

New £3 million Midlands centre to tackle age related ill health

Posted on Wednesday 7th November 2012

Professor Richard Dawkins will officially launch a new £3 million Midlands centre today (7th November) to establish what goes wrong with our bones, joints, ligaments and muscles as we age, the neural and psychological changes that occur and how diet, exercise and other interventions could help prevent this age-related decline.

The MRC-Arthritis Research UK Centre for Musculoskeletal Ageing Research is a partnership between the Universities of Birmingham and Nottingham, one of only two new national centres funded by the **Medical Research Council** (<http://www.mrc.ac.uk/index.htm>) (MRC) and **Arthritis Research UK** (<http://www.arthritisresearchuk.org/>).

The celebrated evolutionary biologist and author Professor Dawkins will deliver the Centre's inaugural lecture on the biology of ageing.

Professor Janet Lord – Director of the Centre – explains: “Ageing is a complex process that results in the reduced functioning of most of the body's organ systems, with the musculoskeletal system (muscle, bone, tendon and cartilage) significantly affected. Poor musculoskeletal health has a significant impact upon quality of life as well as work productivity and the estimated annual cost to the NHS of musculoskeletal decline is £5.7 billion.

The new centre is focused on reducing this burden, on understanding the processes that affect the body and in developing treatments to ensure old age is enjoyed and not endured.

We are bringing together exceptional scientists, clinicians and industrial partners – as well as the local community – to address one of the 21st century's most pressing health concerns.”

The number of people in the UK over 60 is rising rapidly and by 2050 will include 40 per cent of the population. This makes tackling age related disease a key health priority. The decline in bones, joints, ligaments and muscles are major contributors to declining physical function and poorer quality of life in older people.

Professor Paul Greenhaff (<http://www.nottingham.ac.uk/biomedsci/people/school-directory/paul.greenhaff>), from The University of Nottingham's School of Biomedical Science and Deputy Director of the new centre, said: “This is a very exciting time to be involved in ageing research because we are developing the capabilities to study the mechanisms responsible for the loss of musculoskeletal mass and function that occurs in older people. Importantly, we hope to develop insight into how ill health may accelerate musculoskeletal ageing processes, whilst identifying exercise, nutritional and pharmacological intervention that may combat these negative events.”

The centre is studying why musculoskeletal tissue metabolism, function and mass decline with age and will explore the risk factors and biological events involved in these processes, as well as examining cognitive changes. They also want to find out how pharmacological, diet and exercise interventions may offset this deterioration, and take these studies into care homes and other community settings to deliver tangible benefit for older adults locally, nationally and internationally.

Current projects include work led by Professor Paul Greenhaff at Nottingham studying how being physically inactive, for example during bedrest after an operation, has a negative effect upon muscle and importantly how this can be overcome with specific exercises and dietary supplements. This is complemented by work at Birmingham studying everyday exercises and how these can help to prevent loss of muscle and bone that occurs with age.

Professor Alan Silman (<http://www.arthritisresearchuk.org/about-us/how-we-are-managed/our-spokespeople/professor-alan-silman.aspx>), medical director of Arthritis Research UK said: “People want to remain fully active and physically independent for longer as they age. We need to develop advice on diet, exercise and general health measures that can minimise the risk of osteoarthritis and osteoporosis, as well as the muscle weakness and increasing physical frailty and increased risk of falling that occurs with age. The work of the new centre directed towards these goals will make a practical difference to the lives of millions people as they get older.”