Annual Report
2024

UNIVERSITY of TASMANIA
WICKING
Dementia Research and Education Centre

Contents

Acknowledgment of Country

We acknowledge the Palawa/Pakana people of lutruwita (Tasmania) and the Gadigal people of Sydney, the traditional owners, and custodians of the land upon which we live and work. We pay respects to Elders past and present as the knowledge holders and sharers. We honour their strong culture and knowledge as vital to the self-determination, wellbeing, and strength of the community. We stand for a future that profoundly respects and acknowledges Aboriginal perspectives, culture, language, and history.

◂ Top: Associate Professor Alison Canty with Wicking Dementia Centre Graduates.

Middle: Wicking Dementia Centre August Graduates.

Middle: Associate Professor Alison Canty.

Bottom: Dr Kathleen Doherty – DREAM Project and Helga Jenkins – Lecturer in Dementia Studies

▲ Tas Test 2024.

Wicking Dementia Centre – Our mission

The Wicking Dementia Centre at the University of Tasmania is a beacon of hope and innovation in dementia research and education.

Since its establishment in 2008, the Wicking Dementia Centre has been dedicated to enhancing the lives of those living with dementia through a blend of cutting-edge research, comprehensive education, and active community engagement.

At the core of the Centre's mission is a deep commitment to understanding the diseases that cause dementia, such as Alzheimer's, Parkinson's and other neurodegenerative conditions. The Wicking Dementia Centre's researchers dive into the complexities of these diseases, exploring their underlying mechanisms and seeking ways to slow or prevent their progression. This crucial research lays the groundwork for developing new treatments and interventions that can significantly improve the quality of life for those living with dementia.

Education is another cornerstone of the Wicking Dementia Centre's mission, creating and offering a variety of educational programs designed to increase knowledge and understanding of dementia among healthcare professionals, carers, and the general public. These programs include free online courses, such as the popular Understanding Dementia and Preventing Dementia MOOCs, which provide accessible, high-quality education to people worldwide. We continue to offer online university award courses, based on the latest research, that are suitable for everyone at any stage of their career.

Community engagement is also a key focus for the Wicking Dementia Centre. Through initiatives like the ISLAND Project, which studies dementia risk factors and promotes resilience-building strategies, the Wicking Dementia Centre actively raises awareness about dementia and encourages proactive measures to reduce its impact. This community-focused approach ensures that the Wicking Dementia Centre's work is not only scientifically rigorous but also socially relevant and impactful.

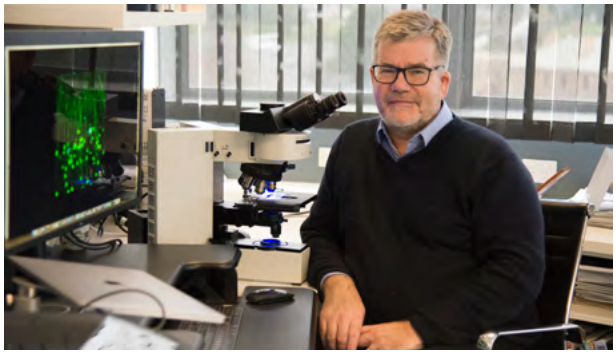
Supporting carers is another vital aspect of the Wicking Dementia Centre's work. This year we launched the Dementia Respite Education and Mentoring (DREAM) project, which provides carers with the education and support they need to deliver high-quality respite care. By empowering carers with the necessary skills and knowledge, the Wicking Dementia Centre helps alleviate some of the impacts associated with caregiving, improving the overall well-being of both carers and those they care for.

The Wicking Dementia Centre is a collaborative hub where researchers and global specialists work together to advance progress in understanding, preventing, and caring for dementia. Our collective efforts are paving the way for a brighter future for those living with this challenging condition.

In 2024, it is estimated that more than 421,000 Australians live with dementia. Without a medical breakthrough, the number of people in Australia with dementia is expected to increase to more than 812,500 by 2054.

Source: (Dementia Australia (2023) Dementia Prevalence Data 2024-2054, commissioned research undertaken by the Australian Institute of Health and Welfare.

A message from the Director



It is with great pleasure that we present the 2024 Annual Report of the Wicking Dementia Centre. 2024 was an opportunity for us to reflect on where we have come since establishment in 2008.

The environment for universities has become more challenging in recent times, especially around funding and increasing competitiveness for grants and philanthropic funding. Through our internal review, Centre staff were keen to keep a strong focus on dementia, as well as our three themes around Care, Prevention and Cause. We have acknowledged that our overall scope has broadened in recent years to include conditions that are related to dementia, such as traumatic brain injury, Parkinson's disease and Motor Neuron Disease (MND).

This has led previously to us developing a new Massive Open Online Course (MOOC) on traumatic brain injury, as well as externally funded development of two new MOOCs through 2024 on Parkinson's disease and MND, released in 2025. The Parkinson's MOOC was developed in collaboration with our colleagues at the Menzies Institute for Medical Research. 2024 was also marked by our most significant review and update of the two dementia MOOCs, which will be released in the second half of 2025.

Our undergraduate and postgraduate courses continue to do well, and it was a pleasure to meet graduating students at our 2024 graduation ceremonies. We are also seeking to connect with our graduates as it is our alumni that will be playing a significant part in improving services and support for people with dementia throughout Australia. Associate Professor Lyn Goldberg also led a project, supported by the Medical Research Fund, to adapt one of our undergraduate units around the theme of Culturally Respectful and Safe Care. This unit involved students being able to engage directly with First Nations elders in learning exercises.

Our national leadership in aged care and dementia was exemplified by two major projects funded by the Commonwealth Department of Health and Aged Care. The development of the Equip Aged Care Learning Packages involved substantial engagement with a range of organisations involved in aged care leading to a series of educational modules that have garnered over forty thousand enrolments.

The Dementia Respite Education and Mentoring Project (DREAM), conducted in collaboration with Dementia Support Australia, also has key educational modules on dementia respite, supported by a facilitated network of participants who work in the respite sector. In addition, DREAM also provides coaches across Australia who can connect directly with respite workers and organisations.

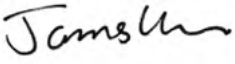
The other important service that the Wicking Dementia Centre provides in Tasmania is our 'ISLAND Clinic', a General Practitioner referred clinic that assists people with obtaining a diagnosis if they may be concerned about their cognitive functioning. This interdisciplinary clinic has also been an important opportunity for a range of research studies and was engaged in two national clinical trials on new therapeutic and diagnostic approaches through 2024.

