Annual Report

2020

UNIVERSITY of TASMANIA

WICKING

Dementia Research and Education Centre

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About The Wicking Dementia Centre

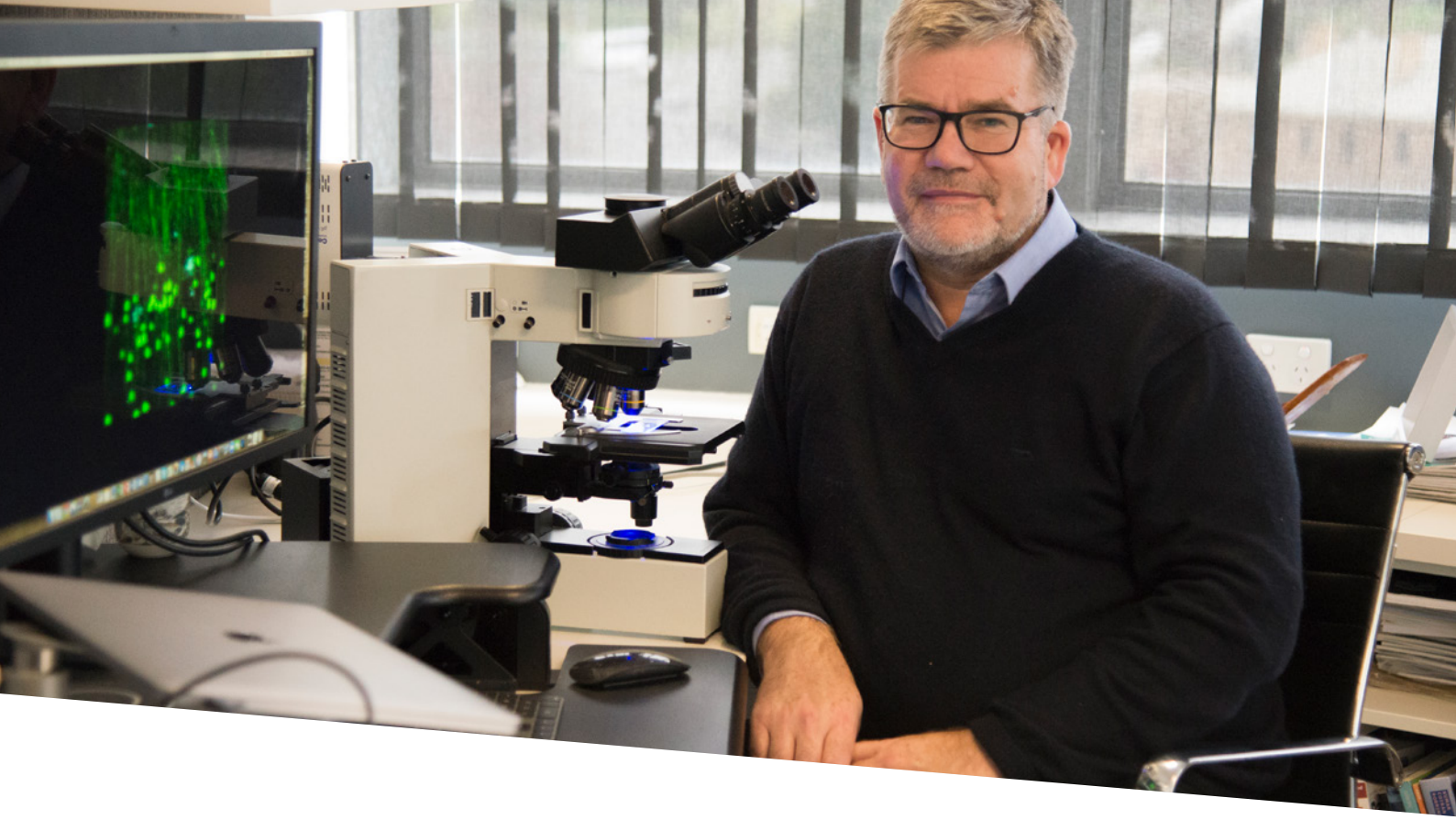
The Wicking Dementia Research and Education Centre is at the forefront of translational research of relevance to people with dementia and their carers, and provides a range of innovative educational programs on dementia. We undertake multidisciplinary research around three main themes: the Care, Cause and Prevention of dementia, with our educational programs closely interlinked with the Centre's research themes.

The Wicking Dementia Centre, a flagship of the University's College of Health and Medicine, was established in 2008. It is a global leader in dementia research and education, with a mission to transform the understanding of dementia worldwide and to build a workforce to lead positive change in ageing and dementia care. Our mission would not be possible without the tremendous support of the J.O. and J.R. Wicking Trust (Equity Trustees), who have been instrumental in our success over the years by providing substantial funding to the Centre. Along with the many private donors, funding bodies and organisations who have supported us, we thank you most sincerely.

Dementia has a profound impact on individuals, families and communities. The number of people with dementia across the world increases every year as our global population ages. Dementia is now one of the most significant health, social and economic issues of the 21st century with nearly half a million Australians currently living with dementia – and this will double by 2050.

*The total number of people with dementia is projected to reach **82 million** in **2030** and **152 million** in **2050**. Much of this increase is attributable to the rising numbers of people with dementia living in low- and middle-income countries.*

(WHO 2019)



Message from the Director

Looking back at 2020, the COVID-19 pandemic was the dominant world event that has affected human life across the globe. People with dementia were particularly susceptible for significant illness and death from COVID-19 infection. Being a resident in an aged care facility was also an added point of vulnerability.

The pandemic also restricted the movement of people more widely, and there have been a range of significant economic and social impacts across our communities. In Tasmania, we were perhaps relatively less affected than other population centres due to the ability to restrict movement on to our island state.

