

# the NeuRA

magazine

Issue 25 | Winter 2018



## Dementia Research

Research highlights how  
to reduce your risks  
of dementia at any age

- Ageing Well Week launches
- Falls prevention technology heads to UK
- NeuRA speaks at Parliament House
- Vital Parkinson's projects launch

**NeuRAtalks Series 3**  
Ageing Well Week  
18-22 June  
[www.neurataalks.org](http://www.neurataalks.org)

## Message from our Executive Director

Professor Peter Schofield



Prof Peter Schofield

Our quest for discovery continues to motivate us to work towards the solutions and cures of tomorrow - today. This year we welcomed Professor Kaarin Anstey who, with her team, is working on understanding the risk factors for dementia prevention and developing lifestyle guidelines on how to reduce your risk of dementia.

In Australia, there are over 1,500 new cases of dementia diagnosed each week, and it is predicted by 2050 there will be almost one million Australians with the condition. This is a huge problem that is growing and needs more investment. Our goal at NeuRA is to focus on the whole community to enable both a research-led, and technology-delivered set of outcomes that will greatly benefit the community, the family and the individual.

During the month of June, we will be launching NeuRA's Ageing Well Week, a special seminar series focused on helping us reduce the risk of dementia. There will be a seminar on Tuesday, 19 June at the Sydney Town Hall, and in Melbourne on Wednesday, 20 June at the National Gallery of Victoria, both from 11am-1pm. The seminars will feature a series of leading NeuRA scientists including Professor Kaarin Anstey, a member of the WHO Guideline Development Group on Dementia Risk Reduction, and a Senior Principal Research Scientist in ageing research at NeuRA.

By attending these seminars, you will learn more about how to reduce your risk of dementia through lifestyle variations; the latest research into Alzheimer's studies; how to prevent falls as you age and with cognitive decline; hip fracture and prevention remedies; and understanding sleep patterns for those affected by dementia.

We have also developed a special Ageing Well Kit which includes a 24-page booklet on how to reduce the risk of dementia and profiles the work of leading scientists in the field of dementia and Alzheimer's disease.

I look forward to sharing our first Ageing Well Week with you as we strive to discover, conquer and cure these diseases of the brain at NeuRA.

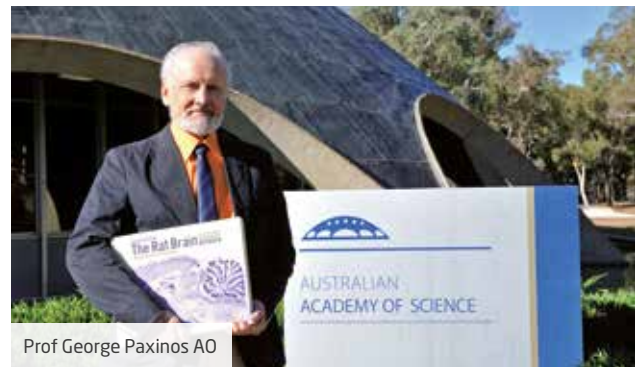


Prof Peter R Schofield *FAHMS PhD DSc*  
Executive Director and CEO

## NeuRA Events

### Brains on the Hill Canberra

Scientia Professor George Paxinos AO recently spoke at the Australian Federal Parliament in Canberra. Professor Paxinos was the keynote speaker for the Brains on the Hill event as part of the Australian Brain Alliance hosted by the Australian Academy of Science. He presented his unique talk titled *Is the Brain the Right Size*, to an audience of world-leading scientists and parliamentarians.



Prof George Paxinos AO



To watch Professor Paxinos' NeuRAtalk for free visit [neurataalks.org](http://neurataalks.org)

### Volunteers Week Thank-you

Volunteers and research participants at NeuRA play a critical role in helping advance the treatment and understanding of diseases of the brain and spinal cord. NeuRA wishes to thank all the volunteers who help us to discover, conquer and cure diseases of the brain and spinal cord to ultimately improve the lives of Australians and others around the world.

