

13 - 15 July 2011
Sheffield, UK

Design4Health, a multi-disciplinary conference and exhibition providing a platform for dialogue between designers, health and wellbeing professionals, funding bodies, researchers and users.



2011 Exhibition Catalogue

Design 4 Health



The Exhibition

The Design4Health exhibition represents a broad cross-section of works by designers and creative practitioners who are increasingly becoming involved in addressing medical and wellbeing issues. Often devised from a relationship between design researchers and the medical sector, these works demonstrate the research potential for designers within and without the academy to work on collaborative programmes with healthcare specialists and healthcare users.

The selected pieces in the exhibition showcase a variety of health related projects - some with very practical applications and others with more speculative agendas - aimed at questioning conventional attitudes around healthcare practices. The exhibits cover a spectrum of forms, from artistic interventions to documentary style video, interactive displays, and innovative product and service solutions.

We hope you enjoy the works illustrated in this publication and take advantage of the project links that can be found on each project page.



Many thanks to the participants in the show for sharing their research and design work and to the members of the Art and Design Research Centre at Sheffield Hallam University who helped make this exhibition happen.

Conference Director:	Alaster Yoxall
Exhibition Concept:	Paul Chamberlain
Exhibition Curator:	Ian Gwilt
Exhibition Design:	Jackie T Leaver
Exhibition/Content Manager:	Kirsty Christer
Healthcare Advisor:	Claire Craig
Exhibition Installation:	Peter Downes
	Anna Wiggins
Photography:	Richard Hanson



Conference and exhibition feedback:

“ A wonderful, thought provoking exhibition. ”

“ Please include the exhibition for the future. ”

“ I could see how a designer could bring a difference perspective to health needs; it was a Eureka moment. ”

Devices4Dignity representative

“ No-one has thought to look at these designs for 20, 30 years. ”

Professor Geraldine Fitzpatrick, Vienna University of Technology, referring to the Nursing Bag

“ Seeing the synergies develop has been exciting. It has been inspiring how problems and concepts have been discussed and explored in different ways. ”

Professor Geraldine Fitzpatrick

“ I was blown away by being able to explain an issue in general terms and having designers at my elbows coming up with ideas right away. ”

Sarah Fowler, Research Nurse

“ The exhibition is another interesting element and a more informal space for people to relax and network with others. ”

“ A new space has been opened up. ”

Professor Andy Dearden, User-centred Healthcare Design, Sheffield Hallam University

“ Enjoyed seeing the practise of design and the power it has to transform people's lives. ”

Conference highlights for Dan Wolstenholme, Clinical Researcher/ Project manager at Sheffield Teaching Hospitals NHS Foundation trust



- + Memory and Touch
- + Suitably Sensory
- + Hanky Pancreas
- + Carbon Black
- + 21st Century Nursing Bag
- + Self Retaining Anal Spectrum
- + Be Active
- + Health Measure
- + Designing a New Touch to Colon Cancer Screening
- + Future Bathroom
- + The Green Room
- + Walkinsense
- + Incredibles
- + Designing Health as Physical, Mental and Social well-being
- + Care Together
- + Chronic Facility
- + Envisage
- + Innovative Healthcare Interiors



Imogen Aust
imogen.aust@btinternet.com

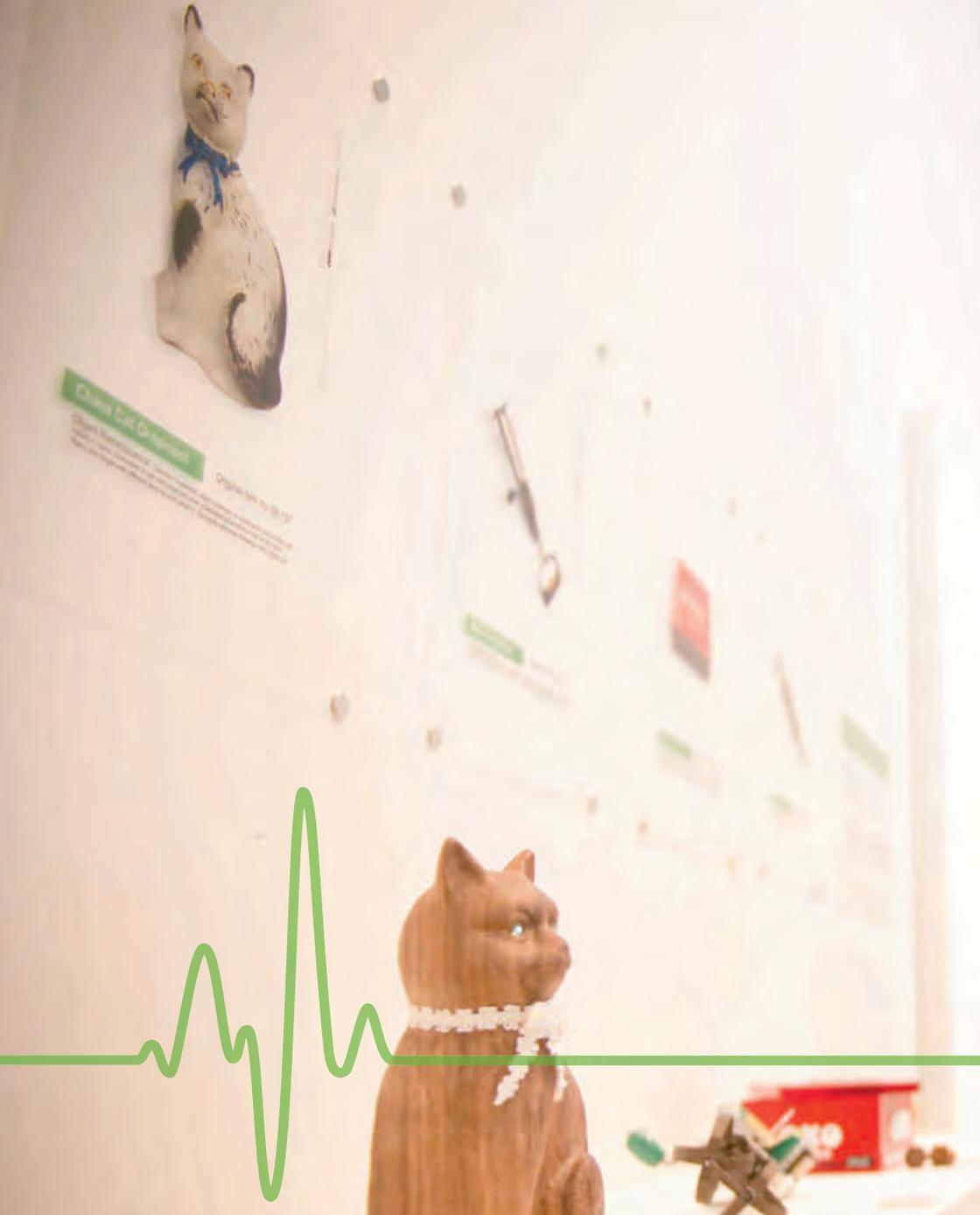


Memory and Touch; Recalling experiential knowledge: ceramic artefacts

Exploring how the sensory experience of touch can be used with the visually impaired and dementia patients.