The ISLAND Clinic would not be possible without the great support we receive from Dementia Australia as well as local radiology providers. Likewise, we have also benefited from volunteers who have supported the operation of the Clinic each Wednesday. The ISLAND Clinic was the focus of our fund-raising activities in 2024. While we are keen to maintain the Clinic at no cost to the participant, the availability of financial support though Medicare funding covers only a minor fraction of our costs. We have received strong support by way of donations, but we are hoping we can place the Clinic on a more sustainable funding basis into the future.

Another milestone through 2024 was marking 5 years of the Island Study Linking Ageing and Neurodegenerative Disease (ISLAND), our major project in Tasmania that seeks to implement a public health approach to educating the community about risk factors for dementia and supporting them in tackling health factors that may contribute to their personal risk. Our recent analysis of data from approximately 3,000 Tasmanians who have provided annual data since 2020 has indicated that the project has resulted in significant reduction of health factors linked to risk in this sample.

Along the way, the ISLAND participants have also contributed a wealth of data for range of other research studies that have helped us understand dementia risk more thoroughly, and that have also led to the establishment of new approaches, such as the online TasTest tool, to help identify brain function changes as early as possible. The ISLAND Project has also provided access of the cohort to fee-less university courses, and the analysis of this data indicate that this augments dementia risk reduction.

I hope that you enjoy reading the 2024 Annual Report. We very much appreciate your support of the Wicking Centre and hope that we can connect with you on our range of projects into 2025 and beyond.



Distinguished Professor James Vickers
Director

Achievements in 2024

OUR GRANT FUNDING

Total current project funding	**$ 25,109,681**
Total new or announced funding in 2024	**$ 3,732,796**

OUR EDUCATIONAL OUTCOMES

Undergraduate study	**Graduates to date**	**Graduated in 2024**
Bachelor of Dementia Care (M3S)	408	44
Associate degree in Dementia Care (M2D)	318	13
Diploma of Dementia Care (M1D)	1,951	213
Diploma of Ageing Studies and Services (M1A)	23	6
Undergraduate Certificate in Aged Care Services (50A)	2	-
Undergraduate Certificate in Dementia Care (50F)	86	-
Total number of graduates	**2,788**	**276**

Postgraduate study	**Graduates to date**	**Graduated in 2024**
Master of Dementia (M7X)	54	20
Graduate Diploma of Dementia (M6X)	19	11
Graduate Certificate in Dementia (M5X)	89	32
Total number of graduates	**162**	**63**

Dementia MOOCs	**Enrolments to end 2024**	**Total enrolled in 2024**	**Australian enrolments in 2024**	**International enrolments in 2024**
Understanding Dementia	421,206	22,249	10,914	11,335
Preventing Dementia	251,917	14,458	6,600	7,858
Understanding Traumatic Brain Injury	78,684	14,903	6,834	8,069
Total enrolments	**751,807**	**51,610**	**24,348**	**27,262**

We have received enrolments from 229* countries to date including 188 UN member states.

*Countries as included on the MOOC enrolment form as listed in the ISO 3166-1 Standard of 249 interest.

▲ The Wicking Dementia Centre offers both short and award courses online.

Our Education

The Wicking Dementia Centre mission is to grow the global understanding of dementia and to support a workforce capable of driving positive change in ageing and dementia care. On the 7th February 2024, the Centre achieved accreditation from Alzheimer's Disease International (ADI) for our aged and dementia care courses. This makes the Wicking Dementia Centre the first in Australia to receive this accreditation.

Massive Open Online Courses (MOOCs)

Our free, massive open online courses (MOOCs) are designed to empower students with comprehensive knowledge about dementia. These courses delve into the brain changes associated with dementia, the resulting behaviors and needs, and practical strategies for providing effective care to those living with the condition.

Improving dementia literacy is a key focus for the Wicking Dementia Research and Education Centre. By expanding the reach of our Understanding Dementia, Preventing Dementia, and Traumatic Brain Injury MOOCs, and evaluating their impacts, we aim to make a significant difference in the lives of many.

An estimated 1.7 million people in Australia are involved in the care of someone living with dementia.

Source: National Dementia Action Plan; Australian Institute of Health and Welfare (2024) 2023 Aged Care Provider Workforce Survey: Summary report, AIHW, Australian Government.

- **Understanding Dementia (UD) MOOC –** *Anyone can develop dementia, everyone can help.*

  This course delves into the diseases that cause dementia, the impact on those affected, and the treatments and care practices that enhance quality of life for people with dementia, their families, and caregivers.

- **Preventing Dementia (PD) MOOC** *It's never too early or too late to reduce your risk.*

  Learn how to minimize your risk of dementia with this course, which offers university-quality education on the latest research in dementia risk and protective factors. Engage with a global community without the pressure of exams or assignments.

- **Understanding Traumatic Brain Injury (TBI) MOOC** *Understand the injury and help reduce the risk.*

  This course aims to raise awareness and build knowledge of TBI, helping to reduce risk and improve management and rehabilitation outcomes for those affected. It covers the causes and consequences of TBI, from mild concussions to severe injuries, across the lifespan.

Equip Aged Care Learning Packages – free aged care learning modules

The Equip Aged Care Learning Packages, were created in 2022 for anyone passionate about the aged care sector. Whether an individual is an personal care worker, nurse, allied health professional, volunteer, or family member, these packages were created to boost a person's knowledge and keep them updated with the latest best practices.

- **Introductory Packages:** Perfect for newcomers and job seekers in aged care, these packages provide essential knowledge to kickstart career and enhance their employment prospects.
- **Refresher Packages:** Ideal for current aged care workers, these packages help a person stay on top of the latest trends and maintain their professional development.

Launched in 2022 with 24 educational modules covering 14 topics, the program has already seen over 40,000 enrolments to date. The project was extended in October 2024 which will see the existing suite complemented with an additional 5 new modules. The first of these modules will be released in 2025 focusing on the new Aged Care Act and Support at Home, key changes which are part of the Aged Care Reforms.

The DREAM Project

The DREAM Project, which stands for Dementia Respite Education and Mentoring, was launched in July 2024 and has over 5,200 enrolments to date. This national initiative delivers education and training to improve aged care provider capability in delivering quality respite care for people living with dementia, including successful transitions in and out of their respite services.

Key features of the DREAM Project include:

Educational Modules: Tailored online educational content, including videos, infographics, and additional resources.

Community of Practice: An online platform for respite care workers to connect, share ideas, and learn best practices.

Dementia Support Coaches: Access to dementia support coaches who offer in-person or virtual support across Australia.

This project is funded by the Australian Government and in partnership with HammondCare, and Dementia Support Australia (DSA), the project brings together industry-wide expertise, builds sector capacity and creates partnerships for better dementia care around the country. DSA's nationwide service recognises the individual experiences of people living with dementia and recommends the ideal service level for each person.

