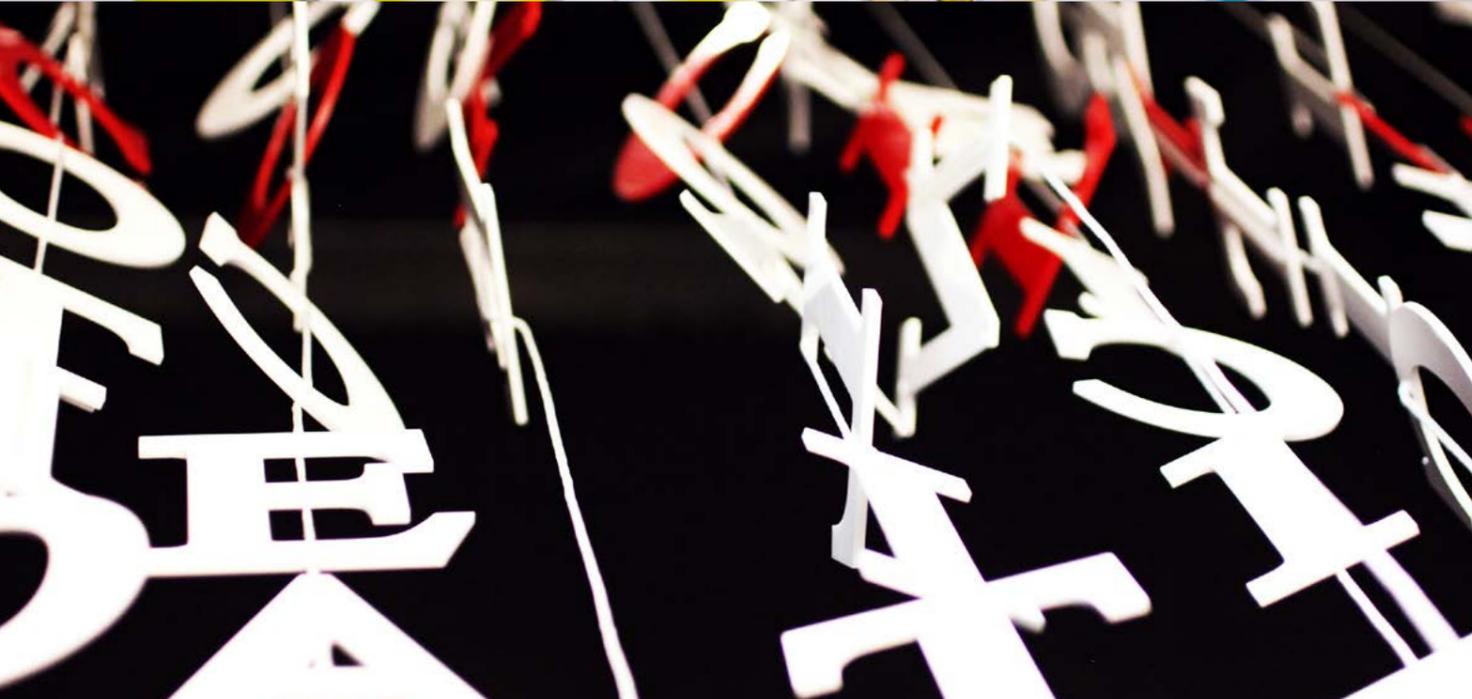
Change is said to be a constant. However, change that happens faster than we are able to adapt is becoming a trademark of our era. This research project, funded by the AHRC London Doctoral Design Centre – LDoc, looks at how an applied social design approach can support communities in processes of transition and changemaking. By combining a participative social design approach with insights from choreography and dance improvisation, the research places an emphasis on the sensory, spatial and temporal affordances of the body. The body is enactive – we come to know our context by being active in it. Our bodies are also always in social context, making the body a powerful modality to inform social changemaking processes. The research develops a toolkit of body-led practices, called Collaborative Improvisation. These participative games create a platform for prototyping and co-creating futures. The application of the research is focused on youth changemaker settings as powerful sites of future-making.



The Future of Government 2030+

Lara Salinas / UAL, London College of Communication

It's 2034, and in order to access Social Care services for free when needed, a monthly Risk Tax Bill is paid to the government's Risk Moderator & Regulation department. The bill varies according to the personal 'risk score' calculated based on a triangulation of personal and behavioural data. The government acts as an insurance company, collaborating with businesses to provide citizens with tailored recommendations, helping them to maintain healthy lifestyles and reduce their risk scores. The Citizen Influencer Act launched in 2020 is fully implemented and citizens are regular and active problem-solvers in local policy meetings. Public participation has become an intrinsic part of the education system. All citizens receive an income to spend part of their time as policy makers. The role of councillors in local government is to provide expert facilitation of these citizen-led, open discussions. They are organised by local councillors into competence clusters, in order to fully represent key stakeholders' needs fairly and efficiently.



GoFit4Fun

Remi Bec / Sheffield Hallam University

GoFit4Fun CIC is a social enterprise delivering services using (tangible) games to promote physical activity and reduce social exclusion. GoFit4Fun is the culmination of 12 years of an iterative cycle of research and implementation. Each output represents a 'keypiece' embodying a considerable amount of knowledge. Some can be seen as 'final outcomes', yet they are also prototypes communicating the knowledge developed until then to different audiences in order to gain further knowledge about their viability. They are ultimately part of an iterative process of testing in context with those that they have been designed with and for. These keypieces are about the latest game 'Boost Up' which is composed of a card and board game. These keypieces are about its development (concept testing and games prototype) and illustrations (the new board game and a representation of GoFit4Fun services). Promoting co-creation, games, physical activity and social interactions are the essence behind GoFit4Fun services.

Text Illuminations

Nela Milic, Denisa Kostovicova, Ivor Sokolic & Tom Paskhalis
UAL, London College of Communication

This AHRC-funded research project, Art and Reconciliation: Conflict, Culture and Community, involves 3 universities: King's College London, London School of Economics (LSE) and the University of the Arts London (UAL). As an outcome of the project, an installation was developed to depict an interactive representation of a search for the meaning of reconciliation after mass atrocity. The work is a response to text mining in Balkan languages conducted by the team at LSE. The artist and the political scientists discussed the process of interdisciplinary collaboration to convert quantitative text analysis into a designed object. Milic conducted research about the representations of the word "reconciliation" and created a word game. She tackled the problem with data visualization that is often expected from artists in the process of beautifying research outputs of scientists. Her work demonstrates change in the modus of interdisciplinary collaboration and explores how "reconciliation" discourse can change through design.

Kos: Material Witnesses

David Swann / Sheffield Hallam University

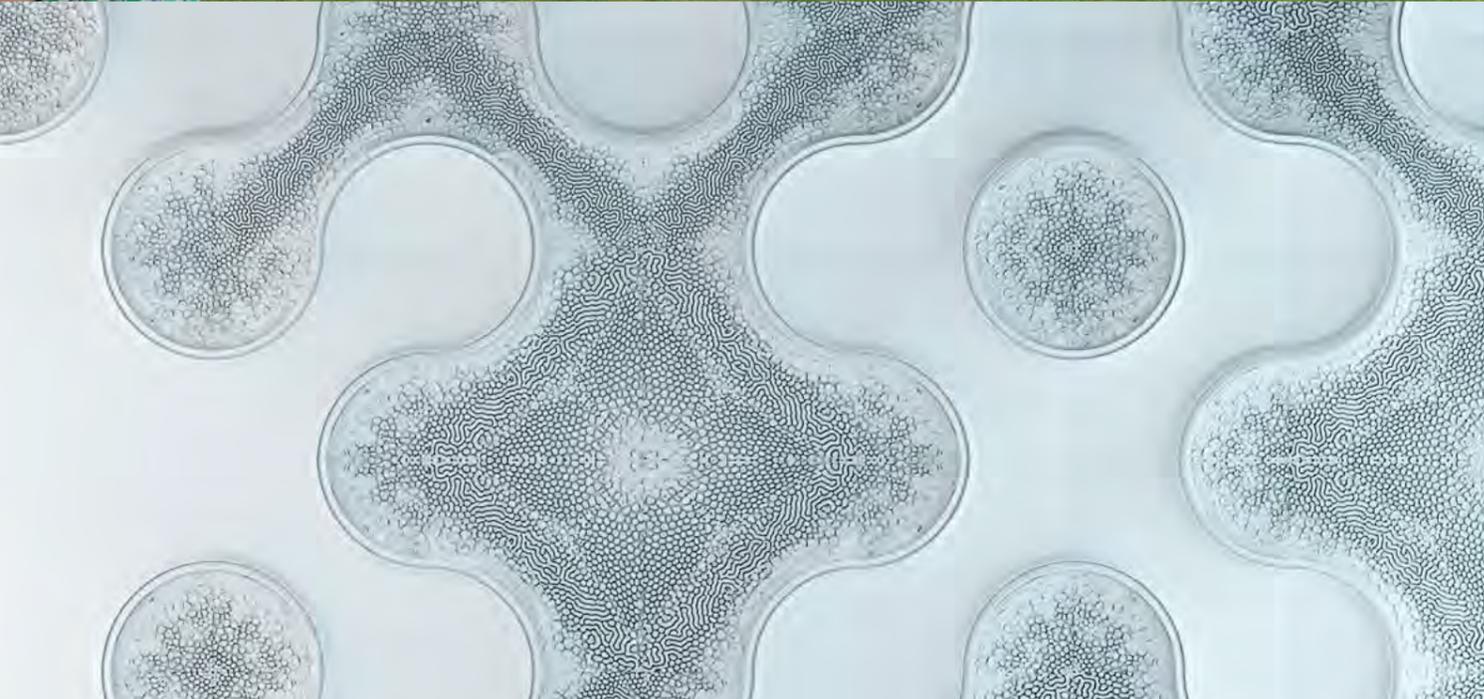
This research project investigates the operational challenges faced by the volunteer group Kos-Solidarity. In 2015 the small island of Kos became a frontline destination with 18,600 refugees arriving in a six-month period increasing the island's population by 62%. With no official reception facilities in place at the time, volunteer groups such as Kos-Solidarity emerged to provide daily humanitarian care to 1000 refugees: food, clothing and aid. Until this investigation, no comprehensive study specifically related to the humanitarian response in Kos had been undertaken. Fieldwork trips (2016-2018) recorded refugee sites of importance and preserved approximately 90 spectral refugee artefacts. Acting as material witnesses, object-based interviews captured oral testimonies of volunteers. Findings from the research are now informing the development of simple, implementable interventions that address the unmet needs of refugees. One example is the augmentation of the UNHCR thermal blanket to improve its usability.



SheltAir

Gregory Quinn / University of Bath

Disaster-relief shelters tend to perform very poorly in terms of the (thermal) comfort they provide, their speed of erection, long-term structural resilience and, crucially, their ability to facilitate and encourage emotional healing of suffering people through good design. Additionally, the importance of large shelters for medical treatment, social convalescence and religious gatherings in refugee or disaster-stricken areas is largely neglected due to the necessary and immediate focus on smaller family dwellings but also due to the cost, time, complexity and energy demands associated with their construction. Taking inspiration from Bedouin dwellings but combined with state-of-the-art engineering, this project takes the simple and novel idea of erecting elastic grid-shells pneumatically (i.e. using an inflated cushion) and develops it to fruition in a concise, logical and innovative way in which the narrative recounts a successful example of design through research and offers many answers to the challenges described above.



NOTBAD

Richard Beckett, Sean Nair & Carolina Ramirez-Figueroa / The Bartlett School of Architecture, UCL

The medical community now understands that not all microbes are bad and that certain microbes play a beneficial role within the body in relation to our health and immune development. It is evident that overprescribing antibiotics can lead to the killing of benign and/or beneficial microbes within the body, removing competition and thereby allowing antimicrobial resistant microbes to proliferate or colonise the body. Analogically, these principles are true of microbes within buildings, the so-called built environment microbiome. However, to date, a similar shift in opinion has not occurred amongst architects and designers where a preference for cleanliness still drives a 'kill-all' mentality towards the presence of microbes in buildings. This AHRC-funded project is investigating an alternative, pro-microbial design paradigm for a living architecture that purposely grows benign bacteria within the building walls and surfaces that serve to prevent the spread of antimicrobial resistant pathogens via mechanisms of bacterial competition.



Microbial Storytelling and Paths of Pathogens in Hospitals

Julia Backhaus, Kerstin Sailer & Alan Outten / The Bartlett School of Architecture, UCL

Funded by the AHRC, this research project explores how design can become a tool to interrupt or break infection pathways in hospitals. Through an architecturally-informed Space Syntax analysis, the research team has investigated the invisible complex network of relationships between microbes, humans and architecture, space and behaviour and the interdependence between the various professional roles on the hospital ward. In two hospitals, the paths of over 100 agents populating wards have been mapped out: doctors, nurses and other healthcare workers, but also frequently overlooked groups such as porters, cleaners, caterers, etc. Through storytelling, narrative and creative visualisation of the research findings, the project team intends to inspire appreciation of the hidden microbial life (good and bad) and make hidden paths and embedded behaviours visible. The aim of the project is to make neglected agent groups visible by giving them a voice and engaging everyone through participatory design events.



Design as a Socio-material Tool for Public Breastfeeding

Sally Sutherland, Tom Ainsworth, Nigel Sherriff & Mathilda Tham
University of Brighton

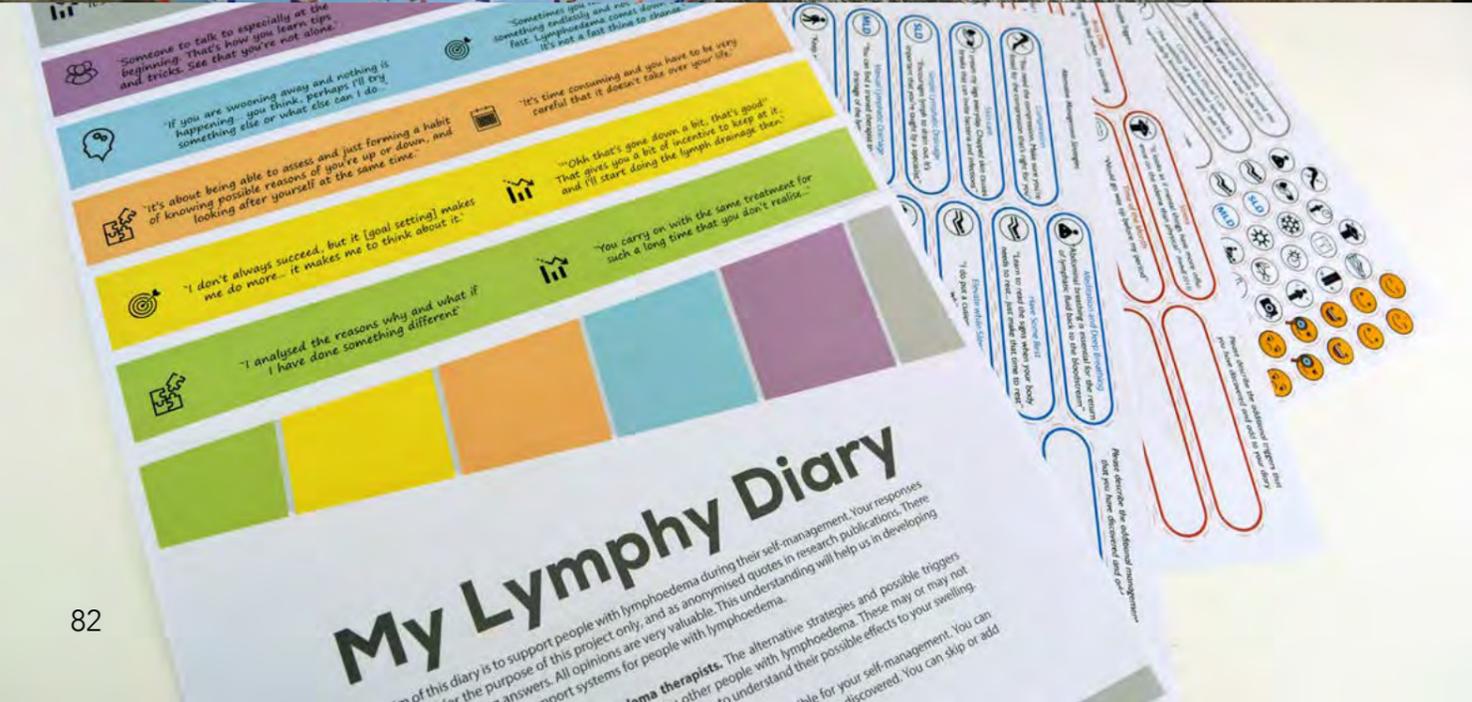
This is a doctoral research project funded by the AHRC Design Star CDT. Some outcomes of the project are: the neon Let Down layered light installation, Milk Matters, and the Human Milk Soap. There is an embodied experience of milk – it is corporeally felt. The neon Let Down light examines the embodied experience of milk making. A targeted social intervention, the installation aims to challenge current sociocultural norms that affect breastfeeding practices. Milk Matters is a series of coloured resin objects that non-verbally introduce the intersection of milk. The objects have been created to materialise a physical landscape of milk to provoke the audience to consider the value of milk from new perspectives. Soap made from human milk is not a new concept. It has been made by mothers for themselves and their infants for generations due to its gentle and antibacterial properties. Human Milk Soap is an everyday object, a safe and accessible way of interacting with human milk.



Designed with Dementia

Euan Winton, Paul A. Rodgers & Emmanuel Tseklevs / Lancaster University

Designed with dementia presents a range of products designed by inspiring people who are living with dementia. Their thoughtful and creative collaborations shaped by personal insights and opinions combine existing skills, experience and knowledge to design some outstanding products. The products exist as responses to cultural visits to art galleries, museums, events and gardens. The participants generated prototypes that have subsequently been collaboratively produced by the research team and project partners. These form a range of limited-edition pieces that have been commercialised to benefit the original designers. Exhibited in a shopping mall in Glasgow city centre, the products have shown what people living with dementia are capable of. This AHRC-funded project shows design's capacity to empower people living with dementia by improving their decision making, social interaction and valuing their opinions. These designs celebrate the creative capacity of people who are living with dementia providing desirable objects that the public can own.