This work explores how craft can benefit health and wellbeing through provoking thought and recalling memory. Imogen's practice aims to intrigue the audience and to provide a sensory experience. The artefacts are more than a visual statement: the function of the artefacts she produces is to seek a cognitive response which can be explored with visually impaired and dementia patients.





Annabel Elliott - Museum Consultant (annabel.elliott@hotmail.co.uk)
Jamie Billing - Product Design Lecturer (jamie.billing@ntu.ac.uk)
Tracey Cordingley - Product Design Lecturer (tracy.cordingley@ntu.ac.uk)
Nottingham Trent University



'Suitably Sensory' (Museums of the Mind)

Museum loans box: Replicating museum objects to enable reminiscence with dementia patients.

This project illustrates an interdisciplinary approach to looking at safe and flexible ways that dementia sufferers can engage with objects which trigger associations to earlier times, helping ground disorientated and frightened people.

Original Loans Box objects were inaccessible to users with accompanying challenging behaviour who often, like a child, return to investigating objects physically and orally. The newly launched five Replica Objects have been carefully designed to strike a balance between the effective delivery of reminiscence work whilst safeguarding the important cultural heritage of a permanent, new Museum Loans Box collection.

Supported by Renaissance East Midlands





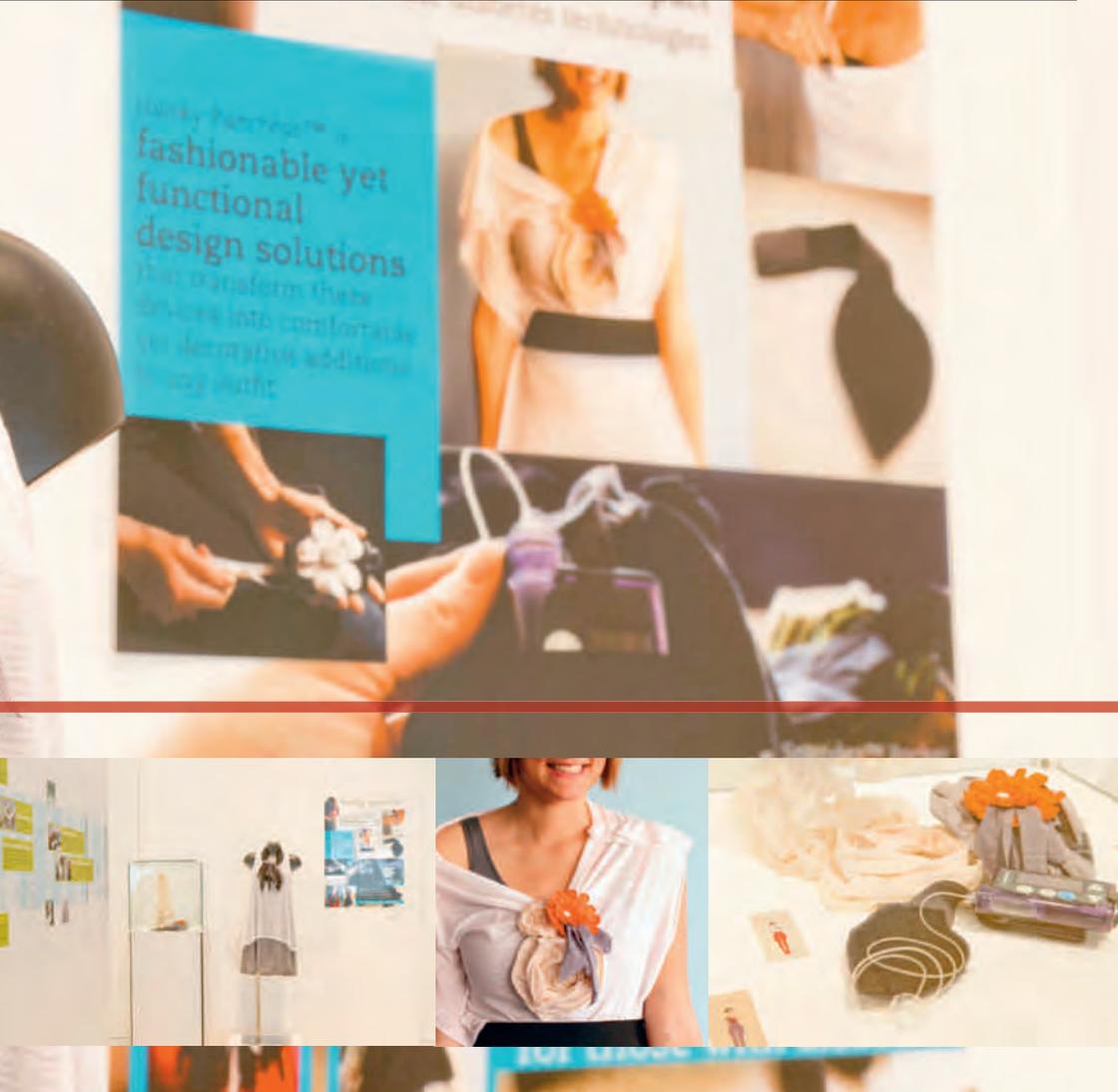
Jessica Floeh
www.hankypancreas.com



Hanky Pancreas

Embracing health through fashion: transforming the insulin pump into a socially dynamic accessory.

Although proven to significantly decrease risk for complications, the insulin pump is socially inconvenient and difficult to negotiate on the body. As a result many individuals conceal it or may not use one at all. Hanky Pancreas™ improves its wearability for increased comfort and social acceptance. Developed through work with other diabetics and diabetic funding organisations, this design has been recognized by design, fashion and health technology industries.





