April 2026

The HOPE Foundation for Research on Ageing

Preparing New Zealand for an Ageing Future

It is an uncertain and dangerous world at present. It seems some of the basic concepts of good manners, kindness, listening, understanding others and reflection before action have been forgotten. Focussing on the things we have in common would seem to get us further than exaggerating the differences. The courage to "speak truth to power" and the adage "the pen is mightier than the sword" seem more important than ever. We all have a part to play.

Keep connected, take joy from the simple things, be kind and help others less fortunate than yourselves as things get tougher for our fellow citizens.

Our Hope Scholars will be featuring in our annual Knowledge Exchange on April 17th. It is an honour to observe the diversity of subjects and the enthusiasm of students as I strive to accommodate all within the programme. With rising daily expenses, our scholarships help support students. Unfortunately, we cannot fund all applications.

The Hope Foundation Board recently held a workshop to consider what other things we could do (lots if we had more money) but two key gaps emerged. The first gap is funding for postdoctoral fellows, which has become increasingly limited due to university funding cutbacks, alongside reduced support for continuing education across universities and professional life.

The second gap is funding to support senior professionals across nursing, allied health, and social science—people in academically minded roles. A fellowship would allow professionals to step away from their roles to visit overseas facilities and bring new skills, methods, or ideas back to New Zealand's ageing sector. An annual programme would encourage interdisciplinary growth and could support professionals seeking to move into new areas, such as older peoples health care.

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https://hopefoundation.org.nz

Scroll down and on the right hand side there is a link to sign up to the HOPE Foundation newsletters

Dr Maree Todd
Geriatrician
Chair of the Foundation

New Zealand needs this investment.

Finally, there is progress towards funding changes for home-based care and aged residential care. There is an aged care ministerial advisory group tasked with producing options. There have been several reports about pending bed shortages, lack of funding and incentives to either upgrade or build new stock for those unable to pay or who live in more rural areas. Early and appropriate support for people with dementia is likely to enable them to stay independent for longer. Their report is due mid-year.

https://www.health.govt.nz/about-us/new-zealands-health-system/health-system-roles-and-organisations/health-committees-and-boards/aged-care-ministerial-advisory-group

We have a change in Board membership. Jenny Moor has given valuable service to the Board and is stepping down. She is the nominee from Age Concern and is a former social worker and manager. Her wise counsel, broad thinking and advocacy for older people have been inspiring. The

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HOPE Foundation Scholarships

2026 Hope Foundation Scholars

Through the generosity of our sponsors and the Friends of HOPE, we awarded 13 HOPE scholarships this year. Each HOPE scholar receives $6,000 to support their work on an ageing related topic of research.

Five of the 13 scholars (Kushalata Baral, Chunxu Chen, Diwakar Khanal, Jayanthi Nagalingam and Mathew Shuen) are scholars from 2025. Their projects have been written up in past Newsletters and are briefed online (https://hopefoundation.org.nz/scholars).

Below we welcome our new scholars and outline their projects.

Jessica Kelly : Three-dimensional striatal organoids to model Huntington's Disease

PhD candidate, Medical and Health Science, University of Auckland, Main supervisor: Prof Bronwen Connor

Researching neurological diseases that occur later in life is complicated. Typically, models rely on post-mortem tissue, which only captures the end-stage disease, or rejuvenated cells that lack the ageing signatures accumulated through a person's life. The Neural Regeneration and Repair lab in the Centre for Brain Research uses direct cell reprogramming to create cells from donors that retain both the actual disease state and ageing signatures a person has in their cells.

Jess advanced this technique by developing a model for growing the resulting cells in three-dimensions, called 'Organoids'. The cells organise themselves so they closely resemble human brain cells resulting in more accurate behaviour and disease states.

To establish this model in the lab, Jess characterised organoids derived from both healthy donors and those with Huntington's Disease. Thereby optimising many analytical methods to show clear, consistent, and relevant markers of Huntington's Disease in diseased donor cells.

Jess is in the final year of her PhD and completing this characterisation so the lab can use this model to investigate how the disease arises, explore proteins involved in the development of the disease, and potential therapeutics which might alleviate symptoms. This model is adaptable to other diseases, opening the door for more relevant disease modelling.

Jacob Mathew : Decoding brain dynamics – A novel approach for neurodegenerative diseases

PhD candidate, Auckland Bioengineering Institute, University of Auckland, Main supervisor: Dr Vickie Shim

As the global population ages, neurodegeneration presents a profound socioeconomic and public health challenge. Early diagnosis of dementia remains limited and 75% of cases go undetected. While changes in white matter structure and atrophy show promise to identify disease, these changes are often subtle and occur late in the disease, highlighting the need for more sensitive biomarkers of neurodegeneration.