Find out more - contact us on **02 9399 1155** or email us at [volunteers@neura.edu.au](mailto:volunteers@neura.edu.au) or visit [neura.edu.au/volunteer](http://neura.edu.au/volunteer) for more information.

### NeuRA Joins CEPAR at NSW Parliament House

NeuRA joined the Australian Research Council (ARC) Centre of Excellence in Population Ageing Research (CEPAR), to publish a new research brief - *Cognitive Ageing and Decline: Insights from Recent Research* at a breakfast briefing session to ministers at NSW Parliament House.



Cover photo: Margie and Lisa Burling shared their family's dementia story for our recent winter appeal.

## Helmet Safety for Young Children



An Australian-first study shows not all parents understand the importance of helmet use in children, with a worrying number of children under four riding scooters without a helmet. Researchers from NeuRA, Sydney Children’s Hospital, Randwick and UNSW Sydney reviewed the cases of more than 300 children who presented to emergency departments following injury caused while riding bicycles, scooters or skateboards.

NeuRA’s child safety and injury prevention expert, Associate Professor Julie Brown stressed the greatest influence on a child’s attitude to helmet use is parental rules.

More than 30 per cent of non-helmet users in the study believed helmets were only required in certain situations, with a further 30 per cent not wearing helmets due to their perceived expertise.

“Helmet use decreases the chance of head injury in riders by 61 per cent, facial injuries by 33 per cent, as well as lowering the chance of fatality by 65 per cent,” said Associate Professor Brown.

## Sounds of Silence

Neuroscientists at NeuRA and UNSW Sydney have shown that the brain may ignore input known as ‘chatter’ and instead use periods of silence to register information about its environment. Dr Ingvars Birznieks and Dr Richard Vickery showed ABC reporters how sense of touch relies on vibrations as the ridges on fingertips scan over surfaces. How these vibrations are decoded by the brain is not well understood; one previous theory suggested the number of nerve impulses are counted as an index of vibration frequency.

Birznieks and Vickery generated bursts of nerve impulses to mimic successive skin ridge contact. Through the experiment, they were able to show the reporters it was the silent period between bursts that best explained the subjects’ experiences.

A better understanding of these coding strategies will help researchers build better brain-machine interfaces. The next-generation of interfaces will provide a more sophisticated method of control for a range of devices and applications including telesurgery and prosthetics.



Dr Ingvars Birznieks



Ian Kennedy OAM

## Tribute to Ian Kennedy OAM

It is with great sadness that we announce the passing of Ian Kennedy OAM.

Ian served as a Director of the NeuRA Foundation since 2009 and was a tireless advocate for NeuRA and a voice of wisdom.

Ian co-authored the best-selling Australian marketing book *The Power of One to One* with Bryce Courtenay and was often referred to as the ‘Father of Direct Marketing’. He won every significant Australian direct marketing award and was inducted into the Australian Direct Marketing Hall of Fame.

As Director of Marketing at advertising agency George Patterson, he was the architect of the Sydney Olympics 2000 ticketing campaign and the 2003 Rugby World Cup. Ian was the National President of The Starlight Children’s Foundation and was the Chairman for seven years.

Ian’s intelligence, personality and enthusiasm will be greatly missed. He leaves an incredible legacy of helping the Foundation to reach many supporters that share NeuRA’s vision to discover, conquer and cure.

# Understanding Risk Factors Around Dementia

with Professor Kaarin Anstey

AGEING  
WELL  
for life



“Waiting until your 60s and thinking, ‘I don’t want to get dementia’ isn’t a great plan,” says Professor Kaarin Anstey



We think about our superannuation before retirement, so why don’t we do the same with dementia? Almost one in 10 Australians aged over 65 have dementia; by age 85, the prevalence increases to one in three. It was once thought that dementia was a late-life disease that could not be prevented. But we now know that we can do a lot to reduce our risk.

