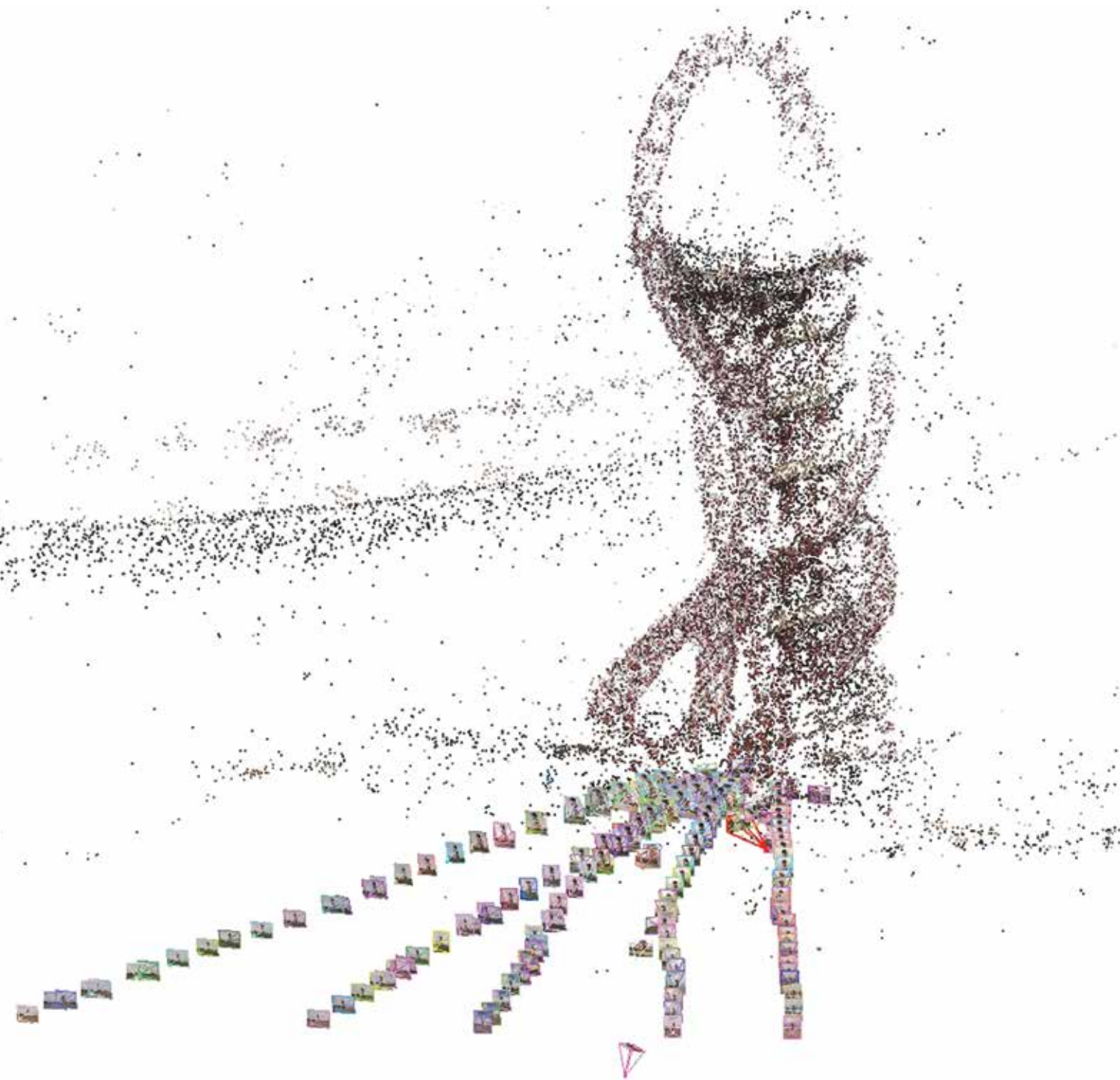


THE HELEN HAMLYN CENTRE FOR DESIGN YEARBOOK 2015



Royal College of Art
Postgraduate Art & Design

THE HELEN HAMLYN CENTRE FOR DESIGN YEARBOOK 2015

The Helen Hamlyn Centre for Design is an international leader in inclusive design – the process of designing products, services and systems for maximum benefit by the maximum number of people. We are based within the creative postgraduate community of the Royal College of Art, London, and our design research and projects with industry have one simple aim: to help improve people's lives.

This Yearbook describes our activities in 2014/15. Our work is organised in three research labs: Healthcare, Age & Ability, and Work & City. Each research lab takes an approach that is inclusive and interdisciplinary. We develop innovative and empathic research methods – and we exchange knowledge via industrial collaboration, events, external education and publications. We welcome your feedback on our work.

Front cover image:

The Orbit visitor attraction at the Queen Elizabeth Olympic Park, site of the 2012 London Olympic and Paralympic Games, reimagined as a dense 3D data cloud based on ten thousand site photographs. Part of a project to explore the inclusive design legacy of the Olympic Park by Helen Hamlyn Research Associate Jordan Jon Hodgson

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MESSAGE FROM THE RECTOR



The Royal College of Art received two very important accolades this year.

First, we emerged from the REF (Research Excellence Framework) survey of university research as the most research-intensive institution in art and design in the UK.

Second, we were named the world's top university for art and design in the World Universities Ranking compiled by higher education networking organisation QS.

In terms of both research intensity and reputation, the Helen Hamlyn Centre for Design made a significant contribution to our overall performance as an institution. As the College's largest and longest running research centre, it has pioneered many of the ideas and approaches that the rest of the RCA is now adopting.

In 2014/15, the centre's three research labs continued to work on projects of international importance – from the development of a new taxi for London (Age & Ability lab) to a focus on improving emergency care in hospitals (Healthcare lab) and exploring the innovation potential of digital public space (Work & City lab). The mix of graduate research associates, PhD candidates and senior researchers in each research lab is clearly a potent one in terms of pushing the boundaries.

The end of this year saw a significant change in the leadership of the centre. Co-founder Jeremy Myerson stepped down as Director after 16 years at the helm and will continue to hold the Helen Hamlyn Chair of Design. His successor as Director is Rama Gheerawo, who has been a key player in the centre's development right from the start.

I wish both well in their new roles and have every confidence that the Helen Hamlyn Centre for Design, with steadfast support from the Helen Hamlyn Trust, will continue to thrive.

Dr Paul Thompson

Rector

MESSAGE FROM HELEN HAMLYN



It has always been my strong belief that young designers need to know what is going on in the world in order to create the new ideas and innovations that will help to improve people's lives.

That is why there has always been an emphasis on real-world research and real-world application in the work of the Helen Hamlyn Centre for Design at the RCA, and why the centre has always sought to create research posts in partnership with industry and the public sector for new RCA design graduates to get out of the studio.

Our graduates need to find out what life is like inside our hospitals and workplaces, on our streets and in our homes in order to devise the right creative response. The Helen Hamlyn Research Associates programme, now in its 16th year, enables them to do just that. It places designers right at the heart of the action, whether in healthcare, transport or housing.

This philosophy of research and creativity, right on the frontline of service delivery and social change, has long been a positive feature of the centre's work. It is a philosophy explored afresh this autumn in the end-of-year show and symposium for the Helen Hamlyn Research Associates 2015, which is aptly titled *On The Frontline* and forms part of the Include 2015 conference on inclusive design.

I wish the Helen Hamlyn Research Associates 2015 every success with *On The Frontline*, and I would like to express my thanks to everybody associated with the Helen Hamlyn Centre for Design – director, staff and partners – for making 2014/15 another exciting and progressive year.

Helen Hamlyn

Helen Hamlyn Trust



Helen Hamlyn Research Associates on the frontline. Top: Simon Kinneir prepares a meal with an East London resident living with osteoarthritis. Above: Anna Wojdecka (centre) works with a Community Mental Health Team in Lambeth to investigate how digital technology can help treat paranoia

DIRECTOR'S REPORT JEREMY MYERSON

There was a watershed moment in the Helen Hamlyn Centre for Design this academic year when textile designer Katie Gaudion became the first researcher on our new Doctoral programme to successfully complete her PhD by Practice. Her project looking at how adults with autism interact with their home environment is one of the many documented in this 2015 Yearbook.

Katie's backstory says a lot about how the centre has evolved in recent times. She joined our Helen Hamlyn Research Associates programme as a new Royal College of Art graduate, having been a student winner of the Helen Hamlyn Design Awards. Her pioneering work in design for autism illustrates how the centre has broadened its exploration of inclusive design to take in cognitive as well as physical behaviours – and her progression from research associate to PhD candidate reflects how we have expanded the theoretical basis for our work.

Indeed, much has changed since I co-founded the Helen Hamlyn Centre for Design with my former colleague Roger Coleman in 1998. This autumn I stand down as Director after 16 years in charge, which is a watershed moment of a different kind. I hope you will allow me, in my final Director's Report, to reflect briefly on some of the changes that have taken place over that time.

The Helen Hamlyn Centre for Design emerged from the DesignAge programme at the RCA in the 1990s, which was also supported by the Helen Hamlyn Trust. Our approach was based on three big ideas. The first was to recast design for older people within the RCA as 'design for our future selves' – the underlying message: ageing will happen to us all. The second big idea was to define and advance the principles of inclusive design

(a term first used by Roger Coleman in a paper in 1994) – not design for a special needs group, but design for all, including the needs of older and disabled people in the general mix.

The third big idea became the 'engine' that drove the centre – every year we created paid posts for around 10 new RCA graduates as Helen Hamlyn Research Associates, teaming them with external partners to explore new design ideas related to social and demographic change. At a time when there was general consensus around getting engineers and social scientists to think and act like designers, our *modus operandi* was to do exactly the opposite.

We took highly skilled RCA designers in a range of disciplines and showed them how to think and act like social scientists – our belief was that they should learn just enough about ethnographic research to capture user requirements and then take those insights into a practical design process. Only later would we take the plunge with our own PhD students.