An understudied facet of the brain is its mechanical environment. Tissue stiffness is indicative of tissue microstructural integrity and shows promise as an early biomarker for neurodegeneration. Tissue stiffness is measured using magnetic resonance elastography (MRE). Current procedures for MRE require specialised equipment limiting clinical use, whereas diffusion tensor imaging (DTI) scans are more accessible. Jacob's project explores a novel alternative to detect neurodegeneration using virtual MRE directly from DTI, without specialised equipment or scan time. A computational model of the brain estimates spatially varying tissue stiffness and damping properties directly from DTI, eliminating the need for mechanical excitation.

This method leverages a digital twin framework that simulates the tissue's dynamic response under controlled conditions and extracts stiffness-related

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HOPE Foundation Scholarships

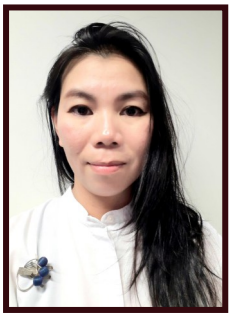
Zehua (Zack) Wang: Population pharmacokinetic-pharmacodynamic modelling of antibody therapies in Alzheimer's disease

PhD candidate, Pharmacology and Clinical Pharmacology, University of Auckland, Main supervisor: Assoc Prof Jacqueline Hannam

Alzheimer's disease is a leading cause of dementia, with significant long-term impacts on patients and their whānau. In New Zealand, it affects approximately 2-3% of people aged 60 and over and rises to 8–10% among those aged 80 and over.

The monoclonal antibody therapy donanemab (Kisunla®) is one of the first internationally recognized treatments shown to slow cognitive and functional decline in early symptomatic Alzheimer's disease. To understand how such breakthrough therapies alter long-term disease trajectories, we use disease progression modelling. This enables us to determine whether medication benefits represent only temporary symptomatic relief during treatment or a durable disease-modifying effect that persists after treatment stops, while also informing decisions about when and how to prescribe treatments.

Applying this framework to donanemab, we will use population modelling to interpret the interplay between pharmacokinetics, pharmacodynamics, and disease progression in the TRAILBLAZER-ALZ 2 clinical trial. We will also examine how patient-specific factors, such as body weight and ApoE ε4 genotype, influence drug exposure and response. The resulting model will help optimise personalised dosing regimens for older adults, ultimately helping to maintain their independence and dignity while alleviating caregiving burden and pressure on the healthcare system.



Huynh Trieu An (Ann) Tran (Way): Embodied Identity – Making a connection between dementia prevention and dance movement therapy in Aotearoa, New Zealand

PhD candidate, Psychology, University of Auckland, Main supervisor: Prof Suzanne Purdy

Ann is a second-year PhD candidate exploring Dance Movement Therapy as a non-pharmacological approach to supporting individuals living with mild cognitive impairment, a population at higher risk of developing dementia-related diseases.

Mild cognitive impairment is characterised by higher memory or thinking difficulties than expected for age. It is considered a transitional stage between normal ageing and dementia, particularly Alzheimer's disease. Most people with mild cognitive impairment remain independent, though those with additional health conditions may need professional support. Although progression to dementia cannot always be prevented, research shows addressing modifiable lifestyle factors can reduce risk, delay onset or slow disease progression. In some cases, symptoms may remain stable or improve with therapy. Family involvement is important for monitoring daily functioning, supporting adherence to interventions and addressing psychosocial impacts.

Dance Movement Therapy emerges as a promising non-pharmacological intervention for people with neurodegenerative disease. Ann's research sits at the intersection of psychology, neuroscience, creative arts therapies and community health. This interdisciplinary approach allows Ann to examine how embodied experiences, such as rhythm, gesture, posture and relational movement, contribute to maintaining a sense of self and social connection, both of which are critical protective factors in dementia prevention.

The intended impact of this research is to broaden how dementia prevention is conceptualised in Aotearoa, moving toward holistic and culturally responsive approaches that value lived experience and embodied knowledge. This work aims to inform public health strategies, therapeutic practice, and community-based wellbeing initiatives to strengthen preventive care pathways and enhance the quality of life for middle-aged and older adults.

