

BRAINWAVE BULLETIN

MARCH 2024



New Chief Executive Office Professor Vicky Vass with
Director of Research Professor Ralph Martins, AO.

UNLOCKING THE FUTURE

By Chief Executive Officer Professor Vicky Vass

I am thrilled to welcome you to this edition of Alzheimer's Research Australia's newsletter. As the newly appointed CEO, I am honoured to be part of an organisation committed to the pursuit of knowledge and progress in the battle against Alzheimer's disease.

As I step into this role, I am fuelled by a profound sense of responsibility and enthusiasm for the impactful work that lies ahead.

We are delighted to share with you the rebranding of the Australian Alzheimer's Research Foundation to Alzheimer's Research Australia. This strategic evolution reflects our commitment to a broader, more inclusive scope in tackling the challenges of Alzheimer's disease.

(continued inside...)

Professor Ralph Martins has secured an exciting international collaboration to assist with the development of the blood biomarker project.

Read more about this breakthrough inside!

In the news! Professor Martins was featured on television in a story '**Revolutionary blood test could hold the key to early dementia diagnosis**' broadcast on 7 News Australia in February.

Our Christmas appeal was generously supported by many of our regular donors. **We are delighted to announce the appeal raised more than \$31k!**

JOIN THE TEAM!

The AU-ARROW team has recruited 50 participants for its study on lifestyle modifications that may reduce the risk of dementia.

Since then, another big boost has occurred for AU-ARROW. A TV commercial was broadcast on Channel 7 in both NSW and WA, thanks to an exciting collaboration that was secured by our own hard-working Kevin Taddei.

With 600 people required for the study, we need many more people to apply for screening. To see if you are eligible, see our website or scan this code on your smart phone.





“
Before Alzheimer's touched our lives, my Baba was full of life, laughter and love. Remembering her vibrancy drives me to make a difference.
”

Adam Nappo found inspiration to join the Melbourne Marathon, and fulfilled his dream by finishing in 4.37 hours. Not only did he achieve this goal, but he also raised over \$7,000 for Alzheimer's research.

Adam dedicated every kilometre to his beloved Baba, who is currently battling Alzheimer's. Thank you, Adam!

Unlocking the Future

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Alongside this transformation, we are proud to introduce our new website, designed to enhance accessibility and engagement for our supporters, researchers, and the wider community.

This fresh identity and digital presence mark a renewed dedication to our mission, amplifying our collective impact as we strive to make Alzheimer's a distant memory.

Our mission at Alzheimer's Research Australia is propelled by our close teamwork with world-leading researchers, and I am proud to be working closely with the eminent Professor Ralph Martins and his wider team.

Together, we support cutting edge research and strive to make significant strides in understanding Alzheimer's disease and developing effective interventions.

The urgency of our cause cannot be overstated. Alzheimer's affects many millions of lives worldwide and almost 500,000 Australians, creating profound challenges for individuals, their families and friends.

It is a collective responsibility to alleviate this burden, and through our united efforts, we can transform Alzheimer's into a distant memory.

Our approach centres around the Four Pillars of research: Understanding, Diagnosis, Prevention, and Treatment.

Of course, as an integral part of our holistic approach, our clinical trials are crucial for advancing Alzheimer's research and enhancing outcomes. They evaluate the safety and effectiveness of new interventions, providing essential data for evidence-based practices.

By testing innovations in diverse patient populations, clinical trials contribute to our understanding of Alzheimer's and other Dementia and help identify new treatments. Patient participation is key, shaping the future of treatment and driving advancements that benefit all.



Professor Vicky Vass (left) and Professor Ralph Martins, AO present Liza Dunne with a small token of appreciation.

Engaging with you, our dedicated supporters, is crucial in this endeavour. Your passion and commitment are the driving force behind our mission. By fostering a community of researchers, clinicians, supporters, advocates, and participants, we amplify our impact and accelerate progress.

Throughout the year, we will keep you updated on our research initiatives, breakthroughs, and events. Together, we can rewrite the narrative of Alzheimer's and create a future where this devastating disease is a thing of the past.

Before we embark on this exciting journey together, I want to take a moment to express our heartfelt gratitude to the outgoing CEO, Liza Dunne.

