



## 2012 European Year of Active Ageing and Solidarity between Generations

Some ERC projects in this field



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## ERC projects promote the culture of active ageing

Europe's population is ageing: average life expectancy has increased from 55 in 1920 to over 80 today. At the beginning of 2010 there were 87 million people in Europe aged 65 or above: more than 17% of the total population. This demographic change poses significant challenges for Europe's society and economy. To address the impact of its ageing population, the European Union has launched a set of measures to promote healthy and dignified ageing: 2012 was declared the European Year of Active Ageing and Solidarity between Generations. The ambition is to create a culture of active ageing across Europe, built on the foundation of a society equipped for all stages of life and with the ultimate aim of strengthening solidarity between the generations.

### The chief goals of the European Year for Active Ageing are:

- > To ensure that older workers have a sustainable place in the labour market, where they can benefit from greater security and share their experience with their fellow workers.
- > To highlight the role that older people play in society: as carers, as grandparents, as volunteers. Such activities are vital, both socially and economically, and they should benefit from greater support.
- > To empower older people, so that ageing does not mean surrendering independence, particularly in terms of healthcare choices.

Among the initiatives taking place this year, the Intergenerational Federation on Ageing (IFA) organizes its 11th Global Conference on Ageing, entitled 'Ageing Connects', in Prague from 28 May – 1 June 2012. The conference aims to have a positive effect on age-related policies and practices globally. An ERCEA delegation will attend the conference and present both the ERC's funding schemes and some of its research in the field of Ageing.



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### A treatment for old age?

Ageing is a complex process, in which damage progressively accumulates. This research scrutinises what happens to the body's repair processes as we age. It questions whether ageing is a consequence of the system running down, or whether the body actively starts to inflict damage on itself. The diseases of older age are a major societal challenge. Simple dietary interventions and genetic alterations can greatly increase lifespan and protect against age-related diseases in laboratory animals: producing greater resistance to cataracts and osteoporosis for example. This discovery gives the research team, who work chiefly on fruit flies (*Drosophila*) and mice, the opportunity to explore the impact of this young area of science on our understanding of the ageing process. The project examines two specific nutrient-sensing pathways, and their potential as drug targets, in order to understand how specific genetic interventions that improve health during ageing work, and whether they produce any undesirable side-effects. Rather than treat the diseases suffered in old age in isolation, the ambition is to develop a broad spectrum, preventative medicine for the diseases of human ageing.

**Grantee:** Prof Linda Partridge

**Host Institution:** Max Planck Institute for Biology of Ageing, Cologne (Germany)

**ERC Project:** Experimental Research into Ageing (ERA)

**ERC Call:** Advanced Grant 2010

**ERC Funding:** € 2.5 million for five years

### Links

<http://www.age.mpg.de/index.php?id=14>

<http://www.youtube.com/watch?v=pSyYxRaauuY>

<http://thesciencenetwork.org/programs/the-new-science-of-ageing/dame-linda-partridge>



## Social change and an ageing population

This project examines social change - in skills, productivity, attitudes, beliefs - on a European scale, focusing in particular on the population's changing age composition. The research team uses education-specific forecasts to assess which kinds of jobs allow older workers to have a better chance in the labour market, asking questions such as: What kinds of jobs do older workers do? What types of skills are used in jobs where older workers are more likely to be hired or fired? What effect do rapid changes in technology have on older workers? This analysis is vital if we are to adapt to the realities of an ageing population, and to do so in a way which capitalises on the experience and skills which older workers can offer. The aim is to generate significant new insights into the potential social and economic challenges associated with ageing, and wider demographic shifts, in Europe. This project relies on demographic data. Since demographic forecasts tend to have comparatively low margins of error, even for longer-term forecasts, such accuracy will support governments, and individuals, in their efforts to improve their social policies for the future on the basis of their wider knowledge of what that future might look like.