*Support Research on Ageing—make a **DONATION***

ANZ Bank: HOPE FOUNDATION FOR RESEARCH ON AGEING 06-0201-0030580-00

HOPE Foundation Scholarships

Annie Meates : Future Care Documents – the applicable law, legal practice in promotion, motivators and barriers to use

PhD candidate, Law, University of Auckland, Main supervisor: Prof Mark Henaghan

Annie's research focuses on future care documents such as enduring powers of attorney, advance directives, and advance care plans from a legal lens. Her research topic has emerged from her work as a barrister and solicitor, and more recently in the area of Elder Law. From practical experience and observation, and with an overlay from international research, a common theme emerges of a lack of awareness and understanding in this arena.

Annie's research focuses on the law, the motivators, and barriers for the users of future care documents and the role of the lawyer in their promotion. This will be a mixed-methods design including doctrinal and qualitative methodology. The socio-legal empirical data approach will connect the real-world application of the law and its social consequences in practice. There is little legal empirical research in New Zealand. The intended impact of this research is more focused legal training and the development of a framework to increase document uptake.

Melissa Phillips : Imagined and Observed Swallow study

PhD candidate, Psychology, University of Canterbury, Main supervisor: Prof Maggie-Lee Huckabee

Swallowing relies on a complex neural network spanning cortical, subcortical, and brainstem regions. For people with dysphagia—including those with Parkinson's disease, stroke, or other neurological conditions—these pathways can weakened through disease, injury, or prolonged disuse.

During early recovery, it is often unsafe for patients to resume normal eating and drinking. Prolonged reliance on non-oral feeding can lead to reduced muscle tone and impaired coordination, creating a critical period in which the brain may be primed to relearn swallowing, while the body is not yet able to perform it safely. This gap increases the risk of aspiration, choking, and respiratory complications. Thus rehabilitation focuses on strengthening vulnerable neural networks, some of which may activate not only during actual swallowing but also during imagined swallowing.

Motor imagery—the mental rehearsal of a movement—offers a promising avenue. Research demonstrates imagining movement engages many of the same neural circuits as performing it, helping to strengthen those pathways. While motor imagery is well supported in limb rehabilitation, research on imagined swallowing remains limited. Its safety, low cost, and suitability for home practice makes this technique a potentially valuable tool, but stronger evidence is needed before clinical adoption.

This study at the University of Canterbury's Rose Centre for Stroke Recovery and Research investigates whether swallowing precision can improve through imagined swallowing alone or in combination with watching someone else swallow (action observation). By reinforcing neural pathways, this research aims to support healthy ageing and improve the quality of life for older adults with dysphagia.

Scholarships allow scholars to devote more time to their research. Scholarships relieve financial stress and allows career development opportunities which may not otherwise be available if the student is required to work.

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HOPE Foundation Scholarships

Olivia Sutherland : Cognitive functioning and frailty in older New Zealanders

PhD candidate, Psychology, Massey University, Main supervisor: Prof Fiona Alpass

Given the ageing population and the high emotional and economic burden associated with cognitive decline and physical frailty in older age, it is important to understand potentially modifiable risk factors affecting the health and wellbeing of older New Zealanders. Anxiety, cognitive decline and physical frailty each affect an individual's emotional wellbeing and ability to enjoy their day-to-day life independently. Identifying how these variables influence one another enables future opportunities to identify more effective interventions that may improve the daily lives of older adults, and reduce the burden on medical systems and caregivers.

The New Zealand Body, Mind and Ageing study explores the cognitive and physical health of older adults through in-person interviews. Thousands of interviews are being completed nationwide.

Alongside many physical and psychological measures, a full cognitive assessment is undertaken. These data will be combined with previous survey data to understand changes in the physical and cognitive health.

Previous research demonstrates a strong link between mental health experiences, cognitive decline, and physical frailty. However, the specific relationship between anxiety and cognitive frailty remains underrepresented in the literature. Olivia's research will explore the impact of anxiety on cognitive frailty outcomes, and vice versa to broaden the knowledge of potential interventions that may improve long-term outcomes.

Xi (Cassie) Wang : Healthy ageing in a smart urban future: Co-designing with Asian older adults in Auckland

PhD candidate, Public Health, Auckland University of Technology, Main supervisor: Dr Cath Conn

Cassie's research is at the intersection of healthy ageing, smart cities, and inclusive governance. Her research explores how older adults, particularly Chinese migrants in Auckland, experience and navigate increasingly digital urban services and participation systems.

