



kt equal

Exchanging Knowledge | Extending Quality Life

**We set out to show how ageing and disability research can make a difference to people's lives.**

- We bring together researchers, policymakers and service users to focus on the issues that are important to older and disabled people.
- We influence regulations and good practice across a range of industries — including inclusive product design, rehabilitation, and the built environment.
- We gather and share knowledge and expertise about people's health and wellbeing, independent living, self-management and quality of life.
- We seek out the views and involvement of older and disabled people and their advocates.

**We know that the challenges we face transcend traditional scientific boundaries. We also recognise that older and disabled people and their carers have knowledge and expertise which is crucial to developing solutions that improve quality of life.**

**That's why we bring together researchers from many different disciplines to exchange ideas and share good practice. We also have close links with the organisations and agencies that work with older and disabled people.**

**Gail Mountain** is Professor of Health Services Research at the University of Sheffield. Her main interests are in rehabilitation and self-management.



**Catharine Ward Thompson** is Research Professor of Landscape Architecture at the University of Edinburgh and Edinburgh College of Art. Her main research interests are in the built environment.



**John Clarkson** is Professor of Engineering Design at the University of Cambridge. His main research interests are in inclusive design.



**Christopher Eccleston** is Professor of Psychology at the University of Bath. His main research interests are in self-management.



**Leela Damodaran** is Professor in the Department of Information Science at Loughborough University and head of the e-Society Research Group. She specialises in older people's use of ICT.



**Rachel McCrindle** is Professor of Computer and Human Interaction at the University of Reading. Her main research interests are in health and wellbeing.



**Trevor Cox** is Professor of Acoustic Engineering at the University of Salford. He also specialises in communicating science to the public.



“ We’re determined to build technologies that people really want and can use — because we know that any one of us might need to use similar devices in the future. ”



When people are compromised because of illness or disability, living a quality life can be challenging. It’s all too easy to get stuck in a neverending cycle of doctor’s appointments and check-ups.

But the technology that is becoming part of all our lives also opens up new possibilities for older people and those with long-term conditions. We research how technology can help people to manage their own conditions without needing constant help from health professionals.

To achieve this, we work in close partnership with industry, and with professionals in health and social care. But the key to success is to form meaningful partnerships with the people we hope will benefit from our technology. So we’re also working with older people and those with long-term conditions.

We’re determined to build technologies that people really want and can use — because we know that any one of us might need to use similar devices in the future. Our aim is to help people take control of their lives, and, as a result, to enjoy living.



Professor Gail Mountain  
Director of the SMART consortium

“ When someone becomes a prisoner in their own home, they miss out on opportunities to socialise, exercise, get fresh air, and experience nature. ”



If an older person can't get out into their local neighbourhood, their quality of life diminishes. When someone becomes a prisoner in their own home, they miss out on opportunities to socialise, exercise, get fresh air, and experience nature.

But for too long the inclusive design of the outdoors has been neglected. The project I lead, Inclusive Design for Getting Outdoors (I'DGO), aims to redress the balance.

To date, we have worked with over three thousand older people across the UK, finding out why getting outdoors matters to them and what helps or hinders them to access their local neighbourhood. We hear that it's often the design or maintenance of environmental features, such as footpaths, road crossings and public open spaces, that can cause difficulties.

We also want to drive forward change. We work closely with professionals to imbed inclusive design principles in both planning policy and design practice, and to translate what we've learnt into practical guidance. This guidance is promoted by the World Health Organization in *Global Age-Friendly Cities: A Guide*.



Professor Catharine Ward Thompson  
Director of the I'DGO consortium

“Once designers know what it feels like to have difficulties using a product, they start to see how their products can be improved.”



People experience difficulties when the demands of a product exceed their ability. So we have developed an Inclusive Design Toolkit, based on ten years' research in the Engineering Design Centre at the University of Cambridge, so that consumer product designers can better understand how the decisions they make affect the experience of a broad range of users.