You really have to be thinking about protecting your brain across all age groups of your life. It can be hard to think about being 80 when you are only 40 but creating an ageing well life-plan ahead of retirement will support you and your family in the years to come.

Research has shown that there are actions you can take now to reduce

your risk of dementia, and these need to be incorporated into your healthy living plan as early as possible.

It’s predicted that there will be almost one million Australians with dementia by 2050 and 10 times as many family members and friends suffering indirectly from its effects. It’s never too late to start your ageing well plan.

There is so much we can all do to age well. Start by attending one of NeuRA’s Ageing Well for Life seminars in Sydney or Melbourne in June 2018, or watch our Ageing Well for Life seminar series online at [www.neurataalks.org](http://www.neurataalks.org)

The seminar series, led by Professor Kaarin Anstey, Senior Principal Research Scientist at NeuRA and

global leader in dementia and ageing research, takes you through the simple steps you can take to age well and reduce your risk of dementia.

## Critically, during your 50-60s, be mindful of:

- Maintaining a healthy weight and keeping fit
- Creating a regular exercise plan
- Keeping your blood pressure in a healthy range
- Modifying your diet to include leafy greens, regular servings of fish, and a mix of fresh berries
- Stopping smoking is a MUST!



## Cognitive Activity is Important

*We know from lots of research that people who do more stimulating activities throughout their life have better brain function and a lower chance of developing dementia.*

A cognitive activity is an activity that challenges our perception, attention, memory, reasons and problem solving abilities. There are a wide range of cognitive activities, some of them involve everyday activities like reading a book, and others challenge our mind like puzzles or crosswords. Scientists think that such activities may protect the brain by establishing 'cognitive reserve'.

When our 'cognitive lifestyle' doesn't have enough cognitive activities then we are more likely to have problems with our thinking and memory and be at risk of age-related diseases (like dementia). Even if you have not been cognitively active so far, starting today may still have a large impact on dementia risk.



Prof Kaarin Anstey



Watch the Ageing Well seminar series online:  
[www.neurataalks.org](http://www.neurataalks.org)

## FROM THIS SERIES YOU CAN:

- Learn how to reduce risks around dementia with keynote speaker Professor Kaarin Anstey
- Find out about the latest Alzheimer's and dementia research with Dr Bill Brooks
- Hear from Professor Stephen Lord about why strength and balance exercises are important as we age and how to reduce your risk of falls
- Meet Professor Jacqueline Close who will share insights into her research on hip fracture, and falls in people with cognitive impairment and dementia
- Associate Professor Julie Brown will share knowledge on how to keep safe on the roads and maintain your independence as you age.

FREE

## AGEING WELL KIT

For more advice on reducing the risk of dementia, order your FREE Ageing Well Kit from NeuRA. The Kit includes the latest research and recommendations in the field of dementia.

Text 'KIT' to 0437 390 530



# NeuRA Launches New Parkinson's Projects

Parkinson's disease is the second most prevalent age-related neurological disorder behind dementia. More than 80,000 individuals live with Parkinson's disease in Australia.



NeuRA's annual major donor event, *Food for Thought* was held at NeuRA's Margarete Ainsworth Building, in May 2018. NeuRA announced plans to respond to the growing prevalence of Parkinson's disease in our community.

Guests were informed of NeuRA's goal to fund two key initiatives. Firstly, projects that include an early detection of Parkinson's disease vulnerability through imaging (MRI) and ultrasound screening with Professor Caroline Rae; falls prevention therapies for people with Parkinson's disease using practical and technology-based therapies with Professor Stephen Lord and Dr Jasmine Menant and improving sleep for people with Parkinson's disease using novel targeted therapies with Professor Danny Eckert. NeuRA also announced a major initiative with the appointment of a Chair of Parkinson's disease research to focus on understanding the disease and finding a cure.

The guest speaker on the night was the Hon. John Watkins AM, who spoke



Food for Thought dinner

about his personal experience with Parkinson's disease after being diagnosed around eight years ago, after retiring as deputy premier of New South Wales. John initially tried to hide his condition as he did not want the stigma of Parkinson's to define him.

