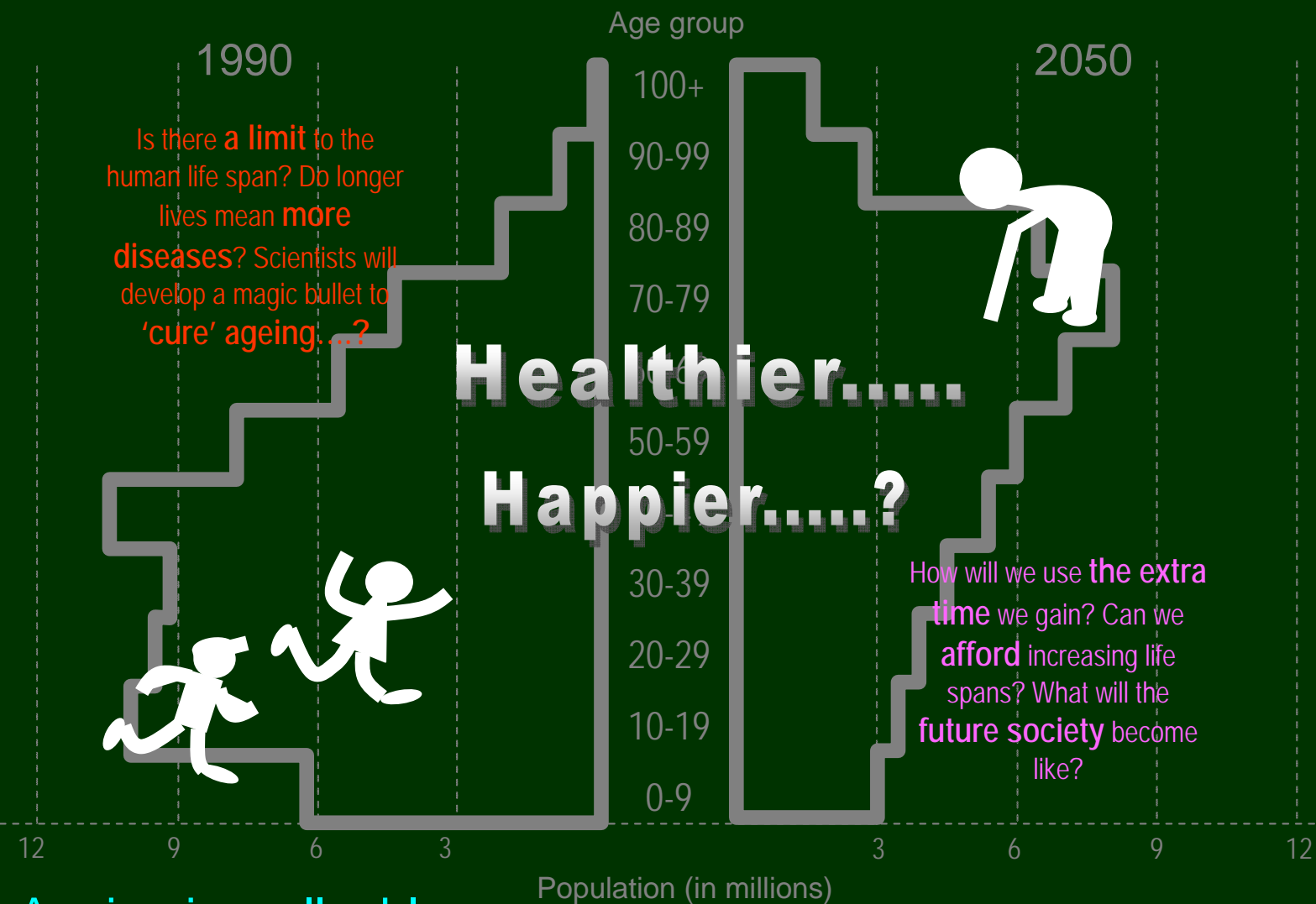


Live Longer.

For a century and a half, our life expectancy has been increasing by 2.5 years per decade – which is 5 hours a day.



Ageing is malleable.

Longevity and health span are influenced not only by genes, but also by environmental factors such as nutrition, lifestyle, socioeconomic status and attitude. So how does ageing occur?

The mechanisms of ageing and longevity are intriguing and challenging themes being sought by human beings since an ancient era. But now has become more than just a matter of scientific curiosity. Age is the largest single risk factor for many diseases, and often treatment of one disease only reveals the occurrence of another. Therefore, understanding the nature of ageing and why aged cells and organs are more susceptible to diseases are crucial for healthy ageing and increasing life span.

My research focus are the **roles of oxidative stress on the ageing process**. Oxygen free radicals are produced as by-products during normal metabolism as well as under stressful conditions. They can sometimes overwhelm body's antioxidant systems, causing 'oxidative stress'. Many molecules such as DNA, proteins and lipids are susceptible to damage under oxidative stress, and accumulation of such damage is hypothesised to result in decline of tissue function and lead to ageing. How are oxygen free radicals produced? What are the regulators? Can we control free radical generation and change the pattern of ageing? Can damaged molecules be turned over more effectively? We look for the answers to these questions by utilising a number of different model systems as well as mathematical modelling.