The DREAM Project provides support for growing and empowering the respite care workforce across Australia through:

- A tailored online portal that supports integrated online learning and professional development of aged care workers in respite settings.
- Additional online learning opportunities designed for people seeking access to respite support.
- An accessible, curated program of online learning, including additional learning support materials and opportunities for extended learning.
- Opportunity for engagement in an online community of practice.
- Provision of on-the-ground mentoring.
- Capacity for rapid response and tailored support to teams providing respite care.

▼ Dr Kathleen Doherty - presenting at a conference - DREAM Project.

University Award Courses

The Wicking Dementia Centre is leading the way in dementia research and education. Our mission is to transform the understanding of dementia worldwide. We offer online university award courses, based on the latest research, that is suitable for everyone at any stage of their career.

There are over 55 million people worldwide living with dementia! This number is expected to nearly double every 20 years, reaching 78 million by 2030 and 139 million by 2050. Additionally, there are nearly 10 million new cases of dementia each year, according to the Alzheimer's Disease International (ADI) and the WHO Global Status Report 2021.

With the prevalence of dementia growing each year, it is vital that there is an aged care workforce ready to meet the needs of the people in their care.

Diploma of Dementia Care

As our population ages and the number of people living with dementia rises, it's crucial for personal carers, the aged care workforce, and anyone involved in dementia care to gain specialised knowledge. This ensures they can provide high-quality care in homes, communities, healthcare centres, hospitals, and residential facilities.

Our students benefit from the expertise of lecturers and clinicians from various disciplines who are actively engaged in dementia research. Learning is enriched with real-life case studies, offering practical insights. This course equips graduates with the skills needed to make a significant impact in the health and community sectors.

Bachelor of Dementia Care

The Bachelor of Dementia Care is Australia's only undergraduate degree dedicated to dementia care. As dementia prevalence increases, the need for quality care in communities, healthcare centres, hospitals, and residential facilities becomes more critical. This degree ensures that healthcare workers in aged care develop the expertise needed to make a meaningful difference in the lives of those living with dementia.

Diploma of Ageing Studies and Services

The Diploma of Ageing Studies and Services provides comprehensive insights into the ageing process, as well as how high quality services should be provided. This course is tailored for profesionals working with older adults in community settings, aged care, and other related sectors. It is also ideal for those aspiring to join this growing workforce. This diploma equips graduates with up-to-date knowledge to support older adults and their families in understanding and managing the complexities of the aged care system and the evolving needs that come with ageing.

Master of Dementia

Our Master of Dementia program offers a global perspective on the profound impact of dementia on individuals and societies. It is designed for graduates and professionals who are currently working in, or seeking to deepen their expertise in, dementia-related fields. The program provides a comprehensive understanding of dementia from the viewpoints of individuals, families, communities, healthcare systems, and governments. It covers the neurobiology of dementia, including pathology, biomarkers, and therapeutic approaches.

54% of people living in permanent residential aged care have dementia.

Australian Institute of Health and Welfare (2024) Dementia in Australia, AIHW, Australian Government, accessed 23 July 2024


▲ Dr. Eddy Roccati presenting for ISLAND at various events.

Our Research and Grants

The Wicking Dementia Centre remains a leader in groundbreaking research that directly impacts the lives of those living with dementia. Our work is centred around three key areas: understanding the causes, developing prevention strategies, and improving dementia care.

Explore some of our latest research projects below, and for more details, visit: **utas.edu.au/wicking/research/**

ISLAND Study

As a core component of the Wicking Dementia Centre's strategy, the Island Study Linking Ageing and Neurodegenerative Disease (ISLAND) is now into its fifth year, marking the half-way point of the project.

ISLAND is a 10-year prospective cohort study investigating the long-term effects of improving modifiable dementia risk behaviours for brain health. Each year, ISLAND participants report their Dementia Risk Profile (DRP) in the annual surveys, receiving personalised feedback of their risk level (low, medium, high) across nine evidence-based modifiable risk factors for dementia. Every second year we also ask willing participants to donate a sample of their blood and participate in cognitive testing.

2024 saw the establishment of the ISLAND Community Advisory Group. This group was formed to represent the participants and help guide the project team in research direction and engagement activities. It consists of two ISLAND Project staff members and 13 ISLAND Project participants. The group met twice in 2024, and members have provided valuable input into several projects with plans for co-design of some new projects in 2025.

We now have published evidence that the Campus study, where we offered ISLAND participants free tertiary study at University of Tasmania, had a positive impact in reducing dementia risk and improving cognition. 2024 saw us announce the second iteration of ISLAND Campus, which we are excited to commence in 2025.

Other achievements throughout 2024 include:

- Engaging with over 11,500 Tasmanians through our monthly newsletters
- Participating in 17 in-person engagement events, festivals and expos across Tasmania
- Featuring in radio and print media 13 times
- Completing a website redevelopment to ensure the ISLAND website is a usable resource for members, showcasing our research and offering the latest information on dementia prevention
- Presenting ISLAND data at 9 national and 6 international conferences
- Publishing 12 peer-reviewed manuscripts in high-impact scientific journals
- Recognising 'ISLAND gold' members, these 1600 participants have completed 5 consecutive years of survey data

ISLAND is a collaborative endeavour between a multitude of inter-disciplinary researchers including neuroscientists, clinicians, epidemiologists, social scientists, statisticians, laboratory technicians, educational technologists and over 14,000 Tasmanian participants who make this study possible. We have several ongoing large-scale sub-studies, including TAS Test, TapTalk, ISLAND Resilience, Campus and ISLAND Sleep, as well as smaller-scale initiatives in gait assessments, tongue strength and speech analysis.

The ISLAND Clinic

The ISLAND Clinic is a research and diagnostic clinic which was established in 2021 alongside the ISLAND Project. It is a multidisciplinary clinic that provides a diagnosis pathway for people who are experiencing concerns with their cognition. The team consists of geriatricians, neurologists, as well as psychologists and neuropsychologists who work together to provide on-the-day diagnosis for clients.

They specialise in the areas of dementia, mild cognitive impairment and subjective cognitive impairment and clients are able to opt in for various research activities. Since 2021, The ISLAND Clinic has provided 492 diagnoses to members of our community. By providing the diagnosis at the time of appointment, the ISLAND Clinic has achieved an average of 78 days from referral to diagnosis, as opposed to 113 days for other Australian Dementia Network (ADNet) sites. This is a huge achievement for us.

The Clinic has received overwhelmingly positive feedback since its inception:

"I am amazed at the whole thing. To me the whole thing was incredibly well run. It was so thorough and I was impressed with the thoroughness of it all and I loved that it could all be done in one day. Having all those professionals working together like that was also quite remarkable- on the same day on the same client. I just thought wow."

