

Yearbook The Helen

2019 Hamlyn Centre
for Design

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The Helen Hamlyn Centre for Design (HHCD) has worked in Inclusive Design and Design Thinking over the last 28 years. We are the longest-running centre at the Royal College of Art (RCA) and our activities are underpinned by support from the Helen Hamlyn Trust.

We use design to address challenging social issues, and have worked with organisations to create impactful projects and develop new people-centred methods. We have created knowledge exchange through publications, events and executive education. We have built a worldwide reputation, working with business, industry, community and the third sector.

This Yearbook captures our activities in 2018/19. Our work is organised into four areas. There are two Research Spaces, which look at Age & Diversity and Healthcare. There are also two Impact Areas that focus on Inclusive Design for Social Impact and Inclusive Design for Business Impact. We hope that you enjoy the projects described in this publication.

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Message from Helen Hamlyn

It was 25 years ago that 'Inclusive Design' was defined by the co-founder of the Helen Hamlyn Centre for Design, Professor Emeritus Roger Coleman. Roger made the case for a more inclusive approach to design in 1994 in a paper delivered to the Applied Ergonomics conference held in Toronto. It was a seminal moment for the Centre, and for design in general. This was a call to action for creatives to use their talents to address challenging issues of our time in a way that was positive, empathetic and innovative. This shifted design away from ego-centric approaches to a more socially inclusive one which was always my intention for the Centre.

In the last 25 years, Inclusive Design has been adopted by governments, business, the third sector and communities across the globe. It has been written into policy and legislation, formed part of business frameworks and been taught as a subject in academia and in schools. It has gone from being a boutique practice to having international visibility and impact. This is the mission of the Centre, to use the power of Inclusive Design for social good, and to address some of the great challenges we face today.

I have always maintained that young designers should leave the studio and step into the lives of the people they are designing for and with. This year we have had researchers take up residence in communities in the city of Derry/Londonderry, work long shifts in hospitals and look at mental wellness from a first-hand perspective. We have conducted projects large and small, trained the next generation of graduates from the RCA on our Research Associates programmes, as well as delivering executive education for professional organisations and civil servants in the UK and in Asia. Teaching students has remained important and we reward the efforts of RCA students to address social needs through our award scheme.

The Centre has delivered projects internationally this year which further Inclusive Design and create momentum through the ideas contained in this publication. Each has the potential to make a positive difference, in their different ways, to people's lives.

Together, they represent an ability to use design to improve quality of life in a powerful and meaningful way, something that aligns deeply with the ambitions of my Trust. I want to thank everyone who has contributed to and developed these important projects. The Director, staff and collaborators at the Centre are playing a vital role with significant tangible outcomes both within and outside the RCA. We are all very pleased with the work they are doing and are committed to seeing it continue from strength to strength.

Helen Hamlyn, Helen Hamlyn Trust



Message from The Vice-Chancellor

As the largest and longest-running research centre at the Royal College of Art, The Helen Hamlyn Centre for Design leads the charge in conducting research and delivering ideas that positively impact on people's lives. The projects in this yearbook demonstrate the ongoing success of Inclusive Design in tackling our biggest global challenges, whether that's making healthcare fit for the future or addressing ageing by creating a society where everyone can enjoy their later life.

I am struck by how the Helen Hamlyn Centre addresses issues that I see making the headlines every day: the design of hospitals and medical equipment, the rise of 'superbugs' that are resistant to antibiotics, mental health and childhood obesity to name just a few. In tackling these, we have looked at stroke rehabilitation, visual impairment and neurodiversity, alongside modern day midwifery, triage processes, and psychosis.

The application of design for critical need is underpinned by a value shift from STEM to STEAM – integrating art and design into the traditional STEM disciplines of science, technology, engineering and mathematics – an approach which has been warmly recognised by partners such as the NHS, RNIB and the Wellcome Trust.

Our designers have worked with clinicians, engineers, technologists and scientists to bring ideas to fruition. Collaborative partners include the Helix (Healthcare Innovation Exchange) Centre, a collaboration between the RCA and Imperial College London that embeds design-led practice within clinical context of a working hospital. Links with other academic institutions include the universities of Oxford and York.

The Centre continues to build global networks, with a reach that spans from Brazil to Israel, and from Washington DC to Mozambique, proving the point that Inclusive Design is not just the preserve of the Northern hemisphere. It has worked with governments, training over 650 civil servants in Asia, and has a repertoire of projects from public and private organisations in sectors as diverse as energy, technology, transport, services and health.

Our researchers continue to develop methods and processes for Inclusive Design, and publish new knowledge and insights through academic books, papers and conference presentations.

I want to congratulate the Centre and its staff for a stellar performance this year; their work continues to burnish the research profile of the RCA and plays a significant part in the RCA being named number 1 university for art and design in the QS World University Rankings for the fifth year running. I would also like to acknowledge and thank the Centre's existing partners, and encourage anyone who may be inspired by our recent achievements to collaborate with us in the future. I hope you enjoy learning more about our work through this year book.

Dr Paul Thompson, Vice-Chancellor



Directors Overview 2018/9 Rama Gheerawo

Our publication this year has a theme of Impact, building on our primary aim to use Inclusive Design to positively impact people's lives through the delivery of 'real world' projects that address challenging social issues. This theme is reflected in the content and the design of this publication, from the front cover which represents the Centre's shockwaves of impact, to the articles included within.

Inclusive Design has always been about designing with an attitude – a social attitude, and this year sees the 25th anniversary since the idea was framed by Professor Emeritus Roger Coleman at the RCA. The concept was both timely and future-facing, and today, it has grown to become a global movement adopted by government, business and academic institutions. It amazes me to see how internationally accepted this idea has become. This year has seen it written into curricula in North American universities, underpin business strategy for major companies in Asia, and adopted into policy by numerous organisations.

At its heart, Inclusive Design is about empathic involvement of people in the creative process. In our work, we have looked to enhance co-creation and facilitate respectful, creative interaction, thereby ensuring that our project outputs and process are people-centred, and that our ideas provide benefit for all the recipients of a product, service or system.

We draw on a range of techniques within design ethnography, creating bespoke research methods appropriate to the people, context and topic of every project. Researchers have spent time with midwives and pregnant women, attended community events to talk to children about food health, and spent time exploring virtual worlds as well as real life.

The discipline of design, which Inclusive Design draws on, is also changing, becoming less about making people want things, and more about answering human need. Inclusive ideas have fast-become a part of mainstream design, and this year, we have engaged with a number of major design institutions in various ways such as sitting on advisory boards, collaborating on projects, attending events and taking part in strategic planning for the sector. These include organisations such as the Design Museum, the Design Council, D&AD, the RSA and the Design Management Institute to list a few. Our projects use design to create impact across sectors that include health, transport, energy, finance, technology and property development in the private sector. In the public sector we have worked with academia. museums, collections, foundations, trusts and charities.

A couple of examples of projects from this year with major impact achievements include a collaboration between with Oxford University called *gameChange* (pages 28–29). This is a flagship £4 million project funded by the National Institute for Health Research (NIHR) to develop and test Virtual Reality treatments for psychosis. Interventions which are now entering multi-site clinical trials across the UK.

Our Future Foyle (pages 46–47) is a three-year engagement which saw Centre researchers move to Derry/Londonderry to work with the community to transform health. This project is a pathfinder for the Centre, with a partnership board called *Our Future*



© Kalle Kataila, Aalto University



Running a Creative Leadership Masterclass at the RCA



Giving a media interview at Knowledge of Design Week in Hong Kong

Foyle established in 2019, where senior members of the Government will work with the community to deliver the ideas. This work signals a new type of impact project where we work on longer, larger projects with organisations to effect change at a strategic level. Previous projects also continue. SlowMo, a digital platform to assist the therapy for people with paranoid and suspicious thoughts, was developed with psychologists from King's College, London and is now undergoing 'first-of-its-kind' multi-site clinical testing en route to market.

My personal research area, *Creative Leadership* (pages 40–41) has progressed both globally and at home. Growing demand resulted in the first open masterclass hosted at the RCA in May, with a second edition coming up on 28–29 November. *Creative Leadership* theory and applications also found resonance with the Design Management Institute – a global network that connects 27,000 members across design to business, culture and customers – who released a special *dmi:Review* issue dedicated to the idea (Vol. 30, No. 2).

In our Yearbook publication, projects are organised across two Research Groups and two Impact Areas. Our two Research Groups focus on population ageing and healthcare, two critical global challenges. The Age & Diversity Research Group looks at how designers can shape a future that includes people across the age spectrum and other dimensions of diversity. The Healthcare Research Group investigates how designers can work with patients and medical professionals to meet healthcare challenges today. Our two Impact Areas apply the tools and methods of Inclusive Design in real-world contexts. Inclusive Design for Social Impact asks how we can work with individuals and communities addressing social issues in different

global contexts. Inclusive Design for Business Impact looks at how to directly engage business, with activities including knowledge exchange, large-scale collaborations, short courses and academic consultancy.

Finally, I would like to congratulate all my colleagues at the Centre for their dedication and energy in producing this work. My gratitude goes to the RCA for their support. Our network of partners and collaborators are essential in sharing in the vision and making these ideas reality. Finally, I want to acknowledge Lady Hamlyn and the Helen Hamlyn Trust, who give so generously of their time and support to enable all that we do. I hope that you find the work on the following pages both informative and inspiring.

Research Areas

Age & Diversity Research Area

Healthcare Research Area

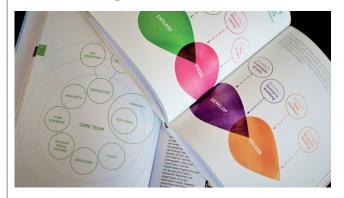
Impact Areas

Inclusive Design for Social Impact

Inclusive Design for Business Impact

Projects are organised across two Research Groups and Impact Areas

Making a Difference



Innovating with People

This year saw an update of the Innovating with People book first published in 2010. This second edition comprised a new section dedicated to architecture, outlining a four-stage Inclusive Design process developed with a panel of experts, as well as updated case studies including a ferry, hospital, an urban park and a bank. The Centre was invited to collaborate on editing and authoring this publication by editor-inchief, Onny Eikhaug, Leader of the Innovation for All programme at Design and Architecture Norway.



Lifetime Achievement

Director Rama Gheerawo won a 'Hall of Fame' award from Design Week, the UK's leading online design magazine on graphics, branding, interiors, digital, product design, furniture and more. The award recognises individuals within design who have made a significant contribution to the industry; who have provided inspiration and incisive thinking; or who have simply created consistently brilliant work. The award acknowledged Rama's contribution to Inclusive Design through his work at the Centre.



European Design for All

Dr Chris McGinley became the RCA representative for Design for All Acanet, an academic network set up by the university member organisations of EIDD Design for All Europe. Its mission is to encourage reciprocal knowledge and partnership between its members, so as to identify opportunities for research in partnership. The network's aim is to promote a culture of innovation and of competitiveness through Inclusive Design by extending it into the educational structures of Europe's universities.



25-year Anniversary

In 1994, Prof Emeritus Roger Coleman, co-founding Director of the Centre, defined the term 'Inclusive Design' in a seminal paper to the Applied Ergonomics conference held in Toronto. Since then, the idea has become a global movement, with governments, business and the third sector adopting and implementing the idea. The Centre has played a seminal role in incubating, growing and delivering the idea, with over 300 Inclusive Design projects delivered to date with around 200 partners.



Awards Judging

Members of staff at the Centre have been involved in the coordination and judging of two major healthcare design awards. Research Fellows Dr Chris McGinley and Jonathan West judged entries to the AXA PPP Healthtech & You and European Healthcare Design Awards. This has helped to ensure that the profile of good Inclusive Design projects and ideas in healthcare continue to rise, and that great innovation is recognised in order to help benefit patients and staff. Judging awards remains an important activity for Centre staff.



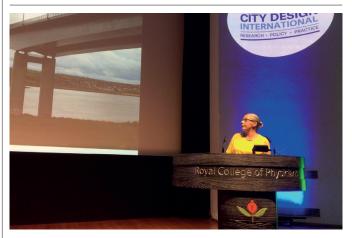
Workshops

Jonathan West, leader of the Healthcare Research Space, conducted a workshop with healthcare professionals and designers at the British Standards Institution headquarters in April. This explored how to improve healthcare, leading to a paper and a redesign of a medical device. Dr Chris McGinley, with the Design Council, the Institution of Engineering and Technology, and the UK-based charity Versus Arthritis, delivered a workshop for Government departments on the topic of designing for low dexterity.



Boards

Centre staff hold a number of board, chair or advisory positions at a range of organisations, signifying a high level of recognition from theirs peers across design, business and academia. Some include the Helen Hamlyn Centre for Pedagogy at University College London, Hereford College of Arts, Korean Advanced Institute for Science and Technology, the Ambulance Innovation Hub, British Standards Institution, Hong Kong Polytechnic University, the Design Museum, London Design Biennale, D&AD and the International Association of Universal Design.



New Professor

Prof Jo-Anne Bichard, the Senior Research Fellow who leads the Centre's PhD programme, was made Professor of Accessible Design by the RCA in July 2019. This recognises her long track-record working in Inclusive Design and wellbeing in the built environment, successful leadership of a number of major projects and a strong publication record demonstrating significant contribution to the field. Jo-Anne is a design anthropologist whose research involves multi / inter-disciplinary collaboration.