The early years saw some familiar targets for innovation and improvement – better kitchens and bathrooms for older and disabled people, better furniture and wheelchairs. We contributed to an early market success for B&Q with a set of low-cost, lightweight power tools, which became bestsellers in the UK and China.

But as the digital revolution took shape, so our collaborations increasingly focused on digital inclusion. We were amazed to discover that digital service providers were making exactly the same mistakes with older customers as kitchen and bathroom manufacturers had done many years before. Systems and interfaces designed by young computer nerds were hardly welcoming to 'digital immigrants' from the analogue era.

Healthcare became another growing area of interest, as older people are disproportionately reliant on safe, innovative healthcare services. We became involved in several landmark NHS projects – to redesign the emergency ambulance, to reduce violence and aggression in A&E, to reduce medical error on surgical wards, frequently in partnership with Imperial College.

Design for the workplace also became a priority, as the pensions crisis forced up the retirement age and extended working lives at a stroke. And in each of these discrete areas, we formed research labs, experimented with new research methods, and won grants from the UK Research Councils alongside commissions from industry.

Gradually, our original idea for a research centre dedicated to the traditional age-related imperatives of inclusive design became disrupted. Emerging technologies altered the landscape. Co-design, co-creation and crowdsourcing re-cast the relationship between designers and users. Social innovation, big data, the challenge of cultural exclusion and the customisations of 3D printing raised new agendas too.

As a result, the pluralistic world of inclusive design today looks very different from the picture when we launched the centre 16 years ago. Look across the span of our work in 2015 and you will see how the tectonic plates have moved under the subject. It explains why, in working this year on the inclusive design legacy for the Queen Elizabeth Olympic Park, site of the hugely successful 2012 London Paralympic games, our proposal is to create a hub to develop low-cost 3D printed prosthetics – essentially redefining approaches to disability and body modification.

It also explains why the front

cover of this Yearbook has an image of the Orbit sculpture in the Olympic Park as a dense 3D data cloud based on thousands of user research photographs, and why my final act as Director has been to plan Include 2015, the eighth international conference on inclusive design on the theme of 'Disruptive Inclusive'. Scheduled for 17-18 September at the RCA, this event explores the implications of these disruptive ideas for the designers and researchers of the future.

It also sets things up nicely for my successor as Director, Rama Gheerawo, who has been a key member of the Helen Hamlyn Centre team at the RCA since the start and latterly my deputy. Rama has devised an exciting next chapter for the centre under the banner 'Inclusive Design 3.0', and I wish him every success in taking things forward.

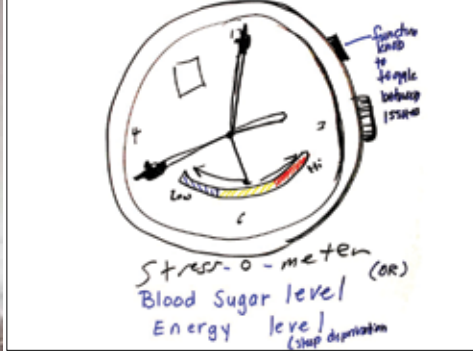
It has been an enormous privilege to lead the Helen Hamlyn Centre for Design and to work with such talented and dedicated people. I want to thank all the students, graduates, colleagues, partners and peers who have made the experience so memorable, and in particular the Helen Hamlyn Trust, and Helen personally for such generosity of vision. I will remain connected to the centre on key projects as I retain the Helen Hamlyn Chair of Design, but now is the time for a new chapter to begin.

Philip Sinden



Director Jeremy Myerson photographed in The Shard, the new London skyscraper which has adopted his research model of 'the three Cs' for a productive workplace – collaboration, concentration and contemplation – as a basis to plan its work environments

A YEAR IN THE LIFE OF THE HELEN HAMLYN CENTRE FOR DESIGN



October 2014

Inclusive design workshop

The year begins with an intensive, week-long inclusive design workshop for the new researchers being inducted in the centre. They are joined for the workshop by three Masters students from Switzerland's EPFL + ECAL Lab, part of the Ecole Polytechnique Fédérale de Lausanne.

November 2014

Medicine and design

Centre Director Jeremy Myerson gives a keynote address on healthcare design at the MEDdesign conference, held at Rochester Institute of Technology (RIT). The event was part of a programme to mark the award of an Honorary Doctorate by RIT to Helen Hamlyn.

December 2014

Holmewood research day

The entire research team gathers at the Holmewood residence of Helen Hamlyn near Marlow in Buckinghamshire for a day of presentations, proposals and discussions across the span of design projects undertaken by the centre. A day of great ideas and fine food!



April 2015

Tourism in Setúbal

Supported by the Helen Hamlyn Trust, Portuguese research associate Laís de Almeida travels to Setúbal to lead a communication design project that aims to support tourism in one of Portugal's most underrated cities, whose natural beauty, authentic culture and historic buildings deserve more attention.

May 2015

Future London taxi

The designers and researchers involved in the redesign of the London taxi travel as a group to Turkey to visit project partners Hexagon and Karsan to liaise on the next phase of development. The new taxi aims to be super-inclusive for both drivers and passengers.

June 2015

Student design awards

The Helen Hamlyn Design Awards 2015 are given to a range of outstanding, socially responsive RCA student projects in people-centred design. Former research associate Katherine Gough, now at the Ministry of Justice, is given the Helen Hamlyn Award for Alumni.



January 2015

DEFRA workshop

Centre researchers design and lead an inclusive design workshop for DEFRA in the UK in partnership with the RCA Service Design programme and SustainRCA. A number of future scenarios are co-created for DEFRA to explore with the farming community.



February 2015

Ambulance redesign

Our flagship project to design a new emergency ambulance is given a boost with a two-day event to launch SAEPP (Smart Ambulance European Procurers Platform). Supported by EU Horizon 2020 funding, this brings together ambulance experts from 12 different EU member states.



March 2015

Work In Progress event

Josh Owen, Professor and Chair of the Industrial Design Department at Rochester Institute of Technology, is the guest speaker at a seminar and supper held in Kensington to showcase the work in progress of the Helen Hamlyn Research Associates 2015, new graduates of the RCA.



July 2015

Workspace summer school

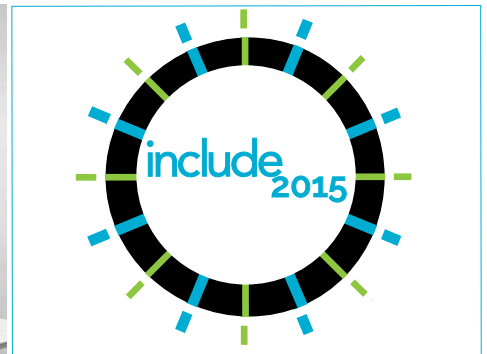
International Masters students from IE University in Madrid join a summer school on ethnography in workspace design organised by the centre's Work & City Research Lab. The three-week programme includes student field trips to three London workplaces to observe and engage with people at work.



August 2015

On The Frontline

Intense preparations are made for the Helen Hamlyn Research Associates 2015 show and symposium, which has the documentary theme 'On The Frontline'. New RCA photography graduate Sara Hibbert shoots a series of black-and-white images of the researchers in action for the exhibition.




September 2015

Include Conference

On 17-18 September, at RCA Battersea, the centre hosts Include 2015, the 8th international conference on inclusive design. The theme is 'Disruptive Ideas in Inclusive Design'. The event attracts delegates from all over the world and is sponsored by Realys, with the British Council as the cultural partner,

HEALTHCARE RESEARCH LAB





How can designers work with
medical professionals, patients
and industry to meet healthcare
challenges for the 21st century?

Projects:

SAFER BY DESIGN

DRINK INFORMED

THINKING WELL

PATIENT FLOW

FUTURE CRITICAL CARE

REDESIGNING THE AMBULANCE

THE HELIX CENTRE

Lab leader: Ed Matthews

Research associate Laís
de Almeida (right) gets to grips with
life on the ward in the Chelsea and
Westminster Hospital, London

SAFER BY DESIGN



Top: Hawys Tomos (right) shares a patient diary at the bedside in University College London Hospital as part of a programme of design interventions

Hospital staff have the complicated job of looking after numerous patients simultaneously – they must diagnose and treat immediate health concerns whilst continuously looking out for further complications that might develop during a hospital stay. This project focuses on improving the identification and treatment rates of two emergency conditions: sepsis and Acute Kidney Injury (AKI). These conditions must be treated quickly or will rapidly result in death. They present with subtle symptoms and are therefore easily overlooked.

Working alongside six hospitals (three situated in Wales and three in London), various design interventions, based on qualitative feedback, were introduced onto the wards and developed. These included: the Hospital Diary, which engages the patient in the observation of their own health by asking them to keep track of their

fluid input and output; the Wee Wheel, a tool for healthcare staff to quickly understand the safe lower urine output limit for their patient, which assists in identifying AKI; and the Sepsis Icon Tool, which addresses the shared responsibility between the medical and nursing staff in identifying sepsis and facilitates communication.

Researchers

Hawys Tomos, Jonathan West

Research Partner

Bangor University

Funded by

Shine programme, The Health Foundation

THINKING WELL

Everybody has questionable or irrational thoughts from time to time, but people who experience paranoia believe that other people are trying to do them harm, even though there may be no convincing evidence for this way of thinking. For people experiencing severe paranoia, it is often serious enough to need specialist treatment. Research has shown that helping people to become more aware of the ways they think, and adopting more helpful thinking, can reduce their paranoia.

Alongside medication, Cognitive Behaviour Therapy (CBT) can be very effective. This project is working with an online CBT platform to develop a novel reasoning-focused intervention for people who experience paranoid or suspicious thoughts. The research team is using inclusive design techniques to help form a better understanding of both the therapist's and the patient's experience of therapy.

The Thinking Well digital platform is used during therapy and provides easy access to therapy content. Outside the sessions, a mobile app provides a variety

of tools to help patients keep sight of both the particular reasoning habits that cause their troublesome thoughts and more helpful ways of thinking.