Andrew Slorance
info@iimaginedesign.com
www.iimaginedesign.com



Carbon Black

A new perspective on what is seen as a medical device has resulted in Carbon Black, a world class wheelchair for the active independent user who demands no compromise.

I Imagine's objective was to empower the user with a desirable piece of high end technology packed with life-improving USPs and built by F1 engineers. The sleek carbon fibre construction with its energy efficient monocoque cantilever frame is designed to offer improved access benefits, less maintenance and more comfort for the user.

As designer Andrew Slorance remarks, this design is about more person, less wheelchair.





21st Century Nursing Bag

As the delivery of patient care increasingly migrates to the community, the time is right to reconsider the design of the black nursing bag, first introduced almost 100 years ago.

This research describes the analytical, creative and experimental collaborative practices that have contributed to the successful development of an award winning nursing bag.

Since its introduction almost 100 years ago, the design of the ubiquitous black nursing bag used by district nurses has been impervious to change and innovation but recent studies indicate that current nursing bags are unfit for purpose.

Through a practiced based PhD study, this design aims to deliver a world-class 21st century bag. The bag is designed to deliver safe, efficient and consistent patient care in a constantly changing environment.

Supported by Engineering and Physical Sciences Research Council (EPSRC)



Dr David Swann
d.m.swann@hud.ac.uk



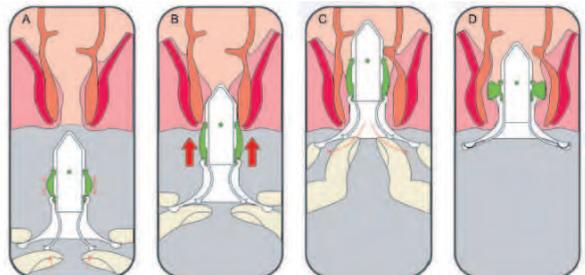
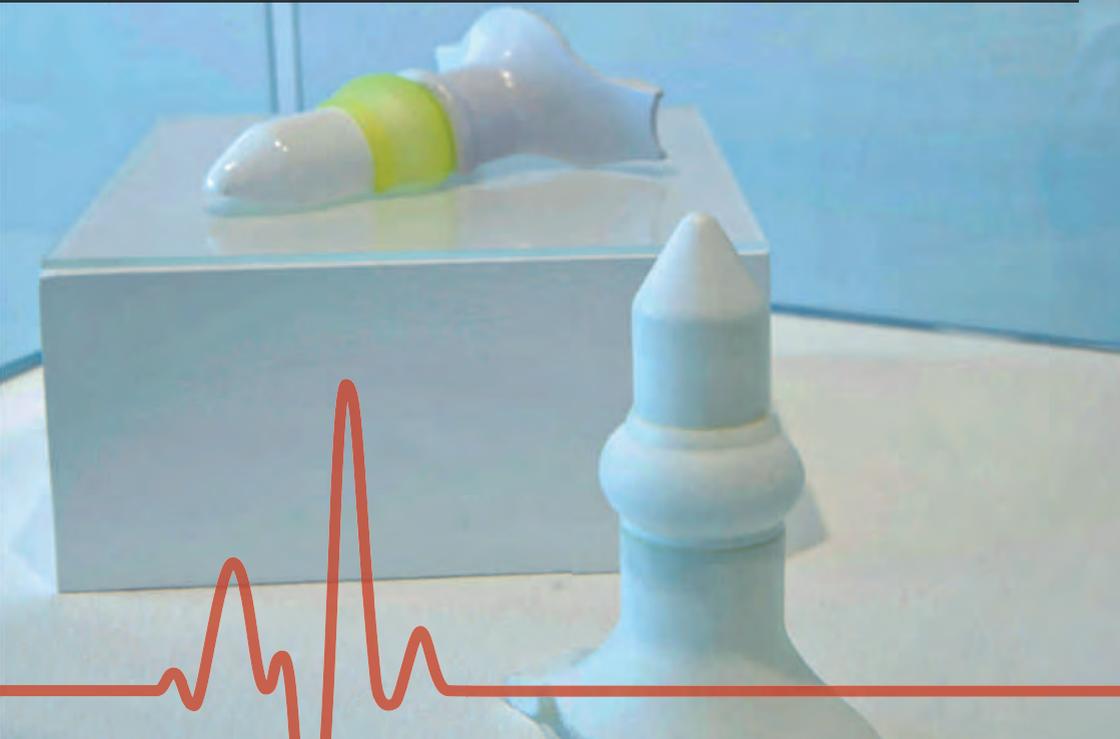
Self Retaining Anal Speculum

Medical instruments: improving for surgical staff.

Surgery procedure today often relies on intelligently designed technical equipment. Usability is increasingly a major consideration when hospitals purchase new equipment.

This research, building on an earlier MA study, has produced a novel design of a speculum to be used in lower gastrointestinal examination and surgery. The new design has potentially time and labour saving features. Clinical trials and commercialization are now underway.

Supported by Ministry of Higher Education, Malaysia



Saiful Hasley
saifulhasley@yahoo.co.uk
Sheffield Hallam University



Be Active

Applying techniques and technologies from the Games industry to combat obesity in adults.

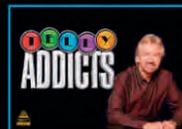
How can the Games industry encourage overweight adults to engage in physical activity? Route 1 Games worked with Sheffield Hallam University on a solution which would engage and maintain their interest, encourage them to make personal change decisions and participate in beneficial physical activities.

The resulting DVD was designed to inform, challenge and entertain using high-impact technical approaches and screen ergonomics normally reserved for video games.

This successful campaign has delivered BMI reductions in over 70% of respondents and waist circumference reductions of over 80% after 6 months.



Peter Dalton, Rob Copeland
and Helen Crank
www.route1games.com





Health Measure

Re-interpreting health information away from numbers to a personal indication of health.

This project work explored problems of interpreting and conceptualising numbers. This led on to the idea of translating numbers into context. Designs were developed which re-evaluated the use and value of numerical feedback in the context of personal healthcare.

Rather than providing numbers, the design of the scales provides information relating to the individual, enabling the user to appreciate and interpret information in relation to themselves.

'Health Measure; Scales' proposes a way the healthcare system can better inform individuals to manage and better understand their own personal health.



