Strategic Promotion of Ageing Research Capacity

Ageing Research is on the Move

Meeting the challenges of an ageing society

Funded by

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Ageing and Research

Getting Older
The trend is inescapable: the UK is an ageing society in an ageing world. At the turn of the last century, the average life expectancy was just 47 years and only one person in 20 was aged 65 or over. Today life expectancy has increased to nearly 80 and the proportion of over 65s has grown to one in six. This enormous improvement in longevity is the result of improved living and working conditions, better nutrition and the success of science in tackling serious infectious diseases. It has resulted in a UK population of 9 million older people, 95% of whom live independently in their own homes. However, with the general population living longer, many challenges arise. Ensuring quality of life during old age is vital as many older people are at increased risk of experiencing disability, frailty and illness.

As the older population increases, so too does the need for a greater understanding of the problems which older people face. How does the human body age? Can we alleviate the effects of the ageing process? What risk factors contribute to the development of frailty and how can they be avoided? What is the impact of a particular disability or impairment on the daily life of the individual? Can we “design away” disability?

Research for Older People
Since 1998 the Engineering and Physical Sciences Research Council (EPSRC) and the Biotechnology and Biological Sciences Research Council (BBSRC) have funded major research programmes to address issues affecting older people. These have contributed a fundamental understanding of the biological nature of ageing and its effects on the health of the individual. They have also contributed to an understanding of how the everyday environment contributes to disabilities associated with ageing and how these can be overcome by redesigning the environment.

Although most activities in these programmes have been focussed on the contribution of biology, engineering and design to ageing research, they have also engaged the social sciences and humanities, represented by a rich mix of individuals and disciplines. Many of the lines of research have been multidisciplinary; have involved professionals in the front-line who care for and provide services which affect older people; and have engaged older people as experts in ageing, not just as subjects for study. The findings from the programmes have major implications for policy and practice in the treatment of chronic disease, preventative medicine, general health care, public health, rehabilitation, housing, transport and urban planning. There have been especially important contributions in the areas of cognitive and sensory decline.

However, maintaining the momentum and enthusiasm amongst research users and researchers for these successful programmes requires better coordination of the activities of the many different organisations which support ageing research.

Maintaining Momentum
The research community is tremendously optimistic about what science can achieve for older people. It has repeatedly demonstrated the capability, energy and will to develop new knowledge, and to build on this so that older people benefit. To achieve this goal there is an urgent need for new approaches for organising ageing research and implementing its findings.

In 2002 the research community and its supporters in industry, the caring professions and charities decided that something needed to be done to work towards the goal of a better life for older people. To this end, all the relevant research councils were approached for support of a novel grass-roots community-led research initiative which would ensure the long-term development of ageing research. In 2004 EPSRC and BBSRC responded positively, and provided funding for an exciting and novel initiative called SPARC (Strategic Promotion of Ageing Research Capacity).

SPARC
Although the aims are long-term, SPARC is a "pump-priming" initiative. By the end of 2008 it will have generated a vibrant and enthusiastic new research community. This will fill the void created by the lack of effective policies for ageing research in the mid 2000s and will provide the foundation for vigorously taking forward research to benefit older people, their families and society.
Making a Difference with Ageing Research

SPARC
SPARC is a unique initiative which encourages the greater involvement of academics and researchers in the many issues faced by an ageing population and encountered by older people in their daily lives. SPARC is directed, managed and informed by researchers, practitioners, policy makers and older people for the ultimate benefit of older people, their carers and those who provide services to older people. SPARC pursues three main activities: Small Awards to newcomers to ageing research, across all areas of design, engineering and biology and at the interfaces relevant to an ageing population and older people; Workshops to bring together all stakeholders interested in improving the quality of life and independence of older people; and, Advocacy of the need for and benefits to individual older people and to society of ageing-related research. SPARC is inclusive and warmly welcomes the involvement of everyone with a relevant interest.