"It was very interesting and I was very grateful to have it. It was so informative and answered a lot of questions that have been brewing in my mind for the last few years. I actually had a very positive experience"

"Massive day and was absolutely exhausted. I can't remember being so tired. I am glad that I got a diagnosis so now I know what am dealing with and it was better than I expected."

ISLAND Clinic Participant Journey

The ISLAND Clinic provides expert interdisciplinary assessment, diagnosis, support, referral, and information for individuals who have been referred to the clinic by their GP. There are 10 steps for an ISLAND Clinic assessment.

1 General referral & pathology	2 MRI brain scan	3 Capacity & consent	4 Neurologist/ geriatrician	5 Psychologist/ neuropsych
6 Research/ blood sample	7 Consensus diagnosis meeting	8 Delivery of diagnosis	9 Post diagnostic advice by Dementia Australia	10 ADNet Registry

ISLAND Partners

Thank you for your support of the ISLAND Clinic in 2024.

- Australian Government Department of Health and Aged Care
- Terry and Maureen Hopkins Foundation

In 2024 it is estimated there are more than 10,600 people living with all forms of dementia in Tasmania. This figure is projected to increase to around 16,500 by 2054 with a projected percentage change of 56%.

Dementia Australia (2023) Dementia Prevalence Data 2024-2054, commissioned research undertaken by the Australian Institute of Health and Welfare.

Selection of 2024 Publications

Title: Community education on the health impacts of bushfires: Evaluation of an online pilot short course in Tasmania, Australia
Authors: Campbell, SL, Brady, J, Anderson, C, Ziou, M, Sinclair, D, Johnston, FH, & Jones, PJ
Publisher: *International Journal of Disaster Risk Reduction*

Title: Modifiable dementia risk factors and AT(N) biomarkers: findings form the EPAD cohort.
Authors: Roccati E, Bindoff AD, Collins JM, Eastgate J, Borchard J, Alty J, King AE, Vickers JC, Carboni M, Logan C; & EPAD Consortium
Publisher: *Frontiers in Aging Neuroscience*

Title: Experimental laboratory models as tools for understanding modifiable dementia risk
Authors: Sinclair D, Canty AJ, Ziebell JM, Woodhouse A, Collins JM, Perry S, Roccati E, Kuruvilla M, Leung J, Atkinson R, Vickers JC, Cook A, & King A.
Publisher: *Alzheimer's and Dementia- Journal of the Alzheimer's Association*

Title: Health Promotion MOOCs (hp MOOCs): A Dual Lens for Assessing Quality
Authors: Martinez Escobedo I, Doherty K, & Eccleston, C
Publisher: *American Journal of Distance Education*

Title: Info-graphing Dementia Prevention: A Co-Design Approach
Authors: Martinez Escobedo I, Doherty K, & Eccleston, C
Publisher: *Health Communication*

Title: Estimating presymptomatic episodic memory impairment using simple hand movement tests: A cross-sectional study of a large sample of older adults
Authors: Wang X, St George RJ, Bindoff AD, Noyce AJ, Lawler K, Roccati E, Bartlett L,Tran SN, Vickers JC, Bai Q, Alty J
Publisher: *Alzheimer's and Dementia- Journal of the Alzheimer's Association*

Title: Seasonal Variations in Vitamin D Levels and the Incident Dementia Among Older Adults Aged ≥60 Years in the UK
Authors: Roccati E & Et al.
Publisher: *Sage Journals*

Title: Leading determinants of incident dementia among individuals with and without the apolipoprotein E $\varepsilon 4$ genotype: a retrospective cohort study
Authors: Roccati E & Et al.
Publisher: *BMC Neurology*

Title: Development of a smartphone screening test for preclinical Alzheimer's disease and validation across the dementia continuum
Authors: Alty J, Goldberg LR, Roccati E, Lawler K, Bai Q, Huang G, Bindoff AD, Li R, Wang X, St George RJ, Rudd K, Bartlett L, Collins JM, Aiyede M, Fernando N, Bhagwat A, Giffard J, Salmon K, McDonald S, King AE & Vickers JC
Publisher: *BMC Neurology*

Title: Who is seeking information about traumatic brain injury? Characterizing online course participants
Authors: Fair H, Doust YV, Bye N, Vickers JC, Padgett C, Ziebell J
Publisher: *Health Promotion International*

Title: Deep learning of Parkinson's movement from video, without human-defined measures
Authors: Alty J & Et al.
Publisher: *Journal Neurological Science*

Title: The Parkinson's Puzzle Box
Authors: Hussain-Al S, Alty J & Callisaya M
Publisher: *Health Expectations*

Title: Isolated rapid eye movement sleep behaviour disorder (iRBD) in the Island Study Linking Ageing and Neurodegenerative Disease (ISLAND) Sleep Study: protocol and baseline characteristics
Authors: Bramich S, Noyce AJ, King AE, Naismith SL, Kuruvilla MV, Lewis SJG, Roccati E, Bindoff AD, Barnham KJ, Beauchamp LC, Vickers JC, Pérez-Carbonell L, Alty J
Publisher: *Journal of Sleep Research*

Title: Brain Networks Involved in Sensory Perception in Parkinson's Disease: A Scoping Review
Authors: Permezel F, Alty J, Harding IH, Thyagarajan D.
Publisher: *Brain Science*

Title: Hand motor dysfunction is associated with both subjective and objective cognitive impairment across the dementia continuum
Authors: Rudd K, Lawler K, Callisaya M, Bindoff A, Chiranakorn-Costa S, Li R, McDonald J, Salmon K, Noyce AJ, Vickers JC, Alty J.
Publisher: *Dementia and Geriatric Cognitive Disorders*

Title: Engaging People with Dementia in Community Art Activities: The Perspective of Art Collaborators
Authors: Bazooband A, Courtney-Pratt H, Doherty K & Tierney L
Publisher: *Health and Social Care in the Community*

Title: Rapid-Motion-Track: Marker-less tracking of fast human motion with deep learning
Authors: Li R, Lau C, St George RJ, Lawler K, Garg S, Tran SN, Bai Q & Alty J
Publisher: *ScienceDirect*

Selection of 2024 Publications CONT.