Conferences

Healthy City Design

We continued to partner SALUS Global Knowledge Exchange to develop the pioneering Healthy City Design International Congress, which held its second annual event at the Royal College of Physicians in London on 15 and 16 October 2018.

The Centre's Professor of Design Jeremy Myerson is the academic convenor and chair of the Congress. The 2018 Congress attracted more than 300 delegates from 20 different countries across the two days, spanning the fields of design, health, wellness and sustainable development. More than 50 peer-reviewed academic papers from all over the world (including Canada, Israel, Italy, USA, Australia and the Netherlands) were presented.

Industry participation was strong, including Philips, Siemens, Mott MacDonald, Herman Miller and WSP. Arup, BDP, HOK, SOM and Perkins + Will were among the global architectural practices taking part. Leading UK organisations presenting at the Congress included the Wellcome Trust, NHS England, the think tank The King's Fund and pollsters Ipsos MORI. The purpose of the Congress is to encourage closer working between public health professionals, academics, designers and urban planners to create healthier cities – thus supporting the Centre's broad objective to advance design that improves the quality of urban life.



European Healthcare Design Conference

The Healthcare Research Space made a number of contributions, in collaboration with the engineering firm WSP, to the European Healthcare Design 2019 conference at the Royal College of Physicians in London. This included a panel on the Future of Healthcare which included practitioners, industry representatives and academics from around the world, comparing real-world examples of differences in health and healthcare between the most culturally significant global cities.



© SALUS Global Knowledge Exchange

IAUD

The 7th International conference on Universal Design, organised by the International Association for Universal Design (IAUD) was held in Bangkok in 2019 at the King Mongkut's Institute of Technology in Ladkrabang. This was the first time that it took place outside of Japan. Centre staff attended, delivering papers on Inclusive Design, holding workshops and chairing sessions on the subject. IAUD member companies include a wide variety of major international companies including Toyota, Fujitsu and Panasonic.



Exhibitions

AcrossRCA

In November 2018, we ran *Recipes for Stockwell*, a one-week design challenge with 18 students from across the RCA's programmes. Working within the live research project: *Our Stockwell*, tackling childhood obesity through Inclusive Design, each team focused on a theme identified by the community: boredom, safety, cultural differences and community hub. After interviewing residents and community group leaders, the students developed concepts and prototyped these in Stockwell, culminating in an exhibition at The Stockwell Centre, attended by local people.





Designs for Real Life, StudioRCA

The Designs for Real Life exhibition took place between July and August 2018. It showcased a selection of the Centre's programmes, and the winning student design projects from the Helen Hamlyn Design Awards.

StudioRCA is an exhibition space located on the Riverlight development in the South Bank district of London. The RCA has curated the space for several years and co-programmed with Wandsworth Council since autumn 2018, focusing on engaging the local community with art and design.



Student Jihee Moon exhibited her project Air-it-yourself



Students Isabelle Ohlson and Bianca Benvenut exhibited their project Good Talk

Global Reach

WORKTECH conference

Toronto, Canada

SP research project

Washington DC, USA

NCCPE Engage conference, Workshop

Edinburgh, United Kingdom

Book launch and research

Oslo, Norway

WORKTECH conference

Copenhagen, Denmark

Speech EU Active Ageing Forum

Bilbao, Spain

Presentation at IE University

Madrid, Spain

Keynote at Interaction Latin America

Rio de Janeiro, Brazil

Keynote at Cité du Design

Saint-Étienne, France

Keynote at AGRAFA conference

Katowice, Poland

Advisory panel

Lausanne, Switzerland

Design Thinking Camp

Sofia, Bulgaria



Visiting PhD Candidate: Junik Balistia Florence, Italy Keynote at Access Israel conference Tel Aviv, Israel WSP research project Johannesburg, South Africa Catalyst research project Maputo, Mozambique Workshop at National Institute of Technology Delhi, India Conference Bangkok, Thailand Knowledge of Design Week Hong Kong, China Workshops for the Civil Service Bureau Hong Kong, China Keynote at Senior Citizen Lab Taipei, Taiwan

Executive Education

Panasonic

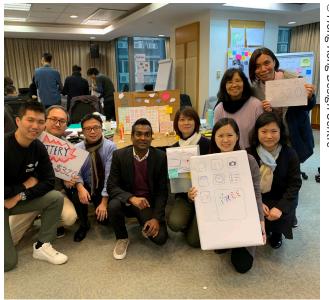
We were delighted to continue our ongoing relationship with Panasonic through two separate four-day executive education sessions. These bespoke workshops explored topics such as new technology and energy, framed by inclusive people-centred approaches developed at the Centre. The training component delivered extensive interactive sessions on the topics of Creative Leadership and Design Thinking. These sessions not only provided training for over 30 staff members of Panasonic on cutting edge methodologies and global trends, but also generated inclusive strategies that were then used to explore and generate future visions and concepts around selected themes of interest to Panasonic. The training and design outputs from these sessions are being further developed by attendees back in Japan.



Hong Kong

We ran three workshops in Design Thinking and Creative Leadership for future leaders in the Hong Kong Civil Service Bureau. Organised and led by the Hong Kong Design Centre (HKDC), these workshops built on content delivered in previous years' workshops. Led by Rama Gheerawo and Dr Edmund Lee from Hong Kong, over 640 civil servants have been trained to date. The workshop covered training in Inclusive Design, Creative Leadership and Design Thinking. Participants looked at public sector innovation and aimed to create empathic approaches to citizen-centred design.

The workshops build on a long-standing relationship with Hong Kong spanning over a decade. Hong Kong has a strong design focus, and the partnership with the HKDC has been central to supporting the Centre's efforts in the field. We continue to develop methods, tools and frameworks for delivery and deployment in the region with Dr Lee and his team.



Hong Kong Design Centre

Creative Leadership

We ran our first open course in Creative Leadership at the RCA in May 2019. This was attended by a range of people drawn from the media, design, architecture, management, business and start-ups. Participants took part in two half-days of experiential learning, improving their personal leadership and creative skills before looking at how they could apply this to transform their working practice, team performance and institutional vision. Director Rama Gheerawo and Post-doctoral Research Fellow Dr Ninela Ivanova lead the course.





Newton Business School

For the third consecutive year, we conducted a Creative Leadership and Inclusive Design workshop at the RCA Kensington campus for 30 participants from the Newton Business School, which is based in Shenzhen. Attendees were drawn from across the globe, mainly from the fashion and retail industry. This workshop was led by Director Rama Gheerawo and Dr Chris McGinley with RCA Fashion graduates giving guest lectures. The workshop focused on a creative approach to people-centred business.



European Broadcasting Union

We continued our executive education collaboration with the European Broadcasting Union (EBU), the world's leading alliance of public service media organisations, with 73 members in 56 countries in Europe. Two-day workshops led by our Chair of Design Prof Jeremy Myerson in autumn 2018 and spring 2019 focused on what customer-centred design techniques could bring to established public service broadcasters that are facing multi-platform digital disruption.



IE Summer School

We continued our collaboration with Madrid's IE University, teaching the process of design ethnography on a Summer School in July 2018 as part of its strategic workspace design Master's. Fifteen international students and professionals undertook a variety of learning. This included a field visit to London's 22 Bishopsgate building and the offices of architects Perkins+Will and Rider Levett Bucknell, plus research with the Centre staff ahead of a planned move to the RCA's new Battersea development in 2021.



Design Thinking

We continued to develop an open course on the principles and practices of Design Thinking with the Design Museum. Its latest two-day masterclass was held on 14–15 March 2019, as part of the RCA's External Education programme for business and industry. Led by Prof Jeremy Myerson, this programme focused on ways to unlock innovation by taking an empathic, people-centric approach, including engaging with the Museum's permanent collection, *Designer Maker User*.

What Happened Next...

Research Associate Alumni

Around 200 designers, architects, engineers and researchers have been through the centre's Research Associate Programme.

All have spent between one and five years learning about inclusive design, practically applying it to real projects with clients, organisations and partners. This spread gives a snapshot of eight individuals, Clara and Adrian Westaway, Ross Atkin, Dan Lockton, Anab Jain, Tomek Rygalik, Matthew Dearlove and Mark Champkins, all whom have gone on to spread the Inclusive Design message in their work.

Clara and Adrian Westaway



After leaving the Centre we continued to collaborate with Samsung and BlackBerry. We now run a design and invention studio called Special Projects. Our mission is to enhance the unquantifiable aspects of life: empathy, wellbeing, delight,

with meaningful design and invention. Our work blurs the boundaries between industrial, service and interaction design to create products and environments that add meaning to people's lives. We also teach in Oxford, London and Copenhagen.

The Centre gave us generous recognition, guidance on research and design methodologies, and access to extraordinary clients.

Ross Atkin



I set up a consultancy working on accessibility, assistive technology and smart city projects. I created apps for controlling multi-sensory rooms and making urban infrastructure respond to the needs of different disabled individuals. Sight Line, a system I developed

at the Centre to navigate roadworks, went into production. I appeared in primetime BBC2 TV programme The Big Life Fix alongside fellow Centre alumus Yusuf Muhammed. I have run two successful Kickstarter campaigns.

The Centre showed how the social model of disability can solve tangible problems for real people, a thread that has continued to run through my work ever since.

Dan Lockton



After my time at the Centre and tutoring RCA PhD students, I moved to the US to the Carnegie Mellon School of Design in Pennsylvania, where I am an Assistant Professor. A very different atmosphere to the RCA! I established the Imaginaries Lab,

a research-through-design studio that explores 'new ways to think and new ways to live'. This explores how people understand and experience things that are hard to put into words, from mental health to sleep quality to future climate pathways.

The Centre helped me do research through designing, gain confidence and humility in putting things out there, and showed how to be part of an excellent creative team.

Anab Jain



After my time at the Centre, I explored artificially intelligent domestic companions at Microsoft Research, followed by a year at Nokia as a Senior Designer in future services. In 2009, I co-founded Superflux, an experimental design studio

with Jon Ardern, to parse uncertainties around our shared futures. From climate change and growing inequality, to the emergence of Al and the future of work, our studio explores some big challenges of our times – and investigates the unintended consequences.

The Centre helped me transition from student to designer, nurturing my exploratory research thinking for a live client project within the safe environment of the studio.

Tomek Rygalik



I founded Studio Rygalik in 2006, teaching at the Academy of Fine Arts in Warsaw. I design for companies including Moroso, Cappellini, Ideal Standard, Siemens, Heineken and Ikea. Since 2010 I have been Creative Director for leading Polish brands.

I work with cultural institutions including the Polish National Opera and the National Museum. I was the architect of the Polish Presidency of the EU Council. In 2015 I created the TRE Product brand, and SOBOLE, a creative campus in 2016.

The Centre strengthened my in-depth understanding of the role and potential impact of research in striving for the highest design quality.

Matthew Dearlove



In 2005, I was awarded a grant by NESTA to develop my work from the Centre engaging with developers, communities and young people in urban projects. I then became Creative Director at the Beyond Green Group, and am currently Head

of Design at the Greenwich Peninsula, overseeing projects as part of a 15,000-home regeneration scheme. Work includes *The Tide*, London's first riverside and elevated cultural park, and the Design District, creative industry space opening in 2020.

The Centre provided a platform to transition from an academic world into a corporate one, but with the safety net of the RCA to help guide you through the relationship.

Mark Champkins



Building on the findings of my research project to investigate how good design could improve standards of education in UK schools, I formed a business called Concentrate to create products that help kids focus in lessons. I pitched the business on BBC

Dragons' Den and received the backing of entrepreneur Peter Jones. It was the start of a fulfilling career that has also included working as Inventor in Residence at the Science Museum, designing for KANO Computing and finally to a role as a Creative Director at LEGO.

My year working at the Helen Hamlyn Centre for Design shaped my career.

Age & Diversity

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- 55 PhD: Wearing Your Recovery: Stroke Rehabilitation

The Age & Diversity Research Space continued in its mission to use design and empathy to improve lives, considering the broadest dimensions of age and diversity. The challenge to create a society where everyone can enjoy their later life has never been so pronounced.

Dr Chris McGinley Research Fellow

This year we are engaging in new conversations around ageing and diversity at ground level with students in schools, through to invitations to talk with the Minister of State at the Department of Health and Social Care. We wrapped up an 18-month partnership with the RNIB to engage the public and demystify the experiences of people with vision loss. In our work with them, we explored the younger end of the age spectrum within primary school settings, creating lesson plans and volunteer engagement packs with the aim of helping children understand sensory diversity and to take that understanding home and beyond. With the Wellcome Hub we have developed a collection of experienceenhancing objects, strategies, maps and training packs to allow the visitor experience team to better engage with neurodiverse visitors and for people with non-neurotypical experiences to have better control over their visit to Wellcome Collection. With creative arts company and charity Heart n Soul at The Hub, we are part of a multi-disciplinary two-year project that is reversing the microscope typically on people with autism and/or learning disabilities, so that they are in control of the questions we ask in our research. We want to challenge society's attitudes towards people with learning disabilities and autistic people, and explore the value of difference.

Currently the number of people aged 75 and over in the UK today is one in 12. By 2040, it will rise to one in seven. Alongside this we are living longer, with a third of children born today expected to live to 100.