Cristie Blandford
cjblandford@hotmail.com
www.cristieb.com



Jeremy Shellhorn
jeshellh@ku.edu
www.sadp.ku.edu/design
www.graphicdesigninthemiddle.com/portfolio



Prof Paul Chamberlain, Heath Reed,
Maria Burton and Prof Gail Mountain
www.lab4living.org.uk
Sheffield Hallam University

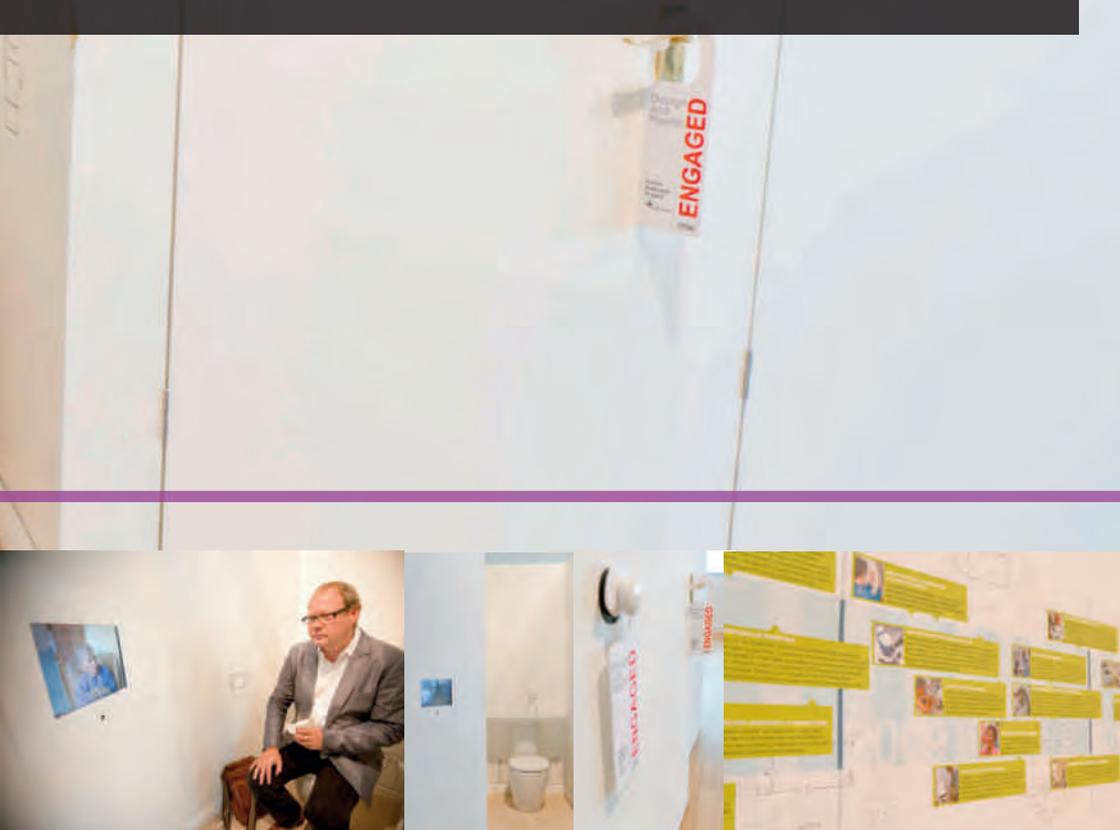


Future Bathroom

The bathroom: a space used by people of all ages and abilities presents a challenge for inclusive design.

For people with disabilities such as arthritis, sensory loss and mobility consequences following stroke (which become more prevalent with age), using the bathroom can be a source of difficulties, anxiety, and hazards. In this project, the Lab4Living team's challenge has been to design quality products that do not stigmatise but that all bathroom users would find acceptable as well as meeting the specific needs of older people. The aim has been to provide an environment, method and process where innovative exchanges of ideas between stakeholders can take place. We adopt the term co-design to describe approaches to design that encourage both user involvement and interdisciplinary design. A key element of the project has been working closely with 'lay researchers' to record how older people use their bathrooms and to have input at the design concept stage.

Supported by EPSRC





David Cotterrell
www.cotterrell.com
Sheffield Hallam University



The Green Room

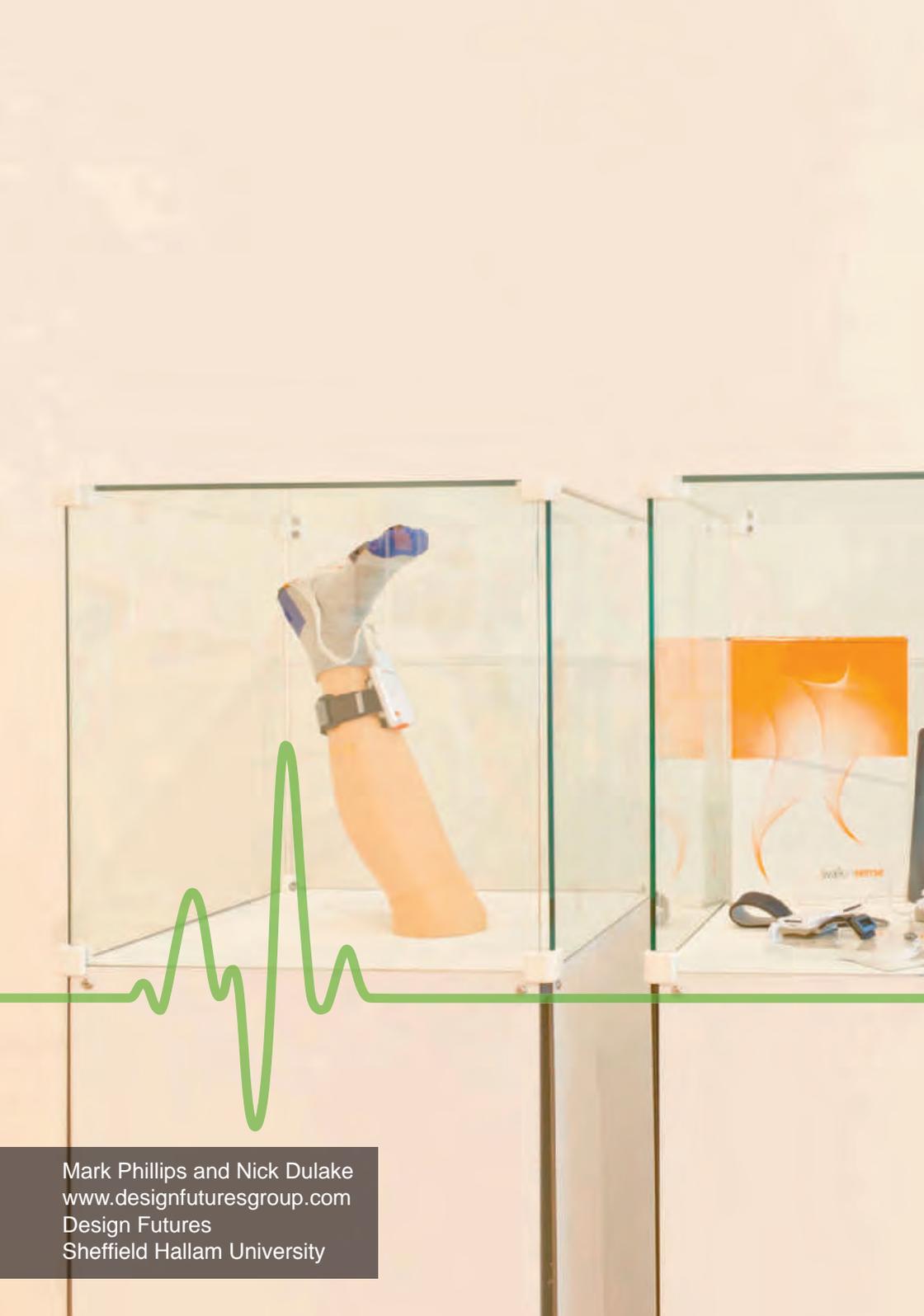
Re-interpreting health information away from numbers to a personal indication of health.