**Grantee:** Dr Vegard Skirbekk

**Host Institution:** International Institute for Applied Systems Analysis, Laxenburg (Austria)

**ERC Project:** The demography of skills and beliefs in Europe with a focus on cohort change (COHORT)

**ERC Call:** Starting Grant 2009

**ERC Funding:** € 981 415 for five years

### Links

[http://www.iiasa.ac.at/Research/POP/Staff/skirbekk\\_ACC.html](http://www.iiasa.ac.at/Research/POP/Staff/skirbekk_ACC.html)

<http://www.economist.com/node/13887861>



## Maximising evolutionary success

Ageing, senescence and death are universal processes and fundamental concepts which preoccupy the mind of every human at some stage. This project aims to assess the ecological and demographic factors affecting human lifespan by using unique demographic data on three generations of individuals who pre-date healthcare and modern contraceptives in Finland. All animals have finite resources which must be split between reproduction and self-maintenance. Humans are exceptional in the sense that women are virtually unique amongst animals in experiencing both the menopause and a prolonged post-reproductive lifespan. Evolutionary success involves optimising the trade-off between investment in parenting and grand-parenting. How humans achieve this has not been considered so far, but is essential to our understanding of the basis of reproductive effort, senescence and lifespan in humans and animals more widely. This research will have important and far-reaching ramifications for predicting demographic structure in human populations and understanding the ecological and genetic foundations of reproductive patterns and senescence.

**Grantee:** Dr Virpi Lummaa

**Host Institution:** University of Sheffield (United Kingdom)

**ERC Project:** Mothers, grandmothers and the evolution of prolonged lifespan in humans (HUMANLIFESPAN)

**ERC Call:** Starting Grant 2007

**ERC Funding:** € 1.1 million for five years

### Links

<http://www.huli.group.shef.ac.uk/virpi-personal.html>

<http://www.shef.ac.uk/mediacentre/2012/darwin-evolution-natural-selection-lummaa-courtiol.html>



## Achieving a good death

Health economics has failed to give much consideration to the process of dying or the consequences of death. Yet, across Europe there are demands for good quality end of life care that treats both the patient and their families with sensitivity and dignity. Health economics concentrates on the appropriate allocation of resources: these assessments are known as Quality-Adjusted Life-Years (QALYs). Cost effectiveness is not the only determinant of health care. Prof Coast's research aims to create a new evaluative approach for end of life care: one that takes into account autonomy, dignity, spirituality, lack of suffering and preparation for death. The team are creating a new set of indices to measure quality of life (called ICECAP indices). This work builds upon the work of the economist Amartya Sen, who defined the capabilities approach: which assesses well being in terms of an individual's capacity to "do" and "be" the things that are important to their lives. The ambition is to develop appropriate measures which can accurately estimate the holistic benefits of end of life care, and in doing so contribute to the achievement of a good death for both patients and their families.

**Grantee:** Prof Joanna Coast

**Host Institution:** The University of Birmingham (United Kingdom)

**ERC Project:** The economic evaluation of end of life care (ECONENDLIFE)

**ERC Call:** Starting Grant 2010

**ERC Funding:** € 999 177 for four years

### Links

<http://www.birmingham.ac.uk/staff/profiles/haps/HealthEconomics/coast-joanna.aspx>

<http://www.birmingham.ac.uk/research/activity/mds/projects/HaPS/HE/ICECAP/index.aspx>



## Improving cognitive function as we age

The degeneration of the brain as we get older has a widespread detrimental effect on our ageing society. The goal of this project is to understand the mechanisms by which the immune system maintains brain plasticity, and how the ageing of the immune system affects the brain. Prof Schwartz's research suggests that the peripheral immune system has an impact upon the health of the central nervous system (CNS): affecting cognitive ability and the ability to cope with stress. The immune system supports the structural and functional integrity of the brain: it contributes to memory and cognitive abilities for example. This ERC-funded work explores whether the ageing of the immune system is a factor in age-related memory loss, and if so whether it may be reversed. Degenerative diseases, memory loss and cognitive dysfunction are not caused merely by the accumulation of specific risk factors, but are due to the widening gap between an increasing demand for maintenance and the ability of the immune system to provide that maintenance as we age. The discovery that the immune system contributes to brain ageing holds out the hope that memory loss in the elderly is preventable and even reversible: such research might lead to the development of therapies that could boost memory capacity.