United Kingdom Research and Innovation (UKRI)

Design and the Mind

Research Associate Natasha Trotman Research Fellow Dr Chris McGinley Research Partner The Wellcome Trust

Design and the Mind is a two-year project focusing on creation and engagement with neurodiverse groups and neurodivergent, non-typical individuals within Wellcome Collection's museum, library and research spaces. Neurodiversity is an inclusive term used to describe a collection of different neurotypes/brains. which includes people with dyspraxia, dyslexia, attention deficit hyperactivity disorder (ADHD) and autism, among many others. Based at The Hub, a transdisciplinary research centre in London's Wellcome Collection that offers collaborative research residencies aiming to challenge how we think and feel about health, Design and the Mind is an international project. It involved a publication in Dublin and case studies, interviews and prototype testing carried out in Cambridge, Oxford, Southampton, Manchester, Devon and Cornwall, as well as London.



Our Brains and Us, was a co-curated five day programme as part of Design and the Mind © The Wellcome Trust

Natasha Trotman is working alongside Wellcome to improve its approach to inclusivity by addressing issues surrounding cognitive, physical and digital access to Wellcome and its resources for a variety of users (visitors, residents and employees). She is looking at the ways in which Wellcome engages and co-creates with neurodiverse audiences, with a focus on collaboration, research and public engagement. To map out the insights into key users of the space, Natasha has used a number of engagement methods. These include co-creation workshops with two research groups based at The Hub: Created Out of Mind, a group that focused on the dementias, and Heart n Soul, a group of people with and without learning disabilities and autistic people who are exploring human value. In addition, a five-day neurodivergent-focused event titled Our Brains and Us was held in partnership with the London-based charity Institute of Imagination, during which over 700 visitors and staff were able to take part in interactive sensorial games.

For Natasha, a key component to the project has been the involvement of a core group of participants that she calls the 'Citizens Researchers'. They are explorers of the Wellcome Collection and experts, thanks to their own experiences. Throughout the project, the Citizen Researchers' contributions have informed the iterations and offerings of solutions to the issue of accessibility and inclusivity. Placing a target group at the core of the project has provided a space, platform and empowerment for the neurodiverse, highlighting that different voices, thoughts, feelings and needs matter. Distilling these findings into themes, Natasha has identified design interventions that are informed by ideas of autonomy, engagement and inclusion. Design and the Mind held a session titled Embracing Difference, a public event which provided a platform for the Citizen Researchers to share their unique perspectives on the project with the general public

'It's nice to see people are beginning to realise that "inclusive" doesn't mean squeezing myself (and people like me) into a box to fit mainstream comfort levels but something inclusive that works for lots of different comfort levels, something that works for everyone.'

Research Participant

and discuss how these learnings might be embedded into the culture of Wellcome Collection. Natasha hopes to create practical designs that assist visitors' overall experience at the institution through an initiative called Heads Up. This will improve pre and post-Wellcome Collection experiences through interventions such as remote introductions, toolkits and neurodivergent-focused signposting. *Design and the Mind* will promote and encourage organisational change through physical tools, training and guidance, and by fostering new networks of visitor audiences who feel engaged and empowered to contribute to the neurodiverse experience.

Attention deficit hyperactivity disorder (ADHD) affects approximately 3–9% of school-aged children and young people, with around 1% being affected severely.

ADHD Foundation



Our Brains and Us, was a co-curated five day programme as part of Design and the Mind © The Wellcome Trust

Approximately 1% of the population has an autism spectrum condition.

Mental Health Foundation



Design and the Mind workshop outputs

How We See

Research Associate Luka Kille-Speckter Research Fellow Dr Chris McGinley Research Partner Royal National Institute of Blind People

Every day 250 people begin to lose their sight. One in five people will live with sight loss in their lifetime. The Royal National Institute of Blind People (RNIB) recognises everyone's unique experience of sight loss and offers help and support for blind and partially sighted people – this can be anything from practical and emotional support, campaigning for change, reading services and the products offered in their online shop.

RNIB is a catalyst for change – inspiring people with sight loss to transform their own personal experience, their community and, ultimately, society as a whole. The organisational focus is on giving them the help, support and tools they need to realise their aspirations. RNIB has a crucial role to play in creating a world where there are no barriers to people with sight loss. They want society, communities and individuals to see sight loss differently.

In 2016, RNIB launched the *How I See* campaign to raise public awareness about the spectrum of sight and reorientate society's attitudes towards sight loss. As an extension to *How I See*, RNIB commissioned the Centre to research ways that help increase public understanding by changing attitudes through the experiences of blind and partially sighted people.

Lack of awareness and thus social behaviour is creating real barriers for people with visual impairments in the everyday life.

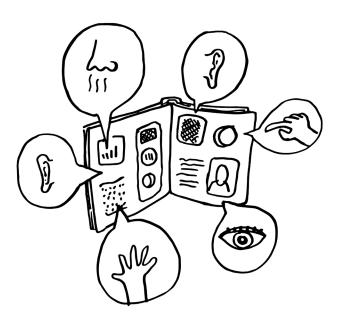


A workshop gathering insights into the general public's attitudes towards sight loss

Luka Kille-Speckter is the design researcher on the project How We See, and through her own experience, aims to change the perception and stigma attached to people with sight loss. She has said, 'Having an invisible disability can affect a person's everyday life and often has broader social, emotional and psychological impacts on that individual.' Luka conducted qualitative research through interviews with blind and partially sighted people about common misconceptions and issues of identity and representation, as well as public engagement workshops at the National Gallery Late. Luka identified four major stigmas linked to daily activities and tasks that blind or partially sighted people engage with: going to galleries, the theatre or cinema, where cultural content is not always fully accessible; their ability to do everyday things like travel/commute; situations where their intelligence and ability to work is questioned; and stigma attached to the use of physical aids (including guide dogs and canes). A key challenge that emerged from her research was the issue of empathy, and how people could be encouraged to empathise with those who are partially sighted.

To address this, Luka felt it was important to explore ways that might help the younger generation to understand sensory diversity – a term used to describe the spectrum of sight, sound, taste, touch and smell that everyone experiences differently – to start raising awareness around sight loss in a relatable way. Luka spoke to stakeholders from headteachers to students, and organised workshops with 76 Key Stage 2 children (aged between seven and 11) and their teachers. She began developing a resource to teach school children about sensory diversity and provide teachers with materials which highlight the message of sensory diversity that can be incorporated into the current syllabus on English, maths, science and personal social health and economic education (PSHE). Luka has also developed a 'volunteer pack' that will allow a blind or partially sighted volunteer to visit a school and facilitate a session on sight loss, addressing misconceptions and stereotypes and tackling confusing language.

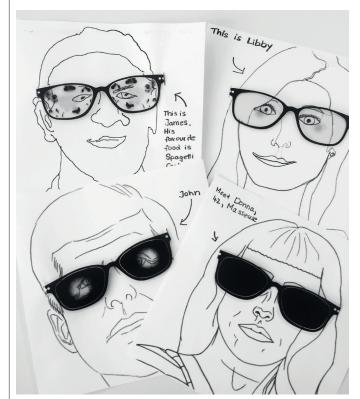
Changing attitudes and perceptions is a longterm process, but by creating the tools to drive the conversations around partial sightedness, Luka hopes that this can start with primary school children and teachers to further understanding of diversity of sight, the spectrum of vision and how people adjust their senses in everyday life.



'Sensory storytelling' encouraging children to actively pay attention to their full sensory perception

'I think if they understood more...then people would step in and be more patient.'

Harriet Lane



Workshop props to test empathetic modelling tools and how they might or might not communicate the experience of sight loss

97% of people registered blind have remaining vision.

RNIB

Heart n Soul at The Hub: The Value of Difference

Research Associate
Dr Will Renel
Research Fellow
Dr Chris McGinley
Research Partner
The Wellcome Trust,
Heart n Soul at the Hub

Since launching in 1986, creative arts company and charity Heart n Soul has been dedicated to providing opportunities for people with learning disabilities to develop their artistic talents and skills. With an estimated 1.4 million people with learning disabilities in the UK, many of whom reportedly experience prejudice, ignorance and loneliness, Heart n Soul seeks to create a more open, creative and equal world for everyone by challenging public perceptions and changing attitudes in society. The charity is the third team of residents at Wellcome Collection's transdisciplinary research space The Hub, where for two years they will bring together a core group of artists, scientists, researchers and clinicians, with and without lived experience of learning disabilities and autism, to explore themes of human value, productivity, normality and the value of difference.



Heart n Soul at The Hub – radio launch event, the Wellcome Trust © Heart n Soul

The residency at The Hub, which is funded by the Wellcome Trust, is led by a core group of 10 disabled and non-disabled people with a range of specialisms including performance, visual art, cognitive science, creative computing, psychology, writing and design. By putting the value of difference at the core of its enquiry, the group will explore whether and how mutual wellbeing improves when people with and without learning disabilities spend time together.

Since the residency began in October 2018, Will Renel has delivered an access audit using Inclusive Design methods, such as workshops, to position the needs of people with learning disabilities at the heart of Wellcome Collection's 5th floor. He has also facilitated a project about alternative futures, whereby people with learning disabilities and autistic people have redesigned elements of their lives. The redesigns went on to be displayed as a temporary installation.

At Heart n Soul at The Hub, Will has adopted a diverse range of methodologies, the approaches of which are creative, iterative and rooted in co-design, with outputs that are accessible and meaningful to the widest audience. His approach reflects the Centre's core values in which inclusive and people-centred research and design is fully embedded into every aspect of the project. Using design tools such as co-design and design ethnography and drawing on other specialised skills and approaches from members of the team such as machine learning, thematic analysis, survey-based methodologies and game theory, Will has undertaken this using the guiding principles of collaboration, co-creation and accessibility.

Heart n Soul has hosted a range of public events to collect research and data, as well as built an accessible online survey platform for people with learning disabilities and/or autistic people to create public surveys to explore public attitudes.

Females with learning disabilities have around an 18-year shorter life expectancy than the general population, and males have around a 14-year shorter life expectancy than the general population.

NHS Digital

By the end of the project, Heart n Soul aims to develop a wide range of creative and accessible outputs and research papers, helping to empower people with learning disabilities to actively lead and do research on their own terms and put social issues and attitudes 'under the microscope', and to build an evidence base that can be used to influence wider policy and practice, particularly in medical, health and social care settings.

There are 1.5 million people with learning disabilities in the UK. 51% of which report feeling lonely.

Scope



Participants relaxing at the launch party of Heart n Soul at the Hub © The Wellcome Trust



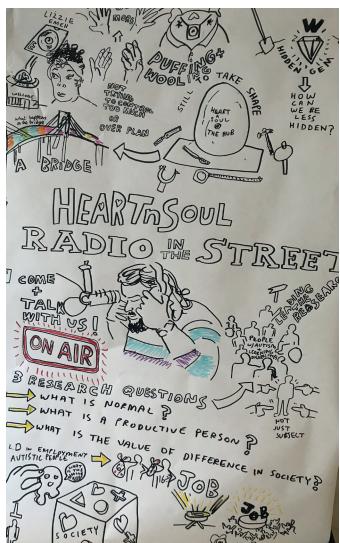
Broadcasting live on Heart n Soul Radio from the Wellcome Trust © The Wellcome Trust

'Why aren't we all more connected?'

Pino, core team member

People with learning disabilities are three times more likely to die from causes that could have been prevented by high-quality healthcare.

Hesop et al, 2014



Live visualisation from Heart n Soul at The Hub radio launch event © Heart n Soul

Healthcare

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Making healthcare fit for the future is among the ten biggest global challenges we face. The driving aim of our work in this space is to humanise healthcare by involving patients, service users and clinical staff in the design process.

Jonathan West Research Fellow

We produce design interventions for real world impact, and we continually reflect upon and refine our methodologies. Each project is different, and draws on unique sets of collaborating partners, researchers, data sets and contexts.

Two projects focus on antimicrobial resistance, a pressing global challenge. The PASS project (Preserving Antibiotics through Safe Stewardship) with University College London (UCL) is now entering its final year, and design work has just begun. A project with York University resulted in engaging physical and digital designs to disseminate research into architecture forms surrounding cross infection. Two projects focus on maternal health. A collaboration with Philips Experience Design led to design recommendations to improve community midwifery care. An ongoing project in Mozambique involves the co-design of services to improve mental health among young and adolescent mothers. A flagship project, gameChange, with Oxford University, resulted in a virtual reality (VR) treatment for people with psychosis, now entering multi-site clinical trials. In another first, the Centre completed a data-focused project with WSP, generating an index focusing on global cities and their ability to respond to future healthcare challenges.

This great mix of projects has allowed us to further enhance our methods and break into new territories. We look forward to extending our knowledge and impact in the coming year.

Each project is different, and draws on unique sets of collaborating partners, researchers, data sets and contexts.

Call the Midwife

Research Associate Anisha Kanabar Research Fellow Jonathan West Research Partner Philips Experience Design

When, in 2016, the NHS published the set of guidelines Better Births, it identified four key principles that would provide better maternity care with a target of their implementation by 2020. These principles are: a midwife and/or obstetrician who would care for a woman throughout the antenatal, intrapartum and postnatal periods; a named midwife who could take responsibility for coordinating a woman's care throughout those three stages; the development of a trusting relationship between a new mother and her midwife; and to implement these in both hospital and community settings.