As cities move towards digital-first models of service delivery and civic engagement, older adults are often framed as "late adopters" who simply need more training or better tools. This research challenges this assumption by shifting the focus from individual capability to system design. Rather than asking whether older people can keep up with smart city systems, Cassie examines how those systems are structured, whose forms of participation they recognise, and where everyday barriers quietly accumulate.

Using a participatory co-design approach, Cassie will develop and test a method called World Teahouse, a culturally adapted version of the World Café model. Through small, facilitated sessions that combine storytelling, mapping, and collective reflection, older adults and local stakeholders work together to make visible how participation pathways function in practice and how they might be redesigned to better support autonomy, dignity, and social connection. The project treats older adults not as passive service users or consultees, but as legitimate contributors to future urban governance. The aim is to translate lived experience into practical, governance-relevant insights that can inform more inclusive and future-ready approaches to healthy ageing in Auckland and beyond.

The Friends of the HOPE Foundation utilise a variety of skills such as organising, flora arranging, hosting amazing afternoon teas, contacts with interesting people, ideas and many more. Please contact karen@hopefoundation.org.nz if you can contribute and would like to belong. No one is too young or too old to help make a difference.

HOPE Scholar updates

Dr Mike Annear : HOPE scholar for Research on Ageing 2010-2012

Senior lecturer, Lincoln University

Dr Mike Annear, former HOPE Foundation scholarship recipient (2010-2012), has developed a successful academic career since finishing his PhD studies at the Christchurch School of Medicine (University of Otago) in 2012. His research has taken him from Christchurch to roles in Australia (NHMRC-ARC Dementia Research Fellow) and Japan (Associate Professor of Sport Science) and he has recently landed back at Lincoln University with a growing family in tow.

Since his graduation, Mike has been conducting research at the intersection of healthy ageing and urban environment. He has developed widely used tools for dementia education, explored age- and dementia-friendly environments across the Asia-Pacific, created EdX courses on super-aged societies, and conducted long-term research exploring how post-earthquake change has affected older-adult activity opportunities in aged neighbourhoods across Christchurch (a long-term follow-up to his HOPE-funded PhD research).

Mike's current area of interest is WHO Age-Friendly Cities and investigating how we can optimise urban interventions to support higher levels of activity and health in later life. Feel free to reach out and connect with Mike if you share his passion for age-friendly environments and healthy ageing.

Linked In: www.linkedin.com/in/drmichaelannear

STUDY PARTICIPANTS REQUIRED

Are you supporting someone with memory loss who is currently driving or who has recently stopped driving?

HOPE Scholar, Kushalata Baral's study aims to build a national understanding of how decisions about driving cessation are made for people living with cognitive impairment.

Supported by Dementia New Zealand and Dementia Waikato, the research completed in 2024 involving focus groups with family members and health professionals, highlighted key issues such as the importance of family involvement, managing risk, gaps in systemic support, normalising the transition away from driving, and the need for accessible transport alternatives.

Building on these insights, the current phase involves an online survey seeking responses from over 500 people who have supported someone with memory loss through the decision to stop driving, The aim is to translate lived experience into evidence to inform clearer guidelines, stronger support systems, and more dignified transitions.

RECENT GRADUATIONS

Congratulations to HOPE Scholars who have graduated since the last newsletter

Dr Josephine Dixon—Non-invasive optical methods for the detection of blood analytes in the near infrared spectrum

Dr Khald Bin Abdul Jabbar—Examining change in physical activity, sedentary behaviour, and trajectory of functional decline in response to a health-app in at-risk community-dwelling older adults

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features using tensor dynamic mode decomposition. This approach enables physics-informed characterisation of tissue stiffness while supporting the development of an AI model that infers stiffness maps directly from DTI. This framework streamlines the process of stiffness mapping and allows retrospective analysis of existing large-scale DTI datasets to extract biomechanical insights.

Research Findings

Recent research publications from HOPE scholars

Abdul Jabbar K, Kerse N, Lord S, Del Din S, Teh R. Nutritional status and loneliness impact functional status in community-dwelling older adults. 2026. *Clinical Nutrition ESPEN.* doi: 10.1016/j.clnesp.2026.102937

Abdul Jabbar K, Ting SQ, Choo SY, Munro YL, Tan SM, Rawtaer I. 2026. Can sensor technologies accurately detect and monitor behavioural and psychological symptoms of dementia (BPSD)? - A Systematic Review. *Dement Geriatr Cogn Disord Extra.* doi: 10.1159/000551112

Annear M, Hyde C. 2025. Taking stock of age-friendly cities in Aotearoa New Zealand: Progress, pitfalls and pathways towards healthy ageing. *Australasian Journal of Ageing* 44:e70058. doi: 10.1111/ajag.70058