**Grantee:** Prof Michal Eisenbach-Schwartz

**Host Institution:** Weizmann Institute of Science, Rehovot (Israel)

**ERC Project:** Can immune system rejuvenation restore age-related memory loss? (IMMUNE/MEMORYAGING)

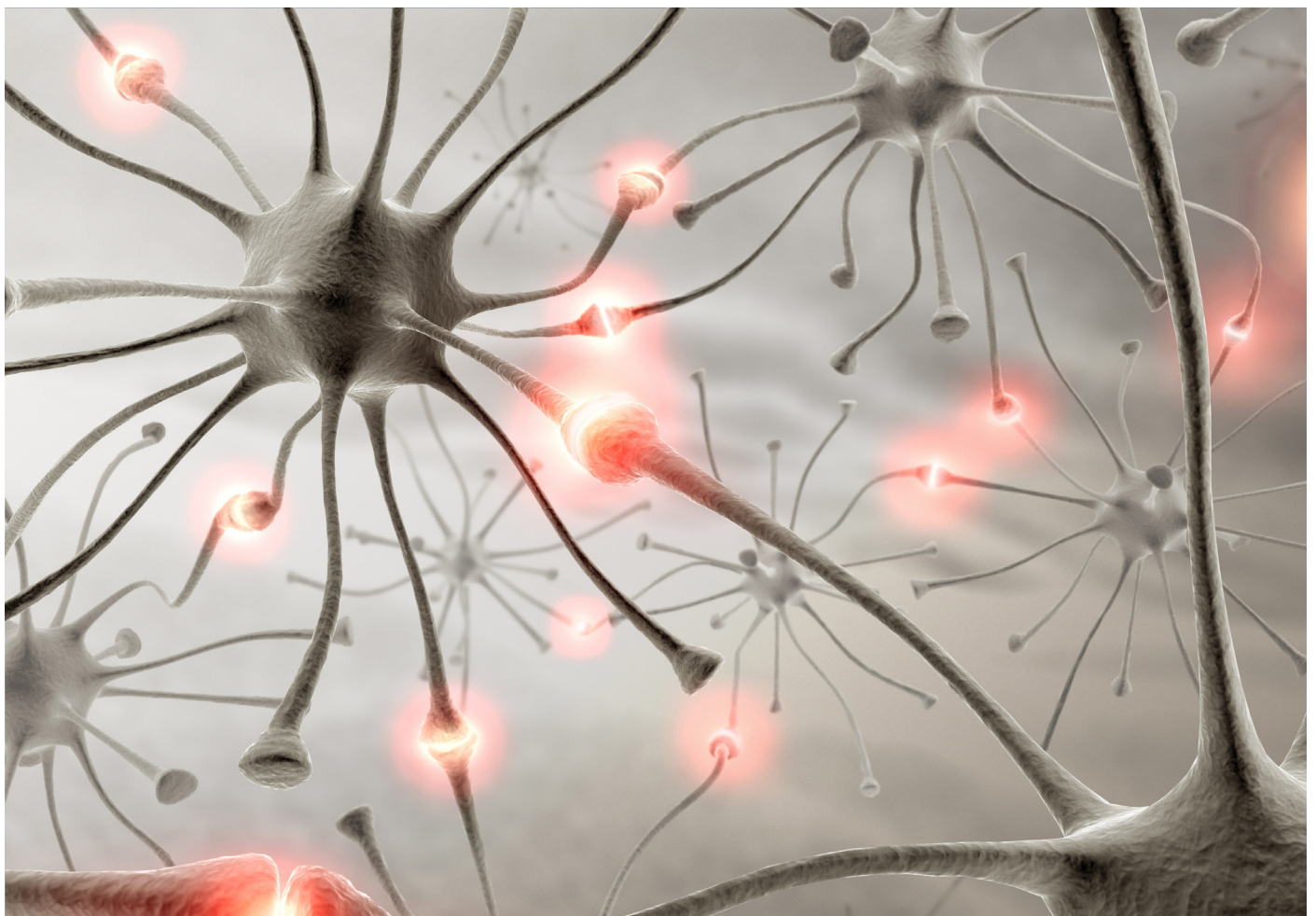
**ERC Call:** Advanced Grant 2008

**ERC Funding:** € 1.65 million for four years

### Links

<http://www.weizmann.ac.il/neurobiology/labs/schwartz/>

[http://www.youtube.com/watch?v=7Wj7EX\\_mb20](http://www.youtube.com/watch?v=7Wj7EX_mb20)



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Prof Helga Nowotny  
ERC President and Chair of its Scientific Council



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**For more on the European Year of Active Ageing see:**

<http://europa.eu/ey2012/ey2012main.jsp?catId=971&langId=en>

[http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_378\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_378_en.pdf)

<http://www.ifa2012.com/home>



<http://erc.europa.eu>