



# Design for Health and Wellbeing

One day conference

Tuesday 25 February 2014, 8.30 am – 5.30 pm

[www.ntu.ac.uk/designhealth](http://www.ntu.ac.uk/designhealth)

**DesignResearch**Society



EUROPEAN UNION  
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European Regional  
Development Fund 2007-13

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# Welcome

Welcome to the first Design for Health and Wellbeing Conference, held at Nottingham Trent University. The conference aims to provide a timely forum and bring together academics, researchers, healthcare companies and medical professionals to discuss issues, identify challenges and future directions, share their research and development findings and experiences in the areas of medical design.

Researchers, designers and developers must understand how to progress or appropriate the right technical and human knowledge to inform their medical innovations.

The conference seeks to address the changing needs of medical research and society, and to build collaborative partnerships for developing research that informs the evidence base for practice and improves health and wellbeing.

Conference topics will address:

- social factors and health (prevention, intervention, individual, and collective wellbeing);
- medical device development and additive manufacturing processes;
- biomaterials - including, cardiovascular, ophthalmics and orthopaedics;
- participatory and user centred design practice;
- the development of novel healthcare technologies, including biometrics, networked systems, rehabilitation and remote monitoring;
- the utilisation of new and innovative smart technologies and materials for medical devices; and
- personalisation approach to the design of services, care plans, interactive systems, new technologies, and the design of the built care environment.

This conference is supported by Medilink East Midlands and part funded by the Healthcare & Bioscience iNet, a project part financed by ERDF. The Conference is also endorsed by the Design Research Society.

# Keynote speaker profiles

## Daniel Lockney

Technology Transfer Program Executive, Office of the Chief Technologist, NASA

Presentation: Innovation: Space technologies coming back down to earth

Daniel Lockney is the Technology Program Executive at NASA Headquarters. He is responsible for Agency-level management of NASA intellectual property and the transfer of NASA technology to promote the commercialisation and public availability of federally-owned inventions to benefit the national economy and the U.S. public.

NASA has had a long history of finding new innovative uses for its space and aeronautics technologies. Daniel Lockney is the agency's leading authority on NASA's technologies and their practical, terrestrial applications.

Daniel studied American Literature at the University of Maryland, Baltimore County and Creative Writing at Johns Hopkins University. Prior to working for NASA, he taught journalism and technical writing in Baltimore, where now he resides.

## Michael Phillips

Design Development Director, Renfrew Group

Presentation: Designing with the NHS: Patient centred innovations

Michael has more than 20 years experience in Industrial and User Centred Design. Covering a very wide range of sectors and products including medical device and healthcare equipment design. Consumer products and automotive, motorcycle and aerospace design, for clients including GSK, Department of Health, NHS, Xerox, Shell, BP, Airbus, Countax, Iveco, Honda, Suzuki and Aprilia. He has business experience in the EU, USA, Brazil, Vietnam, Thailand, Taiwan, China and India.

## Mr Charles Nduka

Consultant plastic and Reconstructive Surgeon,  
Queen Victoria Hospital

Presentation: The evolution of the ultimate human  
user interface

Charles Nduka is a Consultant Plastic and Reconstructive Surgeon based at the Queen Victoria Hospital in Sussex. He is also an Honorary Senior Lecturer at Imperial College. Having qualified in medicine at Oxford University and Imperial College, Charles trained in surgery in London. He runs the UK's largest clinic for facial paralysis treatment, seeing patients from across the UK affected by Bell's palsy, tumours, accidents and infections.

Charles specialises in restoring facial symmetry and movement. His research interests include the use of computer vision technology to track facial expressions, the application of surface electromyography to measure facial muscle activity and the potential of external and internal prostheses to improve outcomes following facial reanimation.

## Professor Michael H. Vloeberghs, MD, PhD

Consultant Paediatric Neurosurgeon, Nottingham University Hospital

Presentation: Medical design and technology in practice

Michael is a Professor of Paediatric Neurosurgery at the Nottingham University Hospital. His academic interests lie with applications of technology into medicine, particularly surgery.

He originally trained in Belgium, qualifying as a general practitioner in 1985; then took on training in general surgery, moved to neurosurgery and finally trained in the UK, specifically in paediatric neurosurgery, qualifying in 1993. His clinical work is very technical and increasingly focused on movement disorders in children with brain damage. He currently has the largest European practice in drug delivery to the brain and spine, deep brain stimulation and selective neural sectioning for spasticity and other movement disorders.

He also has a busy postgraduate teaching program, which leads him to teach specific surgical techniques such as neuroendoscopy and drug delivery implants across Europe and the Middle East. This also gives him the opportunity to experience different healthcare systems and surgical environments.

Michael has a longstanding relationship with the Rutherford Appleton Laboratories and keep an interest in developing technologies with potential applications in surgery.