Pump-Priming Awards
EPSRC and BBSRC have provided funding of £1.2m to build national capacity for ageing research through small awards to newcomers. These were selected through peer-review of short individual applications submitted in response to calls for proposals. The deadlines for the two SPARC award calls were 1st June 2005 and 1st March 2006. These attracted 85 and 100 proposals respectively of which 13 and 21 proposals were funded.

Eligibility for Awards
Over two-thirds of the SPARC awards were given to early-career academic staff and research fellows who have yet to secure a research council grant as Principal Investigator. The remaining award holders are experienced, in some cases very experienced, scientists moving from other research areas into ageing research.

Basic Support
The SPARC awards range from £17,000 to £60,000 to cover research staff, consumables, equipment, and travel. Projects run for between 6 and 18 months. Call 1 was administered under pre-FEC and Call 2 under post-FEC guidelines. Host institutions, partners and collaborators are contributing significant amounts of advice, time and money to support these newcomers to ageing research. All projects will be completed by early 2008 to enable extensive discussion and dissemination of their findings.

Special Support and Benefits
SPARC is supporting award holders through funding, mentoring, access to a prestigious dissemination platform, professional editorial assistance, eligibility for international activities and provision of contacts.

Advocacy
SPARC represents the interests of researchers into ageing and those who can use their findings, to key policy makers and the media, regionally, nationally and internationally. At every opportunity it makes the case that the ageing-related research supported by SPARC is able to make a major contribution to improving the quality of life of older people. It has gained the ear of ministers, politicians and leaders of industry, and is working closely with government departments. It has presented evidence to parliamentary enquiries and frequently represents the interests of the UK at international meetings concerned with the development of policies for ageing research. However, it is equally at home discussing the latest developments in ageing research with professional bodies and local community groups. SPARC Has been particularly successful developing working links with leading researchers in Japan, North America and Europe. This has enabled the cross-fertilisation of ideas and is leading to long-term collaborations across a wide range of subject areas.

Networking and demonstrations at the SPARC-TVLSN 'Biology and Business of Stroke' Workshop

Workshops
SPARC appeals to many of those who are involved in design, engineering, physical science, biology and biotechnology ageing-related research (including academic researchers, professionals from health, social services, housing, industry, local and central government, representatives of charities and voluntary bodies, and older and disabled people). It organises research workshops which are accessible to this wide range of stakeholders. These workshops also involve the newcomers supported by SPARC awards as well as experienced researchers funded through other research council and research charity programmes.

Making a Difference
SPARC is eager for change. It is challenging conventional wisdom about the place and pace of ageing research by injecting vitality and new blood into ageing research. Through this, it is building national capacity for ageing research and strengthening the links between researchers, practitioners and policy makers to appeal to all of those who are interested in extending the quality of life, health and independence of older people. It is making a tangible contribution towards ensuring that older people receive the full benefits from the best that research, science and technology can offer.
**SPARC Projects**

**Life in the Home**

Older people can only enjoy the independence that comes from living in their own homes if their environment matches their needs, capacities and limitations. SPARC research is investigating how people use their homes as they move through life, from the domestic routines of raising a family through to caring for themselves or a partner. It is assisting those whose homes have to be altered to make key decisions, so that the changes are beneficial and do not destroy the essential nature and meaning of their homes. Making homes safer and more secure is being investigated through developing the potential contribution of new and innovatory electronic technologies.

**Streets, Buses and Cars**

Being able to go out of doors, along the street to the shops, and use public transport to access many different services and facilities is fundamental to independence and quality of life. Yet the poor design of streets and urban infrastructure can be very isolating, especially where there is a fear of crime. Working with local and regional government agencies and with older people, SPARC is developing new tools for urban planners, to help create safe streets and open spaces. Planning a viable public transport system that meets the needs of older people in terms of routes, timetables and quality of service is extremely complex and requires a close rapport with users. SPARC is developing new approaches for transport planners to help them achieve this. For many people their car is a life line. SPARC award holders are researching how older drivers use their cars, what helps them, and the implications of new technology.

**Care Systems**

Getting back home is the greatest priority of many older people after a catastrophic fall. SPARC award holders are investigating ways of achieving best practice in the care of patients, reducing hospitalisation and restoring independence as soon and as effectively as possible.