Design to Support the Transition Towards Self-management

Teksin Kopanoglu, Katie Beverley, Dominic Eggbeer & Andrew Walters
Cardiff Metropolitan University

This project investigates how we might design to support people with chronic conditions in their transition towards self-management. This has been done by focusing on the experience of people with lymphoedema, a chronic medical condition that causes swelling. In this research, the components and the stages of the transition to self-management were characterised. A self-measuring tool (Wrap-to-Measure) was made by participants with lymphoedema, who then filled a reflective journal (My-Lymphy-Diary). A user-centred approach provided insights for supporting individuals to becoming proactive problem solvers who observe and adapt management strategies, and integrate these into their everyday life. Self-management support systems should facilitate active learning and provide stage specific support. This study contributes to a change in design focus towards 'patient transition'.



Fashion Alternatives to Fur and Exotic Animal Materials

Naomi Bailey-Cooper, Jane Harris, Simon Thorogood & Edwina Ehrman
UAL, London College of Fashion

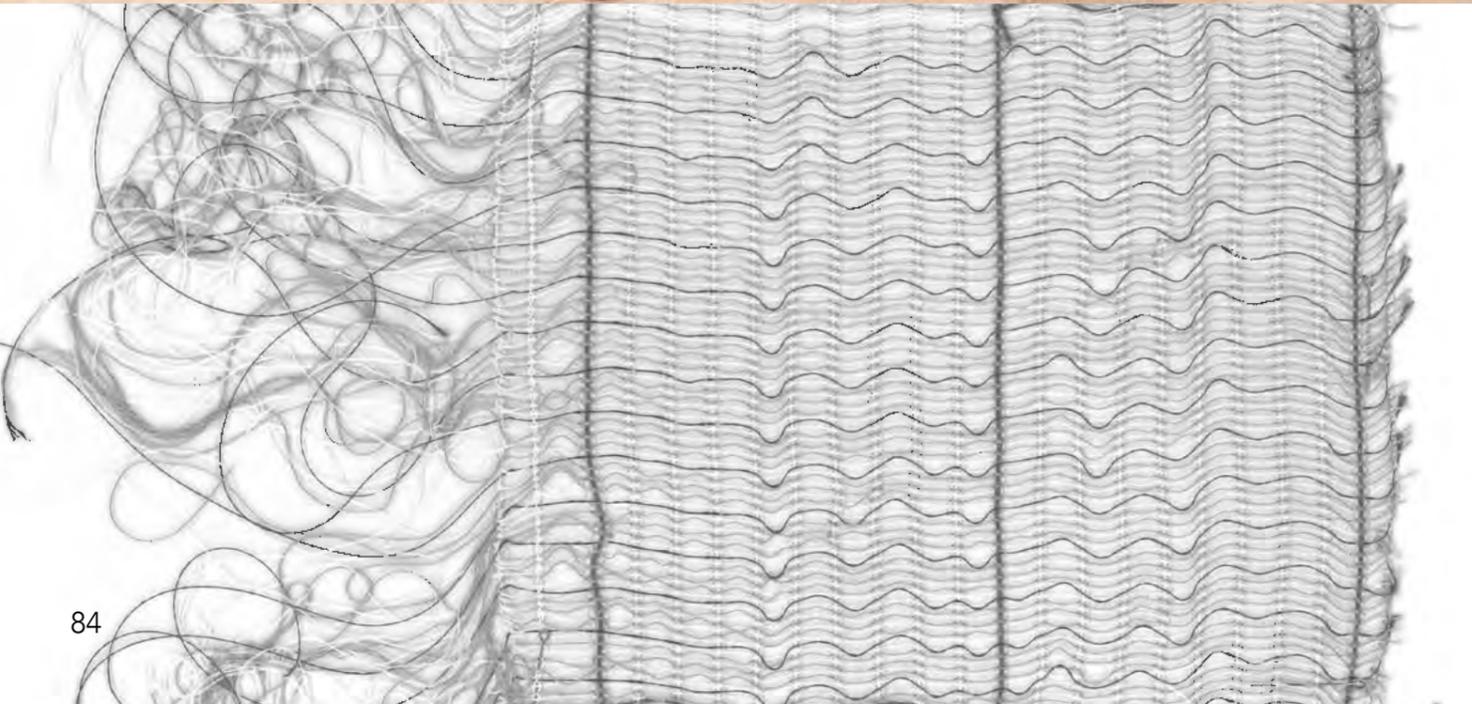
This practice-based research project aims at developing embellishment alternatives to fur and exotic animal materials by applying deeper appeals and values of animal materials such as uniqueness, craftsmanship and connection to nature. Embellishment artefacts were developed during a residency in the Amazon Rainforest to connect with exotic animal species. Leaf hopper nymph 1: The leaf hopper nymph secretes waxy tendrils as a defense mechanism and jumps when disturbed. The movement is simulated via the application of magnets. Leaf hopper nymph 2: This recently discovered nymph produces glass-like waxy tendrils and hides deep in foliage. The secretions are replicated in spun glass and embellishments are hidden to communicate their evasive nature. Puss caterpillar: The movement of this toxic caterpillar is replicated using segmented and highly tactile embellishment layers. Materials used include: hemp, organic cotton, spun glass, pre-consumer waste silk, banana bre, Tencel, magnets, and wax.



Out on a Limb

Lionel T Dean, Jennifer Loy, Hienrich Grimsehl, Jens Els, Nic Minnaar & Philip van der Walt / De Montfort University

Digital design and manufacturing technologies such as scanning and 3D printing are starting to impact the design of products for health and wellbeing as they allow for the customisation of medical products. The implications of these technologies go far beyond fit and function. Rather, they have the potential to redesign the relationship between the person and the object. Out on a Limb explores this potential through a practical example of design-led research, where the designer deliberately challenges the conventional approach to designing lower-limb prosthetics for women. Conventional prosthetic limbs are essentially kits of standard engineering components produced irrespective of gender let alone personal taste and sensibility. Recent years have seen a move away from the disguise of the false limb to almost a celebration of the prosthetic. Here digital technologies have allowed the designer to work with the user and to create the prosthesis as a fashion accessory.



Wearing Your Recovery

Laura Salisbury / Helen Hamlyn Centre for Design, RCA

This project includes a series of textiles questioning the process of relearning the ability to use the upper limb in stroke rehabilitation. Here, the garment becomes a tool in the process of recovery. In one element of the project, movement of the upper limb becomes navigated by the changing shape and behaviour of the textiles. Movement is permitted, restricted and provoked at varying degrees across the surface of the textile, at varying times. Structural changes can be seen to impact the silhouette of the garment, visualising movement. As another outcome of the project, a larger sample has been produced, integrating the function directly into the familiar structure of the textile, realising an 'invisible' platform for care that retains its 'familiar' form. The intuitive nature of wearing and feeling is called upon to extend the body's ability in order to recover from its inability to use the upper limb.



Rewild My Street

Siân Moxon, Viktoria Fenyés & Jon Moxon / The Cass School of Art, Architecture and Design / London Metropolitan University

Rewild My Street is a design-led campaign to inspire Londoners to adapt their homes, gardens and streets for wildlife. It aims to reverse the alarming trends of biodiversity decline and loss of urban greenspace, while promoting people's health and wellbeing through contact with nature. London loses 2.5 Hyde Parks of greenspace annually as residents pave over front gardens, fell trees and lay artificial back lawns. This significantly impairs streets' habitat value, when over half of UK species are in decline. With gardens covering a quarter of London and connecting other green spaces, educating people about their importance for wildlife could make a real difference. This project centres on drawings of a typical London street transformed for wildlife. These are shared with the public in the rewildmystreet.org website, where they are used to organise guidance on products and activities to attract wildlife to cities, and information on species and habitats.



Connected Seeds Library

Sara Heitlinger, Nick Bryan-Kinns, Hamed Haddadi & Nanda Khaorapapong
City, University of London

The Connected Seeds Library is a co-designed, interactive seeds library that lives permanently at Spitalfields City Farm in East London. It connects communities to their heritage through food, and makes available locally-grown seeds as well as the knowledge required to grow them. The seeds have been saved by 15 seed guardians, who come from ethnically diverse backgrounds and have saved seeds from crops not typically grown in the UK. In this way, the Connected Seeds Library functions as a community resource and helps support the UK's seed sovereignty. It was produced as part of an EPSRC-funded project called Connected Seeds and Sensors, conducted at Queen Mary University of London, which explored networked sensors, data collection, and participatory design for sustainable urban food practices. The Connected Seeds Library was created with Franc Purg, Matt Jarvis, and project partners Spitalfields City Farm.



LivePrinter: Live 3D Printing

Evan Raskob / Goldsmiths, University of London

LivePrinter is the start of an open, interactively programmed 3D printing system for live computational making. Automated manufacturing can be a collaborative process rather than replacing the labour of craftspeople. These experiments were all done with LivePrinter to show that new forms of improvisation and intuition are possible with digital manufacturing. One uses digital "agents" that are guided by the coder/maker to create overlaying paths of plastic in grids of different sizes. The other explores more manual ways of filling space, here using livecoded Hilbert curves with different properties. Each experiment was a combined automated and manual process where the maker manipulated the material in the 3D printer and interactively ran and edited the code over the making session.

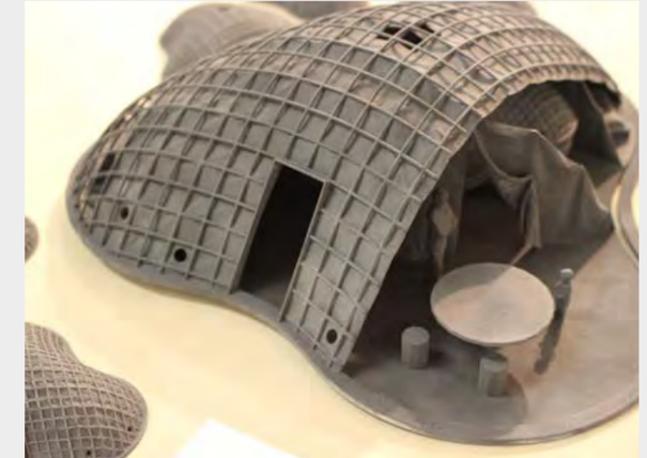
"All the projects here are amazing, very inspirational to me and it is amazing to see lots of people want to change the world for the best through design"

Participant Feedback



"Excellent exhibition, there are some very interesting projects"

Participant Feedback



"It is very interesting and I am interested in the mix of universities"

Participant Feedback



"Thinking about projects that have impact is very important. Design is not only about supply chains and sales, but it is also very much about exchange of ideas and sharing experiences"

Participant Feedback

Design Research for Change Film

The 61 design-led research projects exhibited at the AHRC Design Research for Change (DR4C) Showcase during the London Design Fair 2019 spanned a range of design disciplines, ways of working, geographical locations, and methodological and conceptual boundaries. The 61 research projects, many of which were funded by UKRI through research grants, fellowships and the AHRC Design Centres for Doctoral Training, illustrate wide-ranging social, cultural, and economic impact. They highlight the key roles that UK-based design researchers and practitioners play in some of the most complex and challenging issues we face both in the UK and globally and the positive outcomes that are being designed and developed.

They include innovative projects such as developing design tools and processes that will support people living with dementia to live high quality lives; designing gaming interventions to prioritise the rights of girls and women to live a life free from violence; and designing methods for producing more sustainable food practices in the city. All of these design-led research projects highlight the amazing design research talent we have in the UK and the innovative and creative ways of working; they demonstrate how we might transform our future cities and ways of living, how to deliver individual and societal wellbeing, and how to thrive within the context of low-carbon living and resource scarcity.

A feature of the contemporary design research landscape is that it is constantly evolving; design researchers, collaborators, and project partner organisations respond to address significant and

complex social, environmental, cultural, economic, and other challenges. Similarly, the boundaries of conventional design disciplines are evolving from design subjects focused on various forms of the material world – such as products, interiors, fashion, and graphics – towards other less tangible domains, such as service, interaction, policy and transformation design. Alongside an increase of design’s depth in supporting innovation and industrial competitiveness, design research is also widening its breadth as it contributes new knowledge in a range of fields such as social innovation, policy design, and health and social care illustrating design’s important roles in shaping our thinking on cities and our future urban strategies and future health and healthcare provision.

We are also witnessing changes in the design research process, which used to be driven by individual designers or teams of designers and is now increasingly led by interdisciplinary teams that also includes end-users and other stakeholders involved in co-design processes and practices.

<https://ahrc.ukri.org/newsevents/news/design-research-for-change/>

<https://www.designresearchforchange.co.uk/design-research-for-change-showcase-2019-film/>



“The AHRC have allowed me the time to go and explore and funded me to really make a difference.”

Euan Winton



“The AHRC funded our project which enabled a team of three people to work in a multidisciplinary manner, a mix of designers and microbiologists working on the project”

Richard Beckett

5

Design Research for Change Symposium

A quick search of the word “design” on Google today (22 October 2019) returns over 25,000,000,000 results. These results include design organisations, design degrees, design news, ideas about design, design jobs, design media, and links to a variety of design tools and processes. Similarly, today there are many different designers working across different disciplines, with different attitudes, different goals, different agendas, different ways of working, different ways of doing research, producing different outputs that embody different values, engagement, and impact. Perhaps, however, the connection between all of these diverse design activities is the iterative development of products, services, systems, experiences, spaces, and other designed stuff in order to improve the human experience. In other words, using the power of human creativity to improve humanity.

Today, with its application across a wide range of different disciplines and fields, design is being used to help address significant, complex, and global issues ranging from antimicrobial resistance to mobility, from healthy ageing to migration, and the development of more sustainable materials and processes to creating policy and governance at local, regional and national levels. And with its inherent agility and applicability, design helps shape the scientific and technological advances which are transforming the world around us. In recent years, design research has witnessed a clear “social turn” where researchers have looked to make change in more socially-focused contexts as

opposed to wholly commercial realms. This “social turn” has encompassed a range of activities and interventions that constitute a more “socially-driven” form of design, which suggests that researchers and practitioners from non-design disciplines are working in close collaboration with design researchers with the ambition to realise change in social, cultural, economic, and environmental situations.

The twenty papers in this Design Research for Change (DR4C) book examine this “social turn” in design in detail and explore how contemporary forms of design research are increasingly involved in a range of social, cultural, economic, environmental and political action. The research included in this book highlights a variety of significant roles that design researchers play in some of the most challenging issues we face, both in the UK and globally. Narvekar et al’s paper “Creative Interventions in the Juvenile Justice System of India: A Systemic Inquiry” illustrates how design and gamification can be used to enact change in the juvenile justice system in India. Borin and Galluzzo in their paper, “Over the Emptiness: Interpretations and Expression of the Term in the Spaces of Disused Cinemas in Milan”, analyse and investigate new possible forms and uses for empty cinema spaces in Milan. Light’s paper, “Redesigning Design for Culture Change: Theory in the Anthropocene”, argues that design research needs to learn from cultural theory that positions culture as evolving and performative to ensure that design, which is low on theory of transformation, can be (re)designed to enact real culture change. In an educational context, Kerres and Getto’s paper “Design Research for Educational Change: Methodologies for Exploring the Future of Learning” describes the development of a meta-project, based on a network of several university and national institutes, devoted to the development of a methodology of design-based research with a focus on change projects, design-based approaches and the analyses of success factors for change. In “Metaphors and Imaginaries in Design Research for Change”, Lockton et al discuss how design methods (metaphors, mental imagery, and other forms of imaginaries) can be used more effectively to influence how people act and make sense of the world and deal with large-scale challenges in health, environment, politics, and social contexts. Palomino and Defeo’s paper “Material Design Innovation: Fish Leather, a New Environmentally-Friendly Material” reports on a collaborative project between the Icelandic tannery Atlantic Leather and the Italian analytical laboratory Ars Tinctoria connecting fashion designers, scientists and leather technicians from the UK, Italy, and Iceland to advance material innovation by using new technology (water-based ink digital printing methods) on fish leather as an alternative to conventional leather to encourage more sustainable fashion practices. “The Ripple Effects of Social Design - A Model to support New Cultures of Evaluation in Design Research” by Eva Knutz and Thomas Markussen articulates a need for developing an evaluation culture that is primarily concerned with design outcomes. They use a social design case (a game-based intervention designed for family visits in maximum-security prisons) to identify ripple effects leading to three types of value - social value, demand value, and research value. Hackney et al present their work entitled “Designing a Sensibility for



