IARU

Australian National University

Centre for Research on Ageing, Health & Wellbeing

Symposium Session:

Chronic Disease, Brain Ageing, Cognitive Decline, & Longevity

Tuesday 29 October 2019

3:30pm – 5:45pm, light refreshments on arrival

Bob Douglas Lecture Theatre, Building 62A (entrance on Eggleston Road)


Prof Russell Gruen


Dr Colin Payne


Dr Jason Agostino


Prof Nicolas Cherbuin


Dr Richard Burns

This symposium will showcase recent findings and new insights into demographic, health, and lifestyle factors that contribute to brain ageing and cognitive decline. It will present new estimates of longevity in the Australian population; discuss how, despite recent improvement in mortality rates, Aboriginal and Torres Strait islander peoples are still disproportionately affected by chronic disease; briefly review some of the major mechanisms and risk factors linked with the neurodegeneration which progressively develops across the adult lifespan; and illustrate the impact age-related changes in brain health have on cognitive functioning.

Symposium Agenda

3:30 pm	**Registration and afternoon tea**
4:00 pm	**Prof Russell Gruen: Formal Open and Welcome**
4:15 pm	**Dr Collin Payne: Understanding mean longevity using lagged cohort life expectancy**
4:35 pm	**Dr Jason Agostino: Improving the prevention of cardiovascular disease for Aboriginal and Torres Strait Islander peoples.**
4:55 pm	**Prof Nicolas Cherbuin: Brain ageing across the life course in health and disease**
5:20 pm	**Dr Richard Burns: Cognitive Ageing: What is normative functioning across the life course and between different contexts?**

Enquiries to: Kate Gregory via kate.gregory@anu.edu.au

INTERNATIONAL ALLIANCE OF RESEARCH UNIVERSITIES

Centre for Research on Ageing, Health & Wellbeing

Symposium Session:

Chronic Disease, Brain Ageing, Cognitive Decline, & Longevity

Contributors

Professor Russell Gruen
Dean – ANU College of Health and Medicine

Russell was School Captain of Trinity Grammar School and Dux of English in 1985. He went on to study Medicine at the University of Melbourne, trained in Australia to be a General Surgeon, and then in trauma and surgical critical care in Seattle, USA. He then spent a decade as a specialist trauma surgeon at the Royal Melbourne Hospital and the Alfred Hospital, caring for Victoria's most seriously injured people.

Russell was always interested in science, and an academic career. As part of his surgery training he completed a PhD on access to specialist medical services for remote Aboriginal communities, and he and his wife, Theresa, who is a GP, lived in Oenpelli in Western Arnhem Land for 3 years. Russell also has postdoctorate qualifications in health policy, medical ethics, business management and higher education leadership. He has authored over 200 academic papers and 2 books on a variety of topics, but especially on health services, trauma care, and professional ethics. He became a full Professor at Monash University at age 40.

Russell also found he had a knack for bringing new initiatives to life. He led substantial national and international projects with the Australian and Indian Governments and the World Health Organization. Interested that their sons, Spencer and Kody, get some experience in Asia, in 2015 they moved to Singapore where Russell helped establish the innovative Lee Kong Chian School of Medicine, a partnership between Imperial College London and Nanyang Technological University, and built a new Institute for Health Technologies. In 2019 Gruen returned to Australia as Dean of the College of Health and Medicine at The Australian National University in Canberra, one of the world's great universities.

Dr Collin Payne

Dr Collin Payne is a lecturer at the ANU School of Demography. His substantive work centres on understanding global trends in health, disability, and mortality among older adults, with a particular focus on changes over time and across birth cohorts. His current methodological work focuses on

accounting for population heterogeneity in demographic analyses and implementing causal multistate lifetable models. Dr Payne received his PhD from the University of Pennsylvania, and was a postdoctoral fellow at Harvard University prior to joining ANU.

Abstract - Understanding mean longevity using lagged cohort life expectancy

Cohort life expectancy is an important but rarely-used indicator of mean longevity. In this paper, we show that there are specific advantages in lagging this indicator in time by its own value, an approach termed Lagged Cohort Life Expectancy (LCLE). We discuss the usefulness of LCLE as an indicator for tracking progress in mean longevity and introduce a new interpretation of LCLE as a reference age separating early deaths from late deaths, or, equivalently, the age above which individuals in a population can be considered above-average survivors. Using data from 15 countries of the Human Mortality Database, we show that current LCLE can be estimated with a relatively high degree of certainty, at least in these low-mortality populations. Results shed new light on levels and trends in mean longevity in these populations

Dr Jason Agostino

Jason is a GP and an epidemiologist who has worked mainly in the field of Aboriginal and Torres Strait Islander health and does clinical work at Gurriny Yealamucka, an Aboriginal Community Controlled Health Organisation in Yarrabah. At ANU his focus is working with government and community organisations to enhance primary health care systems.

