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Keynote speakers

Wednesday 3rd July

Sonja Bäumel

Hidden Connections

All over the world scientists have started to focus on the Microbiome, the multifunctional community of micro-organisms living on the human body. The human body is a hybrid, a walking biotope, where small creatures are in charge. From a genetic point of view, bacteria are in charge; the colonizers' genotype contains a hundred times as many genes as the human's genotype. We carry between two and three kilos of bacteria on and in our body, and most of them live in our stomach. So one could pose the question: who feeds whom? The human being, a large host, is not aware of the fact that such an amount of microorganisms live in and on his body.

Thanks to recent advancements in gene technology, scientists have been widening their focus, starting to observe bacterial behaviour in context by examining samples taken from the environment which, as mixed cultures, contain a variety of microorganisms. This methodology has given birth to a new field of study, *Metagenomics*, which analyses microbial communities on the basis of their genome and promises to provide a new and more complete understanding of diseases and health. What kind of impact will this have on medicine and on society?

Design can act as a medium for the public, stimulating discussion on social and cultural developments in science and technology. Scientific, academic research must have a point beyond its own community. Art can visualize scientific processes. Science can contribute methods and data to Art. The discourse between art and science should remain as a crucial necessity to question the newest developments in science. The improvement of a step by step collaboration between art and science will allow visions and communication to be merged with technical knowledge and methodologies, to create positive advancements in society.

Sonja's work is driven by thinking about how we can extend the human body and use such a platform in new unexpected ways. She is fascinated by the human body and the unexpected diversity of the human ecosystem, in its "social network" - including the language of the billions of bacteria and other micro-organisms which populate it - and in our changing perspective on the human body. Hidden Connections will show work samples of Sonja's recent projects: *Expanded Self, The Textured Self, Cartography of the human body* and *(In)visible Membrane.*

Biography

Sonja lives and works in Vienna and Amsterdam. Her artefacts mediate between art and science, fashion and science, design and science, between clothes and body, between fiction and facts. Her works evolve from permanent confrontation with scientific data and facts, which she often generates herself in experiments and in research labs.

Sonja studied Fashion Design at the Fashion Institute of Vienna, and holds a Bachelor in Arts from the University of Arts of Linz, as well as a Masters in Conceptual Design in Context from the Design Academy Eindhoven. In 2012 she was awarded with the Outstanding Artist Award Experimental Design, for the project Textile Anatomy, from the BMUKK Federal Ministry for Education, Art and Culture of Vienna.

Her work has been exhibited internationally in Anthology Film Archives New York (USA); Utrecht Manifest, Biennial for social design (NL); Milano Salone del Mobile (IT); Biennale internationale du design Liège (B); Museum of Natural History Vienna (AT). Her Textured Self project is in the permanent collection of the Textielmuseum in Tilburg in the Nehterlands. Her works have also been the basic impact for documentary films (ORF/ARTE: BioArt - Kunst aus dem Labor; ServusTV_Terra Mater: Wir sind Planeten).

Professor Alastair Macdonald

Design - a disruptive, illuminating and generative force for change? case studies from healthcare (working title)

Recent pre-occupations in design practice and research have extended the understanding of design from one comprising activities which were once purely those of the 'professional' (e.g., industrial) designer to the point where design is seen as a 'distributed social accomplishment' and where, e.g., 'stakeholders are co-designers and designers are another kind of stakeholder'. [1] Here, design can use 'participative' or 'co-design' processes where designers' roles - to a greater or lesser extent – might extend to being catalysts and/or facilitators, moving from a stance of designing 'for' people to designing 'with' people.

As such, design tends to be valued for its utilitarianism, i.e. for its potential for reducing suffering, increasing wellbeing, or providing improved scenarios or solutions. In multi-disciplinary research, when designers form part of the team, this utilitarianism is attractive to other disciplines in (hopefully) achieving desired outcomes. The author, although complicit in this approach, discusses original utilitarian intents and motives for using design by the non-designers leading these teams, but also questions to what extent design is understood as a disruptive, illuminating and generative force for change in its own right.

Taking a case study approach, the author discusses a series of multi-disciplinary healthcare research projects, where designers were invited for the first time to bring novel approaches and methods to bear on specific healthcare problems. He discusses how a design presence can influence, e.g., the dynamics of inter-personal relationships, the way the research itself is designed and conducted in healthcare environments, and how problems are defined and understood. Design can also illuminate data, insights and ideas and, through its rich mix of accessible methods and processes, can create a strong and effective social dynamic between the research teams, stakeholders and clients, allowing

everyone to work together in a more fluid and contributory manner, enabling a collective generation of solutions. (300)

[1] Kimbell, L. (2009) Beyond design thinking: Design-as-practice and designs-in-practice.