Sustainable Clothing (S4S): Affective Activism” that combines arts with social science research methods to investigate how creative activities might shape a sensibility for sustainable clothing and promote pro-environmental behaviour change through making fibre, using waste fabric and modifying clothes. Scott et al’s paper “Why Knitting Now? Textile Design Research as a Driver for Educational Change” reports on work in collaboration with the Crafts Council (UK) and sixteen schools across Yorkshire that has used knitting as a tool for designing and making across a variety of scales to reposition textiles as a vehicle to respond to global challenges such as the environmental problems of textile colouration. Katharina Vones and Ian Lambert’s paper “Material Reality to Materiality: Ocean Plastic and Design Research” brings together material exploration and designer-maker education methods to bear on a major environmental issue with huge public interest through a critically and scientifically engaged process, rooted in places and communities affected by complex and significant environmental issues. In “Strange Encounters: A Series of Posters Investigating the Hybrid Embodiment of Indo-Canadian Identity”, Krishna Balakrishnan’s paper acknowledges the many forms of otherness that exist from differences in subjectivity, gender, race, class, temporal and spatial geographic location and dislocation to produce a series of visual artifacts that discuss hybrid embodiments of Indo-Canadian identity. Salisbury et al present ongoing research that explores how design, in the form of smart textiles, can aid upper limb rehabilitation and consider further the person’s extended emotional needs through the considered implications of use of types of tools and approaches within the highly diverse lifestyles of individuals who have suffered a stroke in their paper entitled “Wearing Your Recovery: 3.0”. “The Fair Energy Mark in the Making: Framing a Citizen-led Campaign by Participatory Design” by Laura Santamaria presents a design intervention that explored citizen empowerment in the context of the Fair Energy Mark campaign - a citizen-led action aimed to raise practice standards and address power imbalances in the energy supply sector. By integrating design and communicative action theories with participatory design and community organising methodologies the work highlights opportunities to amplify the impact of design research for social change. Lise Amy Hansen’s paper “So, What Do You Do? The Role of Design Research for Innovation towards Work-life Inclusion” reports on the roles design research has played in a large innovation project in Norway – InnArbeid - where technology and services are developed for social change. In particular, the roles that design research has played in teasing out novel areas of opportunity for creating and in particular co-creating technology-supported services that support work-life inclusion of young people with developmental, intellectual disabilities (ID). Ivanova and Flory in their paper entitled “Design meets Neuroscience: Future Directions for Developing and Implementing Design Probes” outline recent advances in neuro-technologies, and the pivotal role user experience design might play across a wide range of analogue and digital applications at individual, community, and global level ranging from learning and education interventions to innovation of large-scale healthcare options. Nneka Sobers’ paper “Intervention without Imperialism: An Equitable Approach to Design Research” examines a hybridized and anti-exploitative design research methodology that is unpacked through a case study of a community in Accra, Ghana. Emphasising equity, self-determination, deep dialogue, and context-sensitivity, the design research presented in the paper resulted in the co-creation of a grassroots waste management system that illustrates notions of the role and mechanics of dismantling systems of oppression as a socially-conscious designer. Endrejat et al’s paper “Advancing Sustainability at Universities through Design Thinking Education”, presents a case study describing how a team of students addressed the problem of disposable cups usage within a university (TU Braunschweig) using design thinking methods to reduce the usage of single-use cups. Rachel Kelly’s paper “The Voices of the Cordillera: Digitising an Oral Tradition” describes a collaborative project between the Philippines-based CordiTex project and Manchester School of Art to support the future digitization of indigenous weaving traditions within the Cordillera region of the Northern Philippines. The paper includes the development of a Learning Framework and Toolkit to support the preservation of an oral-based weaving tradition and to develop interventions for creative practice and knowledge-based change. The paper highlights the voice of oral craft traditions and

describes the relationships between different voices which can be heard within authored works such as hand-woven textiles. In “Tweaking Retirement-Living: Introducing Design Thinking & Coffee Bars to Shared Lounges”, Sam Clark describes research that aims to explore what the homes of older people could look like in the future. This research has been undertaken at a time when there exists a major societal challenge of housing a ‘super-aged’ UK population, and the particular needs and aspirations of active third-agers. Clark’s research advances ‘designerly’ modes of inquiry, resulting in design-relevant feedback for those involved in the production of retirement-living environments and how housing providers can use this information to develop more appealing options. Simone Gumtau’s paper “The Future of Seafaring: What Can Design Add? Designing an On-board User-interface to Predict Engine faults on Marine Vessels, Lowering Fuel Costs and Emissions” describes a collaborative project between a communication designer, data scientists, and engineers at the University of Portsmouth working with a consortium of companies in the marine industry around the Solent in the South East of England. The aims of the project is to add economic and environmental value to marine engineering services in order to retain market competitiveness, to comply with international standards to reduce fuel consumption and emission through innovation, and also to provide a better user experience through design.

This rich set of papers are the end result of a lengthy process that began with an amazing response to the call-for-papers for the Design Research for Change (DR4C) symposium held at the Design Museum, London on Wednesday 11 and Thursday 12 December 2019. We received 62 papers from researchers based in countries all over the world including Australia, USA, India, China, Sweden, Germany, Italy, Norway, Denmark, Israel, Greece, Turkey and the UK. After a thorough review process, twenty papers were accepted for this book and presentation in a single-track session over the course of the two days at the Design Museum, London. The Design Research for Change (DR4C) symposium and subsequent book are both much-needed, timely, and significant. The papers in this book address one or more broad and challenging themes highlighted in the original call-for-papers. We were interested to hear and see how design researchers working with others are making and contributing to change in areas such as energy and the environment, education, public services, health and social care. The call-for-papers was intended to be inclusive (not exhaustive) and contributions were encouraged that challenged these themes and others. We invited authors to submit high-quality, previously unpublished, original contributions that explored one or more of the DR4C symposium themes including:

- What they (as design researchers) are changing and why?
- What difference(s) their design research is making?
- Who decides what to change?
- What impact has your change delivered and at what cost?

Further, more broadly and looking to the future we asked authors to consider the following:

- What should design research change now?
- Can design research really change anything?
- What will you do to make change?
- In what ways do you envision the impact of such change to be evaluated?

Given the reach and interdisciplinary nature of contemporary design research it is anticipated that the rich mix of papers in this book will show the wide-ranging social, cultural and economic impact of emerging forms of design research. This book will be of interest to practitioners and researchers in a wide range of disciplines. This will not only include design researchers, design practitioners, and design academics but the book will be of significant interest to researchers and practitioners in other areas including (but not limited to) education, healthcare, government, biotechnology, engineering, management, computing, and business.

Design Research for Change Authors and Papers

11 December 2019

Rachel Kelly,

"The digitisation of cordillera weaving: Designing a new oral tradition"

Eva Knutz & Thomas Markusen,

"The ripple effects of social design"

Ann Light,

"Redesigning design for culture change: Theory in the Anthropocene"

Simone Gumtau,

"The future of seafaring: Designing an on-board user-interface to predict engine faults on marine vessels"

Michael Kerres & Barbara Getto,

"Design research for educational change: Methodologies for exploring the future of learning"

Elisa Palomino & Gustavo Adrian Defeo,

"Material design innovation: Fish leather, a new environmentally-friendly material"

Sam Clark,

"Tweaking retirement-living: Introducing design thinking & coffee bars to shared lounges"

Dan Lockton,

"Metaphors and imaginaries in design research for change"

Jane Scott, Elizabeth Gaston and Zoe Dennington

"Why knitting now? Textile design research as a driver for educational change"

Lise Amy Hansen,

"So, what do you do? The role of design research in innovation for worklife inclusion"

Aishwarya S. Narvekar, Aishwarya Rane, Kamal & Pankaj Yadav,

"Creative interventions in the juvenile justice system of India: A systemic inquiry"

12 December 2019

Fiona Hackney & Joanie Willett,

"Designing a sensibility for sustainable clothing (S4S): Affective activism"

Fernando Galdon & Ashley Hall,

"The ontological nature of design: Prospecting new futures through probabilistic knowledge"

Katharina Vones & Ian Lambert,

"Material reality to materiality: Ocean plastic and design research"

Ninela Ivanova & Melanie Flory,

"Design meets neuroscience: Future directions for developing and implementing design probes"

Paul Endrejat,

"Advancing sustainability at universities through design thinking education"

Krishna Balakrishnan,

"Strange encounters: A series of posters investigating the hybrid embodiment of Indo-Canadian identity"

Laura Salisbury, Chris McGinley & Rama Gheerawo,

"Wearing your recovery: 3.0"

Ambra Borin & Laura Galluzzo,

"Over the emptiness: Interpretations and expression of the term in the spaces of disused cinemas in Milan"

Nneka Deandra Sobers,

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Laura Santamaria,

"The Fair Energy Mark in the making: Framing a citizen-led campaign by participatory design"

The digitisation of cordillera weaving: Designing a new oral tradition

Rachel Kelly

It has been evidenced that while the Cordilleran weaving tradition has the status of National Heritage within the Philippines, the numbers of community weavers able to practice is dwindling. This collaborative project between the Philippines based CordiTex project and Manchester School of Art aims to support the future digitization of indigenous weaving tradition within the Cordillera region of the Northern Philippines entitled: Creating a Sustainable Textile Future for Women via the Digitization of Cordillera Weaving Tradition (CSTFW) project. This project developed a Learning Framework and Toolkit to support the preservation of an oral based weaving tradition and to develop interventions for practice and knowledge-based change. The project raises the voice of oral craft traditions and presents a heteroglossia, defined by Mikhail Bakhtin (1895 – 1975) to describe the relationships between different voices which can be heard within authored works such as hand-woven textiles. The CSTFW project is considering the structures and systems from an educational and social standpoint to understand the perspectives for change this project identifies. Our rationale was to listen, observe and consider the research context and its challenges, in order to be able to respond with effective and useful strategies for support. We asked if the weaving tradition of the Cordillera is to transform and change from the problems it faces, what impact might the shift from of an oral to a digital tradition create? We became a part of the CordiTex project in their second year out of three years funding and we brought Crafting Futures based research questions from our project funders. The project asks, How can craft generate economic opportunities and enhance livelihoods for women? and, how can the global craft sector address the declining youth engagement in the practice as well as the growing intergenerational divide? These questions sit beyond the CordiTex project aims and part of our work in the collaboration, has been to consolidate our differing research destinations and aims.

The ripple effects of social design

Eva Knutz and Thomas Markussen

Policymakers and the public sector increasingly turn to social design to mitigate the urgent challenges of the welfare state. With public sector collaboration and funding follow a requirement to measure and evaluate the change effect and the impact of social design practices. Typically, this requirement is premised on evidence-based ideals fitting well with neoliberal agendas and new public management. However, in this paper we argue that there is a need for developing an evaluation culture to supplement this predominant model. The evidence-based model is primarily concerned with design outcomes, while neglecting how social value may manifest itself as what we call ripple effects from the 'fuzzy front end' to the implementation and evaluation of a given design project. Using a social design case – a game-based intervention designed for family visits in maximum-security prisons – we identify a range of ripple effects leading to notably three types of values: social value for the benefit of the people we designed for and with; demand value, which refers to the value that an organization/client gains from implementing a design artifact or service, and research value, i.e. improving the research study design and direction through insights. To account for the ripple effects of social design, we shall elaborate and advance Sanders & Stappers' (2008) influential design model.



Redesigning design for culture change: Theory in the Anthropocene

Ann Light

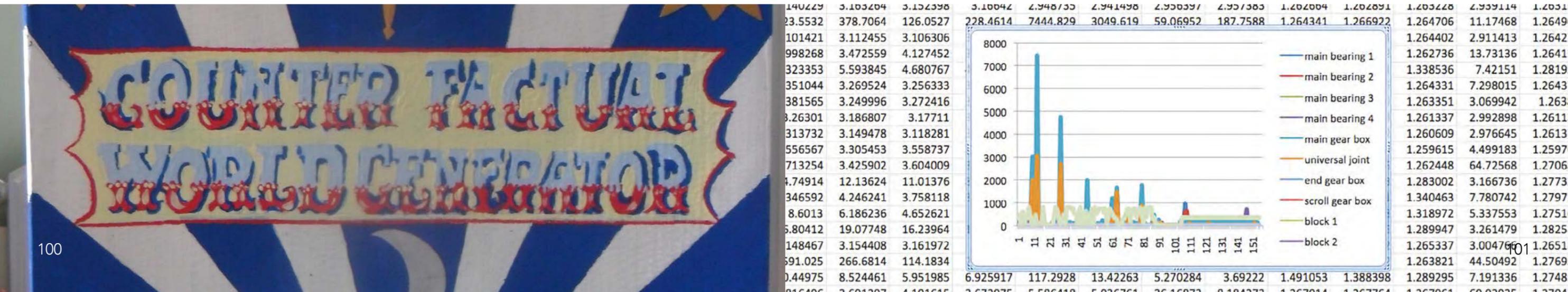
Design is low on theory of transformation, which becomes problematic as the practices and outputs of design need to contribute to a culture of planetary adaptation for sustainability. In fact, design itself needs to be (re)designed to enact culture change. To make these shifts, design research can learn from cultural theory that positions culture as evolving and performative. Adopting these ideas helps to reveal the designed-therefore-designable nature of the world, which is a necessary prelude to mobilizing publics. The paper concludes with participatory collaborative thought experiments, influenced by cultural theory, that offer directions for changing design.

The future of seafaring: Designing an on-board user-Interface to predict engine faults on marine vessels

Simone Gumtau

This paper describes a collaboration between a communication designer and data scientists and engineers at the University of Portsmouth, to work with a consortium of companies in the marine industry around the Solent in South East England. The change affected here was economic and environmental: to add value to marine engineering services in order to retain market competitiveness, to comply with international standards to reduce fuel consumption and emission through innovation, and also to provide a better user experience through design.

In particular, the design research for a user interface on board the ship to assist non-experts in monitoring engineering data will be described. The design visualises sensor data taken from various engine components by utilising body schema like movement and rotation. Theoretically, this design approach draws on phenomenology, embodied cognition and metaphor. This project involves a design lecturer working with data scientists in order to make the data more user-friendly. The context is data taken from the marine and dairy industry, which is ultimately used to detect and predict faulty engine parts. The design aspect here is to provide a user-friendly interface, but involves much more than that. To make sense of the data and make it accessible to a wider audience, the designer has to work closely with the data analyst to decide upon relevant parameters in the raw data, which then also determines the hierarchy of information on screen – i.e. questions of which information the user needs immediately, and which can be hidden in a different layer, can only be answered if the whole of the data collection and processing system is understood.



Design research for educational change: Methodologies for exploring the future of learning

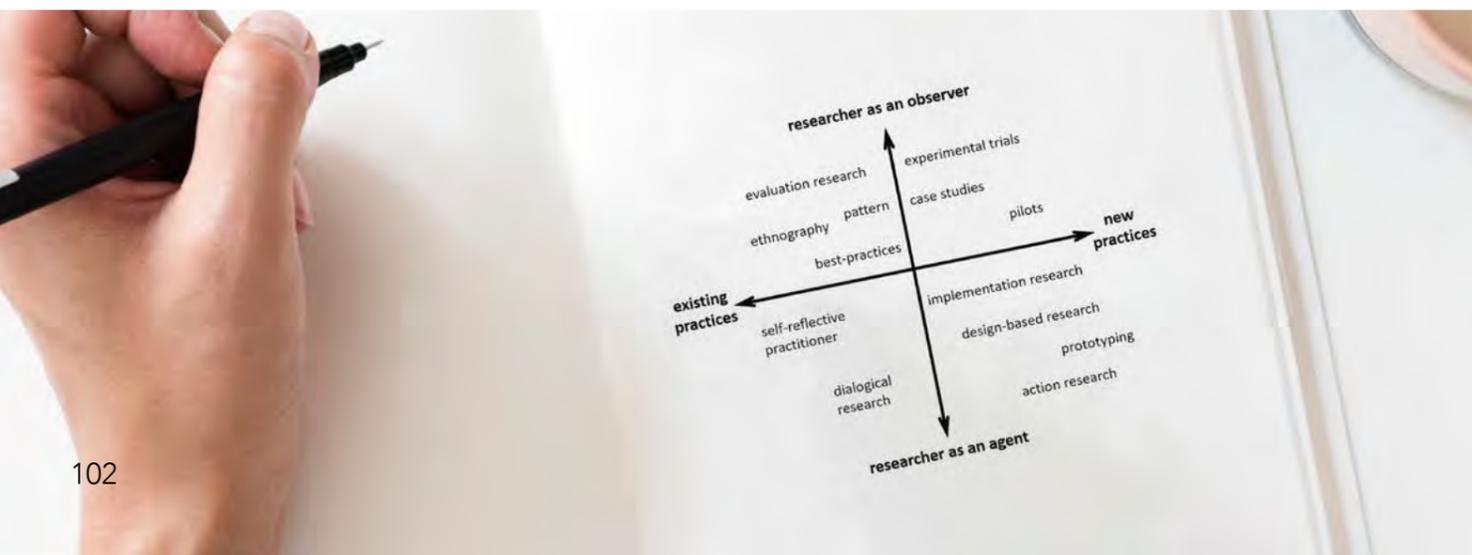
Michael Kerres and Barbara Getto

Today, the mainstream of educational research is devoted to quantitative and qualitative approaches analyzing individual learning, education institutions and underlying social processes from an interdisciplinary perspective mainly relating to philosophy, psychology and sociology. These analyses provide models and theories to better understand how learning and education function and what are relevant dimensions to explain diversity and inequity. In the 1990s, large scale assessments were started internationally that allow to monitor and compare learning achievements in common subjects in secondary schools. For some participating states, the results of the PISA and other assessments – discussed by a wider public – led to frustration: In these cases, the self-perception of a culture valuing education highly (and spending high amounts of money in education) did not match the results of these tests. This experience motivated a wide discussion of measure to take to improve the quality of learning in schools. Numerous suggestions were brought up by politicians, researchers as well as from the broader public and discussed in the media. Interestingly, these suggestions – based on the same results – could be completely contradictory and all starting points for change seemed plausible: school buildings, curricula, nutrition, teacher training – anything could be argued for. These discussions also showed that the measurement of learning achievements, though illuminating, does not provide sufficient information about possible mechanisms for change. Even more basic, if a plausible model existed explaining the causes and effects of a social phenomenon it is not obvious how to draw a conclusion about the best ways to implement change. As a consequence of the “PISA-shock”, several public measures for research have been setup. A recent evaluation of the program on empirical educational research by the federal ministry of education revealed the limited impact of this research to the public discussion and changes in the educational system. Therefore, starting in 2018 the federal ministry of education started a new framework for empirical research in education with a distinct focus on change projects, design-based approaches and the analyses of success factors for change. The learning lab of University of Duisburg-Essen is responsible for the meta-project in the field of digitalization in education, accompanying and supporting the around 50 projects sponsored in this line of research. Furthermore, the meta-project – based on a network of several university and national institutes – is devoted to the joint development of a methodology of design-based research.