The impacts on the Centre were varied. We did have to pause some of our studies involving direct contact with human subjects, but many of these are now up and running again under 'COVID-safe' operational conditions. Our local community engagement activities were also curtailed.

Perhaps because of our more constrained lifestyles, there does seem to have been an increased interest in online learning, and so 2020 was also a record year of engagement in our MOOCs on Understanding Dementia and Preventing Dementia, with over 100,000 enrolments for the first time in a calendar year. As well as the knowledge contained in the MOOCs, it continues to be a marvellous experience to see how the courses provide social support for participants, and how generously participants share their experience with dementia.

The Island Study Linking Ageing and Neurodegenerative Disease (ISLAND Project) also grew through 2020. Now with over 12,000 people across Tasmania signed up, we have obtained a significant amount of data that will be helpful in understanding dementia risk.

By coincidence, our first data collection point for most participants was just before the pandemic struck, and so this has also been a useful study to understand how a more constrained life experience may affect dementia risk. ISLAND is very much a public health campaign as well as a research study, and we hope what we learn from this program may be translatable to other regions of Australia and world-wide into the future.

We are very grateful to our financial supporters and partners for ISLAND: St.Lukes Health, the Tasmanian Masonic Centenary Medical Research Foundation and the Medical Research Future Fund. We are also very grateful to our participants of ISLAND, for their engagement in this project as well as their patience as we moved many activities 'online' through 2020.

I hope that you find the contents of our annual report interesting, and please feel free to provide any feedback to the Centre on its contents and activities. Thank you again to all of our supporters – we very much appreciate your engagement with our mission to transform understanding of dementia and to undertake research of significance to the care, prevention and cause of dementia.

Achievements in 2020

Grant Research Funding	
Total current project funding	$12,859,043
Total new or announced funding in 2020	$1,347,132
Total collaborative project funding in 2020	$804,583

Undergraduate study	Graduates to date	Graduated in 2020
Bachelor of Dementia Care	226	31
Associate Degree in Dementia Care	211	21
Diploma of Dementia Care	850	119
Total number of graduates	**1287**	**171**

Postgraduate study	Graduates to date	Graduated in 2020
Graduate Certificate in Dementia	5	9
Graduate Diploma of Dementia	0	0
Master of Dementia	0	0
Total number of graduates	**5**	**9**

Dementia MOOCs	Enrolments to date	Total enrolled in 2020	Australian enrolments in 2020	International enrolments in 2020	Completion rates in 2020
Understanding Dementia	292,821	54,584	35,579	19,005	42.5%
Preventing Dementia	153,164	47,176	30,542	16,634	42.5%
Total enrolments	**445,985**	**101,760**	**66,121**	**35,639**	

We have received enrolments from 162* countries to date including 142 UN member states.

*Countries as included on the MOOC enrolment form as listed in the ISO 3166 Standard of 249 countries, territories, or areas of geographical interest.

Education

The Wicking Dementia Research and Education Centre is a global leader in dementia research and the largest provider of dementia education. Dementia is a condition that affects hundreds of thousands of people across the globe – one that poses significant challenges to their quality of life as well as that of their families and communities.

The Wicking Dementia Centre has created a collaborative environment of researchers and global specialists who are working together to advance progress across the **cause**, **prevention** and **care** of dementia, with up-to-date research evidence informing all our education programs.

We provide students with a deep knowledge of the conditions related to dementia, including changes that occur in the brain, behaviours and needs associated with those changes, and the practical strategies necessary to help care for people living with dementia.

The Wicking Dementia Centre has a mission to transform the understanding of dementia worldwide and to build a workforce to lead positive change in ageing and dementia care.

The rising prevalence of dementia is creating new challenges and a pressing need for change in the way our systems and practices support people who live with dementia.

The majority of people with dementia live in the community and nearly all health care workers will come into contact with families, carers, and individuals living with dementia at some stage during their careers.

The goal of the Wicking Dementia Centre is to provide education about this condition for carers, families and health professionals to help improve the quality of care and safety for people living with dementia, and to help people reduce their risk of developing dementia.

***Almost 80%** of the general public are concerned about developing dementia at some point. 1 in 4 people think that there is nothing we can do to prevent dementia.*

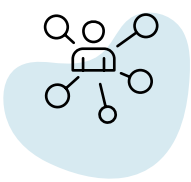
(World Alzheimer Report 2019: Attitudes to dementia)

Massive Open Online Courses | MOOCs

Improving dementia literacy, through maximising the reach of our Understanding and Preventing Dementia MOOCs, and evaluating the impacts of this program, is a major focus for the Centre. Our MOOCs are free and continue to attract record numbers of participants. New MOOCs are being developed and added to the current portfolio, including the Understanding Traumatic Brain Injury MOOC which is due to commence in 2021.

UNDERSTANDING DEMENTIA

Understanding Dementia is designed to be accessible and appealing to people from diverse backgrounds who have an interest in learning more about dementia. It examines the diseases that cause dementia, how they impact the person with dementia, and the treatments and care practices that enhance quality of life along the disease trajectory, for people with dementia, their families, and caregivers. It provides avenues for engaging with participants from around the world about this major international health issue.



Dementia has a physical, psychological, social, and economic impact, not only on people with dementia, but also on their carers, families and society at large.

(WHO 2019)

PREVENTING DEMENTIA

Dementia is now a leading cause of death worldwide. Preventing Dementia looks at what you can do to minimise your risk. The impacts of dementia, including loss of physical and cognitive capacity, are felt community wide. The latest research estimates that 40% of dementia cases may be preventable by attending to potentially modifiable risk factors.

UNDERSTANDING TRAUMATIC BRAIN INJURY (TBI)

Traumatic brain injury is often described as a silent epidemic, with approximately 69 million cases occurring each year. The newly developed Understanding Traumatic Brain Injury MOOC aims to raise awareness and build knowledge of TBI to reduce risk and improve management and rehabilitation outcomes for people who have experienced a TBI. The course looks at the causes and consequences of TBI across the spectrum from mild concussion through to severe injuries, as well as at how and when injuries may occur across the lifespan. The MOOC will be available in 2021.

