



September  
2023

## Welcome to our September Newsletter

As September is World Alzheimer's Month, it is a wonderful time to celebrate the success and accomplishments of the people who share our dedication and commitment.

As we look back on our achievements and eagerly anticipate the road ahead, I am filled with pride and gratitude for the collective efforts that have brought us to this point.

This year has been a testament to the unwavering spirit that drives us forward. Despite the challenges that the world has faced in the past few years, we have made significant strides in our mission to combat Alzheimer's disease.

It is with great pleasure that I extend my heartfelt congratulations to Professor Hamid Sohrabi on his well-deserved appointment as a full Professor at Murdoch University, where he is the Director of the Centre for Healthy Ageing.

Prof Sohrabi's contributions to our organization and his tireless commitment to advancing Alzheimer's research have been remarkable. His expertise and passion have been instrumental in propelling us forward, and I have no doubt that his continued leadership will inspire even greater achievements in the years to come.

I am excited to share the news regarding huge strides globally in Alzheimer's treatments, as detailed in our article featuring Prof Colin Masters AO. The groundbreaking advancements hold the promise of a brighter future for countless individuals and families. Our Clinical Trials Division played a part in the evaluation of these treatments.

The return of the HBF Run for a Reason is also cause for celebration. We extend our gratitude to the runners who participated in this event and rallied support for our cause. Your commitment to our mission reflects the resilience of our community, and we are truly touched by your efforts. This is the first occurrence of the HBF Run since 2019 due to the COVID-19 restrictions, and many people selected AARF as their chosen charity.

The journey ahead is one that holds opportunities for positive impact and improved outcomes for our community. Our commitment to innovation and collaboration remains unwavering as we work to make Alzheimer's a distant memory for future generations.

**Liza Dunne**

*CEO, Australian Alzheimer's Research Foundation*

**THANK YOU!**



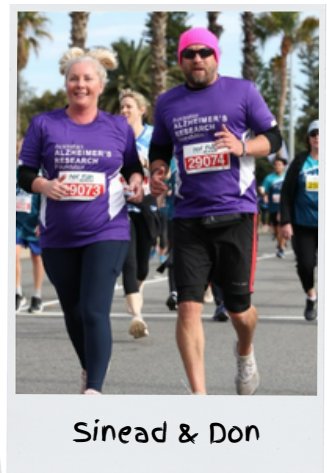
Vivienne & Michelle



Jordan-Tyla



Ernest



Sinead & Don

Some of our HBF heroes helping to raise vital funds. Our research starts with you!

## Mind Over Scanner - Brain Imaging is a Vital Tool

In the pursuit of understanding and combatting Alzheimer's disease, advanced imaging technologies like MRI and PET scans play a pivotal role.

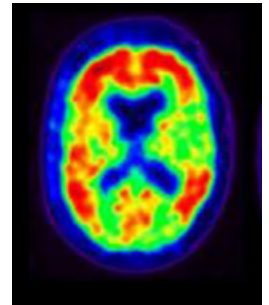
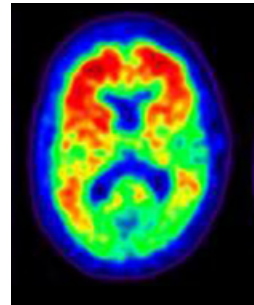
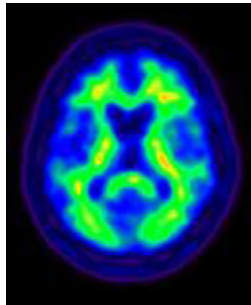
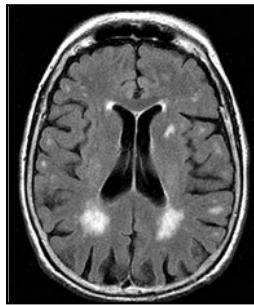
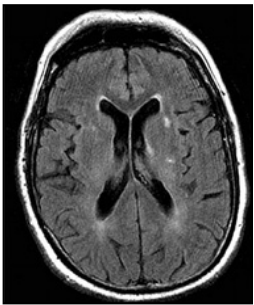
These non-invasive techniques offer an unparalleled view into the brain's intricate structure and function. Within the research space, brain scans have emerged as indispensable tools for unravelling the complexities of this debilitating condition.

MRI (Magnetic Resonance Imaging) provides detailed images of brain