Material design innovation: Fish leather, a new environmentally-friendly material

Elisa Palomino and Gustavo Adrian Defeo

This paper explores the material design innovation process during a cross-disciplinary project working with fish leather. The Fishskinlab project aims to generate a deeper understanding of fish leather as an alternative to conventional leather to encourage more sustainable fashion practices. The objective is to create aesthetically relevant fish leather products that illuminate sustainability thinking as a driver for innovation. The project looks at the strategies implemented by practice in the field of material design innovation fed by new technologies, addressing changes in interactions between humans and with our environments. The research draws on findings gathered through a partnership between the researcher, the Icelandic tannery Atlantic Leather and the Italian analytical laboratory Ars Tinctoria connecting fashion designers, scientists and leather technicians from the UK, Italy, and Iceland to advance material innovation by using new technology (water-based ink digital printing methods) on fish leather. This led to the development of a collection of digitally printed fish leather bags. The skins were sourced at Atlantic leather, the researcher developed the prints and followed the technical process while the digital printing was produced and tested at the Italian analytical laboratory Ars Tinctoria. This paper presents the journey of the mapping process, illustrating the key stages of the research, which led to the discovery of new material properties and finishes applying digital printing processes to a food industry by-product material such fish leather. The methods and practices of the project included dynamic interaction between the researchers facilitated through the cooperative framework of the project. The feedback of the work presented during Brussels Industry days and Milano Design week offered the researcher an information flow that influenced the development of the final prototypes and the ultimate presentation of process and outcomes. The findings identify that new materials, processes, and techniques are often the result of the successful union of fashion and technology to help drive the industry towards a more sustainable future.



Twinking retirement-living: Introducing design thinking and coffee bars to shared lounges

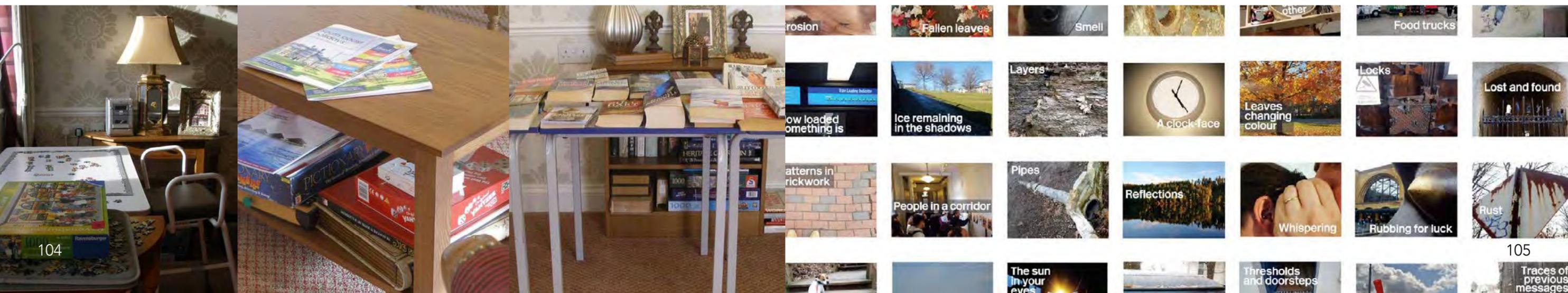
Sam Clark

The research presented in this paper stems from doctoral work that was undertaken between 2014 and 2018, with the aim of exploring what the homes of older people could look like in the future. The underlying research context is the major societal challenge of housing a 'super-aged' UK population, and the particular needs and aspirations of active third-agers. The research project foregrounds 'designerly' modes of inquiry, resulting in design-relevant feedback for those involved in the production of retirement-living environments. At the core of this work is a deep inquiry into what older people consider when making choices about their housing and how housing providers can use this information to develop more appealing options. The study acknowledges that in the last decade there has been a considerable expansion in the range of choices available and, while there is a growing demand and requirement for specialist housing, it remains true that many older people do not move until they reach crisis point. It is important therefore to gain insight into not just what retirement housing of the future might look like, but also how good design can encourage people to plan earlier in order to make more proactive decisions about their housing.

Metaphors and imaginaries in design research for change

Dan Lockton, Michelle Chou, Aadya Krishnaprasad, Deepika Dixit, Stefania La Vattiata, Jisoo Shon, Matt Geiger and Tammar Zea-Wolfson

A component of design research for change that has been under explored by designers focused primarily on changing behaviour, is the potential to use design methods to investigate how people think. In particular, the metaphors, mental imagery, and other forms of imaginaries which influence how people act and make sense of the world, individually, and as a society, are topics which design research is well-placed to explore. This paper illustrates three projects addressing these areas (relating to energy use, life and career, and generating new metaphors), and argues that by seeking to 'understand people's understanding better', design research can contribute useful forms of enquiry for informing other academic disciplines dealing with large-scale challenges such as health, environment, politics, and social issues.



Why knitting now? Textile design research as a driver for educational change

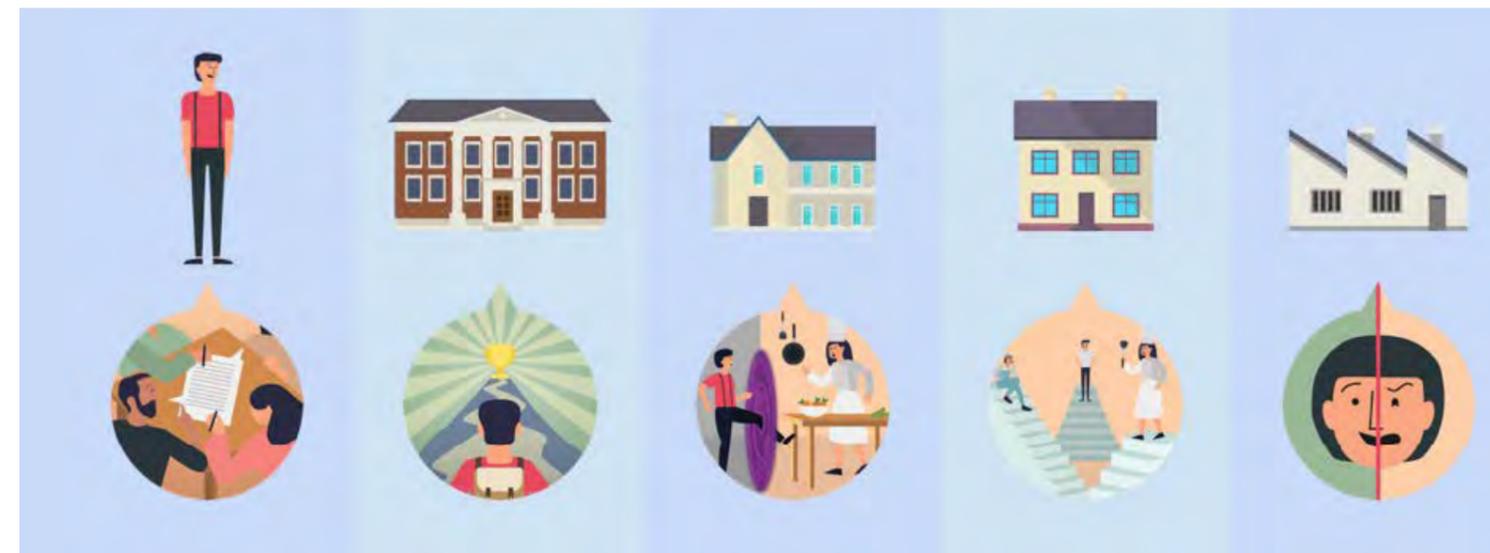
Jane Scott, Elizabeth Gaston and Zoe Dennington

Design education in the UK is under threat. Research conducted by the Crafts Council has identified a significant decline in both A Level and GCSE art and design subject entries since 2010. For textile design this has led to falling student numbers and a reduction in skilled graduates. This is significant. Textiles are ubiquitous; from the macro scale of the geotextiles that support national infrastructure, to the microscale of implantable medical devices, textiles encompasses a lot more than clothing. This requires an understanding of not only the fundamental properties of textile materials, but also the production strategies to design and make in 2D and 3D. This research presents a design intervention developed to respond to this educational challenge. Working with the Crafts Council's Make Your Future programme, and directly with schools in Yorkshire, researchers at the University of Leeds developed and implemented a project designed to engage with the opportunities offered by a creative curriculum. Using knitting as a tool for designing and making across a variety of scales, the project worked with teachers, pupils and school management to reposition textiles as a vehicle to respond to global challenges. Specific approaches applied biomimicry to the design of complex forms and considered new applications of colour theory as a means to respond to the environmental problems of textile colouration. Outcomes of the project have been significant. The team worked directly with sixteen schools and delivered workshops in five schools within the Yorkshire region during 2018-2019. The paper reflects on the impact of this intervention for pupils, teachers, school management and the wider community and considers how this experience can lead to lasting change in education. The ambition of this work is not only to re-skill school pupils and teachers in specific textile making processes, but also to renew the opportunities for design and craft education as a means to develop creative thinking and essential problem-solving abilities for all pupils.

So, what do you do? The role of design research in innovation for worklife inclusion

Lise Amy Hansen

This paper focuses on the role of design research in a large innovation project in Norway – InnArbeid – where technology and services are developed for social change. There are numerous policies in place and an increased awareness in Norway that agree to and support worklife inclusion of young people with developmental, intellectual disabilities (ID). Also, technological advances today could allow for a more diverse workforce, yet the opposite is happening and their participation in working life is in decline. Our case then, presents a challenge where even national policy together with a general consensus of agreement and good intents do not lead to change, and we argue that design research can play a role in teasing out novel areas of opportunity for creating and in particular co-creating technology-supported services. This is through creating scenarios and dialogues where the user involvement provides a radical expertise that may go across sectors and silos and be put into play. Here design has a role through its explorative and adaptive nature as well as its wide applicability and – at times – as a trouble-making, wishful and wicked approach to current needs and state of affairs. We reflect on the strategies that underpin the research design towards innovation. Design is positioned as explorative and – for service design in particular – as a visually and holistically driven practice. We explain our thinking behind the use of design research approaches for developing sensitivity to emergent processes and involvements, and how they are blended with practical methods and skills in building design knowledge. We will discuss three positionings of design research within the InnArbeid project: as an experimental development (design school work), as co-created ideation and conceptualisations (workshop involvements) and as well as the role of design research as an overarching approach (research designs). In an innovation project, there is tension between creative explorations and critical analysis on which we elaborate, by way of reflections on the development of our innovations. In particular, we look at how such a design-centred approach can provide access to nuanced yet meaningful, dimensions of knowledge. We conclude with a reflection on the challenges involved in developing an explorative, yet critical innovation approach grounded in co-design sensibility, and the need for building communities of practice for ongoing design literacy in design research.



Designing a sensibility for sustainable clothing (S4S): Affective activism

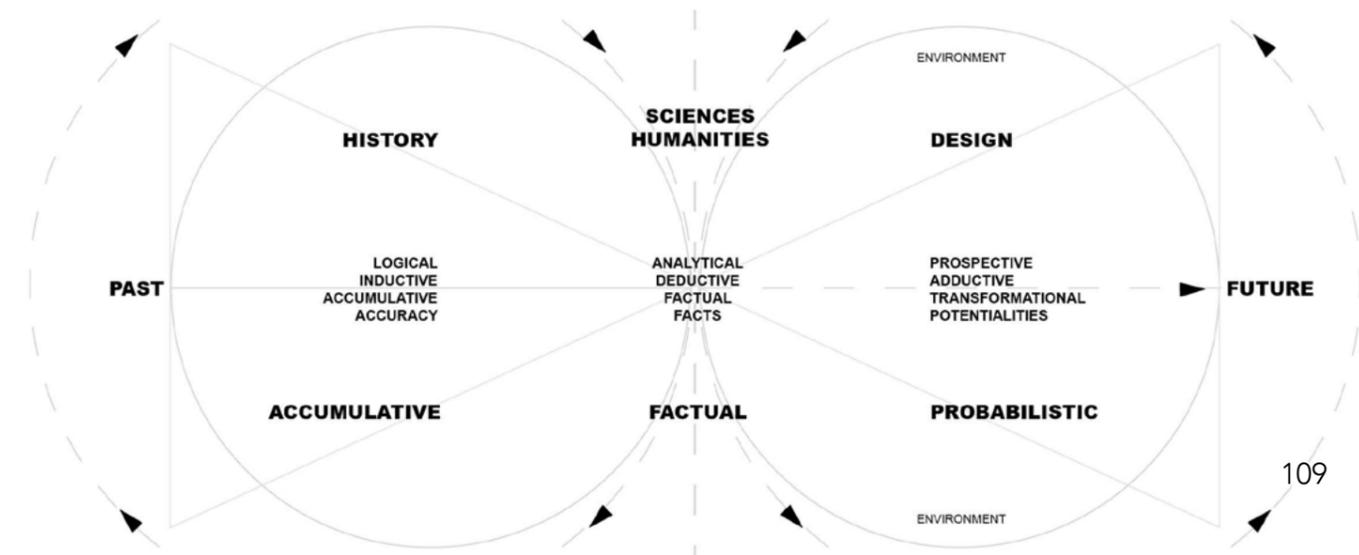
Fiona Hackney, Clare Saunders, Joanie Willett and Katie Hill

The need to improve the sustainability of fashion has been widely noted by academics (Black 2012, Fletcher 2008, 2016), activist campaigns (Greenpeace, Fashion Revolution) and policy makers (DEFRA, EAC). While there have been creative attempts to provoke sustainable fashion, few studies have explored ways in which making fibre, using 'waste' fabric and modifying clothes might change individuals' behaviour (thoughts, feelings and actions) in relation to how they dress. This chapter will present, analyse and reflect on work-in-progress research from the Arts and Humanities Research Council (AHRC)-funded project 'Designing a Sensibility for Sustainable Clothing (S4S)', which combines arts with social science methods to investigate how creative activities might shape a 'sensibility' for sustainable clothing and promote pro-environmental behaviour change. Drawing on social design thinking, the project works with communities to co-produce knowledge through 'hands on' making. It involves community groups in dialogic, reflexive workshops that mimic phases of the lifecycle of clothing (making fibre and fabric, purchasing, mending, modifying and making clothes, and dealing with waste fabric) and has produced a rich array of data including co-generated creative outputs, in-depth interviews, short reflective videos, wardrobe audits, clothing diaries and surveys. In collaboration with partner Fashion Revolution, the project proposes these methods as a mode of quietly affective activism that is embedded in, stems from, and is fuelled by everyday lived experience (Hackney, 2013a). Fashion industries, cultures and imaginaries are multi-faceted and complex with significant social and environmental consequences. Drawing on theories of affect (Ahmed, 2004), S4S findings suggest that participatory design and crafts practices offer an effective response to the pressing problem of fashion's devastating environmental effects.

The ontological nature of design: Prospecting new futures through probabilistic knowledge

Fernando Galdon and Ashley Hall

As design thinking evolves we are beginning to develop a clearer idea of its relationship to other domains of thinking and in particular its specific ontological nature. Here we consider design's special relationship to the future and how concepts of anticipation, probabilism and prospectivity underpin a new understanding of design's relationship to cross-domain collaboration potential. In effect we discuss how design cares for the future of transformation in an era where rapidly advancing technologies via exponential technological developments are challenging human-machine interactions. Probabilistic knowledge emerges as an ontological reality for addressing the intrinsically abductive nature of future design research. Ultimately this approach implies a different form of knowing and aims to position design research as the discipline better prepared for addressing the future.



Material reality to materiality: Ocean plastic and design research

Katharina Vones and Ian Lambert

So far, the difficulties inherent in obtaining and working with ocean plastic have prevented a comprehensive engagement with this material in a larger context. The concept of ocean plastic as a viable material for design, manufacturing, remanufacturing and recycling has not been explored to its fullest degree. Conventional methods of recycling, such as industrial remanufacturing or depolymerisation, are currently unviable both economically and from an environmental point of view, mostly due to the cost of collecting and transporting ocean plastic to centralised industrial facilities and quality issues connected to foreign particle contaminants having entered the plastic during its lifecycle. Ocean plastic therefore represents a serious environmental threat as well as an underused material resource freely available to local populations. Applying a systemic approach to this circular process allows locals to experiment with materials and processes and discover novel ways to repair, repurpose and remake objects from ocean plastic, encouraging skill sharing and community education. As 3D printing is gaining ground both in popularity as well as general availability, exploring strategies for remanufacturing ocean plastic into 3D printing filament suitable for FDM printers was specified as an intended outcome of the project.

Design meets neuroscience: Future directions for developing and implementing design probes

Melanie Flory and Ninela Ivanova

The frontiers of design and neuroscience are rapidly shifting as a result of recent advances in neuro-technologies, and the pivotal role user experience design plays across a wide range of analogue and digital applications at individual, community, and global level. These applications range from learning and education interventions to innovation of large-scale healthcare options. Every day new frontiers are forged as neurobiologists and cognitive scientists look beyond the mere structure-function neuronal correlations of thought, emotion, and behaviour. This has direct impact for design research and design-led probe development. Translating this growing evidence-base through a mind well-trained in critical, rigorous, and creative thinking, and an attitude of equitable collaboration and mutual respect, heralds immense potential for unfolding ground-breaking design probe applications through the intersection of neuroscience and design.



Advancing sustainability at universities through design thinking education

Paul C. Endrejat, Amelie V. Güntner, Elena Stasewitsch, Pascal Abel, Simone Kauffeld, and Susanne Robra-Bissantz

Teaching students Design Thinking (DT)—a team-based approach to solve wicked problems—by using real-life sustainability problems, provides an opportunity to develop solutions that benefit a university's ecobalance. To make this suggestion tangible, this chapter includes a case study describing how a student team, while learning DT, worked on the challenge to decrease the usage of disposable cups. This case study includes the workshop preparation, the course agenda, and the prototype BackCup, a deposit concept developed by the student team. Further, we illustrate how follow-up meetings with relevant stakeholders and the collaboration with a campus do-it-yourself platform raised awareness for the idea. Subsequently, we discuss how the team's efforts to implement sustainable solutions into the university's structures helped students to gain a better understanding of organizational dynamics. Future design thinkers learned that overcoming barriers towards sustainability requires several iterative process steps and the involvement of relevant stakeholders. For instructors who are interested to use a similar approach, it is explained how the DT course is integrated into the university's curriculum.