The standards outlined here fall under 'continuity of care' as a guiding principle that would help new parents feel supported and safe, both during pregnancy and post-birth. With the structured support of a midwifery team that can provide continuity of care beyond the six-week postnatal check, research has shown that new mothers benefit physically, socially and psychologically. For example, it is suggested that there would be a lower probability of new mothers needing obstetric intervention (cases in which doctors would need to intervene), and, while the current statistics show that a quarter of new mothers suffer from pregnancy related mental health issues, the risk and impact of these are reduced when continuity of care is in place.

25% of pregnant women suffer from mental health issues.



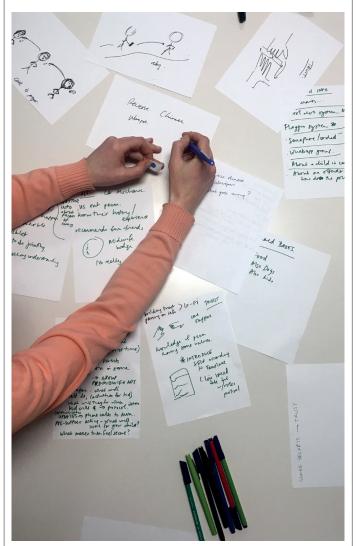
The Centre has partnered with Philips Experience Design, part of a global technology company that develops innovative solutions to healthcare issues, to identify areas within the existing NHS model where continuity of care can be improved. Call the Midwife, which began in September last year, is a research project that looks towards the future of midwifery with a focus on antenatal care. Anisha Kanabar, who did the project at the Centre, has created a network of key stakeholders (mothers, midwives, partners, obstetricians, nurses, psychologists etc.) in order to understand how to improve modes of communication between mothersto-be and midwives. While many NHS trusts currently provide a structure of continuity, there are nevertheless gaps in the support system, due to the way the trusts are currently managed and resourced. Achieving full continuity across the NHS will be a long process, but Anisha has been working alongside midwives, mothers and other healthcare professionals to research and develop ways of creating a bridge between the existing system and an ideal system for the future.

Placing the mother and baby at the heart of the design and research process, Anisha has taken a peoplecentred approach, asking the following questions: 'What do parents and their babies need from 21st century midwifery?', 'What can be done to enable midwives to carry out continuity of care?', and 'How can these questions be resolved within an ideal NHS maternity care system?' Carrying out primary research methods through co-creation and ideation workshops, Anisha has identified two areas that can help Philips to develop strategies for improving the experience of both parents and healthcare professionals: education (on the current maternity system, and its future potential) and communication methods (between the key stakeholders, i.e. parents and midwives).

Throughout the research project, Anisha has been careful to emphasise the use of 'future-casting'. This would help the NHS's maternity care service implement the principles of Better Births via a set of design solutions that are not only relevant today, but that can also be carried into the future.

The number of births per year is up 3% and will reach 691,038 by the year 2020.

NHS



Ideation session with designers at the Centre

'Everyone talks about the perfect birth. I always felt like a failure!'

Research participant, mother



Flyers to recruit research participants

gameChange

Research Associates Indira Knight, Paul Eliasz Research Fellow Jonathan West

Research Partners

Oxford University, National Institute for Health Research, National Institute of Health Research

'Psychosis' is a medical term used to describe a series of symptoms including visual and aural hallucinations, delusions and altered cognitive experiences, and is often accompanied by high levels of anxiety and social withdrawal. There is no one cause for these symptoms. Researchers believe that biological, psychological and environmental factors can all play a part in the onset of psychosis, including, but not limited, to brain chemicals, traumatic experiences, complications at birth, stress, drugs and social exclusion. In 2016, Public Health England published a report recommending that people with psychosis would benefit from a combined care package of medication and psychological therapies, as well as encouragement of physical exercise. However, the report focused on early intervention in psychosis (EIP) - a referral to a team that typically consists of healthcare professionals such as psychiatrists, social workers and psychiatric nurses – which is offered to people who have just experienced their first psychotic episode, and which is often only given to people under the age of 35.

About one in every 100 people will experience a psychotic episode in their lifetime.





Testing an early stage prototype of the 'café' scenario



Detailed render of the 'GP waiting room' scenario

Researching ways that mental health care specialists might extend continuous care to people who live with psychosis, Indira Knight and Paul Eliasz at the Centre are working in partnership with psychologists at Oxford University on a National Institute for Health Research-funded virtual reality (VR) therapy project titled gameChange. The project, which focuses on therapy that directly addresses issues related to social withdrawal, makes use of VR as a tool to help people with psychosis feel more confident in everyday situations. Building upon VR prototypes developed by the team in Oxford, Indira and Paul have contributed to the design of gameChange. This project allows a person to practise VR simulations of everyday scenarios at their own pace. Following design workshops in Bristol, Manchester, Newcastle and Nottingham, including weekly sessions in London, Indira and Paul were able to develop the simulations according to research

on which VR scenarios might be used most effectively as therapy and how the therapy could progress. Through six scenarios – a café, a shop, a pub, a street, a doctors' surgery and a bus – the therapy is provided in 30-minute sessions by a virtual coach, with the aim of developing a person's confidence so that it can be transferred into real life. The project will be trialled with 432 people across five NHS trusts in England, to find out whether VR therapy works – a process during which half the participants will be offered the therapy and half will not. If the results are successful, Indira and Paul hope that the greatest number of people living with psychosis will have access to this therapy across the NHS.

The environments and scenarios proposed by this VR therapy service have the potential to improve the quality of life and build the confidence of someone with psychosis by reducing anxiety, fears and paranoia through encouraging engagement with everyday activities.



VR demonstration at the Centre

'In the end, I think that it's all about having a genuine collaboration – from the getgo -in which real changes are made based on the input of people with lived experience. I'm delighted to say that this is exactly what happened.'

Thomas Kabir, Head of Public Involvement, The McPin Foundation Levels of psychotic disorders are nine times higher in people in the lowest fifth (quintile) of household income compared to the highest.

gov.uk

Pathways, Practices and Architectures

Research Associate
Hamza Oza
Research Fellow
Jonathan West
Research Partner
University of York
Funder
The Wellcome Trust

Researchers at the University of York are currently exploring the relationship between day-to-day practices of preventing cross-infection in cystic fibrosis (CF) clinics, and the design of the built environment. CF is a genetic condition that affects the lungs and other organs. People with CF are highly vulnerable to bacteria which can grow in their lungs, and cross-infection in clinics presents a serious risk because these bacteria can easily be transmitted between people with CF, making social contact a source of acute concern. CF is just one of the many life-threatening respiratory conditions requiring long-term antibiotic treatment in order to extend life-expectancy and improve quality of life. While antibiotic treatment may help to control and suppress persistent infection, it doesn't always eliminate them, which gives rise to antimicrobial resistance (AMR). Practices of segregation and infection prevention vary across clinics, as do the buildings people work and are treated in.

Hamza Oza is working collaboratively with those researchers at the University of York on the project titled *Pathways, Practices and Architectures (PARC). PARC* is jointly funded by the Arts & Humanities Research Council and the Wellcome Trust, and aims to create dialogue around current design and practice, and explore potential for change by drawing on inspiration from past, present and future examples. Hamza is assisting the York team in translating and transforming their research for knowledge exchange and information dissemination to CF stakeholders, including people with CF, medical professionals and the healthcare industry.

Cystic fibrosis is caused by a defective gene. As a result, the internal organs, especially the lungs and digestive system, become clogged with thick sticky mucus resulting in chronic infections and inflammation in the lungs and difficulty digesting food.

Cystic Fibrosis Trust



Demonstration of an early stage physical prototype to The Wellcome Trust



Gathering feedback at an exhibition



Illustration from grounded research © lynnechapman.net

The *PARC* project has been carried out in close collaboration with three partner CF clinics, highlighting the different material and design approaches taken to preventing AMR. In comparing the way those three CF clinics attempt to control AMR and cross-infection through the design, practices and architectural layout of their built environments, *PARC* hopes to recommend ways of limiting AMR in wider healthcare settings.

The project will culminate in the interactive exhibition Healthcare architecture in the pre-antibiotic, antibiotic, and post-antibiotic eras, which will tour key stakeholder events to raise awareness about the connections between building design and infection by creating a space for dialogue between designers, architects, clinicians, patients and healthcare managers. The exhibition will be both physical and virtual, aiming to collect views and experiences from stakeholders involved in delivering CF care. Using innovative inclusive design methodologies, this interactive event will be staged in 2019 at the European Cystic Fibrosis Conference in Liverpool, the RCA in London, and at one of the partner NHS Trusts. The exhibition will ensure inclusive access for patients, including those with CF. and will be delivered using projection mapping on models of clinics to visualise the research through the experiences of healthcare professionals and patients. Alongside this, a virtual exhibition will be delivered through a website with 3D models of the clinic spaces with similar content.

The virtual tour will be available at: app.parcproject.org.uk

Cystic fibrosis is one of the UK's most common life-threatening inherited diseases. Around 10,500 people in the UK have cystic fibrosis.

Cystic Fibrosis Trust



Screenshot from virtual exhibition prototype

'The exhibition Hamza created has helped us translate our findings in a visual and engaging way. At the European Cystic Fibrosis Society (ECFS) Society 2019 conference the physical models enabled us to engage with cystic fibrosis practitioners, patient organisations and researchers from across Europe, stimulating discussion about the implications of building design for mitigating cross infection.'

Dr Chrissy Buse, University of York Researcher, PARC project

PASS: Preserving Antibiotics through Safe Stewardship

Research Associate

Dr Rosanna Traina

Research Fellow

Jonathan West

Research Partners

University College London
University of Leicester
University Hospitals Birmingham
Queen Mary University London
Four Seasons Health Care
NatCen

Funder

ESRC

From human healthcare and food production to farming and animal breeding, antibiotics have been used to treat bacterial infections for decades. While penicillin was first discovered in 1928 by Sir Alexander Fleming, most of the antibiotics we use today were discovered between 1940 and 1962. In human healthcare, antibiotics are most often prescribed for chest, urinary and skin infections. Equally, they are often prescribed as a preventative measure for patients whose immunity may be compromised due to existing health-conditions, or in managing the care of the young and the elderly who can deteriorate quickly.

As early as 1945, Fleming began warning scientific communities about the potential consequences of antibiotic resistance. The overuse and misuse of antibiotics across all their applications globally has allowed bacteria to protect themselves from the effects of antibiotics, through chance mutation, thereby decreasing the effectiveness of these drugs. This process is known as antimicrobial resistance. Bacteria that are able to adapt to, and resist the effects of, commonly used antibiotics are popularly known as 'superbugs'. One such superbug – meticillin-resistant

Staphylococcus aureus (MRSA) is now present in the community, as well as hospital settings.

The Preserving Antibiotics through Safe Stewardship (PASS) project is an ESRC-funded multidisciplinary collaboration between the Centre, University College London, the University of Leicester, University Hospitals Birmingham, Queen Mary University London, Four Seasons Health Care and NatCen. PASS is exploring key healthcare settings to better understand where and why antibiotics are being prescribed most, and where there are opportunities to reduce inappropriate prescribing, in an attempt to reduce AMR locally and globally.

Research associate Rosie Traina is working with *PASS* over the next year to develop interventions that will both support health practitioners' good stewardship practice and change public perceptions surrounding the use of antibiotics. The *PASS* team has undertaken ethnographic research, interviews, reviews of the literature and epidemiological analysis of electronic health records in order to provide insights into both the context in which prescribing takes place and the pressures that result in overprescribing.

Work has been undertaken with healthcare teams across five settings (GP surgeries, hospitals, care homes, pharmacy and in the community). Rosie has run an additional series of initial design-led workshops in which she invited prescribers and those supporting prescribers to identify and define the barriers to stewardship from their own perspective. These workshops will help us to flag considerations that will affect the shape, form and content of the interventions proper, ensuring they have real-world potential in supporting healthcare practitioners to prescribe appropriately and meet current stewardship guidelines.

'Society's generous adoption of antibiotics as a force for good is understandable and represents the optimistic, utopian view that science will always have the answers. However our reliance on antibiotics has consequences for antibiotic resistance; it is speeding up the process.'

Laura Bowater, 2015

Participants at these workshops also provided information on how the project should engage with healthcare staff in future co-design workshops, which will take place in late 2019. In these workshops we will present a range of interventions to healthcare workers. Interventions will be ranked and refined through a series of iterative design development. The interventions will focus on promoting healthcare practitioner behaviours that support good stewardship of antibiotics

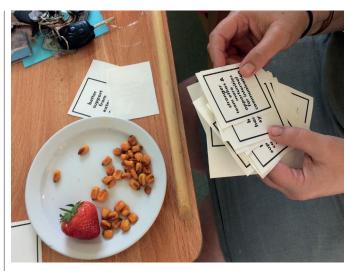
Excellent antibiotic stewardship will reduce the risk of humans developing antibiotic resistances and preserve the effectiveness of antibiotics into the future. *PASS* seeks to both rise to this challenge and help inform the public and further research projects on the reduction of antibiotic use in the UK.