Researchers

Anna Wojdecka, Jonathan West

Research Partners

Psychosis Research Partnership,
King's College London





Top: researcher Lizzie Raby (centre) shares a prototype liver model with members of the health intervention team at Queen Alexandra Hospital, Portsmouth.
Above: further prototypes

It is estimated that nine million people in the UK drink above the recommended daily limits, with 22,000 people per year dying prematurely as a result of their alcohol consumption. The aim of this project is to empower and support clinical staff to educate and engage those individuals whose drinking habits are causing them harm. The study seeks to support people to make a more informed choice and encourage positive changes towards a healthier lifestyle.

The project team worked with the Alcohol Specialist Nurse Service at Queen Alexandra Hospital, Portsmouth. A series of observations, cultural probes, questionnaires and workshops with clinicians, patients, support staff and academics generated a range of valuable insights. These methods were supported by further research into the 80-plus risks of drinking alcohol.

This information has led to developing

a resource kit, comprising: tools to encourage discussion and support explanation documents about the body; a spectrum to show the trajectory of a patient's drinking and also 3D models. The resource kit has two distinct faces: one is patient facing to facilitate their recovery; and the other supports and educates clinical staff across the hospital.

Researchers

Lizzie Raby, Jonathan West, Ed Matthews

Research Partners

NHS Innovations South East,
Portsmouth City Council,
Wessex Academic Health Science Network

PATIENT FLOW



Acute Medical Units (AMUs) are highly resourced hospital units to investigate and decide on the best care plan for patients presenting with unplanned, urgent medical conditions. AMUs in the UK are currently experiencing high demand pressures – they are constantly admitting overflow patients from A&E but are unable to move on or discharge patients with more complex conditions.

The project is working with AMU teams in eight hospitals in England and Scotland to explore the barriers and challenges to good patient flow. The research has identified nine areas for possible design intervention, with 'discharge from hospital' singled out as a key element where flow can be improved.

The research team has developed design concepts to improve the visibility of the process for the whole clinical team involved in patient care. This allows teams to share information within AMUs and beyond,

expediting the process of discharge from hospital. Making the care journey visible will also empower patients by providing them with information and facilitating follow-up after discharge, improving patient safety and dignity.

Researchers

Laís de Almeida, Gianpaolo Fusari,
Ed Matthews

Research Partner

Royal College of Physicians of Edinburgh



Top: members of a multi-disciplinary care team explore the patient journey in a workshop at the Western General Hospital, Edinburgh.
Above: analysing existing hospital kit

FUTURE CRITICAL CARE



How can design improve the patient experience of the Intensive Care Unit (ICU)? The ICU is a hospital department that specialises in the treatment of patients with life-threatening conditions. It can be a hostile place for patients; these environments are surrounded by machinery designed to prioritise clinical interventions. Patients may be in the ICU for extended periods, lying in bed with very little but the ceiling in view.

To make matters worse, a large number of patients suffer from hallucinations and delirium as a result of the semi-conscious state they are placed in. The psychological effects of the ICU experience may linger on in patients for years after their hospital stay, affecting their lives and those of their carers.

The aim of this two-year project is to understand ways in which design might improve the ICU experience without compromising the level of clinical care required. Working together with clinicians

and ex-ICU patients from different hospitals in England, the team has identified ten dimensions that influence the ICU experience, as well as patient characteristics that may be affected differently by these influencers. During this first year of research, the project is creating initial concept directions for solutions that may be developed, prototyped and tested during year two.

Researchers

Gabriele Meldaiyte, Gianpaolo Fusari,
Ed Matthews

Research Partner

The London Clinic



Researcher Gabriele Meldaiyte (left) discusses the ICU experience with a nurse at the London Clinic

REDESIGNING THE AMBULANCE



Consortium members take a closer look at the demonstrator unit for the new emergency ambulance

The period in review saw intense activity to commercialise our flagship new emergency ambulance, which was co-designed with frontline paramedics, clinicians and patients to reduce unnecessary hospital admissions, deliver more community care, enhance patient safety and improve clinical efficiency. To bring our new approach to market, we formed the SAEPP (Smart Ambulance European Procurers Platform) project. This has been an ambitious pan-EU consultation project involving 17 ambulance partners, funded as part of the European Commission's Horizon 2020 innovation initiative in the area of Information and Communication Technologies.

A key part of the design proposition for the new ambulance is the development of a digital diagnostic and communication system. This element has been funded as part of the European Commission's Horizon 2020 innovation initiative. The technologies will enable better outcomes for both patients and health services, and will be properly integrated in a fit-for-purpose treatment space.

Better diagnosis capabilities, communications and access to specialist advisors will provide enormous benefits to paramedics to maximise their skills, whether treating patients in the community or transporting them promptly to hospitals and specialist care centres.

The current needs-identification and feasibility assessment project has been successful, and a €5.4m Pre-Commercial Procurement programme will start in earnest early in 2016, delivering and testing prototype ambulance vehicles by 2019.

Researchers

Ed Matthews, Gianpaolo Fusari

Research Partners

NHS Commercial
Solutions UK;
Ambulance Today UK;
South East Coast
Ambulance NHS Foundation
Trust UK;
North West Ambulance
NHS Trust UK;
INEM Portugal;
AmbulanceZorg Nederland
(UMCG) The Netherlands;
Region Hovedstaden-
Emergency Medical
Services Copenhagen
Denmark;
University de Geneve
Switzerland;
BITECIC, UK



**SMART AMBULANCE
EUROPEAN
PROCURERS PLATFORM**

THE HELIX CENTRE

The HELIX Centre is a collaboration between the Royal College of Art and Imperial College London, combining people-centred design, scientific rigour and frontline healthcare expertise. HELIX stands for Healthcare Innovation Exchange, and the project embeds a design innovation team within an acute general hospital in Europe's busiest city.

Based in a pop-up studio in the heart of the campus of St Mary's Hospital in Paddington, London, the team of designers, clinical practitioners and researchers work together to respond quickly to complex healthcare issues, turning ideas into prototype products, processes and services.

Projects span a range of different disciplines and outputs, including an app to improve the management of asthma among children; improved information surrounding bowel cancer screening; and a redesign of the storage of intravenous fluids on hospital wards. The use of low-cost, high-impact frugal innovation techniques to improve healthcare is a key feature of the HELIX approach. Innovations are developed through trials, licensing and spin-outs.

The Helen Hamlyn Centre for Design is working closely with the HELIX Centre. Two of its senior healthcare designers, Jonathan West and Gianpaolo Fusari, are seconded to this dynamic new initiative. The visibility of the HELIX Centre, within a working London hospital, was raised by the opening of its new pop-up design studio by Prince Charles, in January 2015. The pop-up was designed by students from the Royal College of Art's School of Architecture.

Researchers

Jonathan West, Gianpaolo Fusari

Project Lead

Jeremy Myerson

Research Partner

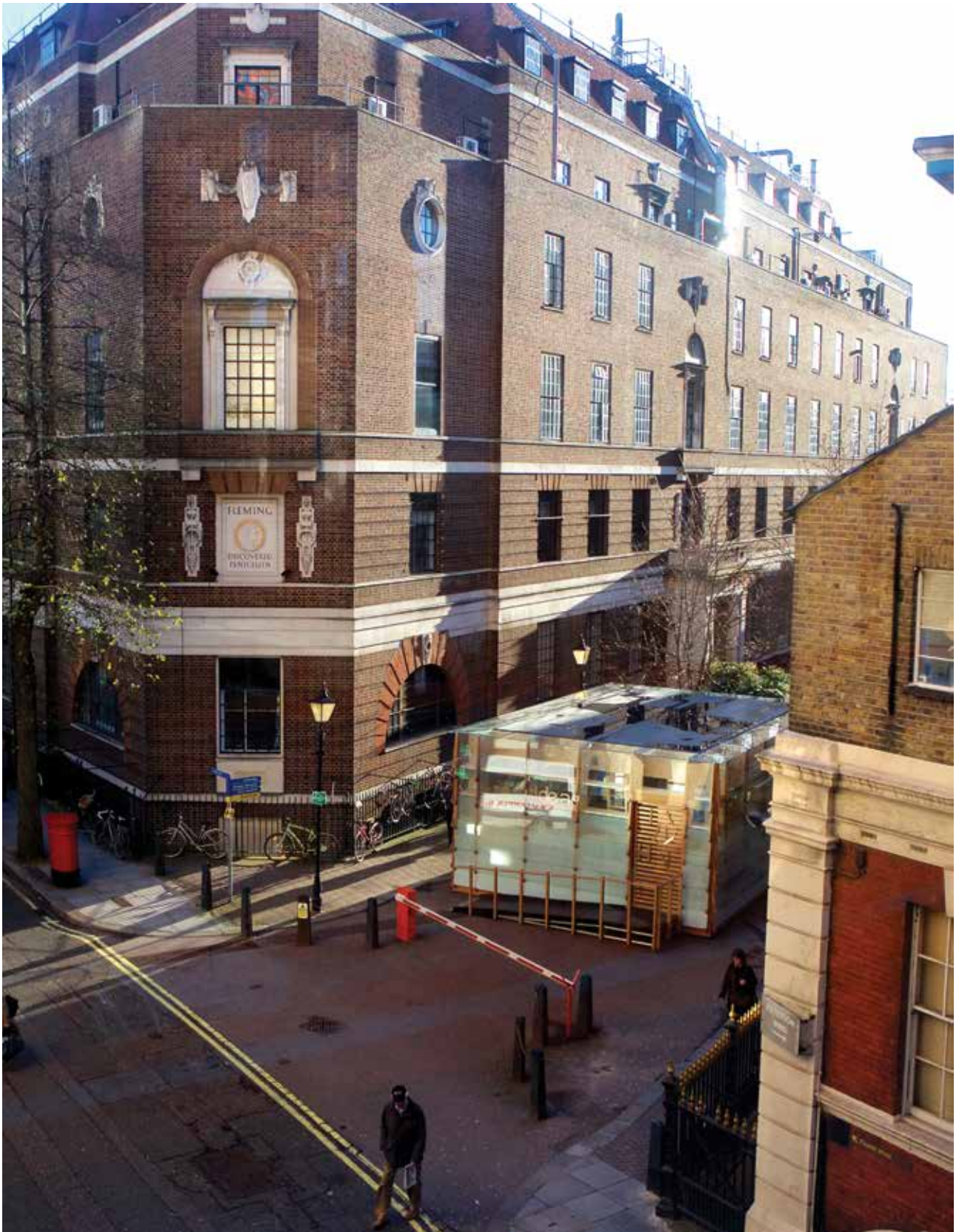
Imperial College London

Funded by

HEFCE Catalyst Fund




Top: the HELIX design team at work inside the new pop-up studio at St Mary's Hospital, Paddington. Above: Prince Charles meets members of the HELIX team as RCA Rector Paul Thompson (far left) and Professor Ara Darzi of Imperial College look on. Right: the HELIX pop-up photographed in the context of the hospital campus



AGE & ABILITY RESEARCH LAB





How can designers shape a
future that includes people
of all ages and abilities?