Strange encounters: A series of posters investigating the hybrid embodiment of Indo-Canadian identity

Krishna Balakrishnan

Acknowledging the many forms of "otherness" that emerge from differences in subjectivity, gender, race, class, temporal and spatial geographic location and dislocation has become greater interest in current time. This has also become a topic of interest among graphic designers as they explore design's relationship with culture. This thesis explores the use of graphic design to produce visual artifacts that discuss hybrid embodiment of Indo-Canadian identity. Cultural identities are represented as competing against one another, which results in recognizing one another as strangers. Multiculturalism and the migrant perspective are always constructed by proximity between strangers. Using hybridity, Homi Bhabha's (1994) concept of a "third space" identifies a metaphor for the space in which cultures meet. Where communication, negotiation, and translation bridge societies, a new space emerges. This thesis employs the interventions of "the third space" to negotiate a meeting space with strangers. The project prepared during this thesis (2015), *The Avatars*, digital montage of Hindu Gods, Goddesses, comic-book superheroes, Disney princesses, and hybrid prints produced at Belgium's Frans Masereel Centrum (2016), represents an alternative way of seeing migrant perceptions of displacement, temporality and belonging.



Wearing your recovery: 3.0

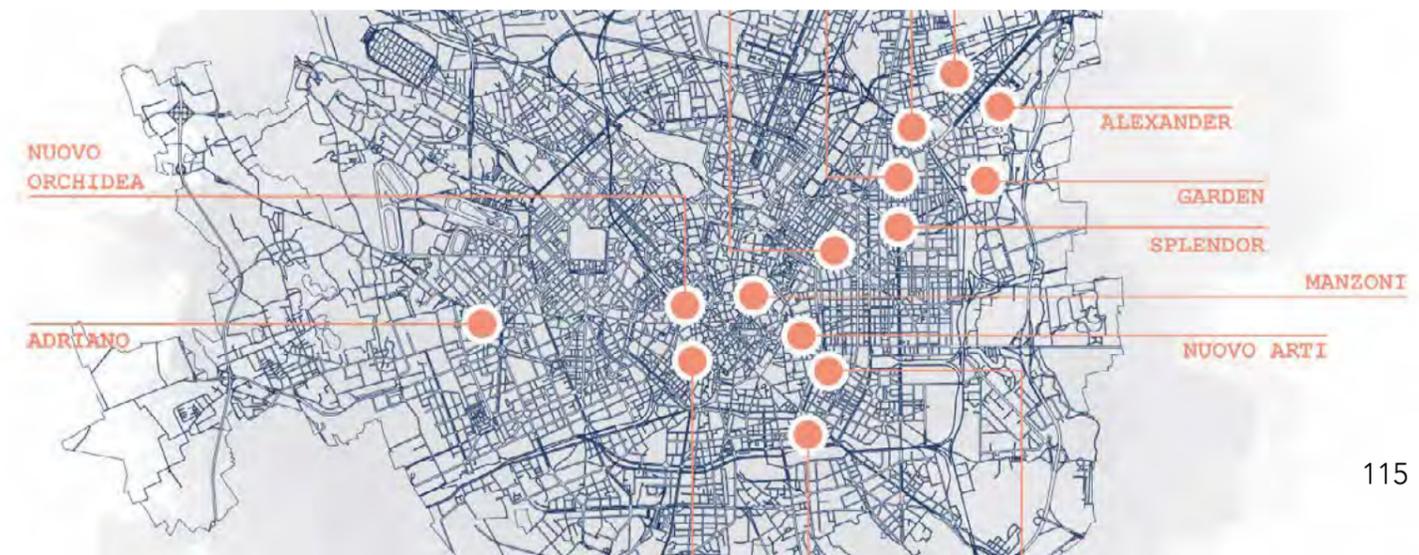
Laura Salisbury, Chris McGinley and Rama Gheerawo

People frequently use clothing to highlight, erase, identify and even 'correct' parts of their bodies, using clothing as a means of slimming, sculpting or shaping. What are the implications of this phenomena when our bodies do not function as they might have previously done? This paper asks how garments can build on their inherent qualities that impact behaviour, mood and function of the body, to question and position the role clothing might play on some of the major issues with upper limb stroke rehabilitation to date; specifically, motor training of the upper limb. When stroke disrupts the ability to use our finer motor control within our hands, activities of daily life (ADLs) that enable us to live our lives and frequently participate in become affected. Clinicians are acknowledging the importance of self-administered care saying 'it's not what happens when we are there, but what happens when we are not there [that is crucial]' (Kings 2017). Yet patients are having trouble self-administering rehabilitation, often having to prioritize training over other aspects of their life which can affect mood. It is the position of the authors that quality of life should not be reduced in order to get 'better', especially when recovery can take many months or even years. Using a materials approach in research through design as a particular way of thinking (Frayling 2015) and by thinking through the making process (Ingold 2017), 'Wearing Your Recovery' presents a response to work conducted concurrently and directly with stroke survivors and 'care-givers' to offer a post-critique of the implications and opportunities of using textiles as platforms for care. Samples in this paper unpack the moments of 'thinking through making' and examine the difference between the role of the 'care-provider' and the use of objects as 'platforms for care'. Methods of visualising the post stroke body span from the use of garments to embody experience and behaviour, to the use of body scanning in order to meticulously analyse the differential behaviours between the affected and unaffected limb, and that of the garment. By envisaging textiles as a route to achieve a 'second skin' that works in parallel with us, the internal body becomes extended beyond inherited forms and moves into that of another non-typical form, thus disrupting the course of recovery.

Over the emptiness: Interpretations and expression of the term in the spaces of disused cinemas in Milan

Ambra Borin and Laura Galluzzo

The concept of emptiness, since ancient times, has often been associated with a negative connotation. The following paper analyses and investigates new possible forms to cross this meaning towards a new added value. Emptiness is everything, it is a center, it is space and a place, it is lightness, it is immateriality but at the same time it is also fullness. This paper talks about a research, starting from the first term definitions to a design opportunity, where the concept of Emptiness is not only synonymous with "nothing", but becomes above all a physical manifestation of images and sounds. To interpret the Void as a physical and a spiritual reality, as it shows itself through culture and art, as a built reality, and above all as an urban effect through the figures of the greatest philosophers, critics, artists, architects and directors, who have always designed their definition of Void. To transform this research subsequently into a spatial experimentation to enhance the urban value of Emptiness, as the leitmotif of an exhibition system that aims to redevelop the disused cinemas of the Milanese territory. After a research in terms of abandoned buildings, which for years have become 'empty-urbans', have been selected some abandoned cinemas in Milan with the opportunity to give new life to their spaces, staging the declinations and interpretations of the Emptiness previously composed. The project that follows the research, consists of a scenario with the aim of combining the concept of living the Void as a visual and spatial experience and a curatorial setting of case studies selected. The result is a system of relations between empty interpretations and the various abandoned theatres in the territory, with a specific in-depth study of the project in the spaces of a historic cinema in the center of the city of Milan: Manzoni cinema.



Intervention without imperialism: An equitable approach to design research

Nneka Sobers

Design, as an act of intervention, has the power to either perpetuate or dismantle systems of marginalization. Although the design's intention may be to help those in need, the act of helping may repackage structures of neo-colonialism. A person who has the power to help vulnerable communities possesses inherent privileges that directly or indirectly may create a relationship of control, dependence, and exploitation. Although the unbalanced power dynamic may be unintentional, it is the role of an equity-minded designer to consciously transfer power by supporting vulnerable communities, rather than saving them. This paper examines a hybridized and anti-exploitative design research methodology that is unpacked through a case study of a community in Accra, Ghana. Through equity, self-determination, deep dialogue, and context-sensitivity, the design research approach resulted in the co-creation of a grassroots organized waste management system. In addition to achieving a collaborative design solution, the case study reflects on further notions of the role and mechanics of dismantling systems of oppression as a socially-conscious designer.

The Fair Energy Mark in the making: Framing a citizen-led campaign by participatory design

Laura Santamaria

There is a growing understanding that design can positively contribute towards highly complex social, economic and environmental problems we face today. One key area is citizen empowerment to change built-in systemic inequalities and exploitative practices. This paper presents a design intervention that explored citizen empowerment in the context of The Fair Energy Mark campaign, a citizen-led action aimed to raise practice standards and address power imbalances in the energy supply sector. The project-based investigation explored the tensions emerging between expert-diffuse design in the process of elaboration of campaign branding and communication strategy. The researchers experimented with new tools that enabled an open participatory process of campaign framing, but also facilitated fluid knowledge exchange between participants through experiential learning. The investigation contributes some conceptual constructs to discuss strategic design management practice in the socio-political sphere. Furthermore, the research identified that a closer integration of design and communicative action theories, and participatory design and community organising methodologies present promising opportunities to amplify the impact of design research for social change.

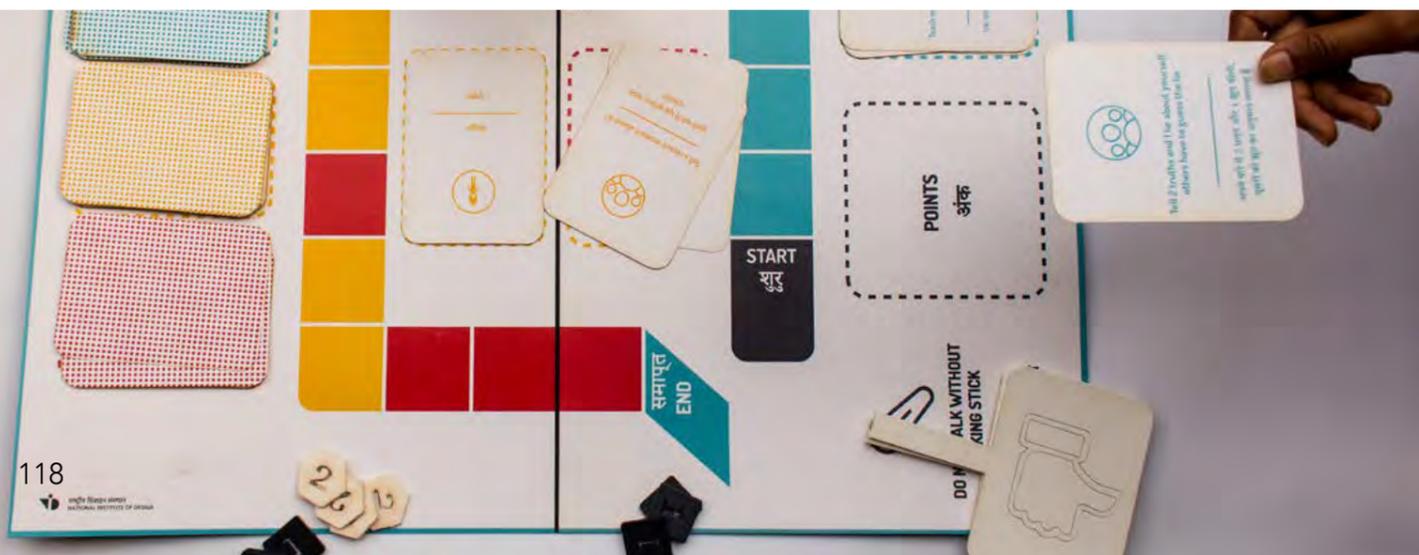


Creative interventions in the juvenile justice system of India: A systemic inquiry

Aishwarya S. Narvekar, Aishwarya Rane, Kamal and Pankaj Yadav

Reformation of children who come in conflict with the law has been happening through the Juvenile Justice System in India. This system which deals specifically with children remains neglected in the larger system of Judiciary. The children who come under the purview of this system get a chance to come out as contributing members of the society in the future.

Therefore, reformation is essential than the action that brings him/her there. Keeping design at the center of our research process we tried to study this system with a human centered approach trying to understand what drives the process of reformation inside for the children. Design, as a process, and drawing, as a tool, helped us break barriers in communication and expression with the children who have been in a closed institution during the important years of their lives. An important part of the study was to co-create for the system. This approach helped to gain valuable insight into the system and also prevent actions and approaches that are unfavourable in this highly sensitive area. This study will attempt to define the method found to interact and co-create with individuals in a secure and confidential system. The study also explores the possibility to use gamification as an approach to problem solving. The exploration of reformation strategies has led to this conclusion and it is found that it promotes voluntary participation on behalf of the inmates.



6

Outputs

In 2018, as part of my AHRC Design Leadership Fellowship, we launched a call for contributions for a Design Research for Change Showcase at The Truman Brewery in London as part of the London Design Festival. We were inundated with a wide range of responses and finally selected 67 design research projects. The showcase took place over the duration of the London Design Fair in September 2018, which was visited by over 30,000 visitors including trade, press and the general public. Design Week, one of the key design trade magazines in the UK, listed the Design Research for Change Showcase in the Top 10 list of things to see during the London Design Festival, 2018. A catalogue entitled Design Research for Change, that comprises further information on the 67 projects featured in the showcase, was produced in an edition of 1000. The catalogue has been distributed to visitors to the exhibition and also recently to over 160 of the leading design schools across the world from India to South Korea; Slovenia to Estonia; Australia to USA and many other countries. Based on extremely positive feedback received during and after the Design Research for Change Showcase in 2018, we organised and held a second Design Research for Change Showcase in 2019. The second Design Research for Change Showcase focused on design early career researchers and the contributions they have made in over 60 design-led research projects that seek to break new ground in significant and complex challenges such as developing design tools and processes that will support people living with dementia to live high quality lives, designing systems that ensure childrens' educational rights are met, designing interventions for supporting more sustainable and inclusive breastfeeding practices, and designing methods for producing more sustainable food practices.

Other notable outputs produced during my AHRC Design Leadership Fellowship include ten Next Generation Design Research workshops developed to support early career design researchers learn more about the processes and terms used in funding council research proposals, three "How to write an AHRC proposal in 2 hours..." workshops aimed at supporting early career researchers to write their first AHRC funding application, and five UKRI Future Leaders Fellowship workshops. Over 1,500 early career researchers, directly or indirectly associated with design research, registered and attended these workshops.

In terms of the personal research side of my AHRC Design Leadership Fellowship, I organised two international workshops entitled Does Design Care...? – aimed at academics and practitioners from various disciplines at any level of experience who are involved and/or interested in the gesture and/or practice of "care" at large. Does Design Care...? sought participation from researchers and practitioners across a wide range of disciplines to attend and contribute to a 2-day workshop in 2017 at Imagination, Lancaster University, UK and a 3-day workshop in 2019 at Chiba University, Japan. Does Design Care...? differs from conventional workshops in that it privileges thinking, making and doing in designerly fashions, failing and exploring different ways to explore, conceptualise, provoke, contest and disrupt care, in an effort to synthesise future visions of care. Does Design Care...? encourages both inexperienced and experienced researchers, novices and experts, and practitioners involved in and/or interested in care to get involved and make some sort of careful proposal.

In advocating for design research across all sectors of UK society, I have written and presented a number of papers at leading international design research events. This has included several invited lectures at key institutions both in the UK and abroad, eight conference and journal papers, four books, and an ongoing book series entitled Design Research for Change (Routledge Publishers).

In terms of social media, the reach of my AHRC Design Leadership Fellowship can be seen through a range of social media, with over 2,500 Twitter followers across two accounts (@paulstweet and @AHRCDesignLF). The website www.designresearchforchange.co.uk has had over 5,000 page views to date and over 1,500 people signed up to our mailing list to hear more about events and opportunities. Lastly, we used Eventbrite to promote the AHRC Design Leadership Fellowship workshops and events. The workshops have been in great demand and we have filled nearly all of the available places with almost 7,000 page views on Eventbrite.



Council for Higher Education in Art and Design (CHEAD) Research Alliance Symposium: Next Generation Design Leadership

The Council for Higher Education in Art and Design (CHEAD) Research Alliance Symposium entitled "Next Generation Design Leadership" was held at the University of Derby on 7th March 2018 and included an audience of senior UK Universities and Art and Design College members from across the UK.

As the AHRC Design Leadership Fellow, I was invited to give a presentation at the CHEAD Research Alliance Symposium, exploring a range of issues surrounding applied and academic design research in the UK.

Other speakers included:

Prof Martyn Evans, *Professor of Design, Head of Manchester School of Art Research Centre, Manchester School of Art*

Professor Sandy Black, *Professor of Fashion & Textile Design & Technology, London College of Fashion, University of the Arts London*

Professor David Swann, *Professor in Design, Sheffield Hallam University*

<https://thead.ac.uk/event/next-generation-design-leadership/>



Designed with Dementia

Designed with Dementia is a design intervention that makes use of the latent creative abilities of people living with dementia. Designed with Dementia adopts a co-design approach where people living with dementia are highly valued and their inputs and collaborations are held in the same esteem as any other collaborator. Designed with Dementia focuses on the empowerment and inclusion of people living with dementia, along with dementia support workers, carers and the general public, to inform, influence and change prevailing attitudes and assumptions surrounding dementia. During the Designed with Dementia process, all participants become co-designers helping to propose possibilities, choose solutions, provide services and "make things happen".

During Lancaster University's Campus in the City event which took place in Lancaster on 15th and 16th March 2018, Designed with Dementia encouraged people living with dementia to come and explore designing and making first-hand in the Campus in the City shop. Participants designed and made a range of soft furnishing designs depicting images of famous local people and/or well-known landmarks (e.g. Eric Morecambe, Lancaster Castle). Alongside the design and make workshop, visitors were able to view a range of fabrics and products created in earlier Designed with Dementia events. All these textiles have been co-designed with people living with dementia and developed into a range of products by the same people. The outcomes of the Designed with Dementia event formed a public exhibition that helped to highlight the creative potential of people living with dementia and how their outputs can be designed into real commercial products.