A looped single channel video, documenting the anticipation and preparation for treatment of mass casualties within conflict.

After two years of negotiations between the Wellcome Trust, Imperial War Museum and Ministry of Defence, Cotterrell was invited to observe the Joint Forces Medical Group at Camp Bastion in Helmand Province, Afghanistan. He underwent basic training, was taught the rudiments of battlefield first aid and was issued with body armour.

In November 2007, he flew in an RAF C17 from Brize Norton to Kandahar, the sole passenger in a plane loaded with half a million rounds of palletised munitions and medical supplies to join Operation Herrick 7. Green Room documents the arrival of casualties at Camp Bastion for treatment after a major Incident. Medics prepare for the entrance of their assigned patients. Doctors, nurses, technicians and observers shuffle, chat and arrange the scene, their bodies and faces concentrated on the tasks to come over the next four hours. Like actors preparing to enter the stage, the players here come forward and withdraw from the camera's gaze as they consider the work ahead of them.





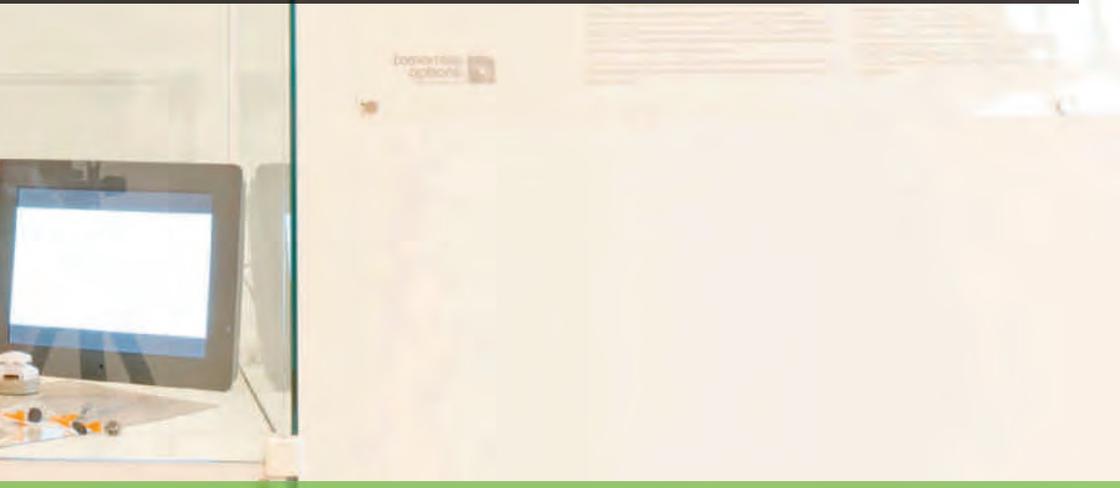
Mark Phillips and Nick Dulake
www.designfuturesgroup.com
Design Futures
Sheffield Hallam University