Liza dedicated six years of exemplary service to our cause. Her commitment, passion, and tireless efforts have left an indelible mark on our mission and we are immensely grateful for the legacy she leaves behind.

As we move forward, we carry with us the lessons and accomplishments of her tenure, and we wish Liza every success in the future.

Thank you to our supporters and advocates for being a vital part of our journey. Let's join forces and make Alzheimer's a distant memory.

Warm regards,

Professor Vicky Vass
Chief Executive Officer

RESEARCH SPOTLIGHT

Shining a light on diet may help brain health.

Did you know that there is a diet specifically designed to focus on foods that have a positive impact on brain health?

The MIND diet is designed to promote brain health and is associated with potential cognitive benefits and a reduced risk of neurodegenerative diseases, such as Alzheimer's disease.

The diet contains foods rich in certain vitamins, and the naturally occurring compounds carotenoids and flavonoids, that are believed to protect the brain by reducing oxidative stress and inflammation.

Although the focus of the MIND diet is on brain health, it may also benefit heart health, diabetes, and certain cancers because it includes components of the Mediterranean and DASH diets, which have been shown to lower the risk of these diseases.

Variety is key, and there is an emphasis on green leafy vegetables, whole grains, nuts, beans and olive oil.



To find out about MIND diet foods and portions, see our website.



Researchers Working Together

Researcher Carolina Blagojevic Castro took to the stage at an international conference on Neurology and Brain Disorders in London recently.

Representing Alzheimer's Research Australia and Murdoch University, Carolina presented a paper on the MIND diet. She pointed out to fellow researchers that higher MIND diet scores have been linked to improved memory and verbal fluency.

Carolina stressed the importance of dietary enhancements for everyone. Carolina's ongoing work with the AU-ARROW study showcases her dedication to nutrition's role in neurology research.

ANOTHER STEP FORWARD

MAJOR BOOST FOR BLOOD BIOMARKER PROJECT

The Blood Biomarker project has received a massive boost, with Professor Ralph Martins, AO securing an important international collaboration to allow access to blood samples from the world's largest known group of people with early onset dementia.

The research team will add the samples from more than 5,000 individuals with Early Onset Familial Alzheimer's Disease (EOFAD) to their own large data sets.

This gives our researchers access to an extraordinary amount of information that can be studied to examine the proteins that are known to be present in the preclinical stage of Alzheimer's, well before symptoms appear.

The team is examining specific proteins called GFAP (Glial Fibrillary Acidic Protein) and NFL (Neurofilament Light Chain), which are both proteins found in the central nervous system.

Professor Martins has kept the Board of Alzheimer's Research Australia well informed of the ongoing progress of the research, as well as presenting the information to representatives from our supporting partners.



Dr Steve Pedrini with the ultra-sensitive SIMOA.

The Blood Biomarker project is generously supported by PNI Foundation, Resolution Capital and Spheria, and aims to develop a simple low-cost blood test for the early identification of people at risk of developing Alzheimer's disease.

Work is progressing well in the generation of an in-house test to measure GFAP plasma levels, using the ultra-sensitive Single Molecular Array technology, also known as the SIMOA instrument. Once completed, this test will be compared against the high-cost commercially available GFAP kit.

EMPOWERING EVERYONE

The importance of a user-friendly online presence is vital so that Alzheimer's Research Australia can connect with the community, share information, build support, and make it easy for people and companies to donate.

Looking to the future, we have expanded our focus to accomplish the essential tasks needed to achieve our goals. Visitors to our new website can explore our history, stay updated on ongoing research, and gain a glimpse into our future initiatives.



**TAKE A LOOK
FOR YOURSELF!**

alzheimersresearch.org.au

STOOL STORIES

THE INSIDE SCOOP ON FAECAL SAMPLING

The gut is home to a diverse community of tiny organisms called the gut microbiota. They are crucial for health and can impact many bodily processes, including those linked to the brain.

Collecting faecal (poo) samples is a critical aspect of studying gut microbiota to unravel the intricate workings of the gut-brain connection.