<https://designdisruptiongroup.wordpress.com>



Keynote Debate on 'Design Research and Industry Impacts' at the Design Research Society Conference 2018

I was invited by the Design Research Society (DRS) to participate in a Keynote Debate at the DRS International Conference on 26th June 2018. Moderated by Professor Alex Milton, the keynote debate included Dr Mariana Amatullo, Lorna Ross and myself. The subject of the keynote debate was the relationship between design research and industry impacts. The debate, with an audience of over 500 delegates from all over the world, explored how design is moving beyond merely being an instrumentalised tool for industry, and becoming an altruistic agent for, and of, change as well as a force for social innovation. The debate also asked if the role of design research and design researchers within this 'world beyond' is prompting a change of perspective from both academia and industry and if a new generation of designers are challenging the evolving role and nature of design research for both practice and industry. The debate explored what is needed to support new design research principles and emergent practices, and how design researchers can pursue new impactful research pathways that truly engage wider society. Impact has always been a consideration for design researchers, but it is only recently that a more explicit and systemic monitoring and measuring of impact has emerged, due to the economic downturn the impact of design research, and in particular government-funded research, has come under increased scrutiny. With this in mind, the debate asked if we can develop ways of measuring the value and impact of research within the design process, and successfully demonstrate economic, societal, healthcare, environmental and political impact. Furthermore, the debate explored how the design eco-system can support the development of design-led research communities that collaborate, co-generate knowledge and achieve collective impact on complex issues.

<http://www.drs2018limerick.org/participation/keynote-debates>



Design Research for Change: A UK Perspective

This paper examines the current landscape of design research in the United Kingdom (UK) with a particular focus on UK Research Councils' funded projects that aim to make a positive change to society. In recent years, design research in the UK has grown massively in terms of the number of students studying for a postgraduate degree (Masters and PhD), the number of institutions undertaking research, and both the quantity and quality of design-led inter- and multi-disciplinary collaborative research projects. The ongoing work presented here has involved significant data analysis and visualisation of over 18,000 funded research projects in the UK. The paper highlights the recent 'social turn' and the increasingly collaborative nature of design for change research projects in the UK. The paper also describes some key characteristics found in and across present day design for change research projects.

Rodgers, P. A. (2018). *Design Research for Change: A UK Perspective*. *Diseña* (13), 110-139.



The Lancaster Care Charter

In the fall of 1991 the Munich Design Charter was published in Design Issues. This charter was written as a design-led “call to arms” on the future nations and boundaries of Europe. The signatories of the Munich Design Charter saw the problem of Europe, at that time, as fundamentally a problem of form that should draw on the creativity and expertise of design. Likewise, the Does Design Care...? workshop held at Imagination, Lancaster University in the autumn of 2017 brought together a multidisciplinary group of people from 16 nations across 5 continents, who, at a critical moment in design discourse saw a problem with the future of Care. The Lancaster Care Charter has been written in response to the vital question “Does Design Care...?” and via a series of conversations, stimulated by a range of presentations that explored a range of provocations, insights, and more questions, and it provides answers for the contemporary context of Care. With nation and boundary now erased by the flow of Capital, the Charter aims to address the complex and urgent challenges for Care as both the future possible and the responsibility of design. The Lancaster Care Charter presents a collective vision and sets out new pragmatic encounters for the design of Care and the care of Design.

Rodgers, P. A. et al. (2019). *The Lancaster Care Charter*. *Design Issues*, 35 (1), 73-77.



Deconstructing Design Research

This paper presents a novel conceptual framework for assessing design research projects. Present-day design research is typified by projects, which traverse disciplinary, methodological, and conceptual boundaries that often have wide- ranging social, cultural, and economic impact to industry, government bodies, and the wider public. Given design’s application in addressing serious issues ranging from antimicrobial resistance to mobility, from ageing to migration, it can be difficult to understand and unpack the exact nature and scale of design research and the roles that design researchers and designing (both processes and outcomes) play. The design research conceptual framework has been developed as a communicative tool for illustrating levels of design involvement in a project. The paper highlights the design input involved in current design research and provides a comparative measure of design’s role in a wide range of projects that fall under the umbrella term of “design research” in the UK.

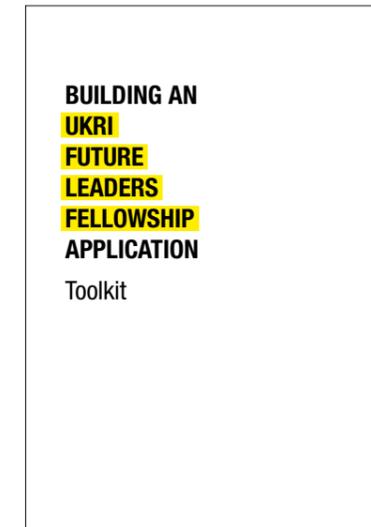
Rodgers, P. A., Conerney, L. and Mazzarella, F. (2019). *Deconstructing Design Research*. *The Design Journal*, 22 (sup1), 1287-1303.



Investigating the Next Generation of Design Researchers

This paper explores the opportunities, challenges and needs of the next generation of design researchers (NGDRs) in the United Kingdom. As part of the first author's ongoing Arts and Humanities Research Council (AHRC) Design Leadership Fellowship, the paper reports on a series of ten NGDR workshops held across the UK, which explored the processes involved in developing, writing, and applying for an AHRC grant. The paper presents feedback from the NGDR workshop participants, who contributed to furthering our understanding of what research areas they are interested in investigating, what research-related issues they need support with, and what research opportunities they envisage for the future. Over 800 next generation design researchers attended the NGDR workshops across the UK. This paper reports on feedback from almost 200 NGDR workshop participants who articulated the highly collaborative, innovative and impactful design research they wish to undertake in the future.

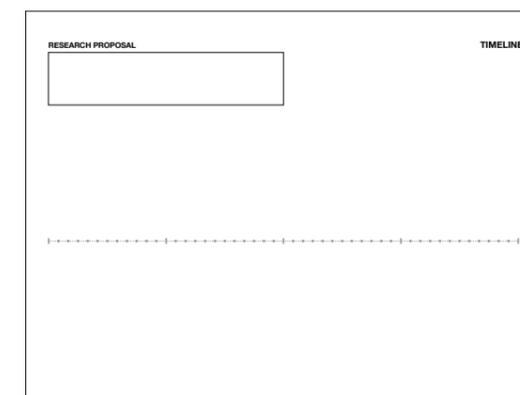
Rodgers, P. A., Mazzarella, F. and Conerney, L. (2019). Investigating the Next Generation of Design Researchers. *The Design Journal*, 22 (sup1), 1469-1480.



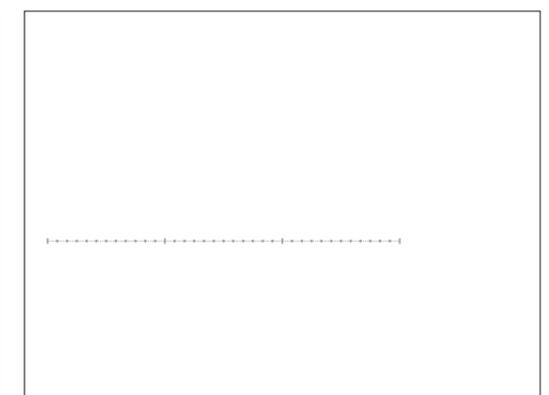
'Building an UKRI Future Leaders Fellowship Application' Toolkit

The UK Research and Innovation (UKRI) Future Leaders Fellowship (FLF) scheme has been created to support Early Career Researchers (ECRs) and innovators who have outstanding potential. The support offered will be long-term and flexible, with four to seven years of support available of up to £1.2 million per applicant. This toolkit has been produced as a legacy from the 'UKRI Future Leaders Fellowship' workshop series aimed at supporting Early Career Design Researchers with practical advice to help understand this opportunity and develop their applications to the scheme.

The tool had been designed to directly reflect the types of information that will be required by the Je-S form when submitting a proposal. The workshop participants have been introduced to the Je-S system via screenshots although it is interesting to note that many had not heard of or seen the system before the workshop and many were daunted by its complexity.



Timeline



Additional Timeline

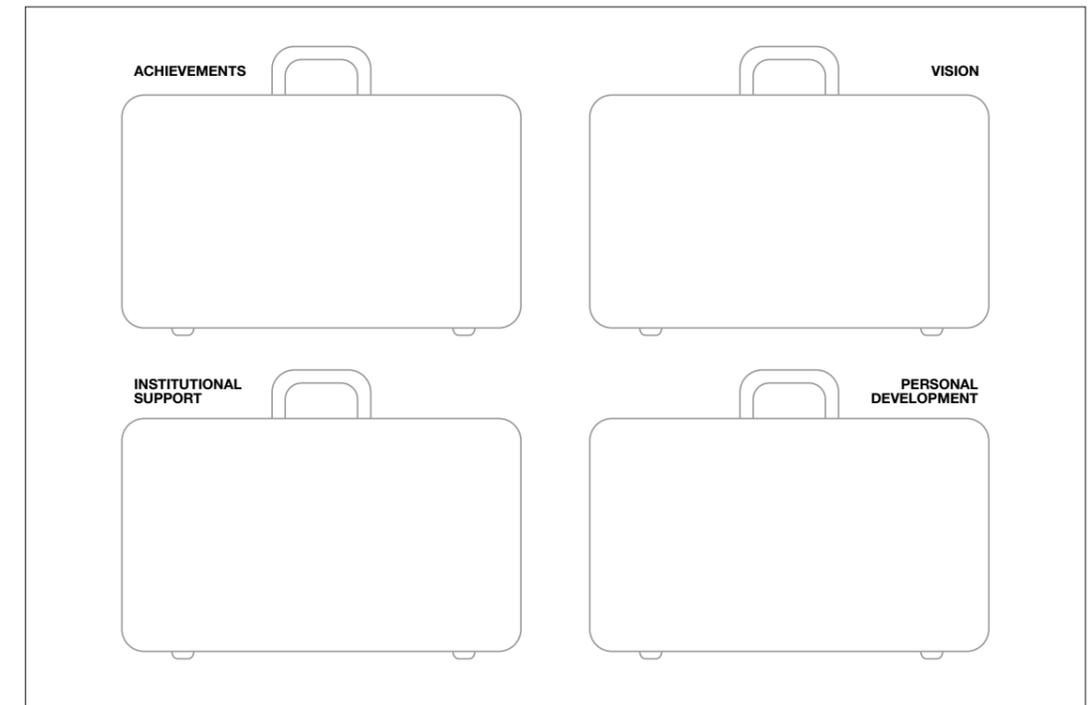
The toolkit includes a Project Timeline printed on an A3 sheet. An additional timeline sheet can also be given to the participants if they want to consider a longer timeframe for their proposals. The user is free to decide what the dots and lines represent. Due to the flexible nature of the tool, we saw a very diverse range of results from this approach. A vast majority of the timelines produced used the tool on the intended horizontal axis although a small number subverted this and used the timeline on the vertical axis which was just as effective and demonstrated the flexibility of the approach.

On the top left-hand corner of the sheet, each participant is asked to outline the main Aim of their Research Proposal, writing a simple and short sentence, avoiding excessive academic jargon, for it to be easily understood by a lay audience. Each participant is also asked to select and stick his/her potential project Outputs to the Timeline. For this activity, applicants are asked to consider different types of Outputs most suited to their project proposals (e.g. books, journal articles, conference papers, films, exhibitions, teaching materials, artefacts, etc). Workshop participants are also encouraged to be as specific as possible and write down some details (e.g. the name of the journal, working title of the film, characteristics of the artefacts to be produced) at the bottom of the stickers. Each workshop participant is then given a set of Partner stickers (e.g. Higher Education Institutions, industries, charities, museums, policy makers, etc.) and is asked to choose potential Partners for his/her proposed project. Besides identifying different types of Partners, each participant is also asked to write down (above the dotted line at the bottom of the sticker) the details of such Partners. Each participant is also asked to reflect on the main aim of his/her proposed project and outline 2 or 3 Research Questions guiding his/her proposal. A good Research Question defines a realistic scope of investigation, and anticipates how findings will be used and by whom. Furthermore, Design Research Questions are rarely something that can be answered simply by 'yes' or 'no'. With this in mind, workshop participants are asked to capture their Research Questions on their Project Timeline, using specifically designed stickers. Using the provided 'Look, Learn, Ask, Make, Test' booklet of Research Methods, workshop participants are then asked to consider possible design Research Methods they might use in their proposed projects and capture them on specifically designed stickers to be placed throughout the Project Timeline.



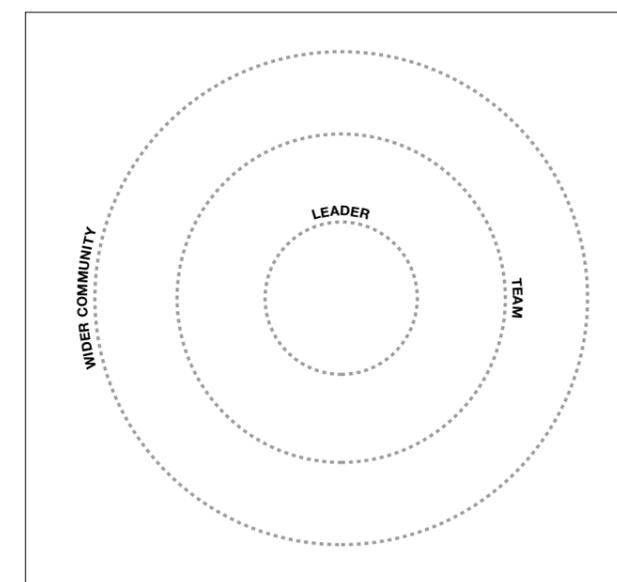
Stickers

For the facilitator of the workshop the bold and colourful stickers are very useful in quickly identifying clustering and potential issues from across the room, without interrogating the content in detail. For example, in a number of projects it is clear prompt to question when output stickers (in blue) appear right at the end of the project or even right at the start. The colour layer stickers are very helpful for the facilitators to discuss the project with the ECR as the structure becomes clear quickly and can be further enriched through discussion and interrogation of the notes provided by the author. Ambition and scale of a project can be easily identified at a distance.

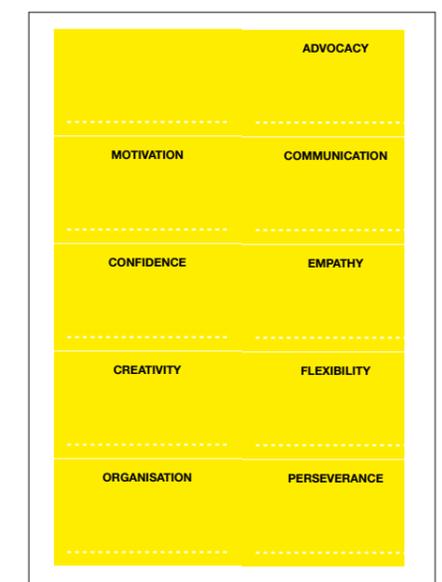


Person Specification

In the second part of the workshop, each participant is given an A3 Person Specification sheet and is asked to complete his/her FLF application by filling four suitcases, outlining their personal achievements, vision for leadership, institutional support needed, and their plans for personal development (of themselves and of their teams). After the workshop facilitator has presented a couple of examples, each workshop participant is given a blank A3 sheet and is asked to creatively draw for two minutes the abstract concept of Leadership without using any words. Then, they are encouraged to pin up on a wall their drawings and verbally articulate to the whole group what they represented, while the workshop facilitator leads on a collective reflection and discussion.

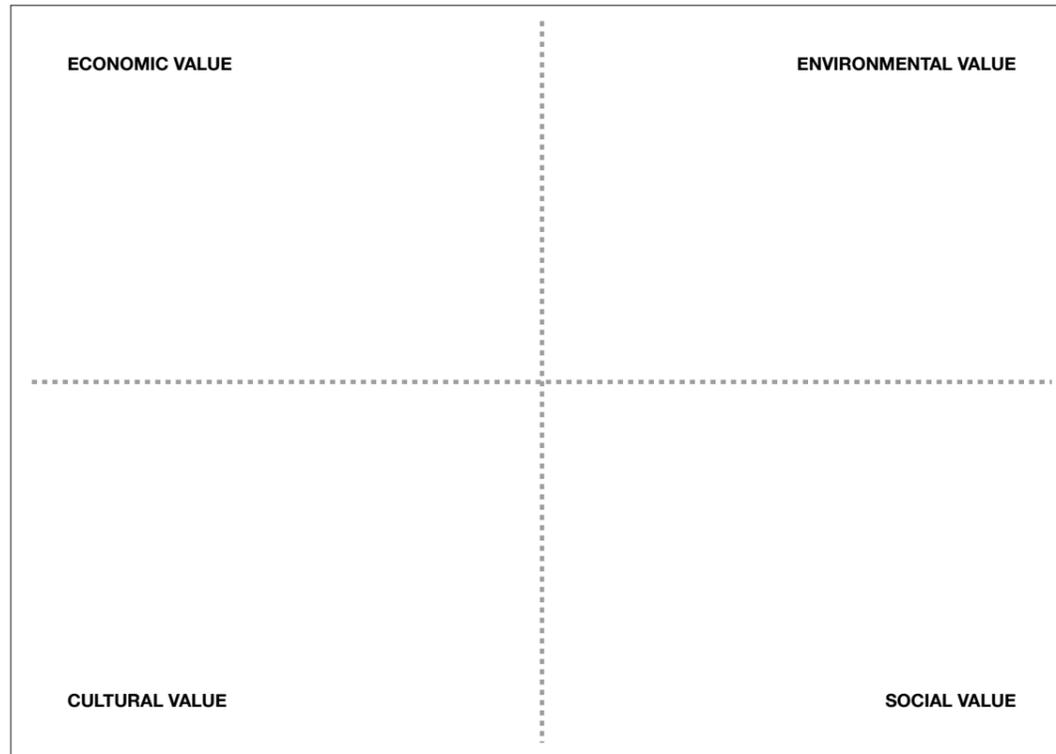


Leadership Sheets



Stickers

Furthermore, each workshop participant is given a set of Leadership element stickers and is asked to select three of them and articulate their leadership style. They are also given an A3 sheet on which to plot their leadership skills in relation to their team and wider academic community. Finally, each workshop participant is given an A3 Added Value sheet and is asked to articulate how their project proposal will contribute to creating economic, environmental, cultural, and social value.