He told the audience how freeing it was to share his experience with those around him. He discussed the

importance of being an advocate for medical research. In fact, the *Food for Thought* dinner was the first time that John had spoken publicly about what it is like to live with Parkinson's disease.

Commenting on these two key strategic initiatives Foundation Director, Grant Simpson, said "our biggest challenge and impediment

to Parkinson's research is not the lack of research talent or clear vision of how to conquer Parkinson's disease. Our biggest challenge is quite simply funding."

We were pleased to have 100 guests in attendance and delighted to receive two very generous gifts from major benefactors. A total of \$400,000 was raised from the night, significantly helping NeuRA towards its goal of raising \$1million for these new initiatives in Parkinson's by the end of 2018.



Hon. John Watkins AM

**NeuRA was very proud to share this important milestone with the Hon. John Watkins AM and will continue to seek support and funding to make discoveries that will help the community understand this disease and hopefully one day find a cure.**

*"NeuRA is committed to driving new research in Parkinson's that will benefit those living with the disease and their loved one."*



**Listen to the podcast featuring the Hon. John Watkins AM**  
[neura.edu.au](http://neura.edu.au)

## Donate to NeuRA

Support research work at NeuRA on Parkinson's disease

[neura.edu.au/donate](http://neura.edu.au/donate)

# Bringing New Expertise in Neuroinflammation to Conquer Schizophrenia



Prof Cyndi Shannon Weickert

The Schizophrenia Group under the guidance of NSW Chair of Schizophrenia Professor Cyndi Shannon Weickert, are looking at two new areas of research: brain inflammation and models of the disease. There is strong evidence linking brain inflammation with schizophrenia, along with other mental health conditions. Growing the team will be vital to exploring this evidence further, and answering the question: could severe mental illness be better treated with anti-inflammatory therapies?

The second area of focus will be creating models of schizophrenia to allow testing of known drugs that could have a role in the treatment of the condition. Before any human clinical trial, researchers need to demonstrate that these new therapies, which are already known to be safe for use in humans, are able to achieve the predicted biological effects. For example, a new anti-inflammatory therapy needs to have evidence that it will reduce one or more of the symptoms of schizophrenia before clinical trials can commence.

NeuRA is focused on bringing new expertise in neuroinflammation to support our schizophrenia research, to provide hope and new treatment pathways through discoveries now made possible by greater funding, enhanced technology and insights into anti-inflammatory therapies.





# Research Aims to Improve Prevention and Treatment of Dementia in Indigenous Communities

**Dementia is one of the biggest health issues facing Australians and research in recent years, including NeuRA's Koori Growing Old Well Study (KGOWS), has shown that Indigenous Australians are disproportionately affected.**

Recently, the Australian Government announced \$14million in funding for critical dementia research in Aboriginal and Torres Strait Islander communities. NeuRA's Dr Kylie Radford and her team are the recipients of a \$3million portion of the Government's research funding, which will be allocated to their work aimed at improving treatment, prevention and support for Aboriginal and Torres Strait Islander people with dementia.

The KGOW study, led by Dr Radford, is exploring healthy ageing, memory and social and emotional wellbeing, as well as the prevalence and incidence of age-related disorders like dementia, frailty and depression in urban Aboriginal populations in NSW.

The Study has already found the prevalence of dementia in urban and regional Aboriginal communities is three times greater than the general Australian population.

Low awareness of dementia and aged care services has been identified as one factor contributing to poorer outcomes for older Aboriginal and Torres Strait Islander people, but there is also a lack of well-designed, culturally relevant resources available to support and guide care decisions.

Furthermore, the team are investigating the potential associations between age-related diseases like dementia and a range of other life-course factors, both positive and negative, that impact on ageing including - health status, childhood environment, education and experience of discrimination across the lifespan.