Title: HDAC6 inhibition as a mechanism to prevent neurodegeneration in the mSOD1G93A mouse model of ALS
Authors: Phipps, A. J., Dwyer S, Collins JM, Kabir F, Atkinson R AK, Chowdhury Md A, Matthews L, Dixit D, Terry RS, Smith J, Gueven N, Bennett W, Cook AL, King AE, Perry S
Publisher: *Heliyon*

Title: Hearing loss, social isolation and depression in participants aged 50 years or over in Tasmania, Australia
Authors: Hamrah MS, Bartlett L, Goldberg LR, Vickers JC
Publisher: *Australian Journal on Ageing*

Title: Ageing-Related Changes to H3K4me3, H3K27ac, and H3K27me3 in Purified Mouse Neurons. Cells.
Authors: Signal B & Phipps AJ & Giles KA, Huskins SN, Mercer TR, Robinson MD, Woodhouse A & Taberlay PC
Publisher: *MDPI Open Access Journal*

Title: Smartphone automated motor and speech analysis for early detection of Alzheimer's disease and Parkinson's disease: validation of TapTalk across 20 different devices. Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring
Authors: Li, R, Huang G, Wang X, Roccati E, Lawler K, St George R, Aiyede M, Bindoff A, Goldberg L, King A, Vickers J, Bai Q, Alty J
Publisher: *Alzheimer's and Dementia- Journal of the Alzheimer's Association*

Title: Associations between brain structure and dual decline in gait and cognition
Authors: Karunarathna S, Breslin M, Alty J, Beare R, Collyer TA, Srikanth VK, McDonald JS, & Callisaya ML
Publisher: *Neurobiology of Ageing*

Title: Vulnerability of neurofilament-expressing neurons in frontotemporal dementia.
Authors: Daniels N, Bindoff AD, Vickers JC, King AE, & Collins JM
Publisher: *Molecular and Cellular Neuroscience*

Title: The Psychosocial Impacts of Co-Designed Healing Gardens Among Aged Care Residents With and Without Dementia in Nigeria
Authors: Akindejoye F, Ezedinma U, & Röhr S.
Publisher: *Occupational Therapy In Health Care*

Title: Validation of computer vision technology for analysing bradykinesa in outpatient clinic videos of people with Parkinsons disease
Authors: Heye K, Li R, Bai Q, St George R, Rudd K, Huang G, Meinders M, Bloem B, Alty JE
Publisher: *Journal of Neurological Sciences*

Title: Chronic musculoskeletal pain and risk of incident Parkinson's disease: a 13-year longitudinal study
Authors: Vazirian F, Tian J, Alty J, Aitken D, Callisaya ML, Cicuttini F, Jones G, & Pan F
Publisher: *Journal of the International Parkinson and Movement Disorder Society*

Title: Dementia Management and Coordination for People with Dementia and Their Carers in Community Via a Key Professional Contact: What Can Australia Learn from Other Countries?
Author: Pavković, S
Publisher: *Gerontology and Geriatrics Study*

Title: Family Carers and Caring: What It's All About Alisoun Milne and Mary Larkin
Author: Pavković, S
Publisher: *Cambridge Core*

Title: Neurofilament heavy phosphorylated epitopes as biomarkers in ageing and neurodegenerative disease
Authors: De Paoli L F, Kirkcaldie MTK, King AE, & Collins, JM
Publisher: *Journal of Neurochemistry*

Title: How do we get from hyperexcitability to excitotoxicity in amyotrophic lateral sclerosis?
Authors: Odierna GL, Vucic S, Dyer M, Dickson T, Woodhouse A, Blizzard C
Publisher: *BRAIN Oxford Academic*

Title: Computer Vision in Neurology
Authors: Friedrich M, Wong D, Relton S, & Alty J
Publisher: *JAMA Neurology*

Title: Developing, implementing, and evaluating the first national Memory and Cognition Clinic Guidelines in Australia
Authors: Mehrani I, Paradise M, Low LF, Kurrle S, Salmon K, Alty J, Naismith S, Sanchez P Et al.
Publisher: *Alzheimer's & Dementia: Translational Research & Clinical Interventions*

Title: ISLAND Campus: a fee-free formal university educational intervention in mid- to later-life to reduce modifiable risk factors for dementia and improve cognition
Authors: Roccati E, Kitsos A, Bindoff AD, Alty JE, Bartlett L, Collins JM, King AE, Fair H, Doherty K & Vickers J C
Publisher: *Frontiers in Aging Neuroscience*

Our People

The Wicking Dementia Centre has continued to grow throughout 2024 with 79 staff and 42 PHD students working across many projects. The Executive oversees the strategic and operational direction of the Centre.

Wicking Dementia Centre Executive

Distinguished Professor James Vickers

Director

James Vickers is the co-founder and Director of the Wicking Dementia Centre.

James is a neuroscientist and has research interests in Alzheimer's disease, neuron injury, brain plasticity and dementia risk reduction. He is a Past-President of the Australasian Neuroscience Society and is a Board Member of the Dementia Australia Research Foundation.

He has research interests including neurodegenerative disease (particularly Alzheimer's disease), traumatic brain injury and brain plasticity, and currently leads the ISLAND Project that seeks to reduce risk of dementia in the Tasmanian population.

Under his leadership, the Wicking Dementia Research and Education Centre has become a premier institution for dementia research and education.

Dr Sam Poynter

Business Manager

Sam Poynter is the Business Manager for the Wicking Dementia Centre. With a strong background in research and administration, Sam plays a crucial role in managing the Centre's operations, ensuring smooth coordination of projects and resources. His expertise supports the Centre's mission to advance dementia research and education, making a significant impact on the community.

► Queenborough Rise Community, Sandy Bay.

Wicking Dementia Centre Executive CONT.

Professor Anna King

Associate Director (Research)

Professor Anna King is a researcher specialising in neurodegenerative diseases of aging, including frontotemporal dementia, Alzheimer's disease, and motor neurone disease. She is the Associate Director (Research) at the Wicking Dementia Research and Education Centre and an NHMRC Boosting Dementia Research Leadership Fellow

Anna also plays a key role in the Wicking Dementia Centre's educational offerings including the Bachelor of Dementia Care, and the Understanding Dementia MOOC.

Associate Professor Alison Canty

Associate Director (Learning and Teaching)

Associate Professor Alison Canty was centrally involved in leading the development and rapid growth of the Dementia Care Degree Program and has held an education governance role within the Centre for several years. Her research interests lie in the field of neuroplasticity, particularly focusing on the cellular and molecular mechanisms of repair, regeneration, and degeneration in the central nervous system.

Alison is involved in various educational and community engagement initiatives. She is committed to improving brain health and dementia care through her work and collaborations.

Dr Kathleen Doherty

Senior Research Lead Dementia MOOCs, EQUIP and DREAM Project

Dr Kathleen Doherty convenes the Wicking Dementia Centre's Translational Research group which focuses on education, care and community engagement. She is responsible for delivering the program of research which centres on our massive open online courses and growing knowledge, changing attitudes and behaviours through education and building dementia literacy. She contributes to the education program through the Master of Dementia.