Mapping factors affecting prescribing rates in Primary Care (processing ethnographic data from interviews and observations at select GP surgeries)

The pipeline for new tools to combat drug resistance is almost dry. Existing antibiotics and anti-parasitic drugs, and, to a lesser extent, antiviral drugs, are losing their effect.

World Health Organization



'Reducing hospital admission' – a voting and ranking activity exploring and discussing the patterns and factors that could reduce hospital admission for Care Home residents. Workshop with Care Home staff. © C. Ward

'Understanding who gets antibiotics and when is critical for targeting interventions to optimise prescribing. High-quality information on prescribing patterns and outcomes across healthcare settings in the UK is lacking.'

PASS project

Catalyst: Happy Mamas

Research Associate

Shruti Grover

Research Fellows

Jonathan West & Dr Jak Spencer

Research Partners

Kings College London & Manhiça Health Research Centre

Pregnant adolescents often face social difficulties such as family conflict, poor social support, poor self-esteem, gender discrimination and exclusion from education, which can have severe impacts on their mental health. Mozambique has the fifth highest rate of child marriage and pregnancy in the world, and has pledged to eliminate child and forced marriage by 2030.

The Centre is collaborating with Dr Tatiana Salisbury of King's College London and the Manhiça Health Research Centre to incorporate human-centred design into interventions to improve the mental health outcomes of young mothers in Mozambique before and after birth, through Catalyst: Better Mental Health for Young Mozambican Mothers.

Happy Mamas, a sub-project of Catalyst led at the Centre by Shruti Grover, Jonathan West and Jak Spencer, uses Inclusive Design methods with young women, their families, community leaders, service providers

and government to improve current methods of support offered to young mothers. *Happy Mamas* involves young women and other stakeholders in adapting existing skills-strengthening interventions, such as parenting and employment advice, coping habits, decision-making and socialising. It also includes helping their delivery and distribution among the community of young mothers in the Manhiça district of Mozambique.

Following a series of interviews with mental health specialists, Shruti was able to identify the social issues and stigmas facing young mothers. Working alongside local maternity clinics, the Centre involved pregnant adolescents, young mothers and other stakeholders in making changes based on the needs of these young mothers. Further research aims to pilot these codesigned interventions to develop a large scale-trial across Mozambique and support health professionals and community leaders to develop human-centred methods – such as interviews, toolkits and workshops – to aid their understanding of young mothers' experiences long after the end of the project.

'The dreams are finished after pregnancy – sometimes the adolescent will have a dream like a teacher/nurse etc but as soon as they get pregnant the dream is finished. If there is an opportunity or support to go to school again after the birth that can make a difference.'

Psychiatrist, Infulene Psychiatric Hospital

In Mozambique, 21% of girls are married by age 15 and 56% by age 18 – the seventh-highest rate of child marriage in the world.



Maternity unit in Manhiça

Helix Centre

Senior Research Associate Gianpaolo Fusari

The Helix Centre was launched in 2014 as a joint venture between the RCA and Imperial College. Based at St Mary's Hospital in London and supported by a grant from the Higher Education Funding Council for England's Catalyst Fund, the Helix Centre is an innovation lab that brings together professionals from different disciplines – from designers to doctors – to develop healthcare research into products that can be used to improve health and wellbeing outcomes. A people-centred approach forms the core of the Centre's research and development methods. Since opening, the Centre has gained further support from a range of healthcare innovation funds and generous philanthropic donations.

Gianpaolo Fusari is a Senior Research Associate seconded from the Helen Hamlyn Centre for Design to the Helix Centre. He is currently leading a holistic care innovation project titled *OnTrack Stroke Rehabilitation* which aims to improve rehabilitation outcomes for people after stroke. Working in collaboration with more than 200 stroke survivors, carers and therapists, the team has been developing software and hardware solutions in the form of smart technologies to help stroke survivors engage with repetitive rehabilitation by turning daily activities and routines into productive rehabilitation. Arm impairment is the most common type of disability that occurs following a stroke,

OnTrack is about unlocking the rehabilitation potential of daily life – this roughly equates to 90% of waking hours where stroke survivors are usually not with a therapist.

OnTrack

which can result in reduced independence and a feeling of isolation among patients. Everyday activities that improve arm movement can be tracked using devices such as smartwatches and smartphones, which in turn send motivational messages to participants. To enable these devices to track movement and progress, Gianpaolo's team have used machine learning to allow sensors to detect the arm movements of stroke survivors and from this, created an algorithm specific to arm recovery after stroke.

Gianpaolo's team are currently developing *OnTrack* for a clinical evaluation with the project's NHS and charity partners, and are looking forward to demonstrating its effectiveness towards a robust service to be deployed and tested within NHS stroke services.



Life After Stroke workshop with members of the Hammersmith & Fulham Stoke Association group



Pilot testing of the OnTrack rehabilitation platform

Inclusive Design for Business Impact

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A core philosophy for the Centre over the last 30 years has been to conduct Inclusive Design projects that have impact on people's lives. Working with business has been key. This newly-created Impact Area formalises this ambition and takes our Inclusive Design activity to a larger scale with industry.

Dr Ninela Ivanova Innovation Fellow

Building on projects with over 200 partners across Fortune 500 companies and SMEs, this Impact Area brings people-centred approaches into business.

Work spans projects from smaller, experimental projects lasting a few months to the larger-scale collaborations across a number of years. The team has also engaged in knowledge exchange activities such as executive education and academic consultancy. Executive education (pages 12-13) now forms a major part of the Centre's offer, with thousands of designers and non-designers being trained in Inclusive Design, Design Thinking and Creative Leadership. These activities are important in translating the work of the Centre into active projects and into the bloodstream of companies, consultancies and organisations.

Projects this year have built on our long-standing relationship with Tata Consulting Services, working with a major airline to look at how the employee experience can be improved in terms of well-being and health alongside key performance indicators such as efficiency. This balances a customer-focus with a need to make the environment, digital tools and working lives of all employees more positive. Creative Leadership is a home-grown research area that has really taken off. It looks at transforming leadership at a personal and organisational level. In line with the STEM to STEAM agenda, we have worked on a data-driven project to create a health index for cities, and are currently supervising a PhD which looks at the architecture surrounding working lives in the Silicon Valley campus.

Key question: how can Inclusive Design processes directly impact and influence business and industry?

Air-Control -Reimagined

Research Associates
Ivelina Gadzheva, Juliette Poggi
Senior Research Associate
Gail Ramster
Research Fellow
Dr Jak Spencer
Project Director
Rama Gheerawo
Research Partner
Tata Consultancy Services
– Travel, Transportation
& Hospitality Strategic
Initiatives Group

Flight delays, misconnections, cancellations and disruption scenarios are an everyday challenge for airline operations controllers who work to maintain the smooth-running of air transport. In 2018, a leading Asian airline and Tata Consultancy Services (TCS – an IT services, consulting and business solutions organisation) announced the launch of an ambition to digitally transform airlines' ground services and operations control by enabling operations controllers to make informed decisions that would improve service to passengers by providing staff with real-time views of their operations.

In an ongoing effort to enhance different areas of their services, the airline, which is consistently recognised for the excellence of its passenger services, now wants to provide the same quality of experience for its staff at its Operation Control Centre (OCC) by upgrading the technology they use, and improving the space in which its aviation staff work. Ivelina Gadzheva and Juliette Poggi have been working in collaboration with TCS on the project *Air-Control-Reimagined* to improve airline operations for the carrier which is based in national airport using a people-centred approach.



Proposed concept visualisation for one of the OCC working spaces. In this room, a cold light shower and dynamic screens create a unique space for an alternative working station.



Proposed concept visualisation for the OCC resting area, a room to get a rest from a long shift or to fully relax



Proposed concept visualisation for the OCC Video Wall, an interactive screen containing all information regarding fights

The OCC is the airline's most demanding department, where complex operations are carried out from security and flight planning and routing to meteorological monitoring, crew scheduling, maintenance, crisis control and passenger services.

Ivelina and Juliette have identified the OCC as the 'beating heart' of the airline; the operations team work around the clock, 365 days a year, and have to make fast, real-time decisions, so any design interventions need to be non-disruptive improvements that allow the operators workflow to continue uninterrupted.

Following a visit to the OCC in Asia, Ivelina and Juliette have focused on three major areas: 'Technology', 'Environment' and 'People'. 'Technology' refers to all the devices and software that supports the airline controllers in making the right decisions during critical situations, while 'Environment' will focus on the workspace and how factors such as lighting, ergonomics and temperature can affect health and wellbeing of the aviation staff. Improving interactions and collaborations between different staff members and departments will be addressed under the heading of 'People'.

Ivelina and Juliette are currently working on 'Technology': researching and exploring ways to improve the area by developing a screen wall dashboard – using the expertise of TCS's new technologies – that will display all the key information that is needed by the OCC staff. They have also recently begun work on the next phase to focus on the working environment of the operations controllers.

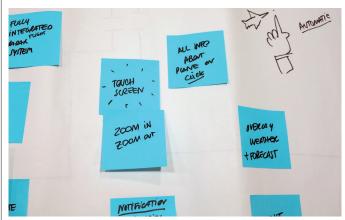
Ivelina and Juliette will be working towards delivering a set of guidelines for a 'gold standard' OCC that will promote best practice within the operations centre, as well as specific design interventions for each of the focus areas. *Air-Control-Reimagined* aims to improve the internal operating efficiency and working experience of the OCC staff so that the risk of disruptions can be mitigated and quickly recovered from, while maintaining and improving passenger experience.

In a single day, the OCC team monitor 100s of flights.

Interviews in OCC

OCC teams work 12-hour shifts, 24/7, 365 days a year.

Interviews in OCC



Some ideas gathered during the workshop with OCC staff.

Creative Leadership

Research Fellow
Dr Ninela Ivanova
Research Director
Rama Gheerawo
Research Team
Dr Chris McGinley,
Ivelina Gadzheva,
Luka Kille-Speckter
Neuroscience Collaborator
Dr Melanie Flory

Creative Leadership is a novel leadership philosophy that was pioneered by Rama Gheerawo, Director of the Helen Hamlyn Centre for Design. It's a transformational process that enables individuals and organisations to access innate creativity and leadership potential, to fulfil the goals and vision of an organisation, project or personal undertaking.

'Give people the right level of encouragement, and they will self-regulate, self-organise, self-energise and engage with their work. Live these qualities yourself, and you will instil them in others. Passion is infectious. If you love what you do, and actively demonstrate and express this, others will automatically follow. See people as human beings rather than resources on a spreadsheet.'

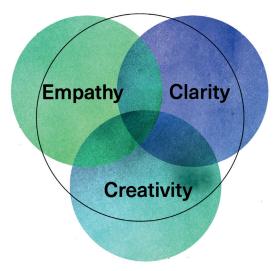
Traditional leadership structures that rely on rigid hierarchy and a 'command and control' culture are increasingly regarded as outdated and often ineffective. Rama – who has personally led over 100 projects across government, business and the public sector – recognised the urgent need for new models of leadership that are directly centred on human values.

Creative Leadership builds upon the beliefs that:

- Everyone has leadership potential
- Creativity is a universal ability to develop solutions with positive impact
- Empathy is the hallmark of a 21st century leader
- Clarity is the link to align vision, direction and communication

Dr Ninela Ivanova, a post-doctoral Research Fellow at the Centre, has been working alongside Rama over the last 20 months to build on existing knowledge in the three focus areas of 'Creativity', 'Empathy' and 'Clarity'. Together with neuroscientist Dr Melanie Flory, whose company MindRheo has partnered with Creative Leadership since April 2018, Ninela combines the findings of scientific research with design research methodology to further knowledge and practical applications for personal and organisational transformation. The purpose of this work is to chart the cognitive, emotional and behavioural attributes that are called for in Creative Leadership, with the aim of developing a three-dimensional model that will provide organisations and businesses with insights into better leadership in organisations and a more productive workforce.

Working across different sectors, organisations and roles, a series of studies are underway to expand Creative Leadership applications across personal and professional development, in project delivery and the redesign of work environments. Audiences for this framework range from large multinational corporations to NGOs and start-ups, civil servants and policymakers, academic institutions, designers, marketers and entrepreneurs working within the finance, logistics, technology, pharmaceutical, health, wellbeing, social and creative sectors. Findings continually inform the design of methods, interventions and education packages. The next tranche of research brings together design and neuroscience to develop the next generation of tools and platforms.



The three values of Creative Leadership

Highlighted engagements for this year include:

- June present: applying Creative Leadership principles to redesign and transform the management of an operations control centre for an international airline
- June 2019: open Masterclass held in Hong Kong as part of Knowledge of Design Week
- 20–21 May 2019: first-of-its kind Creative Leadership open Masterclass at the RCA, attended by leaders across the creative industries, technology companies and academics
- February June 2019: co-curating a Creative Leadership issue for dmi:Review – a leading international publication by the Design Management Institute
- 15 February 2019: Bespoke Design Thinking and Creative Leadership programme for client account managers at a large technology company
- 10 October 2018: a workshop at the Design Management Institute: Design Leadership Conference for business, design and innovation leaders, hosted in Boston, USA
- December 2018 and June 2019: two week long bespoke Innovation Design programmes for a major Japanese technology company Three workshops run with the Hong Kong Design Centre for the Hong Kong Civil Service Bureau (see page 12)

Design-driven: builds on a 28-year history of implementation across 300 projects.