We have developed wearable 'impairment simulators', such as those shown opposite, so that young industrial designers can experience some users' difficulties for themselves. Once they know what it feels like to have difficulties using a product, designers start to see how their products can be improved.

The simulators have also been used in industrial training workshops with a range of top organisations, including the BBC, Bayer Healthcare, Roche, Nestlé, Royal Bank of Scotland, Bosch and Siemens Home Appliances, and Marks & Spencer. They are also available for anyone to purchase via our website, and a modified version of the simulators has been developed for use in secondary school design and technology education.



Professor John Clarkson  
Director of the i~design consortium

“ Innovations in communications technology can transform people’s lives in genuine and remarkable ways. Our research is about bridging the gap between physician expertise and patient need. ”



Professor Christopher Eccleston  
Director of the Centre for Pain Research

Imagine a life when you are interrupted every ten minutes by pain. You try to ignore it and carry on, but it just won't go away. Every time you try to do something that matters, there it is again.

This is the life lived by thousands of people in the UK today. A quarter of us will experience chronic severe pain at some point in our lives, and as we get older it becomes more likely.

The good news is that there are effective treatments to help people who are learning to live with chronic pain. But the bad news is that this expertise lies in the hands of a small number of healthcare professionals, delivering treatments according to a model that hasn't changed in more than a century: you travel to a special facility and you have a short conversation with a medical expert.

This can change. Today, innovations in communications technology can transform lives in genuine and remarkable ways. So our research is about bridging the gap between physician expertise and patient need. But to make this happen, we need fruitful partnerships between experts: engineers, psychologists, computer scientists, business leaders, doctors, academics, and patients themselves.

“ We need a continuing dialogue with users so we can understand and reflect their practical concerns, and frame our findings to match their contexts and priorities.”



The benefits of digital engagement — getting people online — are now widely recognised, and there are many initiatives to promote them. But the risks of digital disengagement are still relatively neglected.

Many of the arguments for getting older people online apply equally to *keeping* people online, despite the barriers they can face in old age. But not all those arguments are relevant to everyone. For instance, discussions with public sector providers would have a different focus to discussions with technology developers — even when the overall aim of reducing disengagement is the same.

So we need a continuing dialogue with users so we can understand and reflect their practical concerns, and frame our findings to match their contexts and priorities.

Solutions to keep older people digitally engaged for as long as possible need to be *socio-technical*: that is, they need an infrastructure that incorporates human social support. They need to offer affordable hardware and software that is accessible both in the home and in the community, and that can be customised to meet individual needs.

Professor Leela Damodaran  
Professor of Participative Design



“ The KT-EQUAL network doesn't just promote an interdisciplinary way of working. It also brings us a step closer to the goal of putting ageing and disability research into practice so help reaches those who need it. ”



Technologies such as computers, tablets, smartphones and other digital devices can play an important role in helping older people to live safe, fulfilled and independent lives in their own homes.

For example, they can help with the tasks of daily life — ordering shopping, keeping in touch with friends and family, reminding us to take medicine, switching on lights or the TV, providing wellbeing services, or summoning a carer or medical help in an emergency.

But we must make sure that technology is easy to use and comfortable to wear, and that it doesn't invade a person's privacy in any unacceptable way. Devices must not be developed in isolation from other research disciplines, or from the people they're designed to assist. So we take every opportunity to engage the help of older people, their carers and the professional organisations that support them.

The KT-EQUAL network doesn't just promote an interdisciplinary way of working. It also brings us a step closer to the goal of putting ageing and disability research into practice so help reaches those who need it.



Professor Rachel McCrindle  
Professor of Computer and Human Interaction

**KT-EQUAL is a consortium of UK researchers dedicated to extending quality life for older and disabled people.**

**We work to ensure that years of investment in high-quality research translate into real benefits that have an impact on people's lives.**

[www.equal.ac.uk](http://www.equal.ac.uk)

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