Kathleen leads both the Dementia Respite Education and Mentoring (DREAM) Project, which focuses on improving respite care for people living with dementia and their caregivers and the Equip Aged Care Learning initiative, a free online education program designed for the aged care workforce.

▼ Glenview Korongee dementia village, Glenorchy.

Wicking Dementia Research and Education Centre – Staff and Students 2024

Staff

Adam Kane, Project Officer ISLAND Project

Adele Woodhouse, Senior Lecturer in Dementia

Aidan Bindoff, Research Fellow

Alex Kitsos, Data Analyst

Alice Rota-Bartelink Senior Lecturer in Dementia

Alison Canty, Associate Professor

Andrew Phipps, Lecturer in Dementia Studies

Anisuzzaman Chowdhury, Postdoctoral Research Fellow

Anna King, Professor

Anthony Ray, Senior Administrative Officer - Education Programs

Ashleigh Barnes, Junior Postdoctoral Research Fellow

Azam Bazooband, Academic Lead-Dementia Respite Education & Mentoring (DREAM)

Bill Bennett, Senior Technical Officer

Bryony Thorne, Post Doctoral Research Fellow

Cassandra Thomson, Lecturer in Dementia Studies

Catherine Robertson, Executive Assistant

Chantal Roddy, Coordinator Community of Practice (DREAM Project)

Chris Parker, Senior Manager e-Learning and IT

Claire Eccleston, Senior Lecturer in Dementia Care

Claire Harrington, Engagement Coordinator

Duncan Sinclair, Senior Lecturer in Dementia Studies

Eddy Roccati, Research Fellow

Ella Smith, Administration Officer - DREAM Project

Emily Handley, Academic Lead, Parkinsons MOOC

Emma Lea, Senior Lecturer in Dementia

Emma Wilkinson, Postdoctoral Research Fellow

Florence Sward, ISLAND Project Officer

Graeme McCormack, Drug Discovery Coordinator

Guan Huang, Software Engineer

Hannah Fair, Lecturer in Dementia

Helen Watt, Online Education Coordinator

Helga Jenkins, Nurse Practitioner

Hoang Nguyen, Lecturer

Ian Smith, Senior Educational Technologist

Lek Lei, Senior Technical Developer
Ignacio Martinez Escobedo, Educational Developer (DREAM Project)

Jacqueline Leung, Academic

Jacqueline Spotswood, Aboriginal Project Officer

James Brady, Postdoctoral Fellow

James Jestrimski, Administration Officer

James Vickers, Distinguished Professor - Director, Wicking Dementia Research and Education Centre

Jana Talbot, Research Officer

Jane Alty, Professor in Neurology

Jenna Ziebell, Associate Professor

Jennifer Rayner, Manager - Clinical Research Facility

Jessica Collins, Research Fellow

Jiazhen Zhu, Educational Technologist

Joanna Sun, Lecturer in Dementia Studies

Joshua Eastgate, Senior Technical Developer

Katharine Salmon, Coordinator, Dementia and Cognition Clinic

Kathleen Doherty, Senior Lecturer in Dementia

Kim Kennedy, Clinic Administrator

Kimberley Stuart, Research Fellow

Lily Bartkevicius, Student Advisor

Lyn Goldberg, Associate Professor

Macarena Pavez, Research Assistant

Melissa Abela, Lecturer in Dementia

Michelle Marshall, Clinical Trial Research Assistant

Mimieveshiofuo Aiyede, Research Assistant

Mohammad Shoaib Hamrah, Research Fellow in the Epidemiology of Dementia

Monique Belfer, Clinical Research Officer

Nina Daniels, Postdoctoral Fellow

Pauline Marsh, Senior Lecturer in Dementia Studies

Rachel Atkinson, Research Fellow

Renjie Li, Postdoc Research Fellow

Sam Poynter, Business Manager

Samantha Bramich, Project Officer, Parkinsons MOOC

Samantha Poulson, Media Resources Officer

Sarah Bascomb, Project Manager Dementia Respite Education & Mentoring (DREAM)

Sauro Salomoni, Research Fellow, Neuroscience

Scott McDonald, Research Fellow - Neuropsychology

Sharn Perry, Lecturer in Dementia

Sharon Stoddart, Research Fellow - Venture Out

Sigrid Denehey, Research Fellow - Neuropsychology

Simon Weber, Postdoctoral Fellow, Neuroscience

Sonia Strong, Research Assistant Sleep Study

Stephen Myers, Senior Lecturer in Dementia Studies

Sunny Jang, Lecturer in Dementia

Tim Saunder, Data Analyst

Tony Cook, Lecturer in Dementia

Yasmine Doust, Research Fellow

Yinzi Xie, Software Engineer

PhD Candidates

Adelene Chiam

Aidan Bindoff

Amy Coates

Bridget Biswas

Deepika Dixit

Diriba Guduma

Emily Garratt

Ensieh Izadi

Funmi Akindejoye

Getachew Yideg Yitbarek

Julia Giffard

Kaylee Rudd

Kelsey Madden

Laura De Paoli

Lizzy Read

Lyzette Matthews

Marlee Wells

Muthoni Gichu

Nabil Atil

Oliver Johnstone

Rhedeya Nury Nodi

Ross Langley

Stephanie Hutt

Xinyi Wang

Yashi Koirala

Zane Farnum

In the Spotlight: Wicking Dementia Centre staff

Dr. Emily Handley

Emily is a Tasmanian local and completed her PhD at the Menzies Institute under the supervision of Dr Catherine Blizzard and Professor Tracey Dickson. After her candidature, she secured a postdoctoral position in Germany at the DZNE – Deutsches Zentrum für Neurodegenerative Erkrankungen (German Centre for Neurodegenerative Diseases) in Frank Bradke's lab—perfectly timed with the start of the COVID pandemic. While a European lockdown did dampen plans of flitting around the continent on weekends, it did give her time to learn some German (hallo) and plan her research.

While focusing on experiments that required long lab hours and days at the surgery bench, she also stepped into a leadership role as the postdoctoral representative for all DZNE sites across Germany. In this role, she organized conferences, worked closely with administration and the executive board, and pushed for career development initiatives. This experience ultimately led her to realize that while she loved contributing to science, the lab might not be the place for her to do so.

After returning home in 2024 after four years in Deutschland, Emily took on two roles working with the Wicking Dementia Centre's latest MOOCs: project officer for the MND MOOC and academic lead for the Parkinson's MOOC.