Curl A, Watkins A, Smithies A, Dares C, **Pocock T**, Williman J, Todd V, Dicker B, Keeling S. 2025. A participatory virtual audit of the built environment for age-friendliness. *Internation Journal of Health Geographics.* doi: 10.1186/s12942-025-00422-w

Hikaka J, Cavadino A, Ihimaera L, Taylor L, Maxwell-Crawford K, Merito P, Vercoe H, Li M, Kool B, Parsons J, Aramoana-Arlidge B & Kerse N. Acceptability and exploratory efficacy of a Māori-led injury prevention and care model for older Māori in primary care in Aotearoa New Zealand: pilot study. J R Soc NZ 2025;55:2233-54. doi: 10.1080/03036758.2025.2525222

Moyes SA, Selak V, Plank L, **Hikaka J**, & Kerse N. Sarcopenia and mortality in Indigenous and non-Indigenous New Zealand octogenarians: the LiLACS NZ cohort study. 2025. *Eur Geriatr Med* 16, 1789-1798. doi: 10.1007/s41999-025-01261-5

Moyes SA, Selak V, Plank LD, **Hikaka J**, Teh R, & Kerse N. 2026. Hand grip strength and loss of independence in Indigenous and non-Indigenous New Zealand octogenarians—the LiLACS NZ cohort study. The Journals of Gerontology: Series A 81 (4). doi: 10.1093/gerona/glag066

Shuen M, Lamberts R, Coffey S, Sheard P. 2026. A role for long-lived envelope proteins in cardiac ageing. *Mechanisms of Ageing and Development.* doi: 10.1016/j.mad.2025.112145

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Board and I thank her for her contribution and wish her well for the next phase of her "retirement". Her replacement is Kathy Peri, a senior lecturer in Nursing at the University of Auckland. She was also one of our very first scholars and it has been a pleasure to see her continue her academic work and continue to support the HOPE Foundation.

We thank our key sponsors for supporting the HOPE Foundation. Without you we could not accomplish what we do. We are always looking for new support. If you wish to discuss this further or want on advice on setting up a bequest please contact us.

Other items of note for those who like in depth reading:

1. The Law Commission has published its final report "Review of adult decision-making capacity law." They recommend a new act and have well argued points for improving the whole process to support people as much as possible to make their own decisions according to their rights, wishes and values.

https://www.lawcom.govt.nz/our-work/review-of-adult-decision-making-capacity-law/tab/report

2. Age-Proofing Aotearoa: Rethinking our infrastructure for an ageing population

https://www.helenclark.foundation/research/age-proofing-aotearoa

Please support us by sharing this newsletter and giving generously in any way you can.

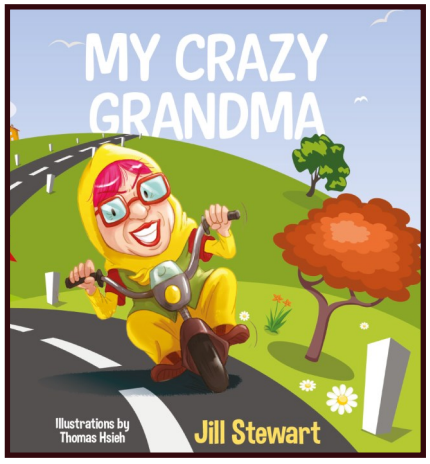
Thank you for your ongoing support.

Maree Todd

Final things

My Crazy Grandma raises funds for ageing research

This is not a story about your typical Grandma but one you will always want on your side



Jill Stewart (aka Dr Jill Waters) has written a children's story and is donating all profits to the HOPE Foundation to support students undertaking research on ageing.

Jill shares the story, in over 16 colourful pages, of a Grandma with a pet orangutan and python; a Grandma who does not knit, sew, bake scones but follows motor racing, jousting and adventure.

Thomas Hsieh visually portrays the personalities of the characters.

Books can be purchased for $20 plus $6 pp.

Complete the order form on our website or email karen@hopefoundation.org.nz

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Our website

The HOPE Foundation has more information about Research on Ageing, our scholars and Friends of HOPE.

Please take a look

Under the student menu option (hopefoundation.org.nz/scholars/) your will find

- Details of the scholars and their research projects
- Research outputs from both past and present scholars – both publications and scholar activities
- Thank you letters from our scholars

The website also has links to our social media page (bottom of webpage). Follow the HOPE Foundation for Research on Ageing to keep up-to-date with our news.