Neuroscience-based: measuring the values of Creativity, Empathy and Clarity.

Cross-sector: applications across horizontal and vertical sectors.

Global Futures: creating solutions to global business and societal challenges.

Creating Certainties: futuresmapping and providing predictability.

Creative Leadership USPs



Rama Gheerawo and Dr Ninela Ivanova with workshop participants



Prototyping during Creative Leadership Masterclass

Global Health Index

Research Associate
Dr Gerard Briscoe
Senior Research Associate
Gail Ramster
Research Fellow
Jonathan West
Research Partner
WSP
Strategic Research Partner
SALUS Global Knowledge
Exchange

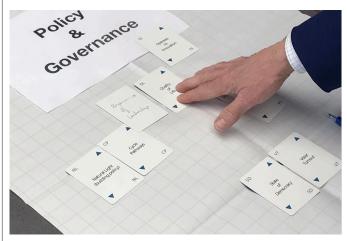
Climate change, human epidemics, population growth and ageing, and urban migration are only a few of the health issues that are placing ever greater stresses on healthcare around the world. With over half the world's population now living in cities, a statistic that is expected to increase to 70% by 2050, rapid urbanisation has become a defining feature of the twenty-first century. So, how future-ready are cities to deliver healthcare? The Centre has partnered with international engineering and consultancy firm WSP and strategic partner SALUS Global Knowledge Exchange to design an index that compares the response and preparedness of major cities to existing health challenges and emerging healthcare needs of their populations. The index will consider how 'futureready' the healthcare infrastructures of cities are for emerging challenges, which include buildings and estates, healthcare services, treatment, preventative actions and health promotion.

'If we're going to be future-ready we have to depend on automation, but automation mustn't take away the personal touch.'





Research workshop for the Ageing & Lifestyle category, in London



Experts prioritising indicators using card-sorting

In order to decide what data to include and design how it could be gathered and presented as a new Global Health Index that compares the healthcare policy, services and infrastructure of cities and regions around the world. Centre Research Associate Gerard Briscoe conducted research with experts from around the world in the fields of healthcare planning, provision, design and construction. This consisted of phone interviews and a workshop at the European Healthcare Design conference in June 2018, including 30 participants from around the world, which informed both the scope of the project and a set of potential metrics for how future-ready global cities could deliver and strengthen their healthcare systems and services. The research addressed global and local challenges from mental health and shortages in doctors and nurses, to infectious diseases and specialist health issues such as addiction epidemics. It also identified trends and developments in healthcare that are increasingly patient-centred, driven by patient expectations, and focused on keeping well proactively, rather than responding reactively.

The data gathered for the Global Health Index is intended to inform policy-makers, practitioners and researchers involved with the planning, public health and healthcare provision of their cities. The index will also be used to share examples of success from healthcare systems from neighbouring cities and those in other global regions, so that different ideas can be tried or adopted and authorities can be advised on what they should be focusing on.

To design a robust index, the RCA and WSP involved subject-matter experts at every stage, from category selection and prioritisation through to identifying individual indicators and potential data sources. This included running three research workshops in London with healthcare experts and creative thinkers, followed by three feedback workshops in Toronto, Johannesburg and Washington DC to capture a global perspective.

The final phase of this design-led research project was recently completed. The recommended index includes the core categories of Ageing & Lifestyle, Environment & Climate and Innovation & Technology. Most recently, Gerard has been working on identifying ways of interpreting data from multiple sources and visually communicating it in a way that is useful and meaningful for both WSP's territories and wider audiences, to demonstrate thought leadership and promote innovative thinking across the industry.



Feedback workshop on proposed indicators, in Toronto

Urban green space can deliver positive health, social and environmental outcomes for all population groups, particularly among lower socioeconomic status groups.

World Health Organisation

Vaccine hesitancy or the antivaccination movement, which threatens progress made towards tackling some vaccine-preventable diseases, is now one of the top 10 health threats of 2019.

World Health Organisation



Subject-matter experts discussing potential index indicators at RCA

Inclusive Design for Social Impact

- 46 Our Future Foyle
- 48 Our Stockwell
- 50 Multi-Agency Triage Teams (MATTs)

A historical focus of Inclusive Design has been on developed economies, but the methods, principles and practices can bring real benefit to some of the most underserved and invisible people on the planet. Inclusive Design can be most powerful when it is applied to social needs in a global context.

Dr Jak Spencer Research Fellow

Work in this area builds on previous projects at the Centre, such as looking at the recruitment process and visibility of migrant workers in the Middle East, ageing in Hong Kong, one of the most vertical cities globally, and innovation workshops in Fukushima after the tsunami of 2011 to co-create strategies for rebuilding the community.

This is a newly-framed Impact Area, that will concentrate efforts on developing community projects, and look at groups excluded by economics, geography or politics. Projects with the third sector will feature strongly, as will looking at how Inclusive Design techniques can be applied in the Global South.

The following projects exemplify this. We worked in the city of Derry/Londonderry, embedding a team in the city over the last three years to work with community and political structures to launch *Our Future Foyle* project as a vehicle to support urban transformation and address mental health. We worked with children in south London, looking at eating habits and obesity against a background of environmental and situational factors. Building on our healthcare expertise, we also worked with triage teams in Edinburgh, partnering with the Council and NHS Lothian.

Stepping beyond the traditional focus of age and disability, the people-centred approach that is at the heart of Inclusive Design will be evolved to address issues at a social and global scale.

How can Inclusive Design be used to work with individuals and communities addressing pressing social issues in different global context?

Our Future Foyle

Research Associates
Ralf Alwani, Gavin Gribben
Research Fellow
Dr Jak Spencer
Senior Research Fellow
Prof Jo-Anne Bichard
Research Partner
Public Health Agency,
Northern Ireland

Our Future Foyle is an innovative project that aims to transform the health of local people using the River Foyle in Derry/Londonderry, while at the same time making the riverfront a new cultural destination. Following a review of health and wellbeing in the area undertaken by the Public Health Agency, Northern Ireland (PHA), a partnership between PHA and the Centre was formed to develop new ideas that could bring sustainable change to what local people think about the River Foyle area and how they interacted with it. Since March 2016, the team has developed Our Future Foyle through extensive community and stakeholder engagement. The project aims to improve the health and social wellbeing of everyone who uses the riverfront, through reimagining the look, feel and function of its banks and bridges by turning it into a space that everyone benefits from in a positive way.



Foyle Bubbles placed on the river bank © USI Visual

After a presentation to the permanent secretaries of government, we now have also established the Our Future Foyle partnership board, which is made up of senior members of government to push delivery of this flagship project. This will be managed through a local delivery company, City Centre Initiative.

Our Future Foyle

The project has three distinct interventions: Foyle Reeds, Foyle Bubbles and Foyle Experience. These have gained considerable support from both local and central government, as well as key strategic and community stakeholders. The project has engaged with more than 15,000 individuals, using a range of innovative approaches in city-wide events.

These local people have given their feedback concerning how the river could be used to its full potential. The team, based in the city, consists of place-makers, sensory, experience and architectural designers, who are committed to improving the public's physical, mental and social health through working with space in this way. The team are currently in the process of establishing a governance and legal structure to find investment and deliver £25 million worth of regeneration proposals that will benefit public health, the economy and the environment.

The research and public engagements conducted by the team identified five steps that could encourage the community to get involved: 'connect with other people: be active; keep learning to improve community wellbeing and help build new social networks; give to others and take notice of your environment. The project is at an exciting stage as it moves from the design and feasibility stage to the planning and delivery of its three key interventions. Foyle Reeds will be a public interactive art sculpture and also a suicide prevention barrier installed on Foyle Bridge. In the past year, a Foyle Reeds prototype has been installed at various local public events, including during Halloween and Christmas celebrations, to help gather public feedback.

Foyle Bubbles will be a series of portable, affordable spaces located along the riverfront for local businesses and craftspeople who will be given mental health training and act as an onsite community response to the River Foyle Experience will provide wayfinding features towards and around the river to attract visitors and increase the area's footfall. Beyond their positive health impacts, these three elements have been designed to achieve significant economic and tourist benefits for the city and the wider region of the north west of Northern Ireland. Further to this, the government departments involved in the project have established a director-level board to see its delivery as a flagship programme for government initiative in Northern Ireland.

The portable and transferable nature of these interventions means they could, in the long-term, be adapted to be used as a benchmark for improving education, mental health, employment, tourism and art in the public realm. Mental health and wellbeing is at the core of the three interventions, but they are inclusive in function and use and can be enjoyed by the whole community, improving everyone's space and wellbeing.



Pop up exhibition with architecture students from Queen's University Belfast

Over 400 people engaged with the Foyle Reeds prototype during the Halloween festivities (28–31 October) in Derry /Londonderry.

Our Future Foyle

Our Future Foyle's public launch in the Guildhall, Derry /Londonderry was attended by over 70 of the project's stakeholders including community groups and project partners.

Our Future Foyle



Future of the River Foyle © USI Visual



Foyle Reeds placed on the bridge © USI Visual

Our Stockwell

Research Associate
Carmel Keren
Senior Research Associate
Gail Ramster
Research Partner
Hyde Foundation, part of the
Hyde Group and Battersea
Power Station Foundation

In the UK, one in three children are overweight or obese by the time they reach their final year of primary school, aged between 10 and 11. In London the rate rises to nearly 39% of this age group. In a Government report on childhood obesity, it was shown to be a social issue that disproportionately affects lower income households. The borough of Lambeth, where the project took place, contains areas that are in the top 10% of the UK's most deprived neighbourhoods.

As a researcher at the Helen Hamlyn Centre for Design, Carmel Keren worked on the project titled *Our Stockwell*. This constituted the exploratory phase for Hyde Foundation and Battersea Power Station Foundation's partnership Healthy Starts, Successful Futures, which aims to reduce childhood obesity through a 'place-based community approach'. *Our Stockwell* was a nine-month commissioned study that engaged the ward's local community through people-centred and co-design methods. Carmel worked with members of the local community – ranging

266 local people participated in the community engagement, through events, on-street interviews and workshops, to find out the challenges to living healthy active lives in Stockwell.

from young mothers, primary-school aged children, teenagers and families, to teachers, local children's charities and youth workers – to gather insights via a combination of workshops and more informal chats in the parks, streets and local businesses and community centres of Stockwell. The results have helped to identify opportunities and concepts for interventions that might have a positive impact on the health and wellbeing of people health and wellbeing of people in and around two Stockwell housing estates.

Carmel has taken a holistic approach to *Our Stockwell*, not only focusing on diet, but also taking into account mental wellbeing, the local built environment, family life, daily routines, education and culture – all of which can influence the risk of childhood obesity.



Mapping Stockwell with children from the neighbourhood



Detailed view of community mapping excercise

Rates of childhood obesity in London's most deprived wards are more that double those of the least deprived wards.

Guy's & St Thomas' Charity

Carmel's workshops, interviews and activities with the community led her to define four key opportunity areas for tackling childhood obesity in the Stockwell context: cultural differences, having a high-street hub. safety and boredom for young people. Using these areas as design briefs, Carmel collaborated with members of the community to co-design possible solutions and to refine them into three distinct ideas for the improvement of local wellbeing: Recipes for Stockwell, Stockwell Youth and Stockwell Scavenger Hunt. Recipes for Stockwell would provide a physical, portable recipe-share service placed in key areas around Stockwell. Stockwell Youth proposes a social media project, run by Stockwell's younger people that highlights key events taking place in the local area, with an accompanying interactive map. Stockwell Scavenger Hunt is a race around Stockwell that promotes local organisations and businesses.

Although this research focused on the place-based environmental and situational factors of Stockwell, if childhood obesity in this area can be mitigated by community-led solutions such as the ones outlined, this type of research and design could be developed and replicated at a wider scale, helping to improve the overall physical and mental health of local communities across the UK.

'Being healthy means kind people living around you.'

Child aged 8, in Stockwell



Co-design with children to produce new ideas



A digital intervention aimed at Stockwell's youth

Multi-Agency Triage Teams (MATTs)

Research Associate
Lizzie Raby
Research Fellows
Jonathan West, Ed Matthews
Research Partner
Royal College of Physicans
Edinburgh, NHS Lothian,
Royal College of Art
and Edinburgh City Council

With ever-increasing pressures on bed-spaces in hospital wards, the efficient treatment and discharge of patients is a high priority for health and social services in the UK. In 2015 the Centre completed a research and design project titled Patient Flow which looked for solutions that would reduce unnecessary patient stays in acute medical units in hospitals. The output of this project was the development of a communication system to share information between professionals and with patients on next steps. Building on the findings and success of this assignment, research associate Lizzie Raby has conducted a further

'Social care is facing high growth in demand, which is projected to rise by around £12 billion by 2030/31, growing at an average rate of 3.7% a year. At the same time, we project growth in spending on social care of just 2.1%. This would leave a funding gap of £1.5 billion in 2020/21 and £6 billion by 2030/31, at current prices.'