**Design and the home**

Professor Paul Chamberlain, Sheffield Hallam University

This work will inform the design and construction of a physical Living Room environment that can be used as a test lab in evaluating theories and conceptual designs, thus helping to define the problems and barriers associated with maintaining independence, and identifying user issues that may not be verbalised.

**Integrating the technological and social model of later life in the maintenance and adaptation of private housing**

Philip Astley, London South Bank University

Modern information and visualisation technologies can improve home adaptations and give older people a realistic view of a range of intended alterations and the impact on their homes. They can discuss these with designers and occupational therapists, and make certain that their priorities and preferences are fully understood.

**Multimodal augmented reality to support ageing in place**

Dr Shaun Lawson, University of Lincoln

Emerging powerful interface technologies of augmented reality provide new ways of bringing together electronic devices and pervasive systems to support longer term, safer ageing in the home.

**Streets, Buses and Cars**

Design and community regeneration: investigating personal safety concerns in socio-economically deprived communities

Professor Richard Neale, Glamorgan University

The project is encouraging community participation and user-led solutions to the design of urban environments. The ultimate aim is positive social change which leads to safer and more accessible communities.

**Transport and older people: integrating transport planning tools with users’ needs**

Dr Gregory Marsden, Leeds University & Dr Mima Cattan, Leeds Metropolitan University

New tools for understanding the transport needs and aspirations of older people are being developed, particularly with a view to helping local authorities with accessibility planning for key services. These include healthcare, supermarkets and employment sites. The study is developing ways in which older people can have a stronger voice in transport planning.

**Promoting safe driving behaviour through technology: attitudes of older drivers**

Dr Charles Musselwhite, University of the West of England

This study is looking at the extent to which new technologies accommodate the needs of older people and help or hinder them, and the effect on safe car driving.

**Advanced technology desires, needs and requirements of older drivers**

Mike Bradley, Middlesex University

The project is developing methods of synchronising older driver requirements with the development of specifications for older driver-friendly new vehicles and vehicle components.

**Care Systems**

Evaluating proposed policies in the care of older people using computer simulations

Dr Christos Vasilakis, Westminster University

The care of older patients with hip fracture could be greatly improved through changes in the organisation of clinical care. This study utilises recent developments in information technology to guide best practice in preparing an effective integrated care pathway and potentially improve patient outcomes.
The Older Worker

Understanding the design of the workplace for the older worker

Professor Peter Buckle, Surrey University

This is exploring the match between older workers’ capacities, abilities and expectations, and organisational requirements and strategies in the office and manual sectors. It is highlighting actions that organisations should adopt to extend productive working lives.

Ageing in construction workers

Professor Alistair Gibb, Loughborough University

This aims to understand how the abilities and needs of older workers fit within the changing workplaces of the construction industry. It is considering how new equipment generally addresses the special needs of older workers.

Product Design

The “inclusive engineering” approach: enhanced data gathering for an optimum diameter for ease of opening

Dr Alaster Yoxall, Sheffield University

Despite much work on torque and grip strength of older people, only recently has a realistic test jam jar been developed. This is being developed to gather data required by food manufacturers so they can provide packaging which is more friendly towards people of all abilities.

Designer relevant biomechanical data for packaging: package opening in an older adult population

Dr Avril Thomson, Strathclyde University

This research will facilitate both product designers and bioengineers by ensuring that biomechanical tests match the requirements of product designers and that the resulting data is presented in a meaningful and useable format.

Interface Design

Improving computer interaction for older users

Dr Faustina Hwang, Reading University

For older people computers can be difficult to use because of the need to control a mouse for selecting targets. This project is improving target selection, in particular, learning if dynamic targets, for example icons that expand or move toward the cursor, can make target selection easier.

Mathematical modelling of age-related differences in web browsing

Dr Panayiotis Zaphiris, City University

This is developing predictive models of how older people investigate and structure information. It aims to provide practical recommendations on how information can best be organized on the web.