"The key goals of the project are to build on the decade-long collaborations between researchers, health services, and Aboriginal communities that we've developed through long-term projects with older Aboriginal people in urban and regional areas," said Dr Kylie Radford.

## The Study aims to determine:

- the rate of cognitive decline and the incidence of new cases of dementia over time
- the causes or risk factors (biological and social) which predict dementia and cognitive decline in a representative Aboriginal population from information recorded at extensive baseline interviews and medical assessment
- ways to enhance healthy ageing and preventable causes of early cognitive decline and dementia.



L-R: Auntie Margaret Anderson, Mr Terry Donovan, and Ms Alison Timbery

## Meeting the Emotional Needs of Sydney-siders

Can you imagine a vending machine that offers support, calm, kindness or friendship? Mark Starmach and Elizabeth Commandeur not only imagined the idea but worked together to meet the emotional needs of Sydney-siders. They discovered that their *Intangible Goods* vending machine made mental health more approachable. Their community project caught the attention of the New York press, making this a truly international project.

Project creators Mark and Elizabeth said, "it is a good thing to help people think about their mental health in a different way."

The *Intangible Goods* concept is one way to help raise awareness about our own mental health and the wellbeing of those around us. A portion of the funds raised will support schizophrenia research at NeuRA.



## Sydney-siders Run for NeuRA

Jensen Mak ran for NeuRA recently in the Sydney Morning Herald Half Marathon. He beat his personal best and raised much-needed funds for neuroscience research.



Congratulations to all who ran in the marathon, raising research funds. This support is greatly appreciated by all the researchers and scientists at NeuRA.

## Celebrating 100 Years of ANZAC

On April 25, Northmead Sports Club held a special service honouring the 100 years of ANZAC. It was a solemn service with many families and veterans remembering those who defended our nation. This date coincided with NeuRA's *Bowling for Better Balance* initiative, developed in partnership with Bowls NSW. The money raised across NSW in April will directly support NeuRA's research into falls prevention.

One in three Australians over the age of 65 have a serious fall so it is vital that we pay close attention to prevention through balance exercises, such as those developed by NeuRA's Falls and Balance Lab.

Lawn bowling clubs across NSW generously supported NeuRA's research whilst raising awareness for the need to maintain balance through appropriate exercise.





# NeuRA talks ONLINE SERIES

## Series 3



NeuRAtalks is a **free online platform** that offers a range of short video-seminars across a wide range of neuroscience research areas. Our recently released Series 3 on Ageing Well, covers a wide range of subjects from dementia, Alzheimer's disease to falls, balance and driver safety for seniors.

Go to: [neurataalks.org](http://neurataalks.org)

### Speakers:

**Prof Kaarin Anstey**

How to Reduce Your Risk of Dementia

**A/Prof Kim Delbaere**

How the Fear in Our Step Can Cause a Fall

**Dr Bill Brooks**

Alzheimer's Research and Future Directions

**Prof Jacqueline Close**

The Relationship of Cognitive Function to Postural Stability, Falls and Fractures

**A/Prof Julie Brown**

How to Keep Safe on the Roads as You Age

**Prof Stephen Lord**

Training the Brain for Greater Balance to Reduce Falls

## WATCH OUR Video Stories Online THIS MONTH



**Follow these easy steps to enjoy more of these stories online.**

**STEP 1.** Go to the **NeuRA website** [neura.edu.au](http://neura.edu.au)

**STEP 2.** Click **News and Events**

**STEP 3.** Click **Magazines**

You will see our Magazine #25 page where you can view all the video content from this publication.

Hope you enjoy our online stories with a cup of tea!