These courses combine interactive media, stakeholder interviews, gamification, and text-based learning to engage a broad audience. Importantly, they were developed with insights from those living with MND and Parkinson's, incorporating interviews and direct content feedback to ensure they reflect real experiences. For Emily, this has been the most rewarding part of the process—meeting individuals with these conditions, understanding their perspectives, and applying that knowledge to improve course content. The MOOCs aim to raise awareness, dispel myths, enhance health literacy, and encourage participation in research opportunities.

Emily has always been passionate about both science and communication, and working on the MOOCs has allowed her to combine these interests while building a new network in Tassie. Outside of her work at the Wicking Dementia Centre, she plays State League netball for the Kingston Blues and football for Cygnet in the Southern Football League (up the Port), and enjoys exploring Tassie's mountains and rivers with her partner.

Sarah Bascomb

Sarah's career purpose is to support academics to do what they do best - make a real difference to the world..

Sarah jumped ship to the Wicking Centre in late 2023 after eight years working in the University of Tasmania's Research Division. After many years supporting researchers with their ethics, grants and funding applications, Sarah was keen to work "on the other side of the fence" where the research happened. She hasn't looked back.

Sarah is the Project Manager of two large educational based research projects; Dementia Respite Education and Mentoring (DREAM) and Equip Aged Care Learning. Both projects utilise short educational videos to convey important knowledge to the aged and dementia care workforce to support them to deliver quality care. DREAM also includes an online Community of Practice and, through our project partners Dementia Support Australia, the delivery of personalised coaching.

Being a Project Manager means Sarah needs to be on top of everything that is happening in the development and delivery of the projects, making sure that the team has what they need to deliver a quality product. One of the fundamental aspects of running a large project is managing relationships, within the team, with funders, partners, the workforce and most importantly, people living with dementia and their carers.

People living with dementia are at the heart of everything the Wicking Centre does, and the DREAM and Equip Projects are no different.

Since her first professional role in Melbourne in 2017, every role Sarah has held had directly supported researchers, in either a clinical or academic setting, to be able to focus on their research knowing that the project side of things was being taken care of. When she's not at work, Sarah is, quite literally, running around after her six-year-old and two-year-old and is occasionally able to snatch a few precious moments to read a book while sipping on a gin distilled by her husband.

In the Spotlight: Wicking Dementia Centre staff CONT.

Claire Harrington

I enjoy connecting with people, whether it's through engaging conversations, building relationships, or expanding my network of friends and colleagues.

In 2018, Claire embarked on a significant career shift after spending 27 years in the tourism and hospitality industry. For 12 of those years, she served as the Director of Sales for the peak body representing the business events sector in Tasmania. Her role involved marketing Tasmania as a premier destination for conferences, corporate events, and incentive travel, which was both challenging and rewarding.

Seeking new adventures, she took on roles with TasTAFE Drysdale, the Public Health Emergency Operations Centre (PHEOC), and the Department of Police, Fire and Emergency Management (DPFEM). These positions allowed her to further hone her skills in stakeholder engagement, project management, outcome reporting, and communication. Each role presented unique challenges and opportunities to build meaningful relationships with a diverse range of stakeholders.

In August 2022, Claire joined the Wicking Dementia Centre team! It's been an incredible experience to connect with a community of passionate individuals dedicated to researching and educating the world about dementia. This role has allowed her to combine her love for communication and relationship-building with a cause that truly makes a difference in people's lives.

Every day, Claire is inspired by the work that is done at the Wicking Dementia Centre and the impact it has on the global understanding of dementia. It's a privilege to be part of such a dedicated and innovative team, and she looks forward to continuing this journey of growth, learning, and making a positive impact.

On a personal note, Claire absolutely loves listening to 1980's music—it's undeniably the best era for tunes! She also cherishes every moment spent with her amazing dog, Betty-Bingo, who truly is the best dog in the world. When Claire is not enjoying music or Betty-Bingo's company, she is busy planning her next exciting travel adventure.

Dr Andy Phipps

Dr. Andrew Phipps is a neuroscientist and Lecturer in Dementia at the Wicking Dementia Centre. He also runs Eagle Eye Tasmania, where he specialises in photography, cinematography, fine art printing and picture framing. He is passionate about understanding the nervous system, and his research focuses on how the long nerve fibres connecting our brain, spinal cord, and muscles are vulnerable to breakdown in neurodegenerative diseases such as motor neuron disease (MND).

Andrew grew up in Tasmania and studied music and medical research at the University of Tasmania from 2009 to 2013. During this time, he developed a fascination with understanding the nervous system. His interest in neuroscience led him to complete a PhD at the Wicking Centre from 2014 to 2019, where he sought to understand how nerve cells change their regulation during aging and what happens to their regulation in Alzheimer's disease. This research resulted in one of the first characterisations of how nerve cells alter their regulation as they age. After completing his PhD, Andrew continued working with the Wicking Centre as a videographer and photographer from 2019 to 2021, while also founding his own business, Eagle Eye Tasmania, where he shares photography and documentary work with the community and advocates for the protection of wilderness values.

In 2021, Andrew took on a role as a post-doctoral research fellow at Wicking with Professor Anna King, working on a drug development grant aimed at preventing nerve fibre degeneration in motor neuron disease.

During that time, he gained valuable insight into MND and became acquainted with the incredible and passionate community surrounding MND research and care. While collaborating with Prof. King and Assoc. Prof. Cook at the Wicking Centre, he developed novel methods to culture and isolate nerve fibres from human nerve cells for next-generation molecular approaches, successfully securing funding from MND Research Australia in 2022 to characterise how these nerve fibres degenerate during MND. He has continued to develop and apply these new methods to understand how nerve fibres become vulnerable in disease.

Recently, Andrew obtained two grants to advance his research on nerve fibre degeneration from MND Research Australia and the Brian Marks Research Grant 2024-2025. These grants bring together a team of neuroscience, bioinformatics, and molecular experts from the Wicking Centre, the Walter and Eliza Hall Institute, and the Hong Kong University of Science and Technology. These projects will enable Andrew and his team to identify potential molecules linked to nerve fibre loss that could be targeted with drugs to prevent loss in neurodegeneration, allowing him to develop new treatments for MND.

Andrew continues to be involved with his research, photography, and the MND community. He currently serves on the board of the MND Association of Tasmania.

In the Spotlight: Wicking Dementia Centre students

Kaylee Rudd

Kaylee has degrees in physiotherapy and clinical rehabilitation and worked as a physiotherapist in hospitals, private practice, the community and aged care, before commencing at the Wicking Dementia Centre in late 2021. Her long-term work with aged care residents with dementia underlined the importance of detecting cognitive impairment early and prompted her to join the Wicking Centre to research dementia. She completed an Honours project researching association of motor function with dementia in participants attending the ISLAND Clinic before commencing her PhD. Her current research focuses on investigating how upper limb movements associate with cognitive impairment.