# Programme

8.30 am	<b>Registration opens</b>	Nottingham Conference Centre
9.25 am	<b>Opening remarks and welcome</b>	<b>Ann Priest</b> Pro Vice Chancellor and Head of College College of Art & Design and the Built Environment Nottingham Trent University
9.35 am	<b>Introduction</b>	<b>Dr Philip Breedon</b> Conference Chair and Reader in Smart Technologies Nottingham Trent University
9.40 am	<b>Innovation: Space technologies coming back down to earth</b>	<b>Keynote speaker:</b> <b>Daniel Lockney</b> Technology Transfer Program Executive NASA, Washington DC, USA
10.25 am	<b>Designing with the NHS: Patient-centred innovations</b>	<b>Keynote speaker:</b> <b>Michael Phillips</b> Design Development Director Renfrew Group International
11.10 am	<b>Morning break</b>	
11.30 am	<b>Engaging clinicians in the design challenge</b>	<b>Dr Andrew Norris</b> Consultant Anaesthetist Nottingham University Hospitals Head of School of Anaesthetics East Midlands North, East Midlands LETB
11.50 am	<b>Introduction to Biomaterials for Healthcare Special Interest Group</b>	<b>Costa Philippou</b> Business Development Manager Medilink East Midlands  <b>Dr Philip Breedon</b>
12 noon	<b>Lunch break</b>	
1 pm	<b>The evolution of the ultimate human user interface</b>	<b>Keynote speaker:</b> <b>Charles Nduka</b> Consultant Plastic and Reconstructive Surgeon Queen Victoria Hospital, West Sussex

1.45 pm	<b>Medical design and technology practice</b>	<b>Keynote speaker:</b> <b>Professor Michael Vloeberghs</b> Consultant Paediatric Neurosurgeon Nottingham University Hospital Visiting Professor, Nottingham Trent University Accredited Mediator
2.30 pm	<b>Design technologies in maxillofacial applications: From research to application</b>	<b>Dr Dominic Eggbeer</b> Unit Manager, Surgical and Prosthetics Design Group Centre for Applied Reconstructive Technologies in Surgery Cardiff
2.50 pm	<b>Innovative design: Group projects in sports and rehabilitation</b>	<b>Dr Alastair Campbell-Richie</b> Lecturer in Biomedical Engineering University of Nottingham
2.50 pm	<b>Afternoon break</b>	
3.20 pm	<b>The design of mobile apps for health and wellbeing</b>	<b>Dr Jennifer Martin</b> Programme Manager and <b>Dr Michael Craven</b> Senior Research Fellow MindTech Healthcare Technology Co-operative The Institute of Mental Health University of Nottingham
3.40 pm	<b>Additive manufacturing of inflatable structures for tubular 'bio-robotic' artificial muscles</b>	<b>Feargal Coulter</b> Doctoral Researcher Design for Health and Wellbeing Research Group Nottingham Trent University
4 pm	<b>Bringing innovation and technology to the market</b>	<b>David Browning</b> Director of MediCity, Nottingham
4.20 pm	<b>Low temperature deposition modelling of hierarchical composite structure</b>	<b>Emmanouil Papastravrou</b> Doctoral Researcher Design for Health and wellbeing Research Group Nottingham Trent University
4.40 pm	<b>Medical development: navigating the complex pathway to market – an industry perspective</b>	<b>Dr Rachael Gibbs</b> Senior Product Development Scientist Critical and Chronic Solutions 3M Health Care Ltd.
5 pm	<b>Panel discussion</b>	<b>Chaired by: Dr Darren Clark</b> Chief Executive, Medilink East Midlands <b>Panel members:</b> Dr Philip Breedon and keynote speakers
5.30 pm	<b>Close</b>	

# Delegate information

- **Access times:** The opening hours for the Newton building, Nottingham Trent University are Monday – Thursday (7.30 am – 8 pm) and Friday – Saturday (7.30 am – 7.30 pm). Should you require access outside of these times then prior arrangement would need to be made via the conference organiser.
- **Car parking:** There are a number of car parks located near to Nottingham Trent University; the nearest being on Talbot Street (see map in your conference pack). Please speak to the conference organisers for more details.
- **Fire Alarm:** In the event of a fire alarm, please evacuate the building via the nearest exits. The University has dedicated Fire Marshalls who will ask you to wait at an assembly point.
- **Printing:** If you require printing, please contact the event organiser.
- **Wi-Fi Access:** To access the wi-fi network, select 'ntu-guest' on your device and accept Terms and Conditions.
- **Reception:** To contact reception during the conference, please dial 83899 from an internal telephone or telephone Nottingham Trent University main switchboard (0155 9418418).
- **Audio visual equipment:** All AV equipment is tested prior to your arrival. If you are using AV equipment and encounter a problem, please contact our AV support team or the event organisers. The login details on all University computers is Username: ntu`present` and Password: `present`
- **Non-smoking venue:** Nottingham Trent University is a non-smoking venue. Smoking is permitted offsite on Goldsmith Street, away from the entrance and steps.