Cognition and Communication

Biomarkers for cognitive ageing in the human brain

Professor Zoe Kourtzi, Birmingham University

This combines advanced mathematical approaches for the analysis of biological data with multi-modal brain imaging techniques and behavioural methods to develop new tools for studying the variability of cognitive ageing across individuals from rapid decline to sustained high levels of performance.

Neural Underpinnings of word-finding problems across the lifespan

Professor Lorraine Tyler, Cambridge University

A key to “successful” ageing may be the brain’s ability to flexibly find alternative ways to perform a task that overcome the effects of atrophy. This study examines “neural compensation” in speaking and listening to language. It is using a combination of brain imaging techniques for measuring brain atrophy and activity to reveal whether older adults with preserved language abilities also show evidence of neural compensation.

What makes synthetic speech difficult for older people to understand?

Dr Maria Wolters, Edinburgh University

Spoken messages can make home-care systems more effective and friendly, but auditory ageing can make it difficult to understand these messages. This project is examining which aspects of auditory ageing contribute most to older listeners’ problems with synthetic speech.

Product Design

Surprisingly little is known about the range of abilities of the population to undertake routine domestic tasks. As a result, many consumer products are designed with the average person in mind leading to the exclusion of many older people. Designers require much better information about the abilities of people of all ages if they are to design better products.

SPARC projects are developing new approaches to gathering design data which can be used by designers of packaging.

Interface Design

Many older people use computers to access the internet. Many more would like to do so, but have difficulty navigating the information provided on a screen. Understanding how older people use computers, structure information and browse the internet are essential to developing better interfaces. This is a principal aim of the SPARC projects. So too is the development of practical recommendations for systems designers.

Cognition and Communication

Stroke and degenerative brain disorders affect the ability of people to think, remember, and control their actions. These problems become more common in old age, and as the average life expectancy increases, they will become a growing problem in the provision of appropriate health care.

Through SPARC, new technologies and scientific methods are being developed to study how the brain ages, and how sensory and cognitive skills change with age. The SPARC projects are particularly concerned with listening, comprehending and speaking.
**Vision**

Our sight deteriorates with age. Reading becomes difficult and everyday tasks become more challenging. Poor vision is a major contributor to falls and accidents in the home, and deteriorating sight can lead to social isolation and extreme loneliness.

SPARC projects are considering some of the fundamental changes that take place as the eye ages, the nature and behaviour of the cells, and how the eye and brain work together to process information. These will provide information in which is vital for understanding how the individual navigates, for example, when walking in cluttered spaces and when driving in unusual environments. The findings have significance for SPARC projects on driving and activity.

**Activity and Movement**

The normal wear and tear that our bodies go through as we age makes older people more susceptible to problems with joints, muscles, and connective tissues. More than three million people are disabled by such problems, and a further five million suffer from arthritis, osteoporosis, rheumatic and similar diseases. Current advice is that older people should keep active as exercise and a healthy diet help to maintain muscle, bone and tissue.

SPARC projects cover a range of issues which link movement, activity, strength, diet, and heart function, with the aim of improving understanding of what constitutes a healthy lifestyle in later years. This work is particularly important for developing more comprehensive advice, especially for those people who cannot follow conventional exercise regimes.

**Chemical Biology of Ageing**

Organisms age through a progressive and irreversible decline in the functional capacity of their tissues and organs. However, the exact mechanisms by which this occurs varies from species to species and tissue to tissue. SPARC award holders are working to understand how these mechanisms operate and designing treatments to deal with them. The projects have strong links with other SPARC work on vision, activity, movement and ageing mechanisms.

**Vision**

Age-related signalling capacities of the human lens

*Dr Michael Wormstone, East Anglia University*

The study is considering the relationship between age and the expression and activation of signalling molecules, which are proteins likely to regulate posterior capsule opacification development - a source of problems following cataract removal. It will inform the development of therapies which could improve the quality of life of cataract patients.

Age, eye movement and motion perception

*Dr Tom Freeman, Cardiff University*

Little is known about the relationship between motion perception and activity, especially in older observers who often have difficulty with tasks such as driving. The aim is to understand the interaction between visual pursuit, extra-retinal signals and motion sensitivity, relating each to standard clinical indices of sensory ageing and visual function.