Projects

FUTURE LONDON TAXI

BODY 2.0

BALANCE

HAND HEALTHY

STICK TO IT

DRAWING ENERGY

A DESIGNER'S APPROACH

EXECUTIVE EDUCATION

Lab Leader: Rama Gheerawo

Textile designer Katie Gaudion (centre)
leads a creative workshop for support
staff at Kingwood as part of her study of
how autistic adults experience their home
environment. In July 2015 she became
the centre's first Doctoral candidate to
successfully complete her PhD

FUTURE LONDON TAXI



Top: London cabbie quizzed by (left to right) Sam Johnson, Jak Spencer and Helen Fisher. Above: co-creation workshop

This flagship project aims to develop a low-emission highly inclusive London taxi that meets the needs and aspirations of drivers and passengers of all ages and abilities. Over the past year the work has focused on three main areas: exterior design, passenger space and driver space. The exterior design has gone through multiple design iterations with input from user groups representing a range of age, ability, life stage, gender, and experts in access, culture and vehicle design.

Alongside this, creative explorations of the interior of the vehicle have been undertaken, building on the ideas of the groups consulted. Passenger and driver areas have been considered as separate design propositions unified through a single aesthetic. Extensive research, design and development have been carried out with drivers and passengers in co-creation sessions with the design team. This has been backed up by observation

of drivers and passengers on journeys and interactions at taxi ranks. The team has also been working closely with the manufacturer in Istanbul to achieve the best possible result in terms of accessibility and desirability. Prototype vehicles of the design are scheduled to reach the streets of London in early 2016.

Project Directors

Dale Harrow, Rama Gheerawo

Design Team

Chris McGinley, Helen Fisher, Jak Spencer, Sam Johnson, Dan Quinlan, Elizabeth Roberts

Industry Partners

Hexagon and Karsan

BODY 2.0

The London 2012 Paralympic Games have been acclaimed as the most successful in Paralympic history, helping to positively reframe public perceptions towards disability. In parallel to this, the emerging field of low cost 3D printed prosthetics has started to shift our understanding of the potential for body modification and notions of empowerment.

This project seeks to harness these cultural and technological shifts, using the Queen Elizabeth Olympic Park, site of the London 2012 Games, as a physical and digital location to develop lower cost, bespoke prostheses that extend the body's capabilities for people with a range of abilities.

The research began with an extensive on-site study through exploration, observation and intervention that resulted in a 3D digital map created using 10,000 images taken at the Park. Expert and lead users were consulted on ways to develop the Olympic Park's inclusive design agenda. Areas for potential intervention were then identified. To inform and guide the research, the project is working with residents of East Village who represent a cohort who are already actively engaging in new dialogues around ability.

The aim is to explore the future of personalised prosthetics through partnerships with institutions that form part of Olympicopolis, a new educational and cultural district on the site. A blueprint for a future 3D printing technology hub will thus build on the inclusive design legacy of the Paralympics.

Researcher

Jordan Jon Hodgson

Research Partner

London Legacy Development Corporation

Top right: research associate Jordan Jon Hodgson talks to a local resident about the future of the Queen Elizabeth Olympic Park. Below right: part of the 3D digital map of images taken at the Park.



BALANCE



One of the leading health concerns for people over the age of 60 is falling, which is often related to balance problems. 35 per cent of people aged 65 years and over are likely to fall at least once a year, and those who fall once are likely to fall two or three times more. This figure rises to 50 per cent of adults over 80 who are either at home or in residential care.

This project aims to make 'balance' an actionable component of an individual's health, allowing them to intervene long before a fall. The result of the research is an app which measures static posture control and provides a diagnosis based on four factors that can be easily measured by an individual in the home: Sway Score, Symmetry, Sway Envelope and Consistency.

The application has multiple levels of tests to allow people with diverse abilities to check their balance. Once the test is finished, the application provides tips on improving posture and directs you to appropriate exercise videos hosted separately on a website. An engineering prototype of the application has been extensively tested with 27 individuals and the current version of the application is set for further testing in autumn 2015.

Researchers

Shruti Grover, Ross Atkin

Research Partner

Stannah



Researcher Shruti Grover (above left) explores the issue of balance with older women

HAND HEALTHY



This project looks at how people aged over 45 with osteoarthritis use the kitchen. It draws on insights from home-based research with individuals from different cultural and ethnic backgrounds.

Osteoarthritis is an age-related condition, though it can affect anyone across the age spectrum. It peaks between the ages of 45-64 with more women than men experiencing the condition. Even for people with the condition who are aware that exercise is beneficial, maintaining their physiotherapy alongside daily life can be a struggle. This study identified cooking as an activity of daily life that should be maintained for its benefits in joint therapy. It then developed a range of design solutions to promote this.

Research was conducted in five London cultural centres with people that have different degrees of arthritis. Occupational therapists and industrial designers provided expert support.

Therapeutic design innovations resulting from the first year of the project were further developed for production this year. These include the making of 'hand healthy' meals (collected in an accessible Recipe Book) and a 'kitchen anchor' concept that supports peeling, grating and chopping.

By making common tasks less painful, these concepts aim to bring therapeutic benefits to cooking, translating this everyday activity into a gentle and accessible form of exercise and encouraging a 'hand healthy' attitude to life.

Researcher
Simon Kinneir

Partner
Arthritis Research UK

STICK TO IT



Dycem is a non-slip material that has helped improve people's lives since the 1960s. This project uses inclusive design research processes to explore further potential for this unique and patented material. The study began with current uses but then moved beyond routine application in well-established areas of the home to introduce this wonder material into unexplored environments with a wider user base ranging from older people to children, and from office workers to hobbyists.

The outcome of this project is a catalogue of ideas, products and easy-to-use packaging, taking Dycem into new product areas and applications. Some of these products sit in the home environment, in kitchens and living rooms, allowing users who struggle with grip, mobility or other issues to gradually take back control of their own lives. Other ideas build on the existing non-slip reels of the material, allowing people to customise their environment to their needs.

A co-creation approach has featured materials-based hackathons with user groups and creative teams. The catalogue contains ideas that are inspired by users, experts and the designer herself.

Researcher

Julia Johnson

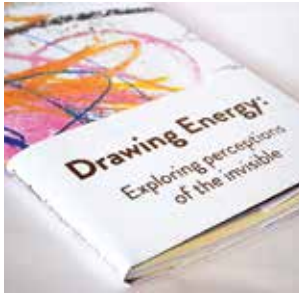
Research Partner

Dycem



Researcher Julia Johnson (centre) leads a co-creation workshop at Dycem to explore new uses for the material

DRAWING ENERGY



The European SuslabNWE study (2012-2015) saw 11 partners from Germany, The Netherlands, Sweden and the UK come together to investigate energy use in the home. At the Royal College of Art, our work in partnership with SustainRCA looked at bringing together two practices – that of inclusive design and environmental sustainability. Both often have different starting points, with inclusive design usually focusing on needs and capabilities at the domestic scale, and sustainability typically addressing large systemic change.

A major project output this year was a publication entitled *Drawing Energy*, based on a drawing-based research project to explore people's perceptions of energy. People were asked to write, draw or illustrate their thoughts and reactions to the question 'What does energy look like?' More than 180 members of the public took part in the project. The study moves beyond the idea

of measuring energy in a numerical way to explore how people relate to energy in a more visual or metaphorical way. The work represented in the book builds on a history of using drawing as a tool for research and as a way to enable people to fully express their ideas and imagination. The website: www.drawingenergy.com accompanies the book, which was published in July 2015.

Researchers

Dan Lockton and Flora Bowden

Research Partners

Interreg NWE, Regional Development Fund



A DESIGNER'S APPROACH



Researcher Katie Gaudion builds empathy with autistic residents at Kingwood

Autistic adults with limited speech and additional learning disabilities are people whose perceptions and interactions with their environment are unique, but whose experiences are under-explored in design research. This PhD by Practice investigates how people with autism experience their home environment, through collaboration with the autism charity Kingwood Trust, which gave the researcher extensive access to a community of autistic adults that it supports.

The PhD reflects upon a non-autistic designer's approach to working with autistic adults to investigate their relationship with the environment. It identifies and develops collaborative design methods for autistic adults, their support staff and family members to be involved. The work presents three design studies that explore a person's interaction with three environmental contexts of the home: the garden, everyday objects and the interior.

A strengths-based rather than a deficit-based approach is adopted which draws upon an autistic person's triad of strengths – sensory preferences, special interests and action capabilities. The study unravels what discomfort and delight might mean for an autistic person, with insights translated into three design solutions to enhance their experience at home.

By working beyond the boundaries of a neurotypical culture, the PhD bridges the autistic and non-autistic world of experience – it looks at how the mainstream design field can learn from designing with autistic adults and provides insights into the experiences of people who have very different ways of seeing, doing and interacting.