University Courses

The Wicking Dementia Centre is at the forefront of translational research of relevance to people with dementia, caregivers, and health professionals and offers a range of innovative educational programs on dementia and ageing which are closely linked to current research.

2020 was a challenging year for everyone but it was particularly disappointing for our August graduates who were unable to travel to Hobart for their graduation ceremony. We did, however, hold our first virtual graduation celebration allowing around 100 students and family members to meet via zoom and celebrate their achievements. We were pleased to host a small number of December graduations, and welcomed some of our graduates to the Centre, including providing tours of our research laboratories.

Bachelor of Dementia Care

The Wicking Dementia Centre continues to offer a degree specifically focused on dementia which allows students to develop specialist knowledge to enable the delivery of best practice in dementia care. A new major in Ageing Studies and Services will be available from Semester 1 2021. Students enrolled in the Bachelor of Dementia Care are able to graduate with a Diploma, Associate Degree or full Bachelor Degree in Dementia Care.

Diploma of Dementia Care

A standalone Diploma of Dementia Care was introduced in 2019 and has proved to be very popular with students through 2020. This is a fully online, eight-unit program available to carers, aged care, community and health sector workers and anyone with an interest in learning more about dementia.

It provides graduates with the knowledge to make a difference in the health and community sector in a range of roles which will be critical in delivering enhanced capacity to a sector facing enormous challenges. It is suitable for those with or without formal education qualifications and students can articulate into further study at Associate Degree or Bachelor level on successful completion of the Diploma.

Diploma of Ageing Studies and Services

This new Diploma, developed in 2020, is relevant to those working with older adults. It will equip graduates with contemporary knowledge to assist older adults and their families in navigating the complexity of the aged care system and the trajectory of their needs as they age. The Diploma will commence in Semester 1 2021.

Master of Dementia Program

The Master of Dementia Program (offering a Graduate Certificate in Dementia; Graduate Diploma of Dementia and Master of Dementia) is aimed at graduates and professionals currently working within or building their expertise in, a field related to dementia. The rising prevalence of dementia is creating new challenges and a pressing need for change in the way our systems and practices support people who live with dementia. In its first full year of teaching, this program has attracted a wide range of students with our first graduates of the Graduate Certificate in Dementia in August and December.

The course focuses on four core disciplines: neurobiology, public health, health care systems and policy, and health and social support for people living with dementia. Students' personal perspectives are highlighted throughout the course in assessments which link acquired knowledge to individual contexts, making the program relevant and up-to-date.

*Alzheimer's disease is the most common form of dementia and may contribute to **60–70%** of cases.*

(WHO 2019)

Student and Graduate testimonials

"My studies in the course have enabled me to understand the presentation of dementia and its consequences for the person with dementia, their family and carers and to enable me to better care for them. The course has opened up a whole new world for me as previously, like so many people, I had little knowledge of dementia and its ramifications."

Ginny, 2020 Diploma of Dementia Care Graduate

"As a direct result of studying this degree, I have a really deep understanding of the experience of dementia, and it's given me the skills to support people to live well with dementia."

Amanda, 2019 Bachelor of Dementia Care Graduate

"As I started the best thing was every single topic that we covered, I could take to work and implement things straight away, and make change... I could see immediate change in my workplace."

Cherie, 2019 Diploma of Dementia Care Graduate

"Thank you for all the support during this unit, the learning and depth of knowledge imparted has been an incredibly rewarding experience and I feel so inspired and prepared to go forth and speak out with evidence and compassion."

Leanne, 2020 Master of Dementia student

"I would like to take this opportunity to thank all of you for designing such a wonderful course. It not just enhances the knowledge regarding dementia but also, emotionally gets you so involved in it. I am enjoying this course to the fullest and hope to make the best use of it in my area of work. Thank you once again for all your efforts in designing this course."

Tripti, India, 2020 Understanding Dementia MOOC

"Since completing both the Understanding Dementia and the Preventing Dementia MOOCs, I am now training to become an accredited Montessori for Dementia and Ageing practitioner, which I first learnt about during the Understanding MOOC. Both MOOCs are brilliant in so many different ways!"

Angela, UK, 2020 Preventing Dementia MOOC

"I'm enjoying learning about dementia this way, the course content is brilliant and I'm so very impressed with the way the course has been put together. I love the conversations between professionals in particular and am grateful for their involvement and sharing of their expertise with me."

Jacqueline, Australia, 2020 Understanding Dementia MOOC

Read more testimonials on our website:
utas.edu.au/wicking/testimonials.

Research

The Wicking Dementia Centre continues its global reach with collaborations focusing on the three major research themes of the cause, prevention and care of dementia. The following pages feature an example of research undertaken within each theme.

CAUSE | TRAUMATIC BRAIN INJURY (TBI) AND DEMENTIA

Traumatic brain injuries (TBI) affect over 65 million individuals each year. These injuries range from mild concussion, where people may not lose consciousness, to severe injury resulting in death. TBIs are a known negative risk factor in the development of dementia, with individuals who have sustained a TBI being more likely to develop dementia later in life. Why this happens is unknown.

Researchers at the Wicking Dementia Centre are investigating this link through a variety of projects. These projects focus on how inflammation may be the link between TBI and dementia. The brain's innate immune cells, microglia, regulate inflammation following injury and in disease. There is a correlation between cognitive decline and proinflammatory proteins. As microglia regulate inflammation within the brain, they may play a role in disease progression.