Biography

Alastair, a product designer by training, formerly Head of Department of Product Design Engineering at the Glasgow School of Art (GSA), is currently Senior Researcher in the School of Design at GSA. He deploys people-centred, co-design driven research methodologies within multi-disciplinary healthcare teams, exploring the use of design approaches and the design of innovative products and tools for healthcare service improvement. His work is funded by RCUK initiatives such as the AHRC/EPSRC's Designing for the 21st Century, the cross-council New Dynamics of Ageing, the Medical Research Council's Lifelong Health and Wellbeing programmes, and the AHRC/Scottish Funding Council's A Healthier Scotland.

Professor Paul Chamberlain

Biography

Paul is Director of the Art & and Design Research Centre, and Design Director of Lab4Living at Sheffield Hallam University. Paul's research explores the role of artefacts in multi-disciplinary human-centred research. He engages in design research where his design activity is used as tool to develop understanding as well as more traditionally to develop solutions to problems. Paul works with diverse academic specialists and commercial partners with the objective of realising new knowledge that informs and is demonstrated in commercial outputs. Paul explores multi-sensory aspects of design and in particular within healthcare, disability and ageing. This includes investigations into educational and therapeutic, environments, furniture and medical devices. This work has been instrumental in the creation of Lab4Living, a collaborative research initiative between the Art & Design and Health & Social Care research centres.

Julia Cassim

24 Hour Design Challenge

From the typewriter to the remote control, the history of design innovation is replete with examples of product concepts that can trace their origin to the extreme scenarios afforded by disability. While the ergonomic benefits of working with disabled and older people in product development are increasingly understood, the often standardised methods of engagement may not allow the fullest potential of this 'user'/designer interaction to be realised in terms of stimulus, information and result. Julia's presentation will look at a range of co-design strategies, methodologies and their results developed in my award-winning Challenge Workshops programme, to show how greater benefit can be derived for those seeking to co-design inclusively and innovatively.
(http://www.hhc.rca.ac.uk/405/all/1/challenge-workshops.aspx)

Biography

Julia Cassim studied Fine Art at Manchester College of Art and Design and then at Tokyo University of Fine Arts and Music on a Japanese Ministry of Education postgraduate scholarship. She has an MPhil from the International Centre for Heritage Studies, University of Newcastle upon Tyne. She lectures on inclusive design and runs in-house workshops for leading international companies in the UK and internationally. She was included in Design Week's 'Hot 50' list of people who have most influenced the design world in 2010.

From 1971-1998, Julia was resident in Japan. As arts columnist of *The Japan Times*, she founded *Access Vision*, a non-profit organisation for visually impaired people and curated and designed award-winning exhibitions for audiences with visual impairments and learning disabilities.

Returning to the UK, Julia joined the Helen Hamlyn Centre in 2000, where she is Visiting Senior Fellow. Her main research focus since then has been the development of creative partnerships between people with disabilities and designers; ways to involve them in the design process to encourage innovative, inclusive thinking and the design of mainstream products, services, communications and environments that work better for all.

Design Challenge

She runs the Challenge Workshops, a knowledge transfer programme in inclusive design which brings together designers at all stages of their career with disabled people and other marginalised groups in a co-design process based on equality and mutual benefit. The DBA Inclusive Design Challenge she has organised annually since 2000 has proved influential. Julia has developed and extended the model in different contexts, in the UK and internationally. To date 24 and 48 Hour Inclusive Design Challenges have been held in Norway, Dublin, Seoul, Tokyo, Kyoto, Sarajevo, Jerusalem, Hong Kong, London, Boston and Singapore involving over 700 designers from different countries.

Her most recent project in Bosnia, Croatia and Macedonia won the Grand Prix at D Day in Zagreb in 2011, the international jury prize at the 2012 Croatian Design Biennale and the Association Mrak, Network for Development and Creativity, Croatia. It was the subject of an exhibition at the British Council headquarters in London in January 2013.