PhD researcher
Katie Gaudion

Research Partner
Kingwood Trust

EXTERNAL EDUCATION

The Helen Hamlyn Centre for Design's External Education programme continued to deliver a number of workshops, conferences and events in inclusive design to business executives, small firms, designers and students around the world.

This year, the programme had a strong focus on working with government and policymakers, delivering inclusive design leadership sessions to the Hong Kong Government's Civil Service Bureau in a series of events organised by the Hong Kong Design Centre. Two workshops on people-centred design were also run for the Hong Kong Department of Health.

In the UK, we led on a workshop for civil servants at DEFRA (the UK Government Department for Environment, Food & Rural Affairs), partnering with the RCA Service Design programme and SustainRCA.

Work continued in Qatar with a social innovation workshop delivered over five days for the Social Innovation initiative at Hamad Bin Khalifa University, Qatar, building on two previous workshops from the previous year. Students, faculty and social entrepreneurs attended the workshop from the fields of design, engineering, economics, journalism and medicine.


The External Education programme forms part of the Business of Inclusive Design strand of the Age & Ability Research Lab and is led by Deputy Director Rama Gheerawo and Senior Research Associate Chris McGinley.



Top: working with DEFRA on farming issues. Above: field research in Doha with construction workers

WORK & CITY RESEARCH LAB





How can designers make living
and working in our cities more
inclusive and sustainable?

Projects

WORKPLACE AND WELLBEING

FAMILY RITUALS 2.0

WORKSPACE INTERRUPTED

THE GREAT BRITISH PUBLIC TOILET MAP

CREATIVE EXCHANGE

SPACE FOR PLAY

IE SUMMER SCHOOL

Lab leader: Dr Jo-Anne Bichard

Architect and PhD candidate Imogen Privett
(right) discusses the rise of co-working spaces
in cities with Alice Fung at the Hub, Lambeth
Town Hall, Brixton

WORKPLACE AND WELLBEING



Can greater participation in the design of the workplace improve employee wellbeing? This project, co-directed with the Gensler architectural firm, is looking at ways to improve the wellbeing of workers through the design of their workplace. Psychological wellbeing is affected by the sense of control felt over aspects of one's life – this study is applying this idea to workplace design by exploring whether greater participation in the design of the workplace can increase the sense of control, and therefore the wellbeing of knowledge workers.

In the first stage of the project, the research team interviewed employees at three organisations: an architectural firm, a financial services organisation and a charity. Each had recently made design changes or relocated their workplace. We asked about their use of the new office and how they were involved in decisions around the redesign or relocation.

In the second stage, we are focusing on one workplace, Bupa House, London. Here we have offered different levels of design participation to four different teams of employees and various design interventions relating to a sense of control. We aim to find out whether employees welcome participatory design techniques, whether this approach can produce practical ideas and insights for workplace design, and which aspects of the workplace people consider to be most important to their wellbeing.

Researchers

Gail Ramster, Alma Erlich, Andrew Thomson

Research Directors

Jeremy Myerson, Philip Tidd

Research Partners

Gensler, Bupa, Kinnarps, Milliken, RBS, Shell

FAMILY RITUALS 2.0



Family Rituals 2.0 is a multidisciplinary research project exploring the value of daily rituals. It uses digital technology to connect family members, who are working away, to events at home. Funded by the EPSRC, the project is a collaboration between the Helen Hamlyn Centre for Design, Newcastle University, University of the West of England and Bournemouth University. The work involves design, anthropological, psychological and technological perspectives, with a critical approach.

Working with five families that experience regular separation due to work travel, a series of design-led ethnographic case studies were conducted. The information generated from these studies inspired the designers to create five Ritual Machines: artefacts that use digital technologies to connect separated family members to events at home.

Deliberately playful and provocative,

the Ritual Machines have been designed to live with families for up to eight weeks. Each machine has been tailored for a particular family, identifying their specific domestic rituals and their attitudes towards home, work, separation and reunion. Rather than presenting a solution to a problem, the machines aim to introduce a conversation about what home and family life is, and what it means to be separated from it.

Researchers

Paulina Yurman, Jo-Anne Bichard

Research Partners

Newcastle University,
University of the West of England,
Bournemouth University

Funded by

Engineering and Physical Sciences
Research Council



One of the Ritual Machines combines digital technology with the traditional ritual of family members pouring a drink

WORKSPACE INTERRUPTED

The pace of change in how we work in the new digital economy is fast outstripping the ability of the physical environments in which we work to keep up.

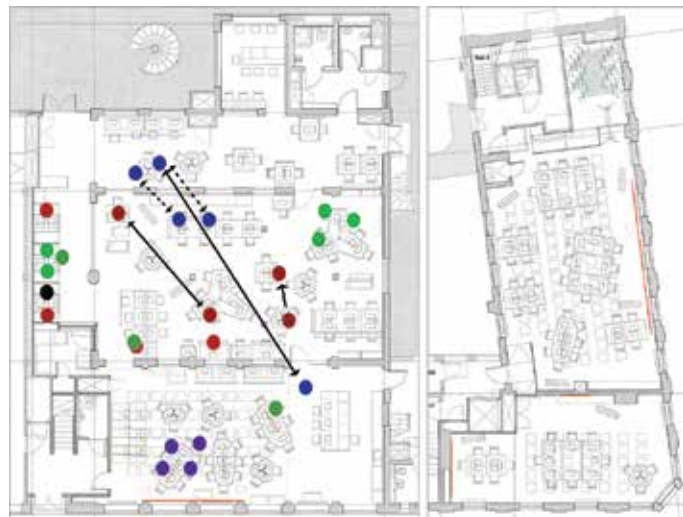
With workspace design all too often governed by 'fad, fashion and faith', according to the management theorist Thomas Davenport, this PhD study takes a critical look at emerging workspace typologies, seeking to analyse and understand the new environments needed to support radically transforming business practices and changing human needs.

What are the new settings and infrastructures that will support this new way of working? How can we tailor them to people, and how can we measure their effectiveness?

The research takes an ethnographic methodological approach and is centred on a new co-working space in Birmingham. The study will take an in-depth look at the relationships between working practices and space, combining quantitative data with user interviews, observations and workshops to build up to a major practice-based intervention, building new settings and measuring how they are adapted and used.

Researcher
Imogen Privett

Research Partners
Haworth, The Hub



THE GREAT BRITISH PUBLIC TOILET MAP



The Great British Public Toilet Map is the largest database of publicly accessible toilets in the UK. It displays information on 10,000 facilities, with data coming from local councils, private providers, OpenStreetMap and the public. The project began as part of the TACT3 research project: researchers at the Helen Hamlyn Centre for Design interviewed more than 100 people of all ages, including those with reduced continence due to a medical condition or medication, about their experiences of needing, finding and using public toilets.

This research was also instrumental in establishing a council standard for public toilet open data, with more than 80 councils now providing this information.

The website was launched across the UK on World Toilet Day in November 2014, (<http://greatbritishpublictoiletmap.rca.ac.uk>) attracting national and regional press. We are now seeking further support from a consortium of partners to develop the website in order to meet its three aims:



to increase people's everyday freedom through greater awareness and confidence in the availability of toilet facilities that meet their needs; to provide insights into the diversity and disparity of toilet provision in the UK; and to communicate the need for a better, more inclusive, more transparent public service.

Researchers

Gail Ramster, Jo-Anne Richard

THE CREATIVE EXCHANGE

The Creative Exchange is one of four national AHRC-funded hubs for knowledge exchange in the creative economy. It brings together the Helen Hamlyn Centre for Design and the School of Communication at the RCA with Lancaster University's Imagination Lab and the Culture Lab at Newcastle University. Academic researchers, industry experts and community groups are working within an experimental knowledge exchange network. The aim is to generate new concepts, services and experiences within the ever-expanding domain of digital public space.

The project is also piloting new forms of knowledge exchange between academia and industry, and developing a new framework for practice-led PhD study, which challenges the traditional paradigms of theoretical development within the arts and humanities. Six PhD students at the RCA (out of a total cohort of 21 CX Doctoral candidates) are developing, managing and evaluating a series of mini projects which address key CX themes as part of their PhD research.

Activities during the year in review include development of an interactive visualisation tool enabling gallery visitors to model and represent their current mental wellbeing, and a collaboration with the Department of Communities and Local Government on the innovative development of Localnets, as social media digital analytics tool used to drive community action.

Knowledge Associates

Tom Simmons, Anna Waring

PhD Researchers

Ben Dalton, John Fass, Susannah Haslam,
Benjamin Koslowski, Veronica Ranner,
Jimmy Tidey