Abstract - Improving the prevention of cardiovascular disease for Aboriginal and Torres Strait Islander peoples

Cardiovascular disease (CVD) age-standardised mortality rates have decreased by over 40% among Aboriginal and Torres Strait islander peoples since 1998, yet CVD still accounts for a quarter of Aboriginal and Torres Strait Islander deaths and 21% of all premature years of life lost. CVD is highly preventable with timely screening and optimal care. The ANU has been working with the Australian Government Department of Health and non-government organisations to improve identification and treatment of people at high risk of CVD. This presentation will describe how we have worked with stakeholders to identify system level barriers to effective CVD prevention and the progress made in enhancing CVD prevention in the first two years of our project.

Professor Nicolas Cherbuin

Professor Cherbuin is the Head of the Centre for Research on Ageing, Health and Wellbeing in the College of Health and Medicine at the Australian National University. He obtained his PhD in Psychology from ANU in 2006. He has since been the recipient of several research fellowships including an Alzheimer Australia fellowship, a NHMRC Early Career Fellowship and an ARC Future Fellowship. He has contributed to attracting research funding totalling more than $20mil. Cherbuin leads the NeuroImaging and Brain Lab (NIMBL) and oversees the neuroimaging arm of a large longitudinal study of ageing, the PATH Through Life study, which surveys almost 7500 participants over a follow-up to 20 years of which he is a senior chief investigator. His research interests include investigating the risk and protective factors that contribute to premature ageing, cognitive decline and dementia across the adult lifespan, investigating the impact of chronic diseases and mental disorders on brain health, and in developing tools and interventions to decrease risk in the population. Cherbuin is also an investigator on the NHMRC Centre for Excellence in Cognitive Health

Abstract - Brain ageing across the life course in health and disease

Ageing and particularly brain ageing is often regarded as a late-life concern. However, substantial evidence indicating that the effects of ageing processes occur and are detectable much earlier is accumulating. In this talk, recent work from our group describing typical trajectories of brain ageing in an Australian population will be summarised, the contribution of some major lifestyle risk factors will be reviewed, and implications for cognitive health will be discussed. The importance of developing interventions and policy aimed at reducing risk exposure across the lifespan will be highlighted.

Dr Richard Burns

Richard Burns BMus, BA, PGDE, MSc, PhD is a senior research fellow at ANU. A jazz musician by night, or by day if Floriade is on, Richard completed Masters and Doctoral studies into the convergence of employee characteristics and organisational climate on employee and organisational wellbeing and morale. Over the last 13 years, he has been based at the Centres of Mental Health (CMHR) and Research in Ageing, Health and Wellbeing (CRAHW). With primary substantive focus in areas related to mental health and wellbeing, Richard has a methodological expertise that has seen him lead and engage with other areas of interest including in healthy ageing, cognitive ageing, job strain and even in student motivation and engagement within the higher education context. Richard is currently completing a Masters of Biostatistics at the University of Sydney, where surprisingly he has performed far better in the pure maths classes than in some of the applied statistics classes. When not following orders from his wife, Richard is a keen follower of all rugby codes, union, league and head-high.

Abstract - Cognitive Ageing: What is normative functioning across the life course and between different contexts?

This presentation will report findings from large longitudinal populations studies to demonstrate that many older adults maintain good cognitive function across a number of domains. Decline is a consequence of disease and disablement processes including death, rather than age itself. Data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey, a large longitudinal and nationally representative sample of Australians, examined sex, age and socio-geographical variation in working memory, processing speed and pre-morbid intelligence in over 12, 000 participants who were observed over a 4 year period. Finally, mixture growth analysis of data from 912 deceased individuals from the Australian Longitudinal Study of Ageing on Digit Symbol, Immediate and Delayed Recall tasks demonstrate that even normative terminal-decline in cognitive function is not consistent for all; many older adults maintain their functional capacity.