Thursday 4th July: Design4Health Connects

Neil Ebenezer

"The Regulation of Medical Devices in the UK"

The Medicines and Healthcare products Regulatory Agency (MHRA) is the government agency which is responsible for ensuring that medicines and medical devices work, and are acceptably safe. In this presentation, Head of New and Emerging Technologies Neil Ebenezer will give an overview of the European Medical Device Directives and how the UK regulations have been implemented. He will talk about the role of the MHRA as the UK competent authority. Medium and high risk devices require the use of Notified Bodies to assess compliance; Nail will discuss their role. He will also introduce the Essential Requirements and the role for harmonised standards, plus conformity assessment and the process CE marking a medical device. There will also be a discussion on ergonomics and usability of medical devices.

Biography

Neil is currently employed as the Head of New and Emerging Technologies at the Medicines and Healthcare Products Regulatory Agency (MHRA) within the Devices Division. He undertakes horizon scanning on the impact of new and emerging technologies on the regulations of medical devices. Neil also represents the MHRA at a European level on the New and Emerging Technologies working group.

He has a broad scientific knowledge with a degree in Biotechnology, a PhD in Molecular Genetics as well as an excellent research background on the genetics of ocular disease, and is an Honorary lecturer at University College London.

Professor Marie O'Mahony

A survey of Advanced Textiles for Health + Well-Being and their applications in Fashion, Design and the Built Environment.

Space, Military, Medicine and Sport are the four key drivers in the development of advanced textiles. Since the latter portion of the twentieth century the Space and Military programmes have come under increasing pressure to find commercial uses for their material technologies with health and wellbeing applications one of the key areas to benefit. Demographic changes have also influenced this, as people in developed countries are living longer and demanding that this be matched by a good quality of life. The Sports industry having been slow to recognise the importance of the female market in the 1970's, have wasted little time in the twenty first century in embracing the health and wellbeing market across all age groups. Today, health and wellbeing is one of the most important areas of fibre, fabric, coating and finishing treatments for advanced textiles. In this paper we look at the key developments, first in materials, then at their applications in fashion, design and the built environment. Key issues are also discussed and the paper concludes with a consideration of the future development of the industry.

The first portion of the paper focuses on discussion of high-performance fabrics that are: flame retardant, soundproof, anti-bacterial, climate regulating, fitness enhancing, health-monitoring and capable of offering protection against extreme weather conditions and man-made disasters.

Technologies discussed include: three dimensional structures, smart materials and systems, functionally gradient materials, Nanotechnology and TechnoNaturals. The second section of the paper moves on to examine applications in fashion, design and the built environment. The discussion here is focused on the impact of new materials looking at where advanced textiles have brought added-value, led to innovation in design or even resulted in the development of whole new products. This is followed by discussion of some of the key issues facing the industry – from privacy to sustainability. The paper will conclude with a survey of emerging technologies and assess their likely impact over the next two decades.

Biography

Marie O'Mahony is an academic and consultant. She is Professor of Advanced Fashion + Textiles at Ontario College of Art and Design (OCAD) University, Toronto and Visiting Professor at University of the Arts, London. She is also a textile and technology consultant, author and curator. She has lectured worldwide and published numerous books on the subject, with the most recent, Advanced Textiles for Health + Well-Being published by Thames + Hudson (2011). Clients include Seymour Powell, Ove Arup and Partners, ResMed, NIKE, Zaha M. Hadid and Material ConneXion. She was a member of the Australian Government's Textile, Clothing and Footwear Innovation Council (TCFIIC) from 2009-2011.

Friday 5th July

Dr Karel van der Waarde

Risky design for beneficial medicines. Can we really enable patients to act appropriately?

Visual information about medicines that patients receive seems to be rather poor in quality. Small type, hard to understand, difficult to apply, unreliable, and frequently confusing are common characteristics across Europe. Despite all the efforts in the last twenty years to change this situation, visual information is still very problematic. This talk will show several approaches to developing information that really enables people to handle medicines correctly.

Biography

Karel studied graphic design in the Netherlands (The Design Academy) and in the UK (Leicester and Reading). He received his doctorate in 1994 for a study that investigated the usability of information about medicines.

In 1995, he started a design research consultancy in Belgium, specializing in the testing of information design of pharmaceutical information. His company develops patient information leaflets, instructions, forms, packaging, and the information architecture for websites. Avans University of Applied Sciences (Breda, The Netherlands) has appointed him as scholar in Visual Rhetoric in 2006. It is a research post to investigate the development and use of visual communication with a longer term aim to support the relations between practice, research and education.

Van der Waarde is a life-Fellow of the Communications Research Institute (Melbourne), a board member of IIID (Vienna) and editorial board member of Information Design Journal, Iridescent, the Poster and Visible Language.

Further speakers tba