TBI initiates many inflammatory pathways that are evident in neurological diseases. Giving rise to the question does a TBI bring about premature brain ageing? Currently, the biggest risk-factor for developing dementia is age. Recent reports have suggested that microglia become unresponsive with age, which may exacerbate disease pathways. Moreover, others have shown microglial capacity to regulate healthy brain function differs between males and females. These sex differences in microglial function may underlie the sex bias in the development of dementia and other neurological diseases. These lines of investigation underpin our studies into the link between TBI and dementia.

Investigators: Jenna Ziebell, Olivia Holloway (PhD candidate), Yasmine Doust (PhD candidate), Anna King, James Vickers.

PREVENTION | EARLY DETECTION AND PREVENTION OF DEMENTIA

Early detection

Early intervention can reduce dementia risk. Modifying risk factors such as physical inactivity and smoking could prevent up to 40% of dementia cases. So what is stopping us? We lack a cost-effective screening test for dementia risk so cannot target interventions at the right people *early* in the disease course.

Researchers at the Wicking Dementia Centre have recently teamed up with colleagues from the departments of Psychology and Information and Communication Technologies. This inter-disciplinary team of researchers will bring their expertise together to develop 'TasTest' – a new computer test to identify whether people have a high risk of developing dementia in the future.

This project is a world-first, using standard home computers to collect rich data without participants needing to leave their own homes. So far, we have evaluated how well TasTest works in the Tasmanian Healthy Brain Project (THBP) participants and will roll it out to more participants in 2021.

Total cumulative funding from ***2010-2020***

$3M


GLENVIEW

Prevention

With a plethora of evidence suggesting lifestyle risk factors offer potential for prevention, Wicking Dementia Centre researchers are particularly interested in the potential for later-life education to reduce your risk of dementia. We know that the more you learn in early-life, the less risk of dementia you will have in later-life, but why is this the case? A growing body of research suggests the protective effect of education may be due to building your brain's resilience to physical changes in brain ageing, a concept known as 'cognitive reserve'. By taking part in intellectually stimulating activities, you are reinforcing your brain's ability to cope with the biological changes that precede dementia. This theory suggests that taking part in education builds your cognitive reserve, thereby reducing your risk of dementia.

The Wicking Dementia Centre's Tasmanian Healthy Brain Project was established in 2010 to investigate whether this theory held true for later-life education. Researchers offered 500 Tasmanians aged 50-79 years the opportunity to enrol in subsidised university-level education at the University of Tasmania. THBP participants were followed up every year, with comprehensive tests on cognition, lifestyle, social, physical, well-being and medical status. Now in 2020, researchers are interested in the cognitive function of those who did and did not choose to undertake university-level education.

Led by Aidan Bindoff, our preliminary results indicate that people who undertook later-life education had improved cognitive function compared to those that did not. From all the cognitive domains, participant's verbal and language memory showed the greatest improvement. In this world-first study, participants that enrolled in university-level education experienced a cognitive benefit, suggesting that later-life education may enhance an individual's cognitive reserve and therefore reduce their risk of dementia.

Investigators: THBP – James Vickers, Mathew Summers, Anna King, Edward Hill, Aidan Bindoff, Jane Alty, Jessica Collins

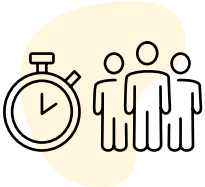
TasTest – Jane Alty, James Vickers, Katherine Lawler, Edward Hill, Chris Parker, Aidan Bindoff, Anna King (Wicking Dementia Centre); Mark Hinder, Rebecca St George (Psychology); Quan Bai, Saurabh Garg, (ICT), Renjie Li (PhD student – Wicking Dementia Centre and ICT)

CARE | DEMENTIA LITERACY

Through funding from the Australian Government's Dementia Aged Care Services (DACS) Fund (2016-2019), we have developed, tested and validated a new way to measure an important aspect of dementia literacy. Dementia literacy can be defined as the knowledge and capacity to navigate a complex and changing health care system, access appropriate care and support, and make informed decisions about care need. The Consumer Access, Appraisal and Application of Services and Information for Dementia (CAAASI-Dem) tool was piloted in over 5000 consumer participants, and enables assessment across 5 dementia specific elements: evaluation and engagement, readiness, social supports, specific dementia services, and practical aspects of care.

Poor dementia literacy may result in delays in or failure to seek medical care and access available support, thus hindering effective care and management of dementia. Despite generic health literacy tools being available, prior to this work we had no effective means to assess dementia literacy across large cohorts using a simple validated tool. Assessment of dementia literacy, especially among informal carers and families of people living with dementia, will allow identification of ways to better facilitate their access to, understanding of, and utilisation of dementia information/services. This is an important step toward developing and implementing needs-based dementia literacy interventions that will contribute positively to the well-being of people living with dementia, their carers and families.

Doherty, K.V., Nguyen, H., Eccleston, C.E., Tierney, L., Mason, R.L., Bindoff, A., Robinson, A., Vickers, J. and McInerney, F., 2020. Measuring consumer access, appraisal and application of services and information for dementia (CAAASI-Dem): a key component of dementia literacy. BMC geriatrics, 20(1), pp.1-10.



*There are over **9.9 million new cases of dementia each year worldwide**, implying one new case every 3.2 seconds.*

(Alzheimer's Disease International)

The ISLAND Project

The Island Study Linking Ageing and Neurodegenerative Disease (ISLAND) Project is a major initiative of the Wicking Dementia Centre. It involves a range of studies relating to understanding who is at most risk of dementia and how they can self-manage risk behaviours to build resilience to dementia. The ISLAND Project is intended for Tasmanians aged 50 years and over.

Dementia is the second leading cause of death in Australia and is estimated to cost the economy $26 billion by 2056. We now know that approximately 40% of dementia cases can possibly be prevented if people are mindful of a range of risk factors from middle age onwards. Tasmania's population is ageing faster than the national average and has high rates of known modifiable risk factors. Realistic reductions in these modifiable risk factors would have obvious, positive impact across the Tasmanian population, for our society and for our health system. Creating a state with a focus on good brain health and reduced risk of dementia is the driving motivation behind the ISLAND Project.