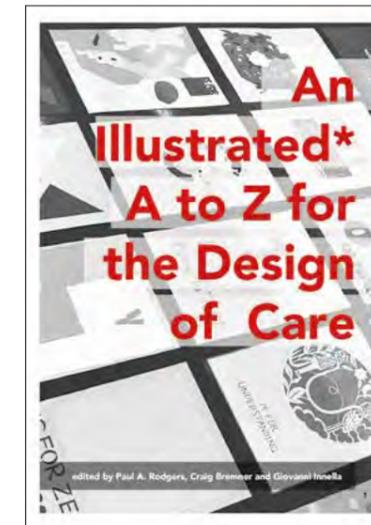
Added Value



Designed with Dementia: Developing Creative Communities

This paper presents an ongoing research project situated within the investigative context of design and dementia. The work adopts an open approach to working with people living with dementia by recognising and utilising the inherent personal creative abilities that every individual possesses no matter their cognitive ability. Through a series of carefully developed co-design workshops, "Designed with Dementia" supports people living with dementia to express themselves fully. Their input is highly valued and is held in the same esteem as any other collaborator. In this project, participants become collaborative designers helping to propose possibilities, evaluate and select solutions, give their knowledge and skills freely, and generally "make things happen". In particular, co-design is used here to engender sociable interactions and collaborations, change existing patterns of behaviour amongst all the participants, and look to change assumptions and pre-conceived ideas.

Winton, E. and Rodgers, P. A. (2018). *Designed with Dementia: Developing Creative Communities. Proceedings of the 5th International Conference on Design4Health, Sheffield Hallam University, Sheffield, UK, 4th – 6th September 2018.*



The Evolving Landscape of Design Research in the UK

This paper reports on the evolving landscape of design research in the UK over the last 12 years. Through a rigorous analysis of a sample of 379 design research projects funded by the Arts and Humanities Research Council (AHRC), this paper presents a detailed account of the evolution of AHRC-funded design research and how various factors – such as the financial value, project team size, collaborating organisations, and the geographical spread of design research in the UK – has changed in the period between 2002 and 2018. The paper examines the nature, scale, and diversity of UK-based design research and how it is increasingly interdisciplinary and collaborative. Furthermore, it shows the extent to which design researchers are dealing with significant social, cultural, economic, and environmental issues including those articulated in the United Nations (UN) Sustainable Development Goals (SDGs). Furthermore, whilst highlighting issues overlooked in contemporary forms of design research in the UK, the paper suggests other possible challenges for design research to focus on in the future in order to strengthen its contribution to activating social, cultural, economic and environmental change.

Rodgers, P. A., Mazzarella, F. and Conerney, L. (2019). *The Evolving Landscape of Design Research in the UK. Proceedings of the International Association of Societies of Design Research Conference 2019, Manchester Metropolitan University, Manchester, UK, 2nd – 5th September 2019.*

An Illustrated A to Z for the Design of Care

This illustrated A to Z for the Design of Care book was written collaboratively by nearly 50 design researchers and practitioners during the Does Design Care...? [2] workshop held at Chiba University in Japan from 1st to 3rd July 2019. This workshop extended the explorations of design thought and action of the first Does Design Care...? Workshop held at Imagination, Lancaster University in September 2017 that investigated different ways to conceptualise, provoke, contest and disrupt care.

Care is not usually a world that we hear when we talk about design and when the world care has been used it is usually in a context warning designers to act carefully rather than carelessly. Still good advice, but as this A to Z shows, design has divided headlong into completely new fields of care – particularly social care and health care – at exactly the same time as the service of Care has been instrumentalised so it can be capitalised and extrapolated so it can be served in equal parts excessively, efficiently and inefficiently. The challenges in care systems have become intractable. There have been divide and conquer approaches to responsibility and accountability in care that act to cripple our ability to engage with the speculative and systemic approaches that design offers. Imagination has been cauterised by a risk-averse, Neo-liberal culture – the same culture that also profits enormously from turning care into a transaction. This illustrated A to Z for the Design of Care might help guide design out of these intractable and entangled challenges and set it on the path to reconcile the contradictory needs to abstract the gesture of care (its theories) while it grounds the bodiliness of that same gesture (its applications).

Rodgers, P. A., Bremner, C. and Innella, G. (eds.) (2019). *An Illustrated A to Z for the Design of Care.* Lancaster, UK: Lancaster University.



Head-to-Head Debates

In 2017 the first Does Design Care...? (DDC) workshop at Imagination, Lancaster University asked a series of questions that were eventually addressed in both the publication of the Lancaster Care Charter (Design Issues, 35: 1) and the DDC...? book. Similarly, in 2019 the second Does Design Care...? workshop in Chiba, Japan, asked more questions but this time the questions came from the participants. To participate in the Does Design Care...? [2] workshop, applicants had to submit a 1000 word position paper from which a number of questions emerged; questions we thought needed debate not just discussion. In order to familiarise themselves with the questions, they were sent to all the participants in advance of the workshop. On the first morning of the workshop, the participants were randomly paired for what we called Head-to-Head debates. Each pair was randomly assigned one of the 25 questions to explore and content in greater detail. They were required to record (via audio, notes, images, examples) their debate and at a later stage in the workshop each pair presented what they had been debating to the rest of the participants. After the workshop, each pair had to transcribe, edit, and enrich with visuals, their debate, all of which has been collected into a publication. Like the first workshop in Lancaster, the one in Chiba explored, through thinking and making, different ways to conceptualise, provoke, contest and disrupt care, and the various outputs serve to synthesise future visions of care. Unlike the Lancaster workshop, a strong conviction coming from the participants was that design can and does empathise and therefore design can and does care. What-design-can-do is embedded in its historic belief in the design of what-might-become. But in reality, design's future has to confront the uncomfortable reality that design might not be able to do what it believes it can do. Care, being invisible, is a good test for what in reality design can do.

Rodgers, P. A., Bremner, C. and Innella, G. (eds.) (forthcoming). *Does Design Care...? Head-to-Head Debates*. Lancaster, UK: Lancaster University.



The Chiba Care Protocol

Just as the Lancaster Care Charter (Design Issues, 35: 1) was modelled on the Munich Design Charter, the Chiba Care Protocol is modelled on the Kyoto Protocol. Adopted in Kyoto in 1997, "the Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which commits its Parties by setting internationally binding emission reduction targets" (UNFCCC). While not tackling climate change, the Does Design Care...? [2] workshop held in Chiba, Japan in July 2019 confronts another ineluctable change – i.e. answers to the question 'does design care?' A protocol (noun) used to express an historic procedure (diplomatic) plus operate as instructions and/or a record (science), but now it mostly operates as sets of rules governing data exchange (IT). Like data, care is an exchange; it is not enough for me to care – the other must need care. Very different to data, the exchange of care is complex – care is always care of the other, care for the other, care to be cared for by the other, care for what the other cares for. The Chiba Care Protocol sets forth eleven Articles – Responsibility, Dignity, Cartography, Consciousness, AI, Education, Listening, Empathy, Mediation, Trans-Sensory, and Empowerment – that aim to amplify the Lancaster Care Charter and operate as a set of instructions for design(ing) with care. The Parties to the Chiba Care Protocol commit design and designers to using design with care.



Interrogating the Value of Design Research for Change

This paper examines different types of value created by design research in the UK. Given the significant economic, social and environmental challenges we currently face, funding bodies and governments are increasingly concerned with assessing the value and impact of design research. The value generated by design research is not always clearly articulated by the academic community and understood by the public. With this in mind, this paper examines a sample of 67 projects that traverse conceptual, disciplinary and methodological boundaries representing the spread of contemporary design research in the UK. The paper presents an innovative 4-leaf value model that integrates different value theories from economics, sustainable development, and the social sciences. The paper highlights that design research plays a significant role in generating social, cultural, economic and environmental change, outlines synergies between the different types of value produced, and identifies gaps for design researchers to focus on in future years.

Rodgers, P. A., Mazzarella, F. and Conerney, L. (forthcoming). *Interrogating the Value of Design Research for Change*. *The Design Journal*.



Design Research for Change

The Design Research for Change Showcase 2018 catalogue is a collection of 67 Arts and Humanities Research Council (AHRC) funded design research projects. The projects traverse disciplinary, methodological, geographical, and conceptual boundaries. The work included in this catalogue was developed by researchers and practitioners from a range of design disciplines, including product, graphic, fashion, architecture and from other specialist areas such as healthcare, business, engineering, and elsewhere. The projects illustrate wide-ranging social, cultural, and economic impact and highlight the significant roles that UK-based design researchers play in some of the most complex and challenging issues we face both in the UK and globally and the positive outcomes that are being designed and developed.

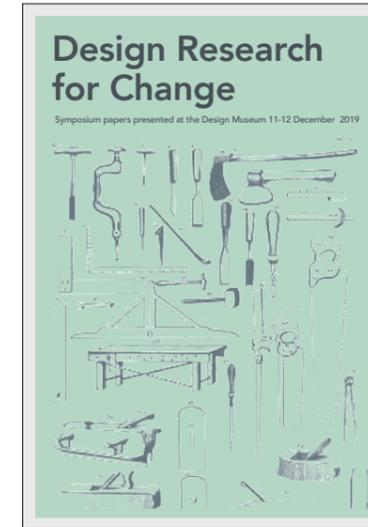
Rodgers, P. A. (ed.) (2018). *Design Research for Change Showcase 2018*, Lancaster, UK: Lancaster University.



Design Research for Change Showcase 2019 Catalogue

The Design Research for Change Showcase 2019 catalogue is a collection of over 60 design-led projects that traverse disciplinary, methodological, geographical, and conceptual boundaries. The projects illustrate wide-ranging social, cultural, and economic impact and highlight the significant roles that UK-based design researchers play in some of the most complex and challenging issues we face both in the UK and globally and the positive outcomes that are being designed and developed. The projects highlighted here tackle a range of significant and complex challenges such as developing design tools and processes that will support people living with dementia to live high quality lives, designing systems that ensure children's educational rights are met, and designing methods for producing more sustainable food practices. All of these research projects highlight the amazing design research talent we have in the UK. Moreover, the design research included in the showcase catalogue illustrate the innovative and creative ways of working that will ensure our designed futures are in safe hands.

Rodgers, P. A. (ed.) (2010). *Design Research for Change Showcase 2019*, Lancaster, UK: Lancaster University.



Design Research for Change Symposium

The twenty-one papers in this Design Research for Change (DR4C) book examine and explore how contemporary forms of design research are increasingly involved in a range of major social, cultural, economic, and environmental challenges. The research included in this book highlights a variety of significant roles that design researchers play in some of the most complex and demanding issues we face, such as energy and the environment, education, public services, health and social care both in the UK and globally.

This rich set of papers are the end result of a lengthy process that began with an amazing response to the call-for-papers for the Design Research for Change (DR4C) symposium. We received 62 papers from researchers based in countries all over the world including Australia, USA, India, China, Sweden, Germany, Italy, Norway, Denmark, Israel, Greece, Turkey and the UK. After a thorough review process, twenty-one papers were accepted for this book and presentation in a single-track session over the course of two days at the Design Museum, London on Wednesday 11 and Thursday 12 December 2019.

Rodgers, P. A. (ed.) (2010). *Design Research for Change Symposium*, Lancaster, UK: Lancaster University.

Social Media

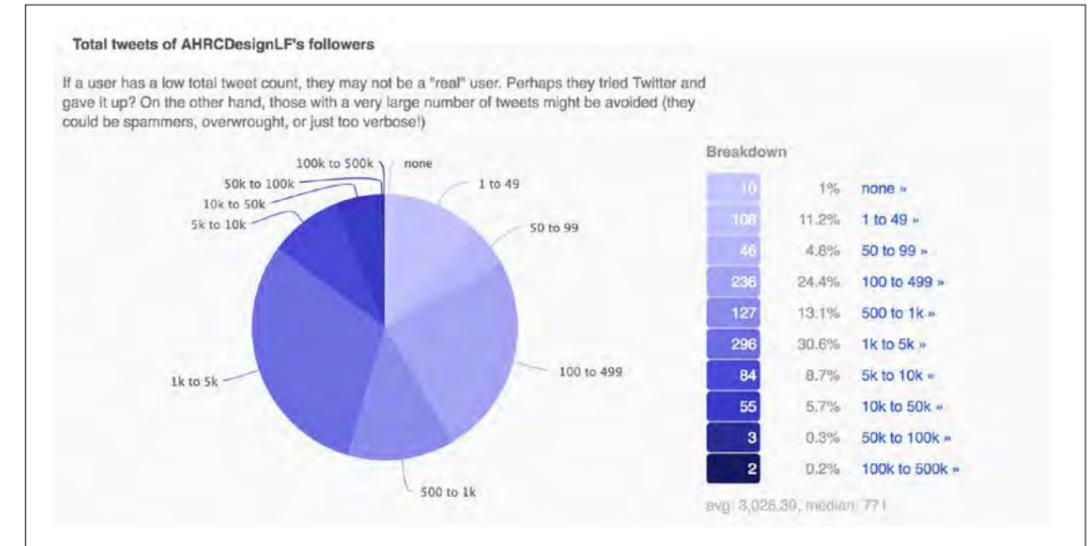
Besides the above-mentioned activities and outputs, the reach of the Fellowship can also be seen through social media, with 2475 Twitter followers across two accounts in November 2019. The website designresearchforchange.co.uk has had 1975 page views up to February 2019 and over 1000 people signed up to our mailing list to hear more about events and opportunities.

Our Twitter following is completely organic; we do not utilise any paid for advertising, followers or "likes". The current cumulative following have been gained organically as a direct response to our engagement activities. We are using both a dedicated Twitter handle @AHRCDesignLF and Paul Rodgers' personal handle @paulstweet to communicate. We are also using Instagram for image-based content. We have analysed our follower base to understand more about them in order to improve our communications. Using the location field in Twitter accounts, we approximate the geographic location of the users and map them. The map below shows the international reach of the AHRCDesignLF Twitter account.



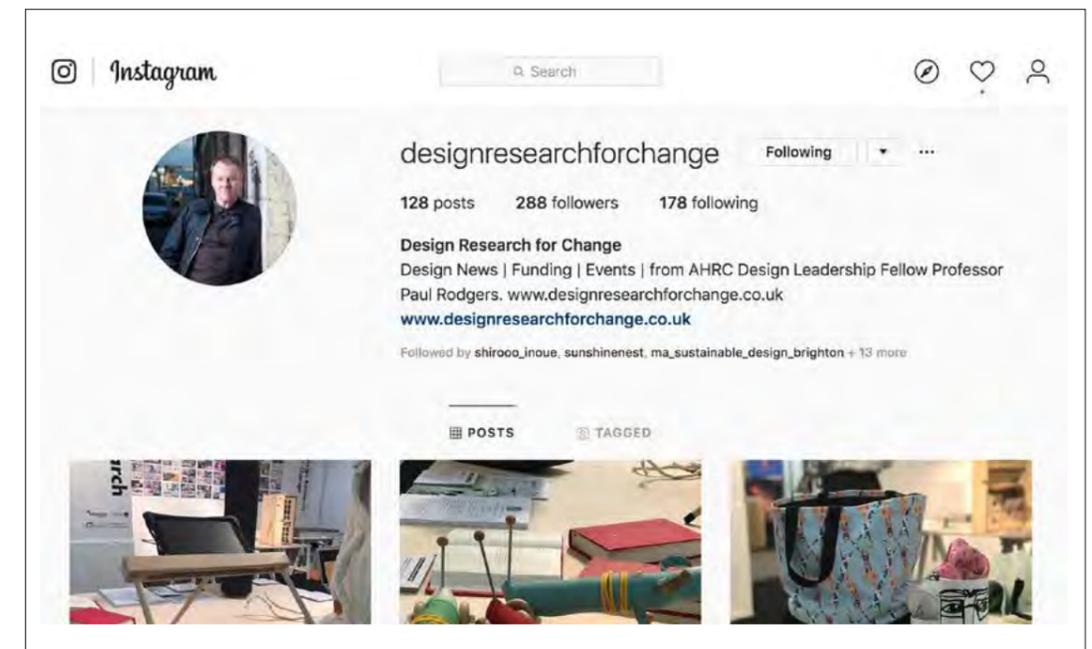
Mapped location of AHRCDesignLF Twitter Followers

When a user has a low total tweet count, it can be assumed that they may not be a "real" user. We have analysed the followers of the @AHRCDesignLF account, and have found a healthy result with 68.1% of our users being in the 100 to 5K total tweets range.