The contribution of visuomotor decline to falls during adaptive locomotion

*Dr Mark Hollands, Birmingham University*

This is examining the brain's ability to process visual information describing environmental features (for example, obstacles and safe places to step) and how it generates appropriate stepping movements is affected by ageing and factors associated with falls.

**Activity and Movement**

Aging, exercise and gender

*Dr Matthew Lancaster, Leeds University*

The development of a new model of the effects of ageing on muscular function will enable future study of critical issues relating to, for example, aerobic capacity, healthy circulation, strength in skeletal muscle, cardiac capacity and resistance to irregular heart rate and heart attack.

Optimisation of skeletal muscle responses and quality of life to exercise in people over 60 years old

*Dr Gladys Onambélé-Pearson, Manchester Metropolitan University*

This is studying the impact of healthy eating habits with or without supplementation, on exercise responsiveness. The negative effects of age on skeletal muscle performance would be reduced if compliance to exercise regimes could be encouraged through simple advice on timing, duration, frequency and intensity, as well as appropriate nutritional interventions.

Temperature and velocity interactions in neuromuscular function during locomotion in older people

*Dr Richard Ferguson, Strathclyde University*

This research, concerned with the decline in mobility of the ageing population, will lead to an understanding of how factors, such as speed of movement and temperature, can influence efficiency of movement. It will also elucidate the neuromuscular mechanisms that might explain these changes.

**Chemical Biology of Ageing**

Evaluating the role of p38 MAP kinase in accelerated ageing

*Dr Terry Davis, Cardiff University*

The in vitro treatment of certain types of Werner’s Syndrome tissue cells with a particular drug has shown that accelerated ageing can be prevented. The study is seeking the most plausible explanation and insights into the development of inhibitors of those enzymes which trigger accelerated ageing as a result of stress, infection or chronic wounds.

Chemical analysis of ageing tissue

*Dr Elizabeth Ostler, Brighton University*

Advanced Glycation Endproducts (AGEs) are the result of ubiquitous unwanted reactions between reducing sugars and amino acids that form adducts on proteins. These accumulate with age, with implications for long lived structures such as the eye lens. The work is providing a molecular understanding of ageing with a view to finding out whether AGEs are really a cause or a result of ageing processes.

Chemical tool for ageing research

*Dr Mark Bagley, Cardiff University*

This study is developing new chemical tools to identify the biochemical basis of the complex process of cell senescence in humans, pointing towards interventions which may benefit older people.
Ageing Mechanisms

A proteomics approach to understanding age-related changes in neuronal function
Dr Katrin Jennert-Burston, Brighton University
As cells age the number of connections a neuron makes with a target cell changes. This may contribute to neurodegeneration. New information concerning the role of changes in protein expression in neuronal ageing is emerging.

Gene expression profiling to understand stem ageing
Dr Ilaria Bellantuono, Sheffield University
Stem cells (SC) are present in all organs and are responsible for the maintenance of their function. With time their ability decreases in some cases resulting in disease. Down’s Syndrome (DS) shows signs of premature ageing with features found commonly with Alzheimer’s disease. This project is using DS SC from brain and blood to identify genes that are important in loss of SC function with age.

Unnatural ageing of killer cells
Dr Donald Palmer, RVC
The ability to fight and be protected against infectious agents is dependent upon a fully functional immune system, but immunity declines with age. Natural Killer (NK) cells play a central role in the immune system. The study will help determine the contribution that NK cells play towards the age-associated changes in immunity.

Molecular basis of effects of calorie restriction on ageing
Dr Dianne Ford, Newcastle University
Substantial evidence indicates that restricting energy intake delays the ageing process but the mechanisms for this effect are unclear. The project is investigating the protein Sirt1, a strong candidate for being a principal mediator of these effects.

