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Impact

NeuRA is an independent, not-for-profit, medical research institute tackling the brain health challenges that shape our lives



373

NeuRA staff



66

active human
research projects
in 2025



385

research
publications
in 2025



133

active research
projects in 2025

3,777

media mentions

352,000

NeuRA
website visits

32,286

times NeuRA
research cited
over past 5 years*

*2021-2025 SciVal 29/4/25



Dr Tertia Purves-Tyson is
head of NeuRA's Preclinical
Neuropsychiatry Laboratory.



Left: Professor Kaarin Anstey is working to understand why more women than men are affected by Alzheimer's disease. Right: NeuRA PhD candidate, Gerardo Mendez-Victoriano, has been exploring inflammation in schizophrenia and bipolar disorder.

Neurodegeneration

Exploring the links between hormones and brain ageing

Professor Kaarin Anstey is working on a number of dementia and ageing projects, including studying the links between women's hormones and brain ageing.

Prof Anstey and University of California Professor Kristine Yaffe will collaborate to identify why many more women than men are affected by Alzheimer's disease.

Their project will examine sex differences in common dementia risk factors, as well as female reproductive health factors and in relation to risk of late life Alzheimer's disease.

It's hoped the research may also shed light on how the various lifestyle factors known to affect dementia risk may affect men and women differently.

Mental Illness

Improving understanding of brain inflammation in schizophrenia and bipolar disorders

Research exploring inflammation in schizophrenia and bipolar disorder is increasing understanding of the conditions and revealing potential new treatments.

Some people with schizophrenia and bipolar have overactive inflammatory signals in part of the brain that creates dopamine, researchers have found. PhD candidate, Gerardo Mendez-Victoriano, who is in Professor Cyndi Shannon Weickert's team, found the signals belong to a family of molecules called Tumour Necrosis Factor Superfamily, related to strong immune reactions and cellular death in the brain.

However, while inflammation in the brain is a component of both schizophrenia and bipolar disorder, the same team has also found differences in immune cell activity. In both cases, immune cells are activated but the activation is different: in schizophrenia there is increased motility, while in people with bipolar there was a distinct, possibly suppressed, inflammatory state.

These findings suggest that anti-inflammatory treatments may help a specific subgroup of patients with high inflammation but would need to be tailored differently for each condition.



Left: Professor Jacqui Close is working to improve outcomes for people after a hip fracture.
Right: James and the team are seeking better treatments for people with chronic pain, including low back pain.

Falls Prevention

Team shaping the future of falls prevention

Researchers in NeuRA's Falls, Balance and Injury Research Centre are shaping the future of falls prevention, through new technologies, advocacy and policy work.

Professor Stephen Lord and Associate Professor Jasmine Menant updated the National Falls Guidelines to focus on improved falls prevention interventions and best practice recommendations for several settings. This work took five years, with the guidelines launched by Australian Commission on Safety and Quality Health Care.

The Australian New Zealand Hip Fracture Registry, which is managed by NeuRA and co-chaired by Professor Jacqui Close, celebrated its 10th anniversary in 2025. It was noted the Hip Fracture Guidelines have improved patient outcomes, including a reduction in mortality.

Professor Kim Delbaere launched a clinically-validated falls prevention app, Standing Tall, and helped establish the Falls Prevention Alliance of Australia.

A range of trials are also underway, including utilising technology to support falls prevention and working with specific patient cohorts, such as people with Parkinson's disease or recovering from stroke.

Chronic Pain

Understanding and improving low back pain treatments

Low back pain is a leading cause of disability globally and while there are many treatments available, researchers from NeuRA's Centre for Pain IMPACT have been working to understand what works and develop new treatments to improve patient outcomes.

Dr Aidan Cashin found one in 10 common treatments for low back pain is effective, and many offer pain relief that's barely better than placebo. Dr Cashin is working to improve care for chronic pain, implementing effective treatments and reducing medicine-related harms.

Professor James McAuley said while the term low back pain is often used, there are three main types – acute, subacute and chronic low back pain – which all require different treatments. Prof McAuley is working on comparing the effectiveness of graded sensorimotor retraining – developed by his team – with current best practice supervised exercise.

Research makes Amanda feel like the ‘luckiest chick alive’



Amanda Aycliffe says she’s “*the luckiest chick alive*”, which may sound extraordinary with the knowledge that she carries a gene which

means she’s almost certain to develop Alzheimer’s Disease.

The reason she says that is because more than 20 years ago, when testing confirmed the gene had been passed down from her father, Amanda assumed the clock was ticking rapidly for her cognitive health. Her father and her uncle had both displayed symptoms of dementia in their late 40s and passed away in their 50s.

But then, as she says, “*I discovered NeuRA*” – and that’s why she believes she’s lucky.

For years Amanda has been part of the Dominantly Inherited Alzheimer’s Network, a worldwide research study whose Sydney base is at NeuRA and which targets genetic Alzheimer’s before symptoms appear.

Regularly Amanda packs her bags for a week in Sydney – visiting NeuRA daily to give samples of her blood and spinal fluids, take part in scans and undertake a variety of testing under the care of Associate Professor Emma Devenney, NeuRA Quest Scholar and Principal Site Investigator for DIAN. With volunteers around the world following suit, all of it

creates an unprecedented, longitudinal body of research tracking changes in the biomarkers of people almost certain to develop Alzheimer’s.

Tracking those changes could also lead to developments in treating the disease in the general population. To that end, Amanda has also been part of a series of drug trials, to try to prevent the changes in the brain that cause the disease from taking hold.

“*Now I’m 56, I’m a mum of three, a grandmother to five with another grandchild on the way and I live a very full, very active life,*” she says.

“*When I got my (genetic) result, I was devastated. I thought my life would end early. I thought I wouldn’t see my children grow up, get married, or have families of their own.*

“*Then I realised I had a choice. I could fall in a heap or I could stand up and live every minute I was given. That’s when NeuRA came into my life.*

“*NeuRA’s researchers are extraordinary. They’ve given me confidence and given my family reassurance. And they’ve given us something incredibly precious; time.*”



Front cover: Amanda (right), a participant in the DIAN study of Dominantly Inherited Alzheimer's Disease, with NeuRA Associate Professor Emma Devenney. Above: Amanda with her husband David on a visit to NeuRA.

**Thank you for being a NeuRA
Discovery Partner. We couldn't
do it without you.**

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