Co-investigators

Jeremy Myerson, Neville Brody

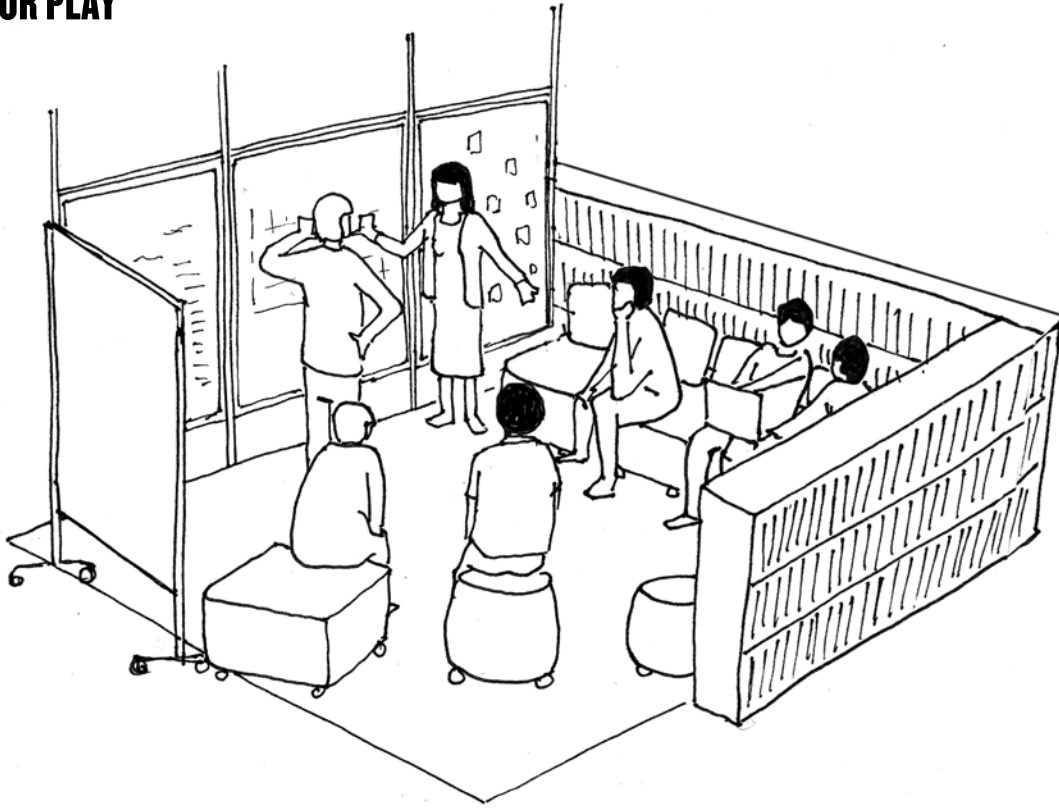
Funded by

Arts and Humanities Research Council



Creative Exchange PhD researcher Benjamin Koslowski tests an interactive visualisation tool that models the mental health and wellbeing of visitors at the FACT Gallery in Liverpool. In collaboration with Brendan Dawes at Nexus Interactive Arts

SPACE FOR PLAY



The Sony London Studio sits at the heart of Soho and houses a mixture of animators, character artists, designers, music producers, developers and coders who work together on the development of games for Sony Playstation. Given the highly creative and collaborative nature of their work, the London Studio team embarked on an extensive workplace redesign programme to make better and more flexible use of their space.

This project linked London Studio's own user data with the Helen Hamlyn Centre for Design's in-depth ethnographic observations and user interviews in order to create a design brief.

The research resulted in the creation of a custom set of typologies of Sony employees engaged in games design, and a strategic design framework that enables effective design changes to be made to floor layout, desk set-up and collaborative working. Improvements were suggested for the ambience and cultural

identity of the space, and the study also presented a series of high-level priorities and recommendations on which a coherent plan of action for the redesign could be built.

Researchers

Catherine Greene, Imogen Privett

Research Partner

Sony Computer Entertainment Europe

IE SUMMER SCHOOL

The Helen Hamlyn Centre for Design continued its collaboration with the IE University, Madrid, by hosting a summer school on workspace design at the RCA as part of IE's Masters in Design for Work, Retail and Learning Environments.

The summer school takes international students through the process of design ethnography within the workplace environment, and includes lectures from key academics and designers, site visits to leading architectural practices and a period of design focused ethnographic fieldwork within London organisations. This year the students visited a digital games studio, an outward bound charity and a media agency.

The three-week course aims to introduce students to user-oriented aspects of workplace design, and methods for engaging the user within the design process. A period of fieldwork enables students to explore a diversity of design ethnography methods, which will be best suited to their specific sites and encounters. On completion of the fieldwork, students enter a Social Design Lab to work in teams to generate proposals to redesign workspace based on in-depth user research.

Education Team

Jo-Anne Bichard, Kursty Groves Knight,
Jeremy Myerson,
Imogen Privett

Education Partner

IE University, Madrid



Scenes from the summer school as students share ideas and professional designers assess their work

THE HELEN HAMLYN DESIGN AWARDS 2015

REWARDING EXCELLENCE IN PEOPLE-CENTRED DESIGN



A therapeutic pen to help people with Parkinson's Disease to write more clearly and an outdoor electric charging system for urban scooters were among the winners of the Helen Hamlyn Design Awards 2015, chosen from graduation projects created by Masters students at the Royal College of Art.

The Awards recognise outstanding student design projects that contribute to improving life and have been running at the RCA for more than 20 years. Other winning work in 2015 included a citizen science project to source alternative antibiotics and a textiles project to engage people with dementia.

The four main award categories were sponsored by Age UK, GMW Architects, MIE Medical and Innovate UK. Helen Hamlyn personally chose the pop-up

design studio at St Mary's Hospital, London, to receive her own prize for creativity.

Representatives from each organisation handed over the prizes at an awards ceremony on 30 June 2015 at the RCA. There was a total prize fund of £10,000.

In all, the Helen Hamlyn Design Awards received 34 nominations from RCA professors representing 11 design programmes across the College. An international panel of experts judged the work (see left) in the RCA Show of graduating students.

**HELEN HAMLYN
DESIGN AWARDS**
rewarding design for the inclusive world

HELEN HAMLYN DESIGN AWARD FOR CREATIVITY

Winner:

HELIX Pop-Up Design Studio

Joanna Hyland, Ralf Alwani,
Matt Volsen (Architecture)

The HELIX Centre (Healthcare Innovation Exchange) embeds a joint RCA-Imperial design team within St Mary's Hospital, London. Its new home, a pop-up studio, was designed by RCA Architecture students and is now on the site and was opened in January this year by Prince Charles.

Judge's comment

"A complete project in every way – practical, beautiful and now realised on a prominent hospital site, bringing designers and frontline NHS staff together."

Helen Hamlyn





HELEN HAMLYN DESIGN AWARD FOR ALUMNI

Winner: Katherine Gough

RCA Graduate 2001,

Helen Hamlyn Research

Associate 2002, 2004

Judge's comment:

"Katherine has carried the inclusive design torch consistently through a range of important roles in the private and public sectors – from Nokia to the Ministry of Justice."

Jeremy Myerson, Helen Hamlyn Centre for Design



AGE UK AWARD FOR INCLUSIVE DESIGN

Winner:

ARC Pen

Tian-Jia Hsieh, Lucy

Jung, Hwansoo Jeon,

Daniel Walklin (Innovation Design Engineering)

A therapeutic vibrating pen that enables larger, cleaner and smoother writing for people with Parkinson's.

Judge's comment

"This project identified a problem that, if solved, will make a major difference to people's quality of life."

Philip Rossall, Age UK

Sponsored by Age UK

THE HELEN HAMLYN DESIGN AWARDS 2015

INNOVATION FOR LIVING AWARD

Joint Winner:

Rubber on Concrete

Adi Zafran (Design Products)

This project explores how 'Foley' – the reproduction of sounds by physical means added to film and video in post-production – can be used as a therapeutic tool for people who have experienced a traumatic event.

Judge's comment:

"A game-changing design concept with the potential to significantly impact on cognitive and psychosocial issues that profoundly affect the lives of others. I was delighted with the imagination and fresh thinking."
Jackie Marshall-Balloch, Innovate UK

Joint Winner:

Post/Biotics

Vidhi Mehta (Innovation Design Engineering)

A toolkit that empowers citizen scientists to source alternative antibiotics based on natural extracts, lessening reliance on pharmaceutical companies.

Judge's comment:

"A wonderfully well researched and socially based project that hit all the right notes from the outset, moving the dynamic of co-creation a step further."
Jackie Marshall-Balloch, Innovate UK

Sponsored by Innovate UK



Top: Rubber on Concrete. Above: Post/Biotics

MIE DESIGN AWARD FOR HEALTHCARE

Winner: **Memory**

Laura Venables (Textiles)

This project supports people living with dementia through a process of engagement and the production of a series of sculptural pieces. It stems from a fascination with objects and the memories they hold.

Judge's comment:

"This shows real engagement with patients and has the potential to develop a universal toolkit for use in dementia care."
Brian Firth, MIE Medical Research

Sponsored by MIE Medical Research





GMW DESIGN AWARD FOR WORK AND CITY

Winner:

We Charge

Yu-Lin Chen (Design Products)

A universal outdoor electric scooter charging system designed for Taipei that could be suitable to use in other cities. It makes the charging of electric scooters widely and conveniently available.

Judge's comment:

"This has the potential to have a huge effect on city life, importantly removing the fear factor of running out of juice."

Laurence Orsini, GMW Architects

Sponsored by GMW Architects

HIGHLY COMMENDED PROJECTS

Project Lacey Green

Clementine Blakemore
(Architecture)

The collaborative construction of a new music room for a primary school in a Buckinghamshire village, the project suggests ways in which built structure can become a framework for social and cultural infrastructure.

"A thorough and well-executed project with real community engagement."

Nature/Nurture

Rosann Ling (Interior Design)

This scheme bridges the gap between the hospital and the home for stroke survivors, using gardening

and cooking as a form of rehabilitation.

"Empathic and sensitive interior project linking NHS and home care."

Everything That Was There Before (and still is)

Michael Pecirno
(Information Experience Design)

An approach using cartography, typography and experiential installation that seeks to raise awareness about saving the night sky from light pollution.

"A thought-provoking and original way to communicate an issue that is not yet well understood."