A number of associated research projects are linked to the ISLAND Project and are underway or in the planning stages in 2020.

- The Risk Reduction for Dementia Intervention North-West (RReDI-NoW) study commenced late 2019. This study, a clustered randomised controlled trial across nine population centres, examined whether the Preventing Dementia MOOC and/or the PD MOOC plus a community-led intervention, leads to increased dementia literacy, risk behaviour improvement and changes to dementia attitudes, when compared with a control group provided with publicly available dementia information online.

We know that high proportions of Tasmanians have risk factors for dementia. In some northwest Tasmanian local government areas, rates of risk factors such as smoking and obesity are significantly higher compared to Tasmania as a whole. Thus, the North West was an ideal setting to undertake a randomised controlled trial focusing on the Preventing Dementia Massive Open Online Course (PD MOOC).

Participants completed questionnaires about their health and behaviour and were offered written information about dementia risk reduction or the opportunity to participate in the PD MOOC, with or without involvement in the codesign of community engagement activities. While data analysis is at the preliminary stage, early results show that knowledge of dementia risk factors significantly improved over the course of the study and the PD MOOC particularly helped participants discriminate between the real risks for dementia and some of the misconceptions that persist.

- The ISLAND Clinic was developed in 2020 and is an initiative of the ISLAND Project. It is scheduled to open to the Tasmanian public in early 2021 and aims to provide a one-stop-shop offering assessments and diagnosis for Tasmanians with memory and cognition concerns. It will be run by a team of Tasmanian doctors and health professionals specialising in providing management and support plans based on a comprehensive and accurate assessment of memory and cognition.
- The ISLAND Campus study is a novel approach measuring the long-term effect of university education in mid-to-late life, on changes in dementia risk behaviours and cognitive performance. Additionally, the study aims to identify whether increased engagement in university education in mid-to-late life is protective of cognitive decline. ISLAND members were invited to participate in this study, which involves completion of surveys and an opportunity to study selected courses offered by the University of Tasmania with a full fee waiver. Over 1,500 ISLAND members consented to be part of this study and will be followed for 5 years, undertaking regular online assessments to measure change.

*If global dementia care were a country, it would be the **18th largest economy** in the world exceeding the market values of companies such as Apple and Google.*

(Alzheimer's Disease International Report 2015)

*Dementia is the **second leading cause of death** of Australians and the leading cause of death of **Australian women**.*

(Australian Bureau of Statistics 2018)

SELECTION OF PUBLICATIONS

Below is a selection of papers published in 2020 linking to our themes.

Cause

Pathological links between traumatic brain injury and dementia: Australian pre-clinical research. Collins, J and Woodhouse, A and Bye, N and Vickers, J and King, A and Ziebell, J. *Journal of Neurotrauma*

If human brain organoids are the answer to understanding dementia, what are the questions? Ooi, L and Dottori, M and Cook, A et al. *Neuroscientist*

Microglia demonstrate local mixed inflammation and a defined morphological shift in an AA/PS1 Mouse model. Holloway, O and King, A and Ziebell, J. *Journal of Alzheimer's Disease*

Prevention

Exercise and dementia prevention. Alty, J and Farrow, M and Lawler, K. *Practical Neurology*

Regional differences in beta amyloid plaque deposition and variable response to midlife environmental enrichment in the cortex of APP/PS1 mice. Fulopova, B and Stuart, K and Bennett, W and Bindoff, A and King, A and Vickers, J and Canty, A. *Journal of Comparative Neurology*

Validation of a Chinese version of the Dementia Knowledge Assessment Scale in healthcare providers in China. Zhao, Y and Eccleston, C and Ding, Y and Shan, Y and Liu, L and Chan, H. *Journal of Clinical Nursing*

Care

Green spaces, dementia and a meaningful life in the community: a mixed studies review. Mmako, N and Marsh, P and Courtney-Pratt, H. *Health and Place*

Clinical impact of antipsychotic and benzodiazepine reduction. Hoyle, D and Peterson, G and Bindoff, I and Clinnick, L and Bindoff, A and Breen, J. *International Psychogeriatrics*

Dementia: a survey of allied health professionals' knowledge. Lawler, K and Kitsos, A and Bindoff, A and Callisaya, M and Eccleston, C and Doherty, K. *Australasian Journal on Ageing*

Our people

The Wicking Dementia Centre has continued to grow in 2020 with 115 staff and 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

Distinguished Professor James Vickers is the Director of the Wicking Dementia Centre. James is a world-renowned researcher with interests including neurodegenerative disease (particularly Alzheimer's disease), traumatic brain injury, structural brain plasticity, ageing-related changes in cognition and health services for dementia.

Caroline Gray
Business Manager

Caroline Gray leads the professional staff across the Centre, and oversees the administrative, financial and resourcing activities across all major projects. Caroline joined the University of Tasmania in 2003 and has worked across several roles while completing a Master in Business Administration.

Professor Anna King
Associate Director (Research)

Professor Anna King is a member of the NHMRC National Institute of Dementia Research and was recently awarded a Boosting Dementia Research Leadership Fellowship from the NHMRC (2018 – 2021). 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. Alison's research focuses on mechanisms of neuroplasticity, degeneration, and trauma – all of which are central to understanding the pathology of dementia.

Dr Kathleen Doherty
Senior Research Lead Dementia MOOCs

Dr Kathleen Doherty convenes the Wicking Health Services Research group which focuses on Care. 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. She is interested in the intersection between communities, health providers, knowledge translation and dementia literacy.