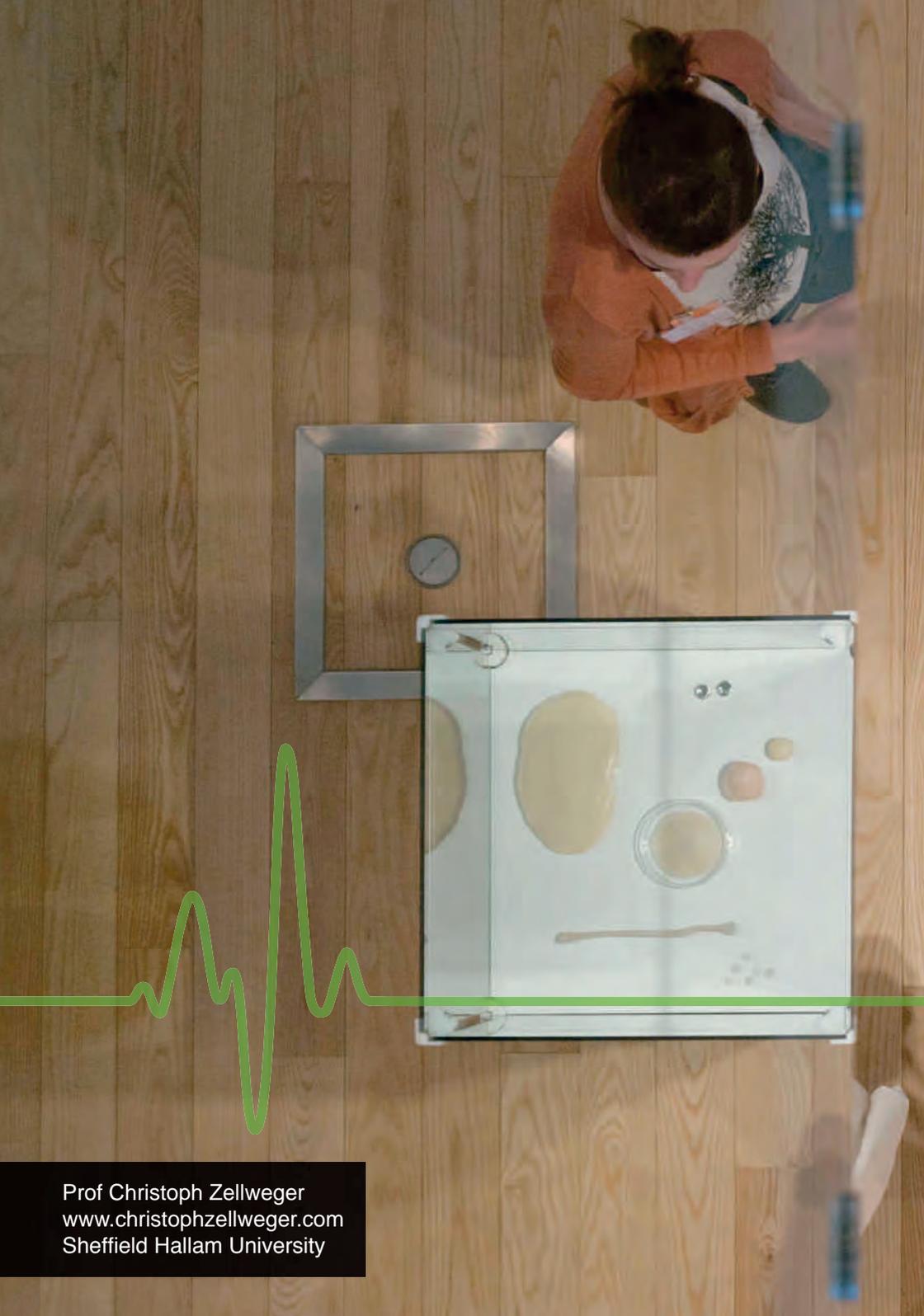


Walkinsense - A wearable medical monitoring device

As more technology moves onto the person, the applied research undertaken as part of this project is likely to become increasingly relevant in medical and non-medical sectors.

Design Futures worked with Tomorrow Options to design a product that could provide clinicians with information about weight distribution and gait to support assessment of people with diabetic foot disorders. This project aimed to develop a simple to use, yet accurate and robust clinical tool that did not require patients to visit a laboratory for diagnosis. The design team's user-centred approach was fundamental to understanding how patients and healthcare professionals interacted with the device. The potential impact of WalkinSense is enormous, bringing benefits for the welfare and quality of life of people with diabetes and reducing healthcare costs.





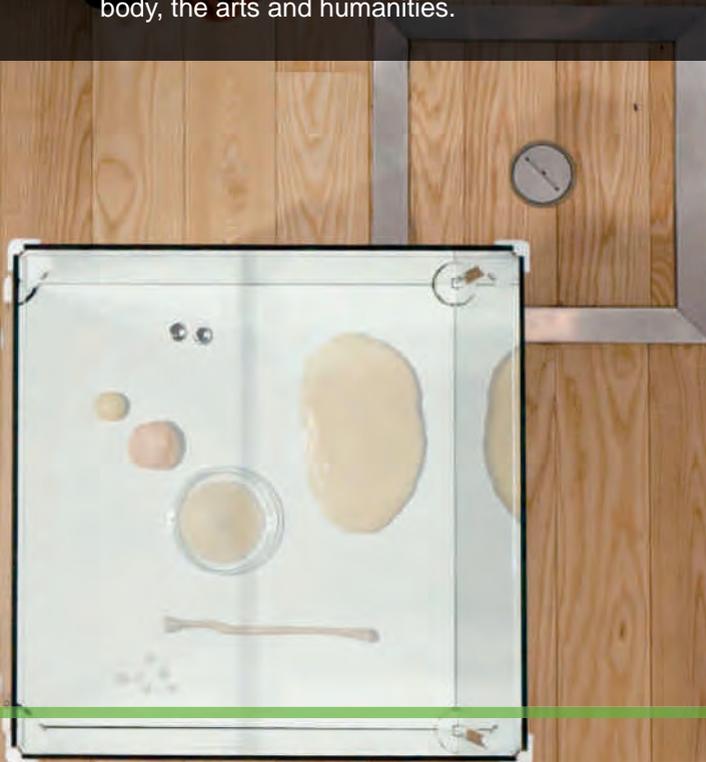
Prof Christoph Zellweger
www.christophzellweger.com
Sheffield Hallam University



Incredibles: An Artistic Perspective on Corporeal Design

How far has the human body itself become the subject of design?

The human body has become the subject of design, a commodity to be optimised and aestheticised. Through the making of critical, artistic objects and fictional products, Zellweger assesses relevant cultural, social and political metamorphosis happening skin deep. His investigation suggests a possible “corporeal design”-practice, an emerging interdisciplinary field at the interface of various sciences, the medical body, the arts and humanities.





Jo Szczepanska
joszczepanska@gmail.com



Designing Health as physical, mental and social well-being

Creative solutions to change the 'sickness' experience

Jo's work uses a design approach to focus on changing the experience of illness and recovery. In the prototype artefacts displayed, she uses both psychology and sociology to promote a healthier experience of illness, and make the time recovering easier for the patient and their support network. The artefacts demonstrate how habits and relationships between helpers and those who need help might be changed.