Twitter Users

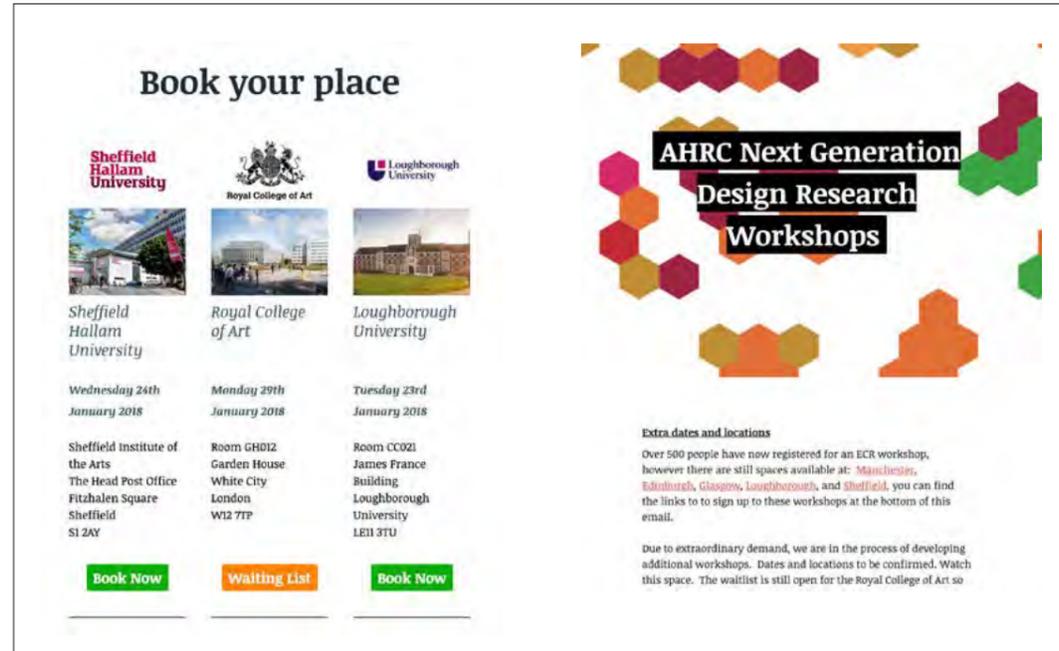
Our Instagram handle is @designresearchforchange. We currently have 288 followers on this channel which has mostly image-based content promoting our own workshops and events. Instagram allows us to build a social network that connects people solely through visual elements and we see this as a powerful way to capture and sustain attention. We are noticing a good response to our workshop activity images and we feel that this may inspire others to sign up for similar events. Links to our website and occasionally Eventbrite are maintained in the profile.



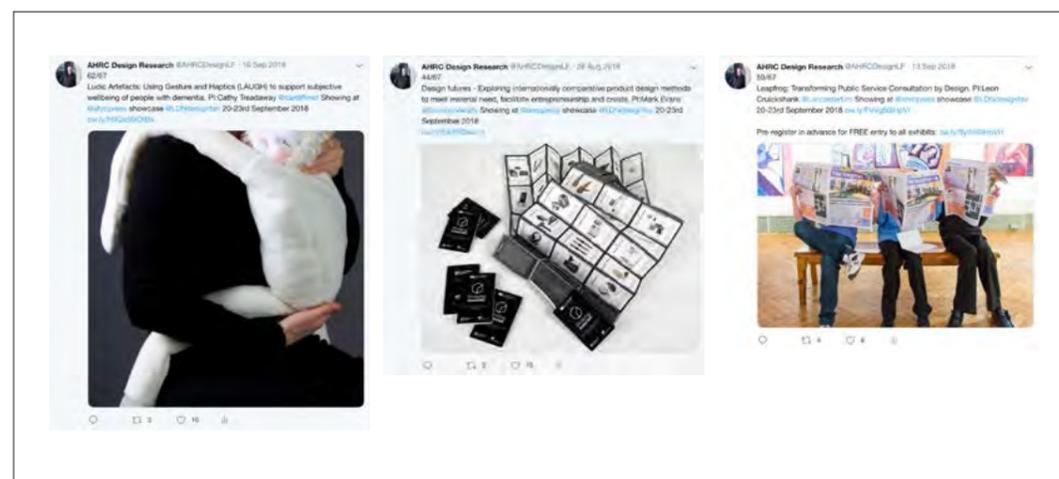
Instagram

Campaigns

We use Twitter to reach our audiences about events, calls for participation and to advocate for relevant AHRC and UKRI schemes and events to the community. During the Design Research for Change Showcases in 2018 and 2019, we used Twitter to showcase each of the exhibited projects in the run up to the event. Design Research for Change campaigns have been designed to be simple to navigate with relevant links highlighted throughout, using images where possible. The textual content is succinct and engaging.



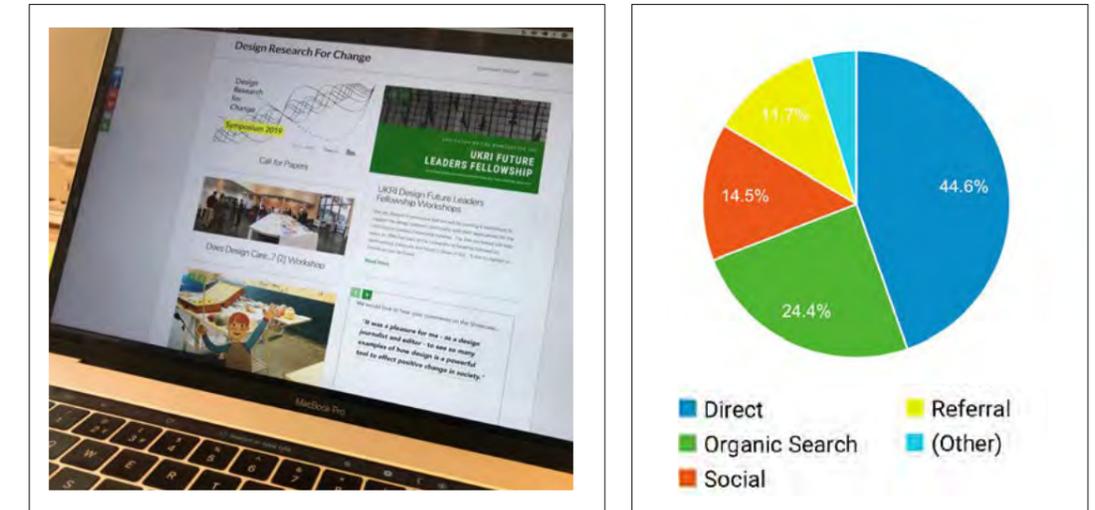
Sample screenshots of some of the campaigns sent to our mailing list



Twitter campaign for promoting Showcase 2018

Website

The Design Research for Change website is located at www.designresearchforchange.co.uk and is a space for promotion and reflection of our activities and events. Using Google Analytics, we can identify the top channels that are directing visitors to our webpage, and most of our visitors are coming directly or via organic search and social media.

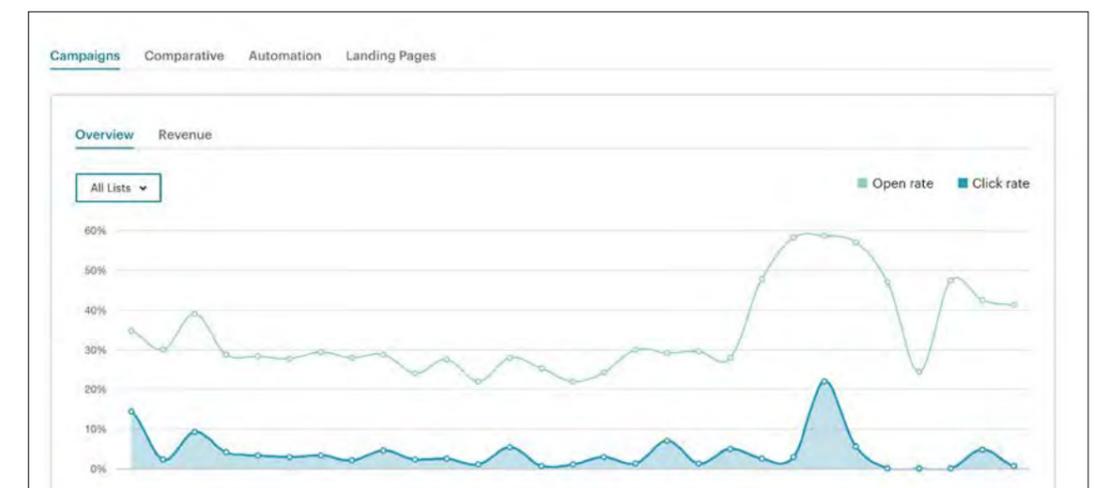


Design Research for Change Website

Top Channels based on Google Analytics

Direct Email

Over the course of the Fellowship, we have launched 29 email campaigns to support our activities. Many of these campaigns have grouped events of a similar type in order not to overburden our mailing list with too many emails. We have built a GDPR compliant mailing list of over 1000 design researchers with just 11 contact unsubscribe over the lifetime of the list. Our open rate is relatively consistent, with an average 40% open rate.



Graph showing the open and click rate of email campaigns

Eventbrite

We use Eventbrite to promote our workshops and events. On occasion, we have utilised custom questions in our sign-up forms to gather relevant information from workshop participants, for example which institute they are affiliated with or any relevant information prior to the workshop (e.g. a brief outline of the research proposal they want to further develop during the workshop). The workshops have been in great demand and we have filled most of the available places and have had 6938 page views on Eventbrite. We have also analysed the IP locations of our workshop participants at the time of their registration.



Map and wordcloud showing the IP location of workshop attendees at time of registration

7

Conclusions

Over the course of the last 36 months, between January 2017 and December 2019, I have had the privilege of meeting and working with a large number of amazing design researchers and researchers from other disciplines based all over the UK. My Arts and Humanities Research Council (AHRC) Design Leadership Fellowship role has taken me the length and breadth of the UK from Glasgow in the north to Falmouth in the south and from Ulster in the west to Edinburgh in the east. During my three-year Design Leadership Fellowship, I have met and worked with well over 2,000 design researchers and researchers from other disciplines.

To meet my Arts and Humanities Research Council (AHRC) Design Leadership Fellowship aims of increasing both the quantity and quality of design-led research proposals, strengthening the research capacity of the next generation of design researchers, advocating for design research across all sectors of UK society, and using design research wherever and whenever appropriate as a tool for delivering positive social change, I organised and ran a series of events and activities aimed at enhancing the design research community across the UK.

This has included organising and holding ten Next Generation Design Research workshops developed to support early career design researchers learn more about the processes and language used in funding council research proposals. We also developed a workshop entitled "How to write an AHRC proposal in 2 hours..." aimed at early career researchers writing their

first AHRC funding application. We also developed a workshop and toolkit specifically for the UKRI Future Leaders Fellowship scheme and delivered this to packed audiences at the AHRC's centres for doctoral training in the UK - University of Reading, Northumbria University, Falmouth University, and the Royal College of Art. Over 1,500 early career researchers directly or indirectly associated with design research registered and attended these workshops.

In terms of the personal research side of my AHRC Design Leadership Fellowship, I organised two international workshops entitled Does Design Care...? – aimed at academics and practitioners from various disciplines at any level of experience who are involved and/or interested in the gesture and/or practice of "care" at large. Does Design Care...? sought participation from researchers and practitioners across a wide range of disciplines to attend and contribute to a 2-day workshop in 2017 at Imagination, Lancaster University, UK and a 3-day workshop in 2019 at Chiba University, Japan.

Does Design Care...? differs from conventional workshops in that it privileges thinking, making and doing in designerly fashions, failing and exploring different ways to explore, conceptualise, provoke, contest and disrupt care, in an effort to synthesise future visions of care. Does Design Care...? encourages both inexperienced and experienced researchers, novices and experts, and practitioners involved in and/or interested in care to get involved and make some sort of careful proposal.

Does Design Care...? [1] took place at Imagination, Lancaster University, where a group of 28 researchers and practitioners from 16 nations across 5 continents discussed, acted and reflected upon "care". Via a series of conversations, stimulated by a range of presentations that explored a range of provocations, insights and more questions, the group provided answers for the contemporary context of care. The workshop activities led to the collaborative essay "The Lancaster Care Charter", published in the journal Design Issues in 2019, which was written in response to the vital question "Does Design Care...?" and presents a collective vision and new pragmatic encounters for the design of Care and the care of Design.

Does Design Care...? [2] was held at Chiba University in Japan as the host country finds itself in the difficult position of having to face one of the most severe demographic emergencies in human history, with a population that is ageing at a very fast pace, and rural areas seeing their younger citizens depart to the cities. In the midst of such extreme circumstances, Japan seemed to us like the best place to host the second Does Design Care...? workshop. Over 50 design and

other disciplinary researchers and practitioners from all over the world participated in the second Does Design Care...? workshop where they were asked to respond to one of four conditions - "Care of Complexity", "Care of the Project", "Care of Relations", and "Care of Carelessness".

In advocating for design research across all sectors of UK society, I have written and presented a number of papers at leading international design research events. This has included several invited lectures at key institutions both in the UK and abroad, eight conference and journal papers, four books, an ongoing book series entitled Design Research for Change (Routledge Publishers), and other directly relevant outputs including two significant showcases at London Design Fair (2018 and 2019) that attracted a combined total of over 60,000 visitors.

In terms of social media, the reach of my AHRC Design Leadership Fellowship can be seen through a range of social media, with over 2,500 Twitter followers across two accounts (@paulstweet and @AHRCDesignLF). The website www.designresearchforchange.co.uk has had over 5,000 page views to date and over 1,500 people signed up to our mailing list to hear more about events and opportunities. Our Twitter following is completely organic; we do not utilise any paid for advertising, followers or "likes". The current cumulative following have been gained organically as a direct response to our AHRC Design Leadership Fellowship engagement activities. Both Twitter handles @AHRCDesignLF and @paulstweet are used to communicate relevant design research content. Instagram is also used for image-based content via @designresearchforchange. Currently there are nearly 300 followers on this channel which has mostly image-based content promoting the AHRC Design Leadership Fellowship workshops and events. Instagram has allowed us to build a social network that connects people solely through visual elements and we see this as a powerful way to capture and sustain attention. We have noticed a very good response to our workshop activity images and this may inspire others to sign up for similar events. Lastly, we used Eventbrite to promote the AHRC Design Leadership Fellowship workshops and events. The workshops have been in great demand and we have filled nearly all of the available places with almost 7,000 page views on Eventbrite.

Looking to the Future...?

Design makes a massive contribution to the UK economy. A recent study published by the UK's Design Council "Designing a Future Economy" highlighted that workers with design skills contribute £209bn to the UK economy (GVA), people who use design skills are 47% more productive than the average UK worker, the demand for workers with design skills has grown at twice the rate of UK employment over the same period (14% versus 7% since 2012), and that 43% of workers using design skills were more likely to be in jobs requiring and generating innovation compared with an average for the wider UK workforce of just 6%. Likewise, the value of design research, recently showcased at the two Design Research for Change showcases at London Design Fairs 2018 and 2019 detailed earlier in this report has shown that design researchers are being sought after more and more for their ability to broker relationships across hitherto impermeable disciplinary boundaries. For example, AHRC-funded projects such as Developing an Action Plan for the Strategic Use of Design in the UK and Design Innovation for New Growth are demonstrating the essential value of design research to the UK's economy, well-being and community cohesion.

It is, therefore, impossible to underestimate design research's contribution to the UK's economy and how design research in a variety of guises supports industrial competitiveness, innovation, knowledge, skills, and new social policy. Through collaboration with researchers and practitioners across disciplinary fields, designers generate knowledge which is applied in other sectors such as healthcare, urban planning, engineering, computing, business and so on. It is often challenging

to measure the intangible outcomes of design research in quantitative terms, sometimes because impacts often take a long time to become manifest and may be generated by a multitude of actors.

With these challenges in mind and building on established but different value theories for economics, sustainable development and social sciences, the AHRC Design Leadership Fellowship has contributed an original "Design Research Value Model" (to be published in The Design Journal – Routledge/ Taylor & Francis Publishers) that enables design researchers, funding bodies and the general public to identify and articulate the significant roles that design research plays in generating social, cultural, economic and environmental value. The "Design Research Value Model" comprises a 4-leaf model that facilitates identification and articulation of the different types of value (i.e. social, environmental, economic, and cultural) in a design research project. A recent analysis of 67 AHRC-funded contemporary design research projects has revealed that the majority (37%) of the sample of design research projects contribute to creating social change. Within this context, this means empowering people (especially disadvantaged groups) to gain agency, enhancing the quality of their lives, and improving social wellbeing through better social interactions. Furthermore, it is clear that recent forms of social design research have shifted the focus from individual users towards communities with the aim to generate collective value, fulfil social needs while also triggering new social relationships. In terms of cultural value, 27% of the 67 design research projects contribute to individuals and societies through artistic and cultural practices such as sound art, performance, storytelling, and others. Here, cultural value refers mainly to heritage as an asset that is getting lost in contemporary culture, and that design research is increasingly concerned with preserving and revitalizing, for instance through undertaking archival studies and developing digital innovations. Over one in five (20%) of the 67 design research projects analysed generates economic value, in terms of employment opportunities in the creative economy, and embedding technological innovations within enterprises and manufacturing businesses. For example, new business opportunities or new business models are generated through knowledge exchange between academic researchers and industries or other types of organisations. Surprisingly, only one of the 67 AHRC-funded design research projects analysed is deemed to create environmental value, which here refers to making sustainable use of resources, protecting biodiversity and ecosystems, and adopting production processes that reduce the negative impacts of human activity on the wellbeing of society and the environment. This is a result that design research needs to improve upon quickly and substantially in order to tackle the complex climate change and environmental challenges we face today.

Looking to the future, design will feature strongly in the AHRC's Delivery Plan 2019, in both strategic outlook and historical case studies. AHRC's own portfolio of funded projects demonstrates the breadth and reach of design research and the interdisciplinary nature of its researchers. Recent projects have shown that design research can be seen as a translational lens through which to approach the Grand Challenges of the Industrial Strategy. The UK's responses to those Challenges rely on recognising the human dimension in the development of new technologies, and it is through design research that we will find that dimension. The UK has a long and proud reputation for design and the universities across the United Kingdom are home to world-leading design research. From doctoral candidates through to world-leading experienced design researchers, the value of UK university-led design research to the national economy, social fabric, cultural and physical health and wellbeing is enormous and something that we should take very good care of.

¹ The Design Council, "Designing a Future Economy", 2017

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