WICKING DEMENTIA CENTRE | STAFF AND STUDENTS IN 2020

STAFF

Dr Melissa Abela, Lecturer
Dr Jane Alty, Senior Lecturer
Dr Rachel Atkinson, Research Fellow
Lily Bartkevicius, Student and Learning Skills Advisor
Dr Larissa Bartlett, Research Fellow
Dr Susanne Becker, Lecturer
Monique Belfer, Project Officer - Online Education
Dr Bill Bennett, Senior Technical Officer
Aidan Bindoff, Statistician and Data Scientist
Jay Borchard, Research Assistant
Associate Professor Juanita Breen, Senior Lecturer
Dr Vlasti Broucek, Senior Technical Developer
Louise Carnell, Marketing and Events Officer
Helen Ceperkovic, Associate Lecturer
Dr Jessica Collins, Research Fellow
Associate Professor Tony Cook, Senior Lecturer
Dr Peta Cook, Senior Lecturer
Dr Helen Courtney-Pratt, Senior Lecturer
Helen Douglas, Project Manager - ISLAND Project
Samuel Dwyer, Research Assistant
Joshua Eastgate, Senior Technical Developer
Karin Easton, Administration Officer- Business Support
Dr Claire Eccleston, Lecturer and Course coordinator
Dr Kate-Ellen Elliott, Senior Lecturer
Dr Maree Farrow, Senior Academic Lead - Dementia MOOCs
Oliver Freeman, Senior Technical Developer
Rachael Gates, Project Manager - Online Education
David Gell, Research Fellow
Associate Professor Lyn Goldberg, Senior Lecturer
Dr Mohammad Shoaib Hamrah, Research Fellow
Joanna Healy, Associate Lecturer
Dr Edward Hill, Research Fellow
Dr Sunny Jang, Lecturer
James Jestrimski, Administration Officer
Dr Adam Kane, Project Officer - ISLAND Project
Justine Keay, Project Officer - ISLAND Project
Kim Kennedy, Adminstration Officer
Sarang Kim, Research Fellow
Dr Matthew Kirkcaldie, Senior Lecturer and Course Coordinator
Alex Kitsos, Data Analyst
Dr Shannon Klekociuk, Lecturer
Dr Maneesh Kuruvilla, Lecturer
Dr Katherine Lawler, Lecturer
Anneke Le Roux, Project Officer - ISLAND Project
Dr Emma Lea, Senior Research Fellow
Karina (Iek) Lei, Senior Technical Developer
Dr Jacqueline Leung, Lecturer
Kerri Magnussen, Reasearch Assistant
Graeme McCormack, Senior Technical Officer
Dr Scott McDonald, Research Fellow
Professor Fran McInerney, Professor of Dementia Studies and Education
Associate Professor Deirdre McLaughlin, Senior Research Fellow - ISLAND Project
Helga Merl, Lecturer
Dr Hoang Nguyen, Lecturer
Chris Parker, Manager Online Learning Systems and Support
Dr Sharn Perry, Lecturer
Dr Andrew Phipps, Media Resources Officer
Andrea Price, Lecturer
Anthony Ray, Senior Administration Officer, Education Programs
Catherine Robertson, Administrative Officer - Executive Assistant to Director
Dr Alice Rota-Bartelink, Lecturer
Dr Katharine Salmon, Coordinator - Dementia and Cognition Clinic
Tim Saunder, Data Analyst
JoAnn Savage, Reasearch Assistant
Matthew Scott, Media Resources Officer
Dr Duncan Sinclair, Lecturer
Tara Sinclair, Reasearch Assistant
Chloe Smit, Research Assistant
Dr Kimberley Stuart, Research Fellow
Dr Joanna Sun, Social Media Coordinator
Dr Jana Talbot, Research Assistant
Dr Nan Tian, Technical Officer
Dr Laura Tierney, Research Fellow
Tanya Wadwell, Student Support Team Leader
Dr Adele Woodhouse, Lecturer
Dr Jenna Ziebell, Lecturer

STUDENTS

Azam Bazooband, PhD Candidate
James Bender, PhD Candidate
James Brady, PhD Candidate
Ellie Bucher, PhD Candidate
Sueanne Chear, PhD Candidate
Anisuzzaman (Novel) Chowdhury, PhD Candidate
Nina Daniels, PhD Candidate
Yasmine Doust, PhD Candidate
Sam Dwyer, PhD Candidate
Hannah Fair, PhD Candidate
Barbora Fulopova, PhD Candidate
Helen Gulliver, PhD Candidate
Olivia Holloway, PhD Candidate
Fariha Kabir, PhD Candidate
Ross Langley, PhD Candidate
Kerri Magnussen, PhD Candidate
Radhika Mani, PhD Candidate
Ron Mason, PhD Candidate
John McManus, PhD Candidate
Nkoli Mmako, PhD Candidate
Aidan O'Mara, PhD Candidate
Gongbu Pan, PhD Candidate
Sladana Pavkovic, PhD Candidate
Manuela Pietzuch, PhD Candidate
Andrea Price, PhD Candidate
Tara Sinclair, PhD Candidate
David Stellon, PhD Candidate
Sharon Stoddart, PhD Candidate
Thalia Suarez, PhD Candidate
Bao Ngoc Tran, PhD Candidate
Jen-Leng Cheng, Honours Student
Isabelle Goodwin, Honours Student
Miranda Ling, Honours Student
Ariel Simpson, Honours Student

In the spotlight

STAFF

Jay Borchard

Researching the motivation of MOOC participants.

Jay Borchard is a Research Assistant at the Wicking Dementia Centre with a background in health and medical research. Since 2019, he has been working alongside the Understanding Dementia and Preventing Dementia – Massive Open Online Course (MOOC) teams to better understand what motivates people to engage with these MOOCs and how they use them. With several years' experience in health data analytics and management he recognises the importance of evidence-based decision making and aims to use data-driven insights to enhance MOOC education delivery.