Cultural probes to get research participants' views on the current system

six-month research and design project titled Bridging the Gap for Edinburgh City Council, which is jointly funded by the RCA, NHS Lothian and the Royal College of Physicians Edinburgh

Lizzie's work on Bridging the Gap was focused on improving integration between the health and social care teams involved in the reduction and prevention of hospital admission in patients over 65 years of age. Although there has been a historical disconnect between health and social care nationally - the government has identified it as a core inefficiency on-the-ground members of staff from both sides work together to support each other and provide the best care possible for individuals in need. Social care across the UK has also suffered budget cuts which have had a significant impact on services and the care on offer. In fact, during Lizzie's research period, delayed discharges from hospitals were at an all-time high for that time of the year. The research was carried out alongside Mike Massaro-Mallinson and Anne Walker from the North West Locality Hub's Social Care office in Edinburgh.

Social Services in Scotland provide free 'personal care' to anyone over 65 who is deemed to need it. The majority of people in the UK have to pay for this level of care.

Independent Living

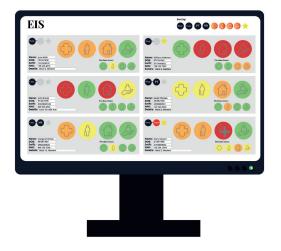
Each morning across Edinburgh, Multi-Agency Triage Teams (MATTs) meet in order to identify patients who can be discharged from hospitals and whether others would benefit from having their needs addressed by social services within the community, without being admitted to a ward. MATTs normally consist of representatives from across social care, from managers to therapists and homecare. The North West Locality is fortunate to have a representative from healthcare and carers and older people's support services.

Using the 'double diamond' research process has allowed Lizzie to work with over 40 individuals from a range of health and social care backgrounds. Through workshops, cultural probes, observations and interviews, she has gained insights into their daily work and the challenges they deal with. A range of insights was delivered into how design could support integration – such as streamlining IT services, highlighting blockages and creating a shared measurement tool. Lizzie and the the Centre created the Edinburgh Integrated Scale, which is a three-factor, colour coded (and numerically ranked 1-4) measure that takes into account the patient's health, mobility and home/social situation, a system which offers a shared language and data set between health and social care professionals.

It is hoped that Edinburgh Council and NHS Lothian will be able to take the project forward and trial the intervention, assessing its impact both on individuals in need of support and employees and MATTs using the measure.



Visits were conducted to both the Health sector (Western General Hopsital) and Social Care sectors



Dashboard view to highlight the individuals who would benefit most from social or health support

Barriers such as differences in regulatory and financial frameworks, commissioning and measuring outcomes all impact integration between social care and healthcare.

The Kings Fund

PhDs

54	Refashion: Investigating Post-Mastectomy Lingerie Needs
55	Wearing Your Recovery: Stroke Rehabilitation
56	Design as a Preventative Strategy for Mental Health
57	Design Literacy in Healthcare
58	Life Within Work
59	The Effects of Co-working on Workplace Design
59	Completed PhD's

The Centre's PhD programme continues to grow. Over 2018/19, we received 55 direct enquiries for our PhD programme and accepted three candidates to begin their research in 2020.

Professor Jo-Anne Bichard

Head of PhD Programme, The Helen Hamlyn Centre for Design

The programme is interdisciplinary and focuses on inclusive and people-centred design within the themes of people, place and technology. It has a unique position in the College, offering potential PhD candidates the chance to gain a deeper insight into Inclusive Design theory and practice in collaboration with the Schools of Architecture, Communication and Design. The research can be practice- or thesis-based. The three-year (full time) and six-year (part time) programme begins with candidates exploring the literature and practice that informs current work within their design disciplines. In the second phase, candidates work directly with the people, place or technology they have chosen to explore. This includes working directly with people and/or communities to understand the issues and challenges they experience. In the final phase, candidates work on their practice and write up their research into a thesis.

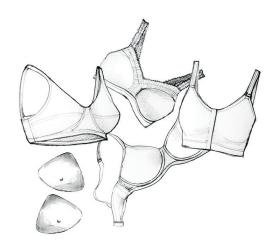
In 2019 we had two students successfully complete their PhDs and vivas. Dr Will Renel explored auditory normalism in design and Dr Bastian Beyer contributed to the RCA's EU funded ArcInTex Programme. Current PhD candidates are exploring a variety of inclusive and people-centred experiences. Imogen Privett's research focuses on the co-working movement and is close to completion. Laura Salisbury and Silke Hoffman are entering their third years; Laura is working with stroke survivors and Silke is investigating the relationship between a garment and its wearer.

Our first-year PhD candidates include Nick Bell who is exploring how design can help foster mental wellbeing. Wenbo Ai is looking at design literacy and engagement in healthcare. Peiqi Wang (supervised by Dr Laura Ferrarello, RCA School of Design, and Prof Jo-Anne Bichard) is exploring how design can enhance parents' engagement on family-centred neonatal care, and Maria Paez Gonzalez' is studying the tech campus in Silicon Valley. We also welcomed visiting PhD researcher Junik Balisha from the University of Florence on a one-month Post Experience Programme to continue his research around autism-friendly day care centres for children.

Refashion: Investigating Post-Mastectomy Lingerie Needs

PhD Candidate
Silke Hofmann
Supervisors
Anne Toomey, RCA
School of Design
and Dr Chris McGinley, HHCD
Supporter
London Doctoral Design Centre

For most diagnosed women, breast cancer treatments include a mastectomy, which encompasses the full or partial removal of a breast, nipple and areola. Nearly half of all women who have undergone a mastectomy will not, or cannot immediately, reconstruct their breasts and therefore learn to adjust to their new one-breasted or none-breasted body. Silke Hofmann's research focuses on the impact of the aesthetics and functionality of post-mastectomy lingerie on the physical and emotional recovery process of breast cancer survivors. Centring on breast cancer survivors' needs and aspirations towards readily available post-mastectomy lingerie, Silke has highlighted their perspectives, working alongside survivors in facilitated, participatory sessions to better understand how clothing can have a positive impact on how they recover.



Visual instruction manual trials



Visual recording

The aim of the sessions is to create a space in which participants feel comfortable, valued and safe. Through the activities and toolkits provided during the sessions, Silke has begun to record survivors' accounts of post-mastectomy lingerie through data gathering methods derived from processes used in the fashion industry. The two toolkits, which will provide visual data and are accompanied by visual instructions that explain their function and use. In addition surveys, have been developed following fashion design processes that are carried out in roughly four stages: inspirational research, textiles and colour selection, garment design sketching, and garment prototyping. For the toolkits, Silke has adapted these stages so that they engage with a broad spectrum of women with different diagnoses in a sensitive and accessible manner, while at the same time enabling independence and autonomy over the task.

Silke's research aims to rethink the conceptual framework of seasonal fashion industry cycles to integrate inclusivity. By proposing a disruption of conventional fashion design processes at the early stages of garment design, Silke hopes that the qualitative research she has gathered will inform design decisions in the making processes of post-mastectomy lingerie, through the wearers' testimonies-of-needs. This approach aims to advance the understanding of, promote greater sensitivity towards garment consumers' needs and wishes, and to fill a neglected gap in existing garment and fashion design knowledge.

Wearing Your Recovery: Stroke Rehabilitation

PhD Candidate

Laura Salisbury

Supervisors

Dr Chris McGinley, HHCD and Dr Elif Ozden-Yenigun, RCA School of Design

Supporter

Stavros Niarchos Foundation (SNF) and Design Research Society

When stroke disrupts the ability to use our finer motor control within our hands, daily activities which enable us to live our lives become affected. PhD researcher Laura Salisbury is currently conducting research into how stroke rehabilitation can be integrated into everyday life through garments that are sympathetic and responsive to the psychological impacts of stroke, as well as the changes in ability, behaviour and emotions that occurs following a stroke. One of the concerns surrounding stroke rehabilitation is the time spent by patients on self-administered physiotherapy.



Embodying human behaviours into textile structures

Although clinicians have acknowledged the importance of this, saying 'it's not what happens when we are there but what happens when we are not there', patients still having trouble self-administering rehabilitation – which can lead to longer recovery times. Patients are often asked to prioritise physiotherapy and training over other aspects of their life which can have a negative effect on mood levels, but stroke rehabilitation shouldn't detract from a person's quality of life, especially when recovery can take many months or even years.

For her project *Re-fashioning Stroke Rehabilitation*, supported by the Stavros Niarchos Foundation's STEAM Scholarship & Research Fund and the Design Research Society, whilst also being sponsored by textile corporation Perma, Laura first began researching how clothes fastenings might become part of the rehabilitation process as a way to get patients to practise while they get dressed and undressed. Following various workshops with stroke patients and clinicians at NHS hospitals, as well as research into innovative materials, Laura has now begun to design garments that encourage frequent and daily exercises that are subtle and non-intrusive.

Working directly with stroke survivors and caregivers, Laura hopes to re-present textiles as a platform of care, a way of reconnecting the body to its garments. She will also investigate how garments can build on their current qualities to improve behaviours, mood and function of the body, while re-questioning and repositioning some of the major issues with upper limb stroke rehabilitation.



Material exchange of experiences

Design as a Preventative Strategy for Mental Health

PhD Candidate Nick Bell Supervisors

Prof Teal Triggs, RCA School of Communication and Prof Jo-Anne Bichard, HHCD

Can participatory design within communities help foster a culture that promotes mental wellbeing? And how might this approach operate outside of healthcare services? Located specifically within community settings, PhD researcher Nick Bell is investigating how diffuse, accessible participatory design methods are put to use by community groups, analysing how people interact together and evaluating how this contributes to everyone's long-term wellbeing. Working alongside community organisation Clapton Commons (CC) in north east London, which is invested

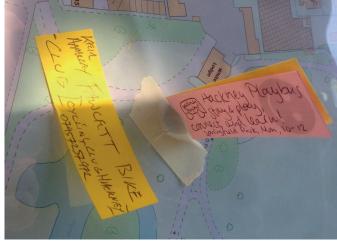


Community asset mapping workshop demonstration at Clapton Commons' Summer Assembly, London, June 2019

in collective initiatives that benefit the local residents. Nick is initiating a collaborative partnership with a number of community interest groups in Upper Clapton and Stamford Hill in association with CC's Community Builder. Through participatory design workshops, activities and tools are being prototyped that people can use to uncover the capability, social capital and strengths of their community. These might include resources that are already in existence but nevertheless may be hidden and under-appreciated. Participants include a group of young single mothers; a primary school parents' group; and a local parish church group. Nick is hoping to be able to draw on the relationships CC has built with community leaders to connect with each of the local major ethnic communities: African Caribbean, Muslim. White British and Orthodox Jewish.

This project aims to hold more informal events to encourage people who might otherwise feel excluded or lack the confidence to get involved. Nick's research will take place over four phases. In the first phase residents map existing community assets (focusing on personal skills, capabilities and networks). In the second phase, residents consider how these assets are or can be used as a foundation for collaborative social forms, like clubs, initiatives and events. The third phase reviews the performance of these local collectives and the fourth phase assesses their role in an ecosystem of local health prevention.

A neighbourhood that widens its access to preventative health strategies via greater participation in community organising will do so primarily to improve quality of life for its present and future residents. This may in turn reduce the burden on local public services.



Community asset map made by Hackney residents attending Clapton Commons' Summer Assembly, June 2019

Design Literacy in Healthcare

PhD Candidate

Ai Wenbo

Supervisors

Prof Teal Triggs, RCA School of Communication and Prof Jo-Anne Bichard, HHCD

Health Promoting Hospitals (HPH) is a network set up by the World Health Organisation (WHO) that seeks to improve the health of communities by encouraging a health-centred rather than treatment-centred culture within hospitals. Patients, staff and the community are all empowered to participate, based on a holistic health concept that treats physical and mental health equally, with cooperation from those outside the health sector. At the RCA, PhD researcher Ai Wenbo is working with HPH in China and focusing primarily on individual patient and community empowerment.

Supported by the Chinese Health Education Centre (CHEC), Wenbo has conducted research with a number of communities, including looking at low literacy levels in rural communities and the communit's medical needs in Hantun Village, Henan Province. He found that a significant percentage of older, independent patients often struggled with dosages and using prescription medicines. Design workshops were held, where people were encouraged to use visual media and crafts to process and represent complex information. Participants were empowered to design their own methods of understanding medical information.

Wenbo was also granted access to facilities such as Wuhan University's Hospital of Stomatology (oral medicine) by the CHEC and built relationships with the hospital teams, establishing how he can help to improve patient experience.

Following his work in Hantun Village, Wenbo was invited to present his paper 'Health promotion practice for a low literate community in Hantun Village, China' at the 27th International Conference on Health Promoting Hospitals and Health Services in May 2019, where he was also able to learn how design might contribute to healthcare and, crucially, work with other professionals to build an HPH network both in the UK and China. Wenbo has also attended the HPH Summer School 2019, looking at how to implement health promotion in health care services.

Wenbo's research explores whether design can create an innovative, supportive and sustainable environment in hospitals and contribute to Chinese HPH research, with the aim of applying this knowledge to HPH and healthcare theory more widely, benefiting health communities and organisations globally.



Participatory design workshop about medical needs

Life Within Work

PhD Candidate

Maria Paez Gonzalez

Supervisors

Prof Jeremy Myerson, HHCD and Dr Maria Sheherzade Giudici, RCA School of Architecture

Supporter Haworth

The now well-known structures of corporate campuses that populate San Francisco's Silicon Valley – where many of the major tech corporations are headquartered – are not a new phenomenon. Since the 1940s on the US West Coast, corporations have devised workspaces to accommodate managerial ranks and a workforce structure that resulted from the large-scale restructuring of production and distribution lines that took place in America after the Second World War.



