We highlight some of the innovative research in the field of ageing that is making an impact on a global scale. These studies have been published in recent editions of *International Innovation* and are available free-to-access online.

CIHR INSTITUTE OF AGING

Scientific Director of the Canadian Institutes of Health Research’s Institute of Aging Dr Yves Joanette discusses how Canada is meeting the challenge of an ageing population through collaboration and partnership with national and international organisations. Through promoting their ‘strategy for patient-orientated research’ and by supporting initiatives such as the Canadian Longitudinal Study on Aging, the Institute’s goal is to optimise population health and wellness throughout life, and address the complex challenges to health in older adults.

HUMAN BRAIN PROJECT

HBP is a world-leading example of how the convergence of computer science and biology can make the goal of understanding the human brain a reality. Co-Director of the Project Dr Richard Frackowiak explains how this European initiative has the potential to develop new treatments for brain diseases and revolutionise existing computing technologies. Some of the consortium’s early work has studied individuals with dementia to identify common disease signatures.

Q: In 2000, the UN set eight international Millennium Development Goals with the aim of improving global welfare. The progress made toward these targets in the last 15 years has been substantial. This year, the UN will look to the future as the post-2015 development agenda is finalised.

Focusing specifically on global health, what do you consider the greatest priority for the next 15 years?

Professor Steven N Austad (American Federation for Aging Research):

The world is ageing at an unprecedented rate. Never before in human history have so many people lived for so long. The challenge of dealing with an ageing globe is certainly a major problem that could bankrupt medical care systems in many countries. That, of course, would affect the availability of healthcare for all ages. I would classify learning how to treat the underlying causes of pathological ageing as a post-2015 goal well worth considering.
Dr Helen Lavretsky is passionate about advancing treatment for age-associated conditions. Along with her team at the University of California, Los Angeles’ Semel Institute for Neuroscience and Human Behaviour, she is investigating how combined drug and mind-body therapies can improve clinical and cognitive outcomes in geriatric depression.

**RESILIENT AGEING**

Based at ETH Zurich, Switzerland, Professor Dr William Taylor and Dr Navrag Singh are working to discover parameters that can be used to identify individuals with neuromuscular deficits – particularly the elderly – that have a high risk of falling. This research has the potential to reduce the significant socioeconomic burden presented by this type of injury.

**FOCUS ON FUNCTION**

Expert in muscle plasticity Professor Dr Martin Flück is studying the processes that underlie muscle degeneration. His research, carried out at the University of Zurich, Switzerland, could halt the conversion of skeletal muscle into fat, preventing the degeneration seen in elderly individuals, injured athletes, and overweight and obese people.

**MUSCLE MECHANISMS**

Alzheimer’s disease affects over 5 per cent of people above the age of 65, after which prevalence doubles every five years. Dr Katrin Andreasson is a clinician researcher working at the Stanford Neurosciences Institute, USA, to prevent this degenerative disease by developing novel anti-inflammatory therapeutics.

**CONSERVING COGNITION**

Communications technology experts Drs André Thépaut, Maria-Teresa Segarra and Christophe Lohr are using novel software programs that combat social isolation in the elderly to improve welfare, health and quality of life. This work is being carried out at Télécom Bretagne, a high-level training school in information technology and telecommunications in France.

**THE SOFTWARE OPTION**

Professor Wendy Moyle from Griffith University, Australia, is researching the potential of using a therapeutic robotic seal as an effective, non-pharmaceutical method to support people living with dementia. The device – not meant to replace human carers but fill gaps of time when a carer is unavailable – has been shown to reduce loneliness and improve socialisation.

**ROBOTIC DEMENTIA THERAPY**