Role of endothelial nitric oxide synthase in vascular ageing and consequences for cardiac function
Dr Andrew Trafford, Manchester University
With increasing age the risk of developing high blood pressure and heart failure is dramatically increased. This project is considering the complex interactions between changes in the properties of the specialised cells lining blood vessels, and the function of the heart.

Oxidative Stress and Ageing

EPR, oxidative stress and ageing
Dr Richard Hartley, Glasgow University
Oxygen-centred radicals cause pathologies such as atherosclerosis, neoplasia and cataracts and play a role in stroke, neurodegeneration and autoimmune diseases. Their behaviour in different environments and the cellular responses to them is a key to understanding the ageing process and ameliorating the diseases of old age. The study is developing new techniques using EPR spectroscopy for detecting radicals at the sites where they cause most damage.

Application of high throughput assays of oxidative stress to studies of the role of common genetic variation in healthy human ageing
Professor Paul Winyard, Exeter University
One key theory holds that ageing-related oxidative damage to cellular components is responsible for declining human function. The work is establishing high-throughput assays of oxidative damage biomarkers (suitable for the analysis of thousands of human blood samples) to support assessment of the effects of candidate, ageing-related, gene variants on oxidative damage.

Lipoprotein oxidation in ageing
Dr Sarah Aldred, Birmingham University
The study is assessing parameters of lipoprotein protein and lipid oxidation, and lipoprotein nitration in aged individuals who undertake a programme of moderate physical activity for a period of 8 weeks, in order to identify changes due to physical activity which may impact upon ageing related diseases.

SPARC Website:
- Details about all SPARC projects
- Executive summaries of projects
- Interviews with Award Holders
- Proceedings of all workshops

www.sparc.ac.uk
- Links to funding agencies
- Membership registration
- Conference information
- News Items

Ageing Mechanisms

The ageing process is a something which humans share with the vast majority of other species on the planet. Ageing evolved at least a billion years ago and has been part of the genetic inheritance of species ever since. Studying the basic mechanisms of ageing in proteins, cells, tissues and animals, allows us to understand how they operate. This basic information will enable further research to take place, aimed at preventing the degenerative effects of these processes.

Oxidative Stress and Ageing

The actions of oxygen radicals and reactive oxygen species are thought to play a key role in the ageing processes of many species. These SPARC projects encompass the areas of radical detection, radical susceptibility and radical defence.

SPARC Advisory Committee

SPARC is fostering strong links with research users, those who provide products and services to older people, and those who care for them, as well as with older people. This is done through workshops, presentations and the direct involvement of these end users with SPARC projects. The advisory committee, which consists of representatives of government, professional and charitable bodies as well as leading academics, provides valuable advice. The committee also makes sure that SPARC keeps close to research users and older people.

Mrs Elizabeth Mills, OBE, Eminence Grise (Chair)
Dr Lorna Layward, Research into Ageing/Help the Aged (Deputy Chair)
Professor Janet Ashkan, Picker Institute/Department of Health
Dr Elizabeth White, British Association of Occupational Therapists
Dr Deborah Dunn-Walters, Kings College London/Guy’s Hospital
Dr Sian Henson, University College London
Professor Bernie Conway, Strathclyde University
Professor David Kipling, Cardiff University
Professor Constantinos Maganaris, Manchester Metropolitan University
Professor Kevin Morgan, Loughborough University
Professor Marcus Ormerod, Salford University
Dr Lesley Heppell, BBSRC
Dr Louisa Jenkin, BBSRC
Dr Matthew Davis, EPSRC
Ms Linda Sayers, EPSRC
Into the Future with SPARC

SPARC is a community-led activity. It is inclusive and warmly welcomes the involvement of those with a relevant interest. Anyone can be a member of SPARC. It costs nothing to join. All we ask is that members bring enthusiasm for research and new knowledge which may contribute to the greater independence and better quality of life of older people. SPARC has been heavily influenced by the many stakeholders in ageing research. The awards scheme was developed in response to the demand by researchers and their non-academic supporters for continuity in funding for ageing research; to provide support to newcomers and for the careers of early-stage researchers who had been previously involved in ageing research; and for a transparent award process. The fine detail of the awards scheme was heavily influenced by discussions with the research community, including researchers through to heads of schools and deans, as well as with directors of research charities.