Project site, an imaginary map of Silicon Valley

In Silicon Valley, the early mid-century model of 'company towns' was, in the 1990s and again today, adopted by tech corporations looking to provide their employees with an environment that combined domestic and work spaces – essentially mimicking the university 'campus' lifestyle.

Maria Paez Gonzalez has undertaken a comparative study of the current form of the corporate campus, focusing on the three most prominent tech corporations in Silicon Valley: Apple, Google and Facebook. Sponsored by Haworth, a global design and manufacturing company focused on creating organic workspaces that enable individuals and organisations to perform to their best. The project titled *Life Within Work* investigates the relationship between spatial forms – the architecture, interior spaces and furniture design of workspaces – and the disciplinary shift required to ignite productive cooperation.

Maria's research is structured by three main methodological frameworks: the use of architectural case studies that will be investigated during site visits and interviews with key stakeholders (from company employees to architects and furniture designers); writing and architectural drawings as a means of consolidating public information from diverse sources of primary research (including archival work, planning applications and building permits); and finally a multiscalar approach, which cross-analyses the impact of the academic, corporate and domestic spheres that are promoted on corporate campuses.

Life Within Work will contribute to the field of architectural research by providing in-depth analysis into the mechanisms corporate architectures implement to reorganise and choreograph spaces and experiences to capture the creative output and human potential of its workers.

The Effects of Co-working on Workplace Design

PhD Candidate Imogen Privett

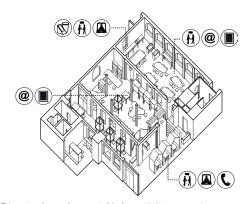
Supervisors

Prof Jeremy Myerson, HHCD and Dr Harriet Harris, RCA School of Architecture

Supporter Haworth

Co-working is an emergent workplace typology that can be considered as a disruptive innovation. This study looks at the influence of coworking on workplace design practice. The success of any coworking space depends on the success of the experience that they create for people, relying on complex and evolving interactions between space, support and service infrastructures, brand identity and community management.

Supported by industry partner Haworth, the thesis is rooted in both academia and business, presenting a series of design studies that map the development and locations and layouts of co-working and explore user behaviour in space at different sites. Entitled Experience Unbound, the research makes important links between the principles of people-centred design and the future of work.



Birmingham Impact Hub activity mapping used to map the use of the space

Completed PhDs

Dr Bastian Beyer

Between Duck and Tree: Metabolism = Informed Composite Tectonics

The building sector is among the biggest contributors to global emissions and environmental pollution. This research investigated sustainable structural composite materials through means of biotechnology, bridging the fields of architecture, textiles and biology. Bastian presented two distinct approaches towards responsiveness and life in his project. One is from a mechanistic perspective in the tradition of Vaucanson's Duck and a second utilises contemporary biotechnology. The research incorporated several microorganisms to generate structural materials as part of their natural metabolism. The project demonstrated the ability to generate structural fibrous materials by utilising these characteristics on textile substrates.

Supervisors Prof Jo-Anne Bichard, HHCD and Ian Higgins, RCA School of Architecture Partner ArcInTex European Training Network

Dr Will Renel

Sonic Inclusion: Opposing Auditory Normalism in Design Through the Lived Experiences of d/Deaf and Disabled People in Socially Public Spaces

Sound and hearing affect everyone; they are not niche issues. For many, sound can dictate whether a public space is accessible or non-accessible. Yet sound remains under researched within Inclusive Design and narrowly represented in access legislation. Will's research engages a series of hearing-centred design methods that chart examples of sonic inclusion and exclusion in public environments foregrounding the lived experiences of d/Deaf and disabled people in theatres in London. Ultimately, the research presents a new discourse of sonic inclusion – a position through which to engage practically and critically with the repercussions of design that privileges a normative ear, body and mind.

Supervisors Prof Jo-Anne Bichard, HHCD and Tom Simmons, RCA School of Communication Partner London Doctoral Design Centre

Helen Hamlyn Design Awards 2019; Designing for Our Future Selves.

61	Helen Hamlyn Award	b
	for Creativity	

- 62 The Fixperts Award
- 62 IA Interior Architects Award for Work Futures
- 63 Helen Hamlyn Design Award for Healthcare
- 63 Snowdon Award for Disability
- 64 TCS Award for Digital Inclusion
- 64 Scott Brownrigg Award for Inclusive Spaces
- 65 Helen Hamlyn Design Award for Alumni

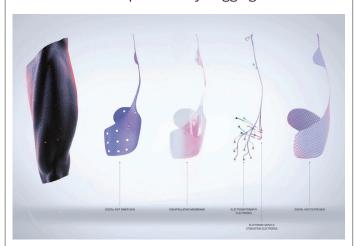
The Helen Hamlyn Design Awards recognise outstanding RCA graduate design projects that contribute to improving quality of life, and prize money from the programme allows graduates to develop their projects further. The Awards ceremony took place in the on July 2019, the 10th anniversary of the programme.

Helen Hamlyn Design Award for Creativity – Joint Winners:

AmbLis

Amir Afshar (MA/MSc Innovation Design Engineering)

AmbLis is a dynamic walking aid embedded in a familiar flexible garment. The assistive mobility bionic layer uses muscle sensing and actuation embedded into a comfortable pair of body-hugging shorts.



Judges' comment: 'Reduction in joint strength and mobility can happen in both the young and the old, in the athletic and the arthritic. This personalised, wearable outfit beautifully supports and stimulates movement. A cost-effective, clever idea that signals a future for consumer health.'

Lucy O'Rorke and Shobita Punja, Helen Hamlyn Trust

Moment

Lucy Jung (MA/MSc Innovation Design Engineering)

Using tactile stimulation, Moment helps people with Parkinson's to move faster, easier and more smoothly. It utilises vibration technology in an elegant wearable device.



Judge's comment: 'Every hour, two people in the UK are told they have Parkinson's. This beautiful, jewellery-like device stimulates and restores movement, therefore enabling people to dance, move, write and participate more fully in life. A magical idea in every way.'

Lucy O'Rorke and Shobita Punja, Helen Hamlyn Trust

RCA Fixperts Design Award Winner:

Garden Tool Grip for Thala

Fixperts: Nevro Frid and Elinor Tal

Fix Partner: Thala

Fixperts was set up by RCA alumni Daniel Charny and James Carrigan in 2012 and developed into a learning programme by Charny and Dee Halligan. It won the Blueprint Design Award in 2016. It is a simple idea: students learn making and creative problem solving skills to 'fix' a problem with another person, and then share their project online to inspire others. This is a simple idea that has gone global, with over 550 films in the digital archive and programmes running in universities and schools worldwide.



Judge's comment: 'I think they did a great job, as trying to replicate fine motor skills of the human hand (even to a degree) is extremely difficult. They showed great user testing, included the failures in iteration, and came up with a very usable product.'

Rama Gheerawo, The Helen Hamlyn Centre for Design

Supported by IA Interior Architects

IA Interior Architects Award for Work Futures Winner:

Air-it-yourself

Jihee Moon (MA Design Products)

Air-it-yourself is an inexpensive DIY air purifier that anyone can make at home by re-using everyday household materials. This project proposes an opensource platform to make an economical air purifier.



Judge's comment: 'The reason we liked this so much is that it addresses a real need in society, improving our air quality in an accessible way. The design is simple enough for anyone to construct and offers the opportunity for customisation and democratises the whole design process.'

Rob Atkinson, IA Interior Architects

Helen Hamlyn Design Award for Healthcare Winner:

Good Talk

Isabelle Ohlson and Bianca Benvenuto (MA Service Design)

Good Talk is a community-driven service and digital platform that enables conversations for young people about their mental health. The service allows young people to talk, online and face-to-face with their chosen volunteer.



Judge's comment: 'A well-rounded product with strong user research about a major issue in society (mental health) among the young. Using social media to counteract some of the negative impact created by social media itself! A scalable solution that uses mentoring to promote positive social interactions.'

Gianpaolo Fusari, Helix Centre

Supported by Snowdon Trust

The Snowdon Award for Disability Winner:

Immergo

Rocco Giovannoni (MA Design Products)

Inmergo is a new patent-pending form of bone conduction audio technology that enhances a more immersive perception of sound.



Judge's comment: 'On behalf of the Snowdon Trust I would like to award this prize to Rocco Giovannoni for Inmergo, an innovative, thoughtful and inclusive design that seems to bring great joy and surprise to those who have tested it.'

Frances von Hofmannsthal, Snowdon Trust

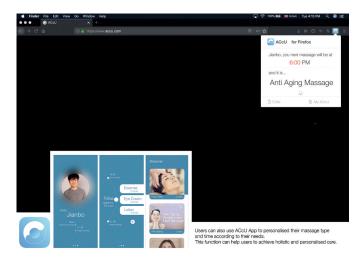
Supported by Tata Consultancy Services

TCS Award for Digital Inclusion Winner:

ACcU

JianBo Zhao (MA/Msc Global Innovation Design)

ACcU is a digital tool that combines ancient Chinese acupressure techniques with advanced computer vision technology. Stressed out office workers can take a break at their desks and experience the benefits of stress relief and enhanced well-being.



Judge's comment: 'A real application of new technology with tangible benefits for the entire community. It takes technology, which has been used for marketing and gaming, and brings it into the health space in a joyful and engaging manner.'

Shey Cobley, TCS

Supported by Scott Brownrigg

Scott Brownrigg Award for Inclusive Spaces Winner:

Capital Carbon

Rhea Adaimi (MA Interior Design)

Capital Carbon is a studio space where air pollution is filtered and transformed into products such as dye and ink for textiles and clothing. Through this purification process, a bubble of clean air is generated for the area.



Judge's comment: 'This idea has global application for polluted cities across the world. It intends to create a bubble of clean air to improve health of those use it, to raise awareness of carbon emissions in our cities, and ultimately turn pollution into a beautiful product.'

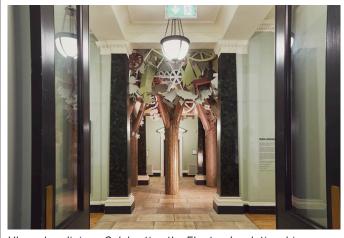
Laurence Orsini, Scott Brownrigg

Helen Hamlyn Award for Alumni Winner:

Tom Stables

(MA Design Products, 2010)

Tom Stables is a product designer who graduated from Design Products in 2010 and became part of the Helen Hamlyn Research Associate Programme that year. He was also an award winner in 2010, securing the Technology Strategy Award for Independent Living with his graduation project, where he designed a casing with a graphic overlay that could hold multiple TV and DVD controllers, making them easier to use. Tom's work since leaving the Centre covers two areas in particular – design for healthcare and public installations and interiors. Both follow the same design process: starting with the person and the interaction and using techniques first developed while working at the Centre.



Ulmus Londinium; Celebrating the Elm tree's relationship with London's historic built environment, crafts and biodiversity © Stables and Lucraft

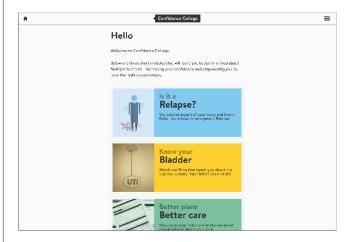


POP SHOP a flexible research space for Coca-Cola



Judge's comment: 'This designer has been a stalwart of Inclusive Design. It is baked into the core of every project that he has done. For constant and consistent championing of the work, we recognise his roles as inclusive design practitioner and ambassador.'

Rama Gheerawo, The Helen Hamlyn Centre for Design



Confidence College – a digital platform that aims to allow people living with long term neurological conditions to take ownership of their condition and make better informed decisions about their care. © shiftdotms

People



Rama Gheerawo Director



Kay Sandford-Beal Operations Director



Prof Jeremy Myerson HH Professor of Design



Prof Jo-Anne Bichard Senior Research Fellow



Dr Chris Mcginley Research Fellow



Jonathan West Research Fellow



Dr Jak Spencer Research Fellow



Dr Ninela Ivanova Innovation Fellow



Mark Byrne Project Manager (Interim) Administrator (Interim)



Karolina Raczynska



Dr Katie Gaudion Senior Research Associate



Gail Ramster Senior Research Associate



Gianpaolo Fusari Senior Research Associate



Ralf Alwani Research Associate



Dr Gerard Briscoe Research Associate



Paul Eliasz Research Associate



Ivelina Gadzhena Research Associate



Gavin Gribben Research Associate



Anisha Kanabar Research Associate



Carmel Keren Research Associate



Luka Kille-Speckter Research Associate



Indira Knight Research Associate



Hamza Oza Research Associate



Juliette Poggi Research Associate



Lizzie Raby Research Associate



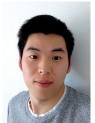
Dr Will Renel Research Associate



Dr Rosanna Traina Research Associate



Natasha Trotman Research Associate



Wenbo Ai PhD candidate



Dr Bastian Beyer



Nick Bell PhD Candidate



Silke Hofmann PhD Candidate



Maria Paez Gonzalez PhD Candidate



Imogen Privett PhD Candidate



Laura Salisbury PhD Candidate

Partners





















































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