## DONATION & RESEARCH VOLUNTEER FORM

All gifts over \$2 are tax deductible

- Yes, I would like to donate to research at NeuRA
- Yes, I am interested in participating in research at NeuRA

Title:

First Name:

Surname:

Address:

Suburb:

State:

Postcode:

Phone:

Email:

### Step 1: How I choose to give my gift:

- Please accept this one-off gift to support research at NeuRA
- I would like to invest in the future and become a *Discovery Partner* with a regular donation of \$ \_\_\_\_\_  monthly /  quarterly (*please select*)

\$50  \$100  \$250 or

A cheque payable to the NeuRA Foundation is enclosed OR

I wish to make my gift by credit card:

Visa  Mastercard  American Express  Diners

Card No:

Expiry Date:

Cardholder's Name:

Cardholder's Signature:

Please send me:

- Details about how I can support NeuRA in my Will

- Mail this coupon in the reply paid envelope
- Call us on **1300 888 019** to make a donation over the phone
- Make a secure online donation at [neura.edu.au/donate](http://neura.edu.au/donate)

**A message from the NeuRA Foundation:** The NeuRA Foundation may co-operate with other like-minded reputable Australian charities to promote our work to our respective donors. If you'd prefer that NeuRA does not share your information with other charities, please phone us on **1300 888 019**, email us at [foundation@neura.edu.au](mailto:foundation@neura.edu.au) or write to us using the enclosed envelope.

*Thank you for generously supporting our research into diseases of the brain and nervous system.*

# Falls Prevention Technology Starts Trials in Australia and the UK



A/Prof Delbaere

Falls and fractures are a leading cause of hospitalisation in seniors, with one-third of people over 65 and half of people over 80 experiencing a major fall each year. For older Australians, the social and personal impact of a fall can be enormous; especially when the fall results in mobility-related disability and a sudden loss of independence.

Under the leadership of Associate Professor Kim Delbaere, a world-first, technology-based program called *StandingTall*® will be tested here in Australia and in the UK over the next year, aimed at addressing falls and balance in seniors.

*StandingTall*® is an individually-tailored exercise program delivered via an app on a tablet computer. The app is designed for older people to use independently at home. It allows participants to choose when and for how long they exercise, with a recommended dose of two hours each week. The exercises are designed to train both static and dynamic balance, while standing on the floor or a foam cushion and while stepping in different directions and on a box.

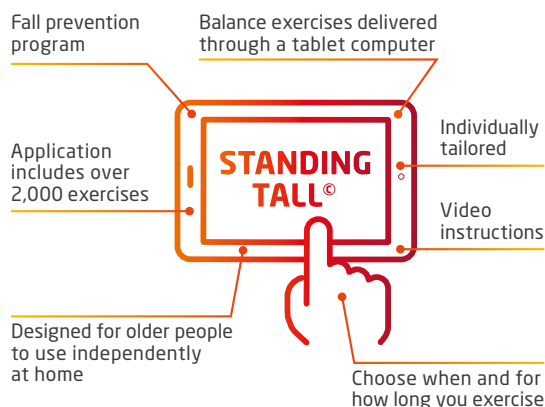
The use of technology makes the app easily accessible for people living in remote areas of Australia, while keeping the cost low. This makes *StandingTall*® an attractive fall prevention solution for policy makers worldwide.

The recent success of the NHMRC grant in collaboration with national partners across NSW and VIC and international partners in the UK offers A/Prof Delbaere the unique opportunity of implementing this innovative application into clinical practice to benefit the lives of our ageing population and help them age well.

Commenting on the UK interest, A/Prof Delbaere said, "it is exciting to see an Australian invention aimed at reducing falls and improving balance in older people starting an international journey."

"We believe this innovative program offers huge potential in helping older people across the North which is why we're delighted to be supporting its rollout in the region," said Dr Hakim Yadi, Chief Executive of the Northern Health Science Alliance.

## StandingTall®



## Statistics

**Falls are the leading cause** of injury-related hospitalisation in persons aged **65 or older**

**Falls account for 14%** of all hospital admission in the age group

**Falls are expected to cost the economy \$1.13 billion by 2022**

**50%** of all people who break their hip **suffer mobility disability**

**25%** of all people who break their hip **die within 12 months**

## Thank you for your support

If you wish to update your preferred communications from NeuRA, please call 1300 888 019.

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