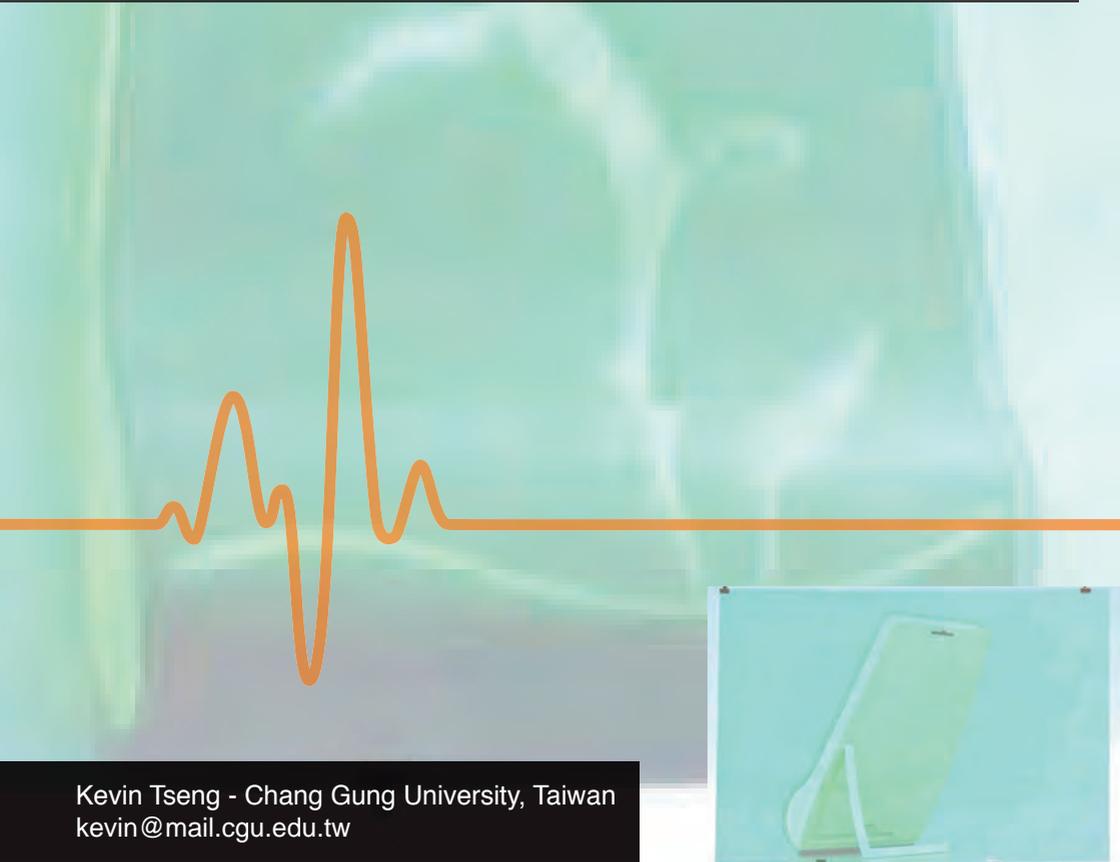
Care Together

In exploring how new technologies can be used to tackle chronic diseases, 'CareTogether' is a novel way to enhance tele-healthcare, social interaction and activities.

This idea for a tele-healthcare service monitors the health status of elderly patients and the frequency of social interaction. Medical data is transferred and managed through ZigBee and RFID technology. To enhance the social interaction, the program allows elderly people to care for a digital plant. Graphics and symbols appear on the plant which to record interactions with health professionals and to signify the user's health condition.

The idea of CareTogether provides a new and dynamic channel for social interaction.

Supported by National Science Council, Taiwan and the Chang Gung Medical Foundation, Taiwan





Chronic Facility (Queen Mary University of London and Barts and The London NHS Trust)

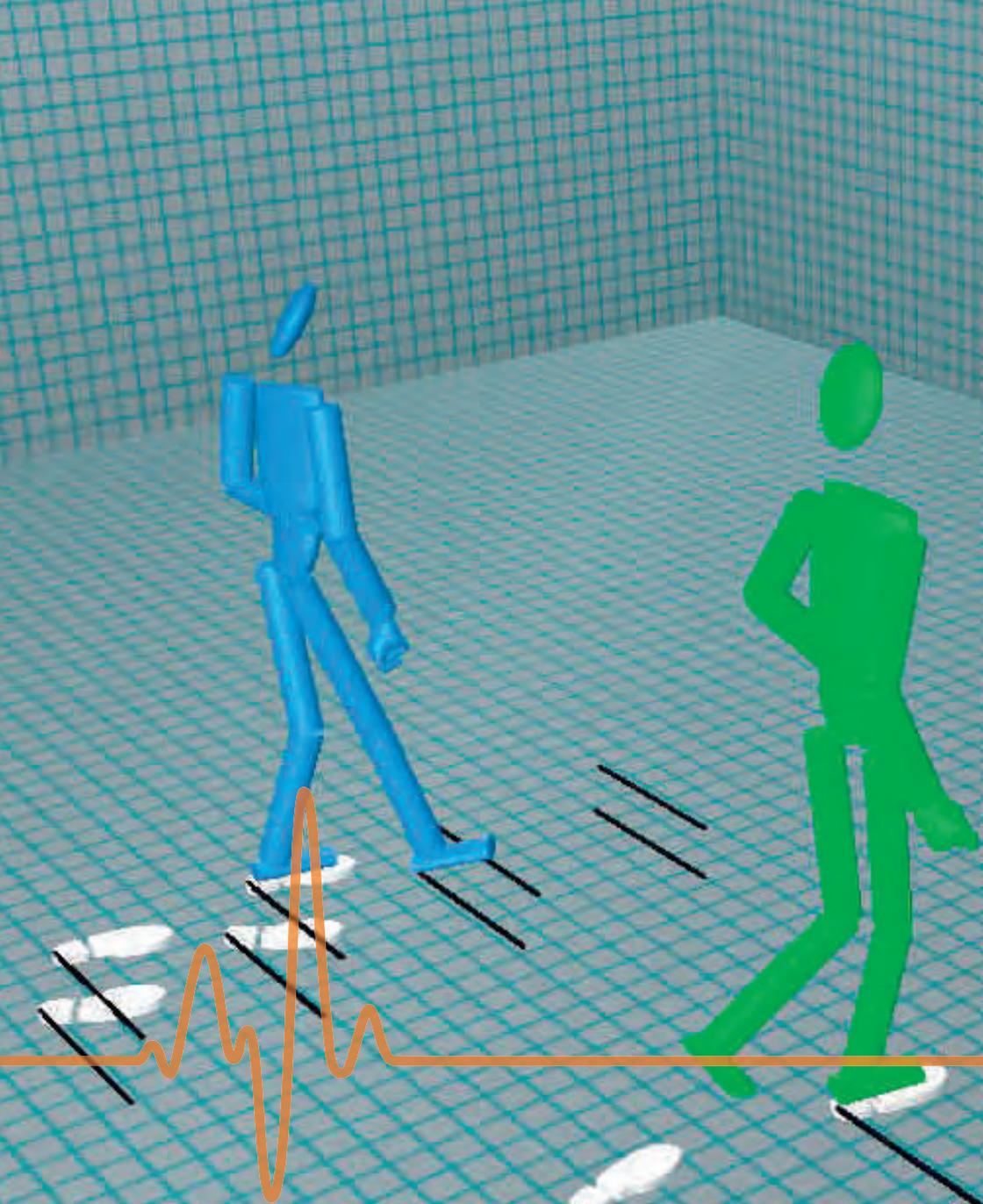
Chronic disease: redesigning the relationship between patient, clinician and scientist.