Recently, Jay and his colleagues (Dr Kathleen Doherty, Dr Maree Farrow, Dr Sarang Kim, Dr Fran McInerney, and Aidan Bindoff) examined how family carers of those living with dementia socially interact on the Understanding Dementia MOOC discussion boards. They found that these social spaces provided an important avenue for family caregivers to connect with one another, where often it was extremely difficult for them to have social interaction with others due to their commitments. This highlights the importance of the Understanding Dementia MOOC not only as an education platform, but as a place for social exchange.

Jay also has a strong interest in applying modern mapping techniques to investigate MOOC engagement across Australia. He believes that by understanding where people are engaging (or not engaging) this can inform targeted marketing and community engagement strategies where they are needed most. His work has assisted in designing recruitment strategies for research projects undertaken in Tasmania.

Helga Merl

Exploring hope in the diagnosis of dementia.

Helga Merl is an endorsed Nurse Practitioner and Lecturer. She joined the Wicking Dementia Centre in July 2019 to lead the Health and Social Care stream for the Master of Dementia program. Helga has received teaching award nominations and two letters of Commendation from the Provost for this work in 2020.

Helga is undertaking a PhD, her study is entitled *Hope in the Diagnosis of Dementia*, and explores the role of hope and other factors from the perspective of people, carers and clinicians during the process of dementia diagnosis disclosure. The process of disclosure of a diagnosis of dementia is complex, encompassing breaking difficult news whilst balancing hope with the truth of a progressive life limiting, neurodegenerative condition. Views and preferences of people, carers and clinicians will be sought through analysis of the Wicking Dementia Centres' Understanding Dementia MOOC data and via in-depth interviews

Helga's research interests also include palliative dementia care, integrated care, enabling environments for people living with dementia, nurse led memory clinics and memory wellness programs. Helga is part of the University of Tasmania's Transforming Research in Ageing Group (TRiA), involved in studying the social, psychological and biological factors that support ageing well with dementia. Helga is involved with the development of the ISLAND Clinic – the Wicking Dementia Centre's research memory clinic – and is looking forward to providing clinical and research support when it opens in 2021.

Lily Bartkevicius

Helping our students as they develop their academic skills.

Lily Bartkevicius is a Student and Learning Skills Advisor for the Wicking Dementia Centre's university-level courses, such as the Diploma of Dementia Care and Bachelor of Dementia Care. Lily has been involved with the Wicking Dementia Centre's education programs since 2016.

The Wicking Dementia Centre's Student Support Team is an embedded support model which assists students through all stages of the student lifecycle from orientation to graduation. Throughout the year Lily helps to design and deliver orientation materials and webinars for new students and assists students with their enrolment and planning their study. The Student Support team also helps students to develop their academic skills such as writing structure and grammar, research skills and referencing, as well as maintaining the online resource unit *Your Common Room*. With over 1000 students enrolled per semester through the Wicking Dementia Centre's undergraduate and postgraduate courses, there is very little down time in the student support space!

Having a strong background in both psychology and education, Lily recognises the transformative impact that education can have and has been able to see first-hand how empowering the Dementia Care programs are for students who are supporting people with dementia.

Dr Jessica Collins

Investigating axon degeneration and blood-based biomarkers in ageing, neurodegeneration and dementia.

Dr Jessica Collins first joined the Wicking Dementia Centre in 2012 as a PhD student investigating the relationship between traumatic brain injury and the most common cause of dementia, Alzheimer's disease. She is now a research fellow in the Centre, working on a 3-year project funded by the Royal Hobart Hospital Research Foundations major project grant, studying blood-based biomarkers in neurodegeneration and dementia. This project will specifically look at how levels of the neurofilament light protein, in the blood, change over normal ageing, in dementia and in people who develop cognitive impairment following intensive care for traumatic brain injury and sepsis. Jessica is also excited about the blood-based biomarker work that she will be involved in as part of the Wicking Dementia Centre's ISLAND Project and ISLAND Clinic.

Overall, the goal of her research is to develop a method of identifying people most at risk of cognitive decline and dementia. She hopes that this will allow the early implementation of preventative and treatment strategies so that we can delay the onset of cognitive changes and dementia, and thus improve the quality of life for people as they age.

In 2020, Jessica presented some of her blood-biomarker work as part of the ASMR Medical research week symposium and won the ASMR Tasmanian Early Career researcher award.

In the spotlight

STUDENTS

Olivia Holloway, PhD Candidate

Investigating a link between concussions and dementia.

Olivia Holloway has been with the Wicking Dementia Centre since 2017, where she began honours and has since commenced a PhD to investigate the impact mild traumatic brain injuries (mTBI) have in the progression and acceleration of dementia.

Australia is a well-known, sport-loving nation. However, this passion is ignoring potential long-term health costs of some of our most loved sports, with evidence suggesting a link between concussions (a form of mTBI) and dementia. We are beginning to see the long-term effects concussions can have, with ex AFL-players noting memory and behavioural issues with potentially profound lifetime challenges as a result. As women are increasingly moving into this world of high impact sports, it further raises the question of differences between sex in concussion recovery. To best understand the recovery process, Olivia's research asks – does age and sex affect the susceptibility to long-term consequences of concussion? In particular, this project looks at what role the brain's immune system plays. This is important for future research in tailoring personalised treatments and even in consideration of rules surrounding contact sports.

Olivia's 2020 highlights include seeing the community radio show, *"That's What I Call Science!"* she has helped to build up, be nationally syndicated across Australia, running National Science Week events (Neural Knitworks) and winning the Tasmanian Postgraduate Student Award from the Australian Society for Medical Research (ASMR).

Azam Bazooband, PhD Candidate

Making participatory community-based arts, dementia-friendly.

Azam Bazooband commenced her PhD at the Wicking Dementia Centre in 2017 with Dr Helen Courtney-Pratt and Dr Kathleen Doherty. Azam came to Tasmania from Iran, and counts acting amongst her many attributes. She has a great passion for enabling people living with dementia to become more engaged in community arts.