Workshop topics are developed in consultation with both researchers and end users. They are not decided in isolation, the topics are those requested by the community, and for which there is clear interest. Those who host events are able to gain particular benefit from workshop themes devoted to their particular interests.

SPARC operates with modest funding and much goodwill and enthusiasm. However it is a short term activity which started in early 2005 and will finish by the end of 2008. If the crisis faced by ageing research in the mid 2000s is not to be repeated, then it is vital that many agencies, including government departments and independent research funding bodies, support the young and vibrant research community created by SPARC.

SPARC Workshops and their Hosts

SPARC organises regular workshops, always in collaboration with other organisations, on themes which are related to their interests but provide opportunities to showcase SPARC and other leading UK research as well as providing a platform for practitioners and older people. This provides an important focus to the workshops, of relevance, topicality and user-focus. Workshops organised between February 2005 and July 2008 and their hosts are given below.

National Workshops

Integrating Research on Ageing, March 2005, Strathclyde University
Pharmacology and Ageing, April 2005, RPS, London
Living with Stroke, June 2005, Sheffield Hallam University
The Business Case for Ageing Research, November 2005, Unilever R&D, Bedford
The Biology and Business of Stroke, December 2005, TVLSN, Reading University
Research and Development in Long Term Care, January 2006, CCC, The Guildhall London
Design for Older People, February 2006, Bugatti Institute, Coventry Univ.
The Chemistry of Ageing, April 2006, RSC, London
Research for a Better Age, October 2006, Help the Aged/Brighton University; Eastbourne also August 2007, Penzance and Hexham
Transport and Older People, October 2006, Leeds University
Dementia and Cognitive impairment, November 2006, Eli Lilly/TVLSN, Windlesham
Old and Active: Maintaining the older person’s health, activity and employment, February 2007, LARCI, Birmingham
Ageing Research and Occupational Therapy, March 2007, College of Occupational Therapists, London
Radical Chemistry and Biology, March 2007, Royal Society of Chemistry, Glasgow University
A Walk a Day Keeps a Fall at Bay, June 2007, Camden Council
New Technologies for Support and Care, September 2007, BSG Conference, Sheffield Hallam University
Older People on the Move, September 2007, Help the Aged/Reading Univ.
Understanding the Ageing Brain, September 2007, CSLB, Cambridge University
Health, Workplace Design and the Older Worker, January 2008, TAEN/Help the Aged, London
Promoting Independence through New Technology, March 2008, Reading University
Rehabilitation in Ageing: Regaining Function and Action, April 2008, Birmingham University
Outdoors - a step too far? Older People and Mobility, May 2008, Salford University
Housing, Health and Technology for Older People: Policy and Practice, June 2008, CARDI, Belfast
Technologies for Health, Rehabilitation and Self Management of Long Term Conditions, June 2008, Bath University

International Workshops

Towards the Integrative Biology of Premature Ageing, October 2005, Brighton University
Accessibility in Europe: UK/EU Experts, May 2006, BRE, Watford
Transatlantic Collaboration and Young Grant Holders in Ageing, June 2006, American Aging Association, Boston
Ageing: Is it all Bad News? July 2006, ESOF, RSC, Munich
Anglo-Japanese Werner’s Syndrome Consortium, March 2007, Tokyo Canada meets UK on Design and Technology for Quality of Life in Old Age, June 2007, ICCCDAT, Toronto
Trans-Atlantic Awareness and Collaboration in Aging Research, June 2008, American Aging Association, Boulder

Special Workshops for Researchers

Award Holders’ Workshops, March 2006 & January 2007, Reading Univ.
Proposal Writing Workshop, November 2006, Brighton University
Funding Opportunities in FP7, February 2007, British Council for Ageing, Birmingham University
Ageing and the Undergraduate Curriculum, May 2007, British Council for Ageing, Keele University
Introduction to the Media, December 2007, BBSRC, London
Funding Ageing Research, March 2008, NDA, London

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