Top: Project Lacey Green. Above left: Nature/Nurture. Above right: Everything That Was There Before (and still is)

PEOPLE



Prof Jeremy Myerson
Director and Helen Hamlyn
Professor of Design



Rama Gheerawo
Deputy Director and Reader
in Inclusive Design



Dr Jo-Anne Bichard
Senior Research Fellow



Ed Matthews
Reader in Healthcare
Design



Prof Peter Buckle
Research Professor



Jonathan West
Research Fellow



Kay Sandford-Beal
Head of Operations



Margaret Durkan
Communication
Manager



Mark Byrne
Administrator



Anna Waring
Research Administrator



Ross Atkin
Senior Research Associate



Gianpaolo Fusari
Senior Research Associate



Dr Katie Gaudion
Senior Research Associate



Catherine Greene
Senior Research Associate



Dr Dan Lockton
Senior Research Associate



Dr Chris McGinley
Senior Research Associate



Gail Ramster
Senior Research Associate



Laís de Almeida
Research Associate



Flora Bowden
Research Associate,
Sustain RCA



Shruti Grover
Research Associate



Jordan Jon Hodgson
Research Associate



Julia Johnson
Research Associate



Simon Kinneir
Research Associate



Gabriele Meldaiyte
Research Associate



Imogen Privett
Project Researcher
PhD Candidate



Lizzie Raby
Research Associate



Andrew Thomson
Research Associate



Hawys Tomos
Research Associate



Anna Wojdecka
Research Associate



Paulina Yurman
Research Associate



Helen Fisher
Project Researcher



Sam Johnson
Project Researcher



Dr Jak Spencer
Project Researcher



Dan Quinlan
Visiting Designer



Elizabeth Roberts
Visiting Researcher

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Dr Jonathan Ventura

Dr John Curran

PARTNERS

PUBLICATIONS

Books, Chapters and Papers

- Alexiou, K., Agusita, E., Alevizou, G., Chapain, C., Greene, C., Harte, D., Ramster, G., Zamenopoulos, T., (2015 forthcoming) 'Asset Mapping and Civic Creativity', in I. Hargreaves, & J. Hartley (Eds.) *The Creative Citizen Unbound*. Policy Press
- Atkin, R., Buckle, P., & Myerson, J. (2014) 'Street Works and Vision Impairment: Improving signing and guarding'. *Proceedings of the ICE-Municipal Engineer*, 168 (1), pp 11-23
- Richard, J. (2015) 'ExclOOsion: 'How Sanitary Provision is Failed by Design' in K. Smith, C. Davis and B. Tauke (eds) *Diversity and Design: Understanding Hidden Consequences*. London: Routledge
- Bowden, F., Lockton, D., Gheerawo, R. & Brass, C. (2015) 'Drawing Energy: Exploring perceptions of the invisible'. London: RCA
- Buchanan, K. & Lockton, D. (2015) 'Understanding Human Connectivity and the Quantified Self'. *Working papers of the Sustainable Society Network+*, March 2015
- Buckle, P. (2015) 'Human Factors that Influence the Performance of Telecare'. In S. Sharples, S. Shorrock, & P. Waterson (Eds.) *Contemporary Ergonomics and Human Factors*. London: Taylor and Francis, pp 201-204
- Buckle, P. (2015) 'Government Science Foresight Report Workplace Infrastructure for the Ageing Workforce'. www.gov.uk/government/publications/future-of-ageing-workplace-infrastructure
- Crumbleholme, L., Greene, C. & Myerson, J. (2014) 'Sustainable Cultures: Engaging employees in creating more sustainable workplaces and workstyles'. *Facilities*, 32, (7/8), pp 438-454
- Gheerawo, R. & McGinley, C. (2015) 'Communities and Communication: Socially inclusive design across the age spectrum'. *Ageing, Ingenuity & Design: International Cases Collection*. Lee, Y. & Moore, P. (eds). Hong Kong Design Institute
- Hettinger, L. J., Kirlik, A., Goh, Y. M., & Buckle, P. (2015). 'Modelling and Simulation of Complex Sociotechnical Systems: Envisioning and analysing work environments'. *Ergonomics*, 58, pp 600-614
- Hignett, S., Miller, D., Wolf, E., Buckle, P. & Catchpole, K. (2015) 'What is the Relationship Between Human Factors and Ergonomics and Quality Improvement in Healthcare?' In S. Sharples, S. Shorrock, & P. Waterson (eds.), *Contemporary Ergonomics and Human Factors*. London: Taylor and Francis, pp 213-219
- Hignett, S., Jones, EL., Miller, D., Wolf, L., Chetna, M., Shahzad, M.W., Buckle, P., Banerjee, J., & Catchpole, K. (2015) 'Human Factors and Ergonomics and Quality Improvement Science: Integrating approaches for safety in healthcare'. *BMJ Quality & Safety*, bmjqs-2014
- Koslowski, B. & West, J. (2014). 'Mental health: Workscapes for mental health: A creative approach to healthcare environments'. *World Health Design* 7(4), pp 42-49
- Lim, R. H., Anderson, J. E., & Buckle, P. (2015) 'Work Domain Analysis for Understanding Medication Safety in Care Homes in England: An exploratory study'. *Ergonomics*, pp 1-28
- Lockton, D. & Bowden, F. (2015) 'People, Energy and Everyday Life: Uncovering behavioural design opportunities behind energy use patterns'. In: J.D.M. Watson, C.W Clegg, R. Cowell, F. Davies, C. Hughes, N. McCarthy & P. Westbury (eds), *Built for Living: Understanding behaviour and the built environment through engineering and design*. Royal Academy of Engineering: London
- Myerson, J. (2014) 'The Aviary and Investiture' in A. Armstrong Jones, F. Von Hofmannsthal, P. Kinmonth, G. Carter & T. Ford, *Snowdon: A Life in View*, New York: Rizzoli
- Myerson, J. & Privett, I. (2014) 'Life of Work: What office design can learn from the world around us'. London: Black Dog Publishing
- Niedderer, K., Cain, R., Clune, S., Lockton, D., Ludden, G., Mackrill, J., Morris, A., Evans, M., Gardiner, E., Gutteridge, R. & Hekkert, P. (2014) 'Creating Sustainable Innovation through Design for Behaviour Change: Full Report'. University of Wolverhampton, October 2014
- Sharples, S & Buckle, P. (2015) 'Ergonomics and Human Factors as Reflective Practice'. In J. Wilson & S. Sharples (Eds.), *Evaluation of Human Work*, 4th Edition. Boca Raton: CRC Press, pp 975-982
- Sharples, S. & Buckle, P. (2015) 'Ergonomics/Human Factors: Art, craft or science?' In S. Sharples, S. Shorrock, & P. Waterson (eds) *Contemporary Ergonomics and Human Factors*, London: Taylor and Francis, p 132
- West, J., Davey, G., Norris, B., Myerson, J., Anderson, O. & Brodie, A. 'Designing out Medical Error: An interdisciplinary approach to the design of healthcare equipment' *The Design Journal*, 17(2), pp 238-266
- Yeandle, S., Buckle, P., Fry, G., Hamblin, K., Koivunen, E.-R. and McGinley, C. (2014) 'The AKTIVE Project's Social, Design and Prospective Hazard Research: Research methods.' University of Leeds, UK

Conference Proceedings

- Atkin, R. (2015) 'Building Connected Products that Help Disabled People' at *O'Reilly Solid*, San Francisco, California, June 2015
- Atkin, R. (2015) 'Older People, Technology and Design' at *Beirut Design Week International Conference*, Beirut, June 2015

PUBLICATIONS

Atkin, R. (2015) 'Building the Clever City' at *SPOT Interactive*, Aarhus, Denmark, April 2015

Atkin, R. (2015) Start with the Things not the Internet' at *South by Southwest Interactive*, Austin, Texas, March 2015

Atkin, R. (2014) 'The Sight Line Street Works System' at *Unsitely! Leveraging Design to Improve Urban Construction Sites*, The City of Montreal, Canada, October 2014

Bichard, J. & Yurman, P. (2015) 'The Ethnography of Absence: Mapping Emotions' at *Design Anthropological Futures. Research Network for Design Anthropology*. Royal Danish Academy of Fine Arts, Copenhagen, Denmark. 12-14 August 2015

Bichard, J., Yurman, P., Kirk, D. & Chatting, D. 'Quotidian Ritual and Work-Life Balance: An Ethnography of not being there' at *EPIC*, New York, September 2014

Borsci, S. & Buckle, P. (2015) 'Why Human Factor is your answer' at Patient Safety with Interactive Medical Devices: a multi-disciplinary symposium' Reading, UK. 24-25 June 2015

Borsci, S. & Buckle, P. (2015) 'DEC-London Human Factors Methods for IVD and POC Devices' at *NIHR Diagnostic Evidence Cooperative Open Day*, 1 July 2015

Chatting, D., Kirk, D.S., Yurman, P. & Bichard, J. (2015) 'Designing for Family Phatic Communication: A design critique approach' at *British HCI 2015*, University of Lincoln, 13-17 July 2015

Glazer, E. & Bichard, J. (2015) 'A Vehicle for Design Futures: Exploring the experience of driving in the here-and-now to inform an inclusive future' at *Design Anthropological Futures. Research Network for Design Anthropology*. Royal Danish Academy of Fine Arts, Copenhagen, 12-14 August

Grover, S., Atkin, R. & McGinley, C. (2015), 'Certainty as a Provocation: The design and analysis of 2 Quant-Qual tool dyads for a qualified self technology project' at *Research Through Design*, Cambridge, March 2015

Grover, S. & Atkin, R. (2015) 'Using a Human-centred Design Methodology to Design a Balance Health Application' at *Centre for Behaviour Change Conference*, London, February 2015

Kazakos, K., Kirk, D., Durrant, A., Chatting, D., Yurman, P., Bichard, J. & Paik, J. (2015) 'Design Led Enquiry for Mobile Lives', at *CHI*, Seoul, 19 April 2015

Kunur, M., Langdon, P., Bradley, M., Bichard, J., Glazer, E., Clarkson, J. & Loeillet, J.J. (2015) 'Creating Inclusive HMI Concepts for Future Cars Using Visual Scenario Storyboards through Design Ethnography', at *HCI International 2015*. Los Angeles, California. 2-7 August 2015

Lockton, D., Bowden, F., Brass, C. & Gheerawo, R. (2014) 'Powerchord: Towards ambient appliance-level electricity use feedback through real-time sonification', at *UCAmI 2014: 8th International Conference on Ubiquitous Computing & Ambient Intelligence*, Belfast, 2-5 December 2014

Raby, E. & Matthews, E. (2015). 'Drink Informed, Co-Design for Behaviour Change', Poster presentation at *Getting to Grips with Alcohol Conference*, Southampton, 28 January 2015

West, J., Tomos, H. & Matthews, E. (2014) 'The Creative Step in Patient Safety', workshop at *ISQUA (The International Society for Quality in Health Care)*, Rio de Janeiro, 7 October 2014

Yurman, P. (2015) 'Hypnos: Sleeping inbetween home and work', discussion panel at *Sto Werkstatt*, Clerkenwell, London, June 2015

