

Media release from the Wellcome Trust

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£5.9 million award gives UK ageing research a new lease of life

Research into ageing has received a major boost thanks to a £5.9 million Strategic Award from the Wellcome Trust, the UK's largest medical research charity. It is hoped that the award will help strengthen the UK's position in this rapidly developing field of research and will help scientists understand what it means to age.

The award has been made to Professor Linda Partridge, Professor Dominic Withers and Dr David Gems at UCL (University College London) who received £5.1 million, and to Professor Janet Thornton at the European Bioinformatics Institute, who received £750,000. The researchers will work in collaboration to explore the biological mechanisms that cause our bodies to age and decay.

"Our ageing population represents a major challenge to quality of life in the coming century and it is imperative that we look into what causes ageing," says Professor Partridge. "During the last decade, research into the biology underlying the ageing process has developed remarkably rapidly. It is likely that during the next decade the nature of the major cellular and biochemical mechanisms that determine longevity and ageing will be identified."

However, warns Professor Partridge, unless action is taken, the bulk of this research will all take place outside the UK.

"Although the field of ageing biology is growing within the UK, there is a risk that in the main this work will take place elsewhere, such as the US," she says. "That is why the Wellcome Trust award is crucial, to enable us to strengthen our research and infrastructure to keep pace with the development of this field. It is both desirable and, in principal, feasible to ensure that the UK develops and maintains world-class research into the biology of ageing."

Professor Partridge and colleagues will look at the cellular and biochemical mechanisms of ageing in fruit flies, nematode worms and mice, and in particular the role of insulin signalling. Recent research has revealed that changes to single genes can make animals live longer, by maintaining health and delaying the onset of ageing-related diseases, such as cancer, diabetes and cardiovascular disease.

"What is particularly exciting about this approach is that altering an animal's genetic make-up seems able to slow down many diseases of ageing simultaneously," says Dr David Gems, a co-recipient of the award. "For example, mice remain youthful for longer and have glossy fur with slowed appearance of grey hair. Their eyes are unclouded by cataracts, and they are more active, both physically and sexually."

The researchers hope to explore how their findings in the animal models relate to the human ageing process, in particular neurodegenerative diseases, such as Alzheimer's disease.

Explaining why the Wellcome Trust has made the award, Dr Alan Schafer, Head of Molecular and Physiological Sciences at the Trust, says: "The number of researchers who are attracted into the ageing field in the UK has historically been low because of limited funding and career opportunities. As we move towards a more ageing population both in the UK and worldwide, it is crucial that we both bolster our existing efforts and that we attract a new generation of the best and brightest scientists into this exciting field of research. The UK has the potential to be one of the world leaders in this area and we are pleased to be able to support Linda and her colleagues."

The majority of the research will take place at the new Institute of Healthy Ageing at UCL, due to open in 2008. The UCL team will continue its current collaboration with the European Bioinformatics Institute in Hinxton, near Cambridge, which is essential for analysing, modelling and understanding the data.

Key to the success of the Institute of Healthy Ageing will be the focus on multi-disciplinary collaboration. The research will receive inputs from subjects ranging from biogerontology (the study of biological processes giving rise to old age), human gerontology, and the study of ageing-related diseases through to chemistry, epidemiology and social policy studies.

"By encouraging collaboration between the Institute itself and leading groups around the UK, both clinical and basic scientists, we hope to be able to move towards developing a broad spectrum of medicines to prevent the biological damage that ageing causes," says Dr Gems.

The award was welcomed by Professor Malcolm Grant, President and Provost of UCL, who said: "This is a substantial award which will enable this team of very talented UCL researchers to make important advances in the vital field of ageing research. It also gives a very strong foundation for the new UCL Institute of Healthy Ageing. My congratulations go to the team for securing such a prestigious award and our thanks go to the Wellcome Trust for their ongoing support of projects such as this one, which are destined to make a very significant contribution to science and society as a whole."

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Notes for editors

1. **The Wellcome Trust** is the largest charity in the UK. It funds innovative biomedical research, in the UK and internationally, spending around £500 million each year to support the brightest scientists with the best ideas. The Wellcome Trust supports public debate about biomedical research and its impact on health and wellbeing.
<http://www.wellcome.ac.uk>

2. University College London

Founded in 1826, UCL was the first English university established after Oxford and Cambridge, the first to admit students regardless of race, class, religion or gender, and the first to provide systematic teaching of law, architecture and medicine. In the Government's most recent Research Assessment Exercise, 59 UCL departments achieved top ratings of 5* and 5, indicating research quality of international excellence.

UCL is the fourth-ranked UK university in the 2006 league table of the top 500 world universities produced by the Shanghai Jiao Tong University. UCL alumni include Mahatma Gandhi (laws 1889, Indian political and spiritual leader); Jonathan Dimpleby (philosophy 1969, writer and television presenter); Junichiro Koizumi (economics 1969, Prime Minister of Japan); Lord Woolf (laws 1954 - Lord Chief Justice of England and Wales); Alexander

Graham Bell (phonetics 1860s - inventor of the telephone); and members of the band Coldplay.

<http://www.ucl.ac.uk>

3. The **European Bioinformatics Institute** (EBI) is part of the European Molecular Biology Laboratory (EMBL) and is located on the Wellcome Trust Genome Campus in Hinxton near Cambridge (UK). The EBI grew out of EMBL's pioneering work in providing public biological databases to the research community. It hosts some of the world's most important collections of biological data, including DNA sequences (EMBL-Bank), protein sequences (UniProt), animal genomes (Ensembl), three-dimensional structures (the Macromolecular Structure Database), data from microarray experiments (ArrayExpress), protein–protein interactions (IntAct) and pathway information (Reactome). The EBI hosts several research groups and its scientists continually develop new tools for the biocomputing community.

<http://www.ebi.ac.uk>

<http://www.embl.org>