The number of people with dementia around the globe is projected to triple by 2050. Our understanding of dementia has significantly increased over the past three decades as we now know that dementia is a continuum with its pathology accumulating over many years, even decades. Furthermore, fourteen modifiable risk factors for dementia have been identified, including diabetes, low physical activity and hearing loss, and these risks could delay or prevent nearly half of dementia cases. Additionally, there have been advances in the field of clinical trials and some people now have access to neuroprotective drugs. To maximise the benefits of these opportunities, we need to detect people with subtle cognitive impairment at an early stage, ideally before dementia has developed. Currently, highly specialised tests can detect dementia-related pathology, but these are expensive and not widely accessible. Fortunately, there is an alternative way using the motor biomarkers of dementia.

The way we move changes throughout our lifespan and with age – with movements gradually becoming slower and a little less rhythmic.

These movement changes are more prominent when dementia pathology is developing in the brain. The subtle changes in hand movement are particularly important considering the availability of affordable haptic technology such as smart phones and computers equipped with touchscreens and cameras. Better understanding of the dementia-related changes in hand movements can help us develop screening tests of cognitive impairment using everyday devices. Imagine doing an annual five-minute test on your phone and at the comfort and privacy of your home while your GP would see the results and contact you if there was any reason for concern. Ideally, this would reduce costs and streamline access to specialised health services, which ultimately would lead to preventing (or at the very least postponing) dementia for a significant number of people around the world.

Kaylee's project is all about this aim; to better understand how hand movements change across the dementia continuum. One of the main highlights of her PhD has been close and regular collaboration with participants and team members of the ISLAND Clinic and the ISLAND Project since the start of her PhD. Kaylee has collaborated with several projects within Australia and internationally, with the main highlight being her recent work with the national ADNeT study of the impact of blood-based biomarkers on clinician's diagnostic confidence.

She has also contributed to events in the Wicking and presented in online and in-person seminars to disseminate research findings including a live interview with the Science Club on ABC Hobart. Outside her project, Kaylee is the student/early-career researcher representative for Tasmanian Australian Association of Gerontology (AAG) committee and assisted in organising the AAG national conference in Hobart (2024).

Amy Coates

Originally from Queensland, Amy made the move to Hobart in October 2023 to begin her doctoral research at the Wicking Centre, after spending 12 years working abroad. Her journey in public health has taken her around the globe - leading community health projects in West Africa, commissioning health services for the UK government, and helping shape international health policy at the World Health Organization in Geneva, Switzerland.

Amy was drawn to dementia research because of its growing significance in aging populations, like Australia's. As a public health professional focused on prevention, she was inspired by the powerful evidence that lifestyle changes can significantly reduce or delay dementia risk. Large-scale studies, including Wicking Centre's ISLAND study, show that behaviour change is not only possible but can also have a meaningful impact!

A passionate advocate for health equity, Amy's research focuses on addressing the needs of lower socioeconomic groups who face a higher dementia risk and significant barriers to effective interventions. She's committed to exploring strategies that promote lasting change in three key health behaviours: healthy eating, physical activity, and regular GP check-ups to manage risk factors like hypertension and diabetes. Using a mixed-methods approach grounded in public health, behavioural science, and implementation science, Amy is evaluating existing interventions in Australia and other OECD countries. She is also undertaking research with disadvantaged communities and local organizations in Southern Tasmania to understand the capabilities, opportunities, and motivations that influence behaviour change - ultimately helping to inform development of effective, evidence-based solutions.

In 2024, Amy was awarded the Siganto Foundation Higher Degree in Research professional development scholarship, which gave her the chance to gain hands-on experience in behavioural science. As part of this, she completed a placement with the Behavioural Insights Team in Sydney, a global organization helping governments and philanthropies design behaviourally informed policy solutions. This experience has deepened her expertise in understanding human behaviour, cognitive biases, and how to apply these insights to create impactful health behaviour change strategies.

In the Spotlight: Wicking Dementia Centre students CONT.

Getachew Yitbarek

Getachew Yitbarek commenced his PhD studies in 2022 at the Wicking Dementia Centre. Originally from Ethiopia, he completed a bachelor's degree in public health then gained invaluable clinical experience working in outpatient departments at various health centres before joining the academic staff at Debre Tabor University. His interest in understanding disease mechanisms to improve patient outcomes and identify gaps requiring further research helped Getachew to pursue a master's degree in medical physiology at Jimma University. During his master's research, he investigated the burden and risk factors associated with cognitive impairment.

In 2024 dementia affects approximately 57 million people globally, with Alzheimer's Disease accounting for 60-70% of cases. In Australia, 421,121 people currently have dementia, with numbers expected to increase to 849,331 by 2058. We know that changes in the brain begin a decade or so before clinical symptoms appear. This gives investigators a valuable window of opportunity to intervene early and slow the onset of this condition. Work in this preclinical area relies on identifying biomarkers that are indicators of cognitive decline. Currently, valuable blood-based biomarkers have been identified but these are invasive, expensive, and for many people, hard to access. Much work is underway to identify non-invasive biomarkers and two, changes in gait and hand grip strength, are associated with cognitive decline. These non-invasive biomarkers appear to relate to strength. Another important area of strength is that of the tongue. Tongue strength is essential for safe eating, drinking and clear speech production.

When older people have difficulty in these areas, their nutritional health suffers, their communication is affected, and they are at risk for dis-engaging socially and becoming isolated. This can heighten risk for dementia as well as frailty.

Getachew is investigating the association of tongue strength with established non-invasive biomarkers of cognitive impairment and phosphorylated tau 181, a blood-based biomarker of AD pathology. Investigating tongue strength may help not only in identifying individuals at risk for AD but also contribute a non-invasive biomarker of preclinical changes in other dementias. There are evidence-based tongue strengthening exercises, so this is an area of potential rehabilitation for older adults to help maintain their cognitive, communicative, and nutritional health and stay socially engaged, improving their quality of life.

To deepen his understanding of dementia, Getachew completed the Educational Dementia Immersive Experience (EDIE) training from Dementia Australia. To uphold ethical and methodological standards in his research, he has also completed Good Clinical Practice (GCP) E6 (R2) training through the International Conference on Harmonization (ICH). Getachew is looking forward to presenting his initial findings from his research at the 2025 Australian Dementia Research Forum.

► Queenborough Rise Community, Sandy Bay.

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Dementia Research and Education Centre

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A gift to the Wicking Dementia Research and Education Centre can take many forms and no matter the size of the gift it has a real impact. It can be the difference in a student's life, assist in a breakthrough research discovery that will change people's lives, or help create positive outcomes for our community.

Visit **utas.edu.au/wicking/about/donate** to find out more.