Azam worked with people living with dementia, artists who deliver participatory arts and organisations who arrange them, exploring the reasons for a relative lack of opportunities for those living with dementia to engage in community-based arts activities. Initially working from the concept that having access to opportunities is one of the first steps in participation, she examined the process of discovery of participatory art events.

Discovering how difficult it was to find information easily, she concluded that enabling digital wayfinding for older adults, particularly those living with dementia and their caregivers was essential. She strongly believes that the rights and needs of those living with dementia in the community should be considered by all stakeholders during the whole process of designing, developing, promoting, delivering, and assessing such activities to make them more enabling, inclusive, and accessible for those living with dementia in the community.

Azam hopes that designing and applying a dementia friendly digital platform might be able to bridge the existing gaps between stakeholders (at all levels, such as councils, art planners, artists/facilitators) and those living with dementia. From her perspective such digital platforms might be helpful in facilitating the access to art activities in the community and fostering social inclusion for those living with dementia in the community.

Azam's 2020 highlights include, presenting her work titled '*Digital wayfinding: opportunities online for people with dementia to engage in participatory-arts'* in Australian Association of Gerontology (AAG), where she was granted a bursary to attend the conference as the early career researcher representative of AAG, Tasmanian division.

Ellie Bucher,
PhD Candidate

Understanding the role of the perineuronal net in Alzheimer's disease.

Ellie Bucher has been studying and working at the Wicking Dementia Centre since 2016 and is now commencing the third year of her PhD. Her research investigates the role of parvalbumin interneurons and perineuronal nets in Alzheimer's disease.

We understand a key pathology of Alzheimer's disease to be the formation of amyloid plaques in the brain, however we do not know precisely how this pathology causes dysfunction in the brain nor how it leads to the breakdown of cognition and memory. The perineuronal net is an extracellular matrix structure that plays a role in neural plasticity, learning and memory, and has recently become of interest in Alzheimer's disease. Ellie is exploring how the perineuronal net changes in the presence of amyloid pathology, so that we can better understand the role it might play in memory loss and cognitive decline in Alzheimer's disease.

Ellie's 2020 highlights include being selected as one of five mentees in the national L'Oréal-UNESCO For Women in Science Mentorship program. Along with fellow PhD Candidates Olivia Holloway and Yasmine Doust from the Wicking Dementia Centre, Ellie co-coordinated "Neural Knitworks", a state-wide event that ran as part of National Science Week, encouraging members of the public to knit their own neuron.

Activities and achievements

Events and community engagement activities were sadly curtailed during 2020 with most events moving online or being cancelled. It was a testament to the resilience and dedication of our staff that there was limited interruption to research and no disruptions to student teaching. We were able to share our expertise in delivering content online with other parts of the University.

Some events we were able to hold during the year, either virtually or in person, are highlighted below.

Neural Knitworks

Students from the Wicking Dementia Centre hosted an event during National Science Week called *Neural Knitworks* which involved asking the public to make a brain cell using yarn and posting a photo on Facebook. Through this event, they aimed to connect the community to neuroscience by creating a virtual 'online neural network.'

A life-course approach to dementia prevention

Our inaugural Wicking Dementia Centre Seminar was delivered in September with the aim to promote and share our research and projects, as well as introduce our staff more widely. Dr Maree Farrow and Dr Edward Hill presented the latest research showing it is never too early or too late to improve your brain health and reduce your risk of dementia. The number of people living with dementia is rising as life expectancy increases. However, there is promising evidence that improvements in education, nutrition, health care, and lifestyle changes are making a difference and reducing dementia risk.

Virtual graduation celebration

With the cancellation of all mid-year graduation ceremonies in Hobart, we were very disappointed not to be able to host our August graduates at the Wicking Dementia Centre. We did, however, invite all graduates and their families to a virtual celebration (on Zoom). This virtual celebration provided us with the opportunity to acknowledge their fantastic achievements, including our first graduates from the Graduate Certificate in Dementia.

RReDI-NoW community activities

Two community working groups, in north west Tasmania, were formed as part of the Risk Reduction for Dementia Intervention North-West study, and through a design-thinking approach, led to the development of community interventions. COVID-19 restrictions resulted in a cessation to group meetings, but despite the impact of the pandemic, one community group was galvanised into action and participated in a local health expo, offering simple dementia risk reduction advice to their peers in the community, demonstrating that community led improvements in dementia risk awareness can be an important outcome of improved education.

2020 Sociology in Action Award

In November, Dr Peta Cook received the Australian Sociological Association's (TASA) 2020 Sociology in Action Award. The Sociology in Action Award recognises contributions to the practice of sociology outside of academic settings. It is conferred on a TASA member who has made an outstanding contribution to sociological practice in Australia, highlighting the value and impact of sociological methods and theories to society. Peta specifically received this award for her translation of sociological scholarship and knowledge into community and policy to help improve the lives of and futures for ageing populations and older people. From challenging ageism, to understanding older adults' desires as they age, to exploring citizenry requirements for age-friendly cities, Peta has led and collaborated on several initiatives.

Donations

Despite the difficulties created by COVID-19, our October appeal was a tremendous success. Over $30,000 was raised directly from this appeal, with a total of over $61,500 raised over the whole year.

Considering the hardships many people have faced this year, we are humbled to receive such a response to support our education and research programs. Education is crucial to help raise awareness and reduce stigma, with someone in the world developing dementia every three seconds. This is a major public health concern and our free courses are transforming the understanding of dementia worldwide; educating carers, families and professionals to improve the quality of life of people with dementia, and helping others reduce their risk of developing the disease.

All donations over $2 are tax deductible (in Australia). Donations can be made to the Wicking Dementia Research and Education Centre through the University of Tasmania.

If you wish to make a donation, please visit our website, **utas.edu.au/wicking/about/donate**.

We thank our donors most sincerely for their ongoing support.

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