Keynote and Invited Presentations

Bichard, J & Ramster, G. (2015) 'Designing Sustainability into Cities; The Great British Public Toilet Map', at *London Environmental Challenge*. Future Cities Catapult. London, 16 April 2015

Bichard, J. (2015) 'Extending Architectural Affordance or How to Spend a Penny', at *Around the Toilet: Bodies, Identity and Design: AHRC Connected Communities Seminar*, Manchester Metropolitan University, 29 June 2015

Bichard, J., Yurman, P., Kirk, D. & Chatting, D. (2015) '3 of the Ritual Machines from the Family Rituals 2.0 Project'. *HOME|SICK Exhibition*, Science Gallery, Dublin, 1 May-19 July 2015

Buckle, P., Barlow J., West, J. & Fusari, G. (2015) 'Using the Design Process to Improve Healthcare Products: What are the major challenges?' Panel discussion at *NIHR Diagnostic Evidence Cooperative Summer Open Day*, London, 1 July 2015

Buckle, P. (2015) 'Human Factors in Design', at *NIHR Diagnostic Evidence Cooperative Open Day*, Royal College of Obstetricians, London, 1 July 2015

Buckle, P. (2015) 'Better by Design' at *Health and Wellbeing at Work*, NEC Birmingham, 4 March 2015

Buckle P. (2014) 'Human Factors Design in the Pharmaceutical Industry', at *Cardinus*, London, 11 December 2014

Buckle, P. (2014) 'Telecare, Risk and Everyday Life: Key findings from the AKTIVE project', at *International Telecare and Telehealth Conference*, Celtic Manor Resort, Newport, Wales, 18 November 2014

Buckle, P. (2014) 'Human Factors and Health: What are the Human Factors Challenges in Linking Health and Social Care Through Technology?' at *Human Factors: Improving quality and safety in healthcare: IEHF Conference*, London, 3 November 2014

Buckle, P. (2014) 'Using the Design Process to Improve Healthcare Products: What are the major challenges?' at *Human Factors: Improving quality and safety in healthcare IEHF Conference*, London, 3 November 2014

Buckle, P. (2014) 'Putting Health up the Workforce Agenda: Human factors issues in an ageing workforce', at *British Safety Council Annual Conference*, London, 15 October 2014

Buckle, P. (2014) 'The Design of Health and Social Care Technology for Ageing Population: The use of socio-technical systems approaches', at *MED-CHI Conference*, Bristol, 5 September 2014

Fusari, G., Tomos, H., Matthews, E., Rock, M., Arkle, S. & Wolfson, D. (2015) 'Cutting Edge: Understanding advanced surgical processes for total knee replacement through design research,' at *Design4Health 2015 Conference*, Sheffield, 15 July 2015

Lockton, D. (2015) 'Social Design and Behaviour Change' at *Social Design Elevation Day*, Hans Sauer Foundation, Munich, February 2015

Lockton, D. (2015) 'Understanding in Design for Behaviour Change' at *Green Sky Thinking*, Max Fordham, London, April 2015

Lockton, D. (2015) 'Using behavioural research in design for social benefit' at *Delivering Behaviour Change for Society*, UCL Centre for Behaviour Change, January 2015

Matthews, E., West J. & Fusari, G. (2015) 'Research and Design: How do we combine them to bring better solutions to the market?' at *BioTrinity 2015 Conference*, London, 12 May 2015

McGinley, C. (2015) 'Empathy: Understanding the messiness of everyday life.' at *Rising Minds*, Shoreditch House, London, 19 February 2015

McGinley, C. (2015) 'Designs For Life.' at *Long Term Care Revolution Live*, NatWest Headquarters, London, 13 May 2015

McGinley, C. (2015) 'Challenging Interventions: Empathy and people centred approaches'. at *International Society of Behavioral Nutrition and Physical Activity Satellite*, University of St Andrews, Fife, 7 June 2015

McGinley, C. (2014) 'Ethical Design: An inclusive research and design perspective', at *Royal College of Art*, London, 5 December 2014

McGinley, C. (2014) 'Design, Care and Home', at *Kyushu University*, Japan, 15 December 2014

McGinley, C. (2014) 'Designing for Real Life'. At *Visa Europe Design Jam*, at *Royal College of Art*, London, 6 February 2014

Myerson, J. (2015) 'Home Comforts: housing, neighbourhoods and an ageing society', at *Ageing in Place seminar*, University of Oxford

Myerson, J. (2015) 'Silver Economy or Silver Mirage? Key challenges for design thinkers', at *The Future of Design Thinking conference*, Paris Est D School, France

Myerson, J. (2015) 'In The Shade: lighting local urban communities', at *City After Dark conference*, Jerusalem

Myerson, J. (2014) 'Make it Better: How inclusive design can make an impact in healthcare', at *Medicine + Design Conference*, Rochester Institute of Technology, USA, November 2014

Myerson, J. (2014) 'Designing Tomorrow's Networked Workplaces', at *LIFT France Conference*, Marseilles, France, October 2014

Myerson, J. (2014) 'Stigma and the Ageing Society', at *Design for Hope Symposium*, Technical University of Delft, The Netherlands, September 2014

Privett, I. (2015) 'Life of Work', at Porto, Portugal, 4 June 2015

Privett, I. (2015) 'Work Interrupted', at *Clerkenwell Design Week*, 20 May 2015

Privett, I. (2015) 'Life of Work', at *Haworth*, London, 26 February 2015

Privett, I. (2015) 'Life of Work', at *Haworth*, Paris, 29 January 2015

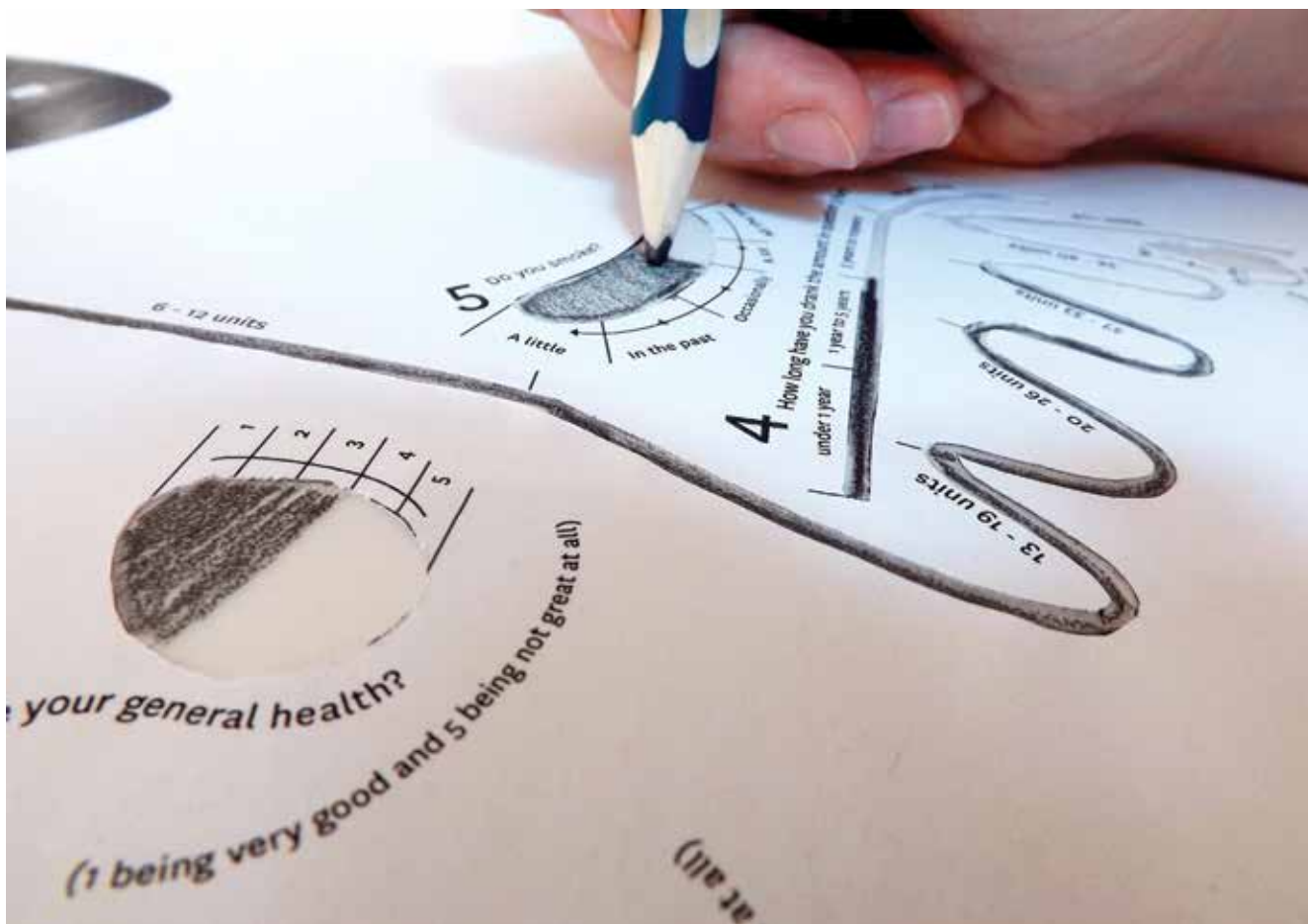
Privett, I. (2014) 'Life of Work', at *Orgatech*, Cologne, Germany. 23 October 2014

Ramster, G. (2015) 'Digital toilets: For your convenience' at *OpenTech*, London, 13 June 2015

Ramster, G. (2015) 'Building a National Toilet Map for the Public's Convenience', at *The Impacts of Civic Technology Conference*, London, 25 March 2015

Exhibitions

Bichard, J., Yurman, P. & Chatting, D. (2015) *Three Ritual Machines. HOME|SICK Exhibition*, Science Gallery, Dublin, 1 May-19 July 2015



Interactive prototype poster designed by research associate Lizzie Raby as part of the Drink Informed project

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