By studying faecal samples, researchers get a peek into the makeup and changes in the gut's tiny organisms, helping identify and understand the myriad of microorganisms residing there.

Samples contain a rich reservoir of microbial DNA, RNA, proteins, and metabolites. New fast sequencing technology helps us thoroughly study microbe communities, revealing information about their variety, abundance, and what they can do.

Moreover, faecal samples serve as a non-invasive means to monitor changes in the gut microbiota over time.

Factors such as diet, lifestyle, and environmental exposures can shape the composition of the microbiome, influencing its role in brain health.



Every sample collected is a treasure. The information unlocked from each sample is more valuable than gold!

Dr Binosha Fernando and her team of dedicated PhD students are using information gleaned from samples collected in studies including Australian Imaging, Biomarkers and Lifestyle (AIBL) and the WA Memory Study (WAMS). Alzheimer's Research Australia is pleased to be supporting her and the team as we focus on understanding Alzheimer's.

Ultimately, it is hoped that unlocking the mysteries of the gut-brain connection will pave the way for targeted interventions to positively impact brain health.

Your donation will make a difference. Together, we can change the future.

DONATE TODAY

Alzheimer's Research Australia was delighted to be a nominated charity in the James Squire Golden Eagle 1500m horse race in the recent Sydney Everest Carnival, which resulted in an incredible \$50,000 donation to Alzheimer's research.

A heartfelt thank you goes to Racing NSW for organising this engaging event, Hawkesbury trainer Edward Cummings, jockey Tyler Schiller and of course, the horse. Thank you, Strait Acer!



EPIC JOURNEY

Peter Bedford's epic journey continues as he competes in the 360km Jamalka Off Road Racing in South Australia's Eyre Peninsula.

Peter is one of the many heroes who generously give their time to raise money for Alzheimer's research. He has been racing in the toughest offroad races in Australia in tribute to his late father, Chris Bedford.

The track has been "prepped to perfection" and the race is expected to have some great high-speed action. Good luck Peter!



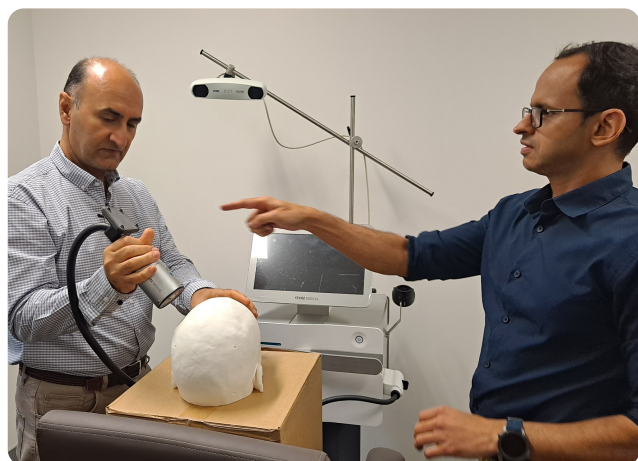
SONIC SOLUTIONS: HIGH HOPES FOR NEW TOOL

Thanks to the support of the Lions Alzheimer's Foundation, we are excited to be the proud new owners of a NEUROLITH instrument, which is the first one in Australia.

This Transcranial Pulse Stimulation (TPS) instrument will be used by Professor Ralph Martins, AO and his team for research in Alzheimer's disease.

The revolutionary non-invasive technology transmits low-energy electromagnetic shock wave pulses to the brain. These 4Hz frequencies may amp up the production of key proteins needed to build blood vessels. The increase in growth factor proteins may improve blood flow, encourage the growth of new blood vessels, and support nerve regeneration.

While shockwave treatment is not a new idea, the use of TPS in neurology with the NEUROLITH is an exciting innovation. A big thanks to the Lions Alzheimer's Foundation for this generous contribution to our research!



Professor Hamid Sohrabi (left) is shown how to use the Transcranial Pulse Stimulation device.

DONATE TODAY

Whether it's \$2 or \$200,000, any funding Alzheimer's Research Australia receives makes a difference. Your special gift has a direct impact on driving advancements in Alzheimer's research. Donate securely on our website or use the donation slip enclosed with this newsletter.