The Chronic Facility is a project that tackles a major issue concerning our health service; care for those with life-long conditions. It recognises the different needs of patients and provides a way to talk about diagnoses, treatments and living with disease.

Scientists took part in a creative modelling workshop where they discussed their work using food as a metaphor, with food types relating to cells, processes and treatments. Physical modelling empowered them to challenge the way they think about their work practices. The food models act as props to facilitate conversations between experts and the public.



Alice Thomson
mail@somehowrelated.co.uk
www.somehowrelated.co.uk
Queen Mary University of London



Prof Alastair S Macdonald
Dr David Loudon
www.envisagerehab.co.uk
The Glasgow School of Art

a.macdonald@gsa.ac.uk
d.loudon@gsa.ac.uk



Envisage - The development of visualisation methods for use in physical rehabilitation interventions

Using design to support the patient/clinician relationship.

Envisage is a research project concerned with promoting independence by involving users in their rehabilitation through the use of visual methods. The challenge was to develop easy-to-understand visualisations of complex biomechanical data during rehabilitation in order to improve patient outcomes. Through a series of focus groups, design workshops, interviews, observations and clinical trials, the research team considered how visualisation techniques could assist in patient treatment in hospital, in the community and at home.

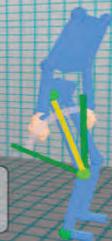
This work, funded through the Medical Research Council's Lifelong Health and Wellbeing Initiative, is exploring the potential benefits for stroke patients and total knee replacement patients. www.envisagehab.co.uk



Sit-to-Stand Exercise



Angle	45
Target	60





Will and Sam Boex
www.boex.co.uk



Innovative Healthcare Interiors

Staff/user engagement in healthcare design for the built environment.

Boex is a fresh thinking, energetic and experienced design company specialising in healthcare design for the built environment. Through experience, Boex has developed a design methodology that focuses on staff/user engagement. Each project they undertake is initiated by a workshop process which helps formulate a design brief. Boex believe this approach is fundamentally important in ensure spaces have practical efficiency but also promote healing and wellbeing. Previous projects include A&E environments, reception areas, sensory rooms, outdoor installations, operational wards and most notably design for dementia and mental health encompassing innovative methods for anti-ligature, infection control and staff and patient safety.



Conference feedback from delegates:

“A real **joining of minds and sharing of ideas.**”

“At the risk of sounding soft, I **felt like I'd come home** at this conference - thank you.”

“I found I wanted to attend nearly all the sessions.”

Interesting aspects for delegates:

“It demonstrated the **need for collaboration** between designers, clinicians and users.”

“The **different spaces we all live** in but how complimentary they are.”

“A new way of looking at problems.”

“People from both design and healthcare disciplines agree that there is a **common ground for collaborating.**”

The challenge for the future...

How do we facilitate interdisciplinarity?

How do we build long-term strategic alliances?

How do we quantify and measure the impact and effectiveness of design in health?

How can we better understand the cultural differences between health and design?

Is there a particular kind of challenge we face in health as a public service in the UK and Europe?

What models or strategies do we need to adopt?



Acknowledgments

Our grateful thanks for the support of the following sponsors of the Design4Health 2011 conference:



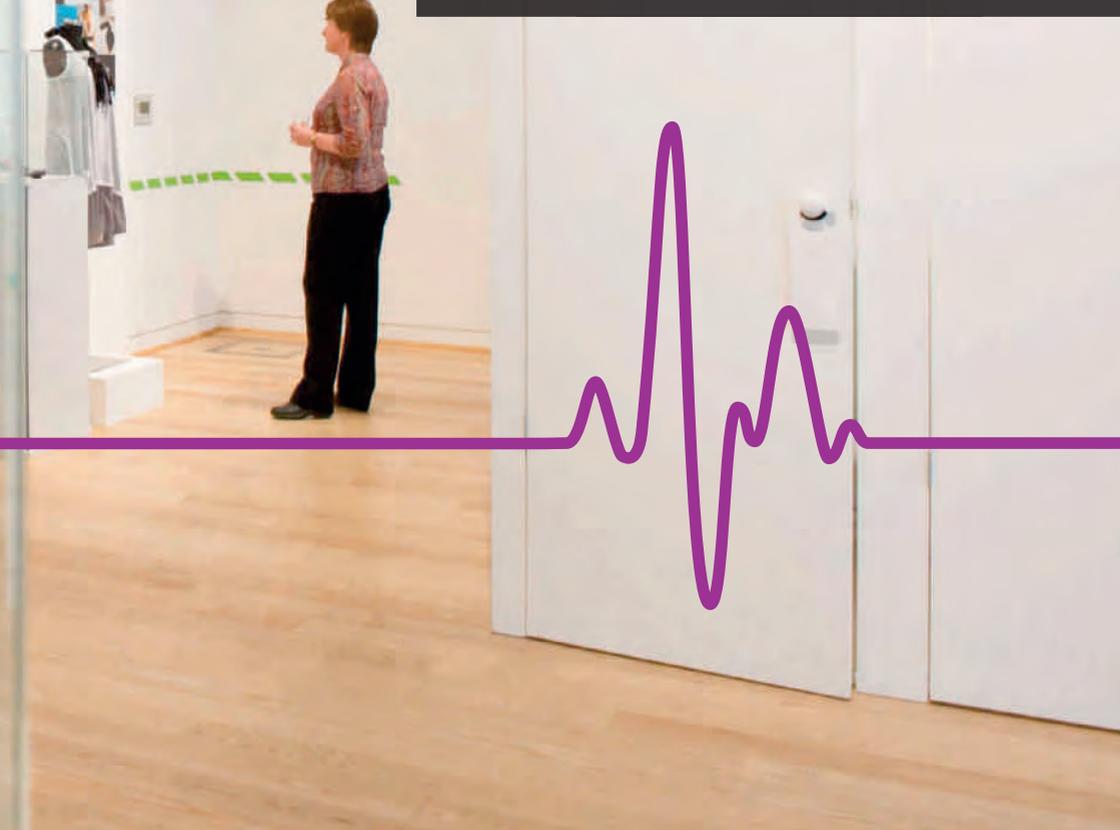
Design
Editors

Sarah Beattie
Kirsty Christer, Ian Gwilt
and Alaster Yoxall

Photography
Printed

Richard Hanson
Northend Creative Print Solutions

© 2012 Art and Design Research Centre, Sheffield
Hallam University





For more information please contact:
design4health@shu.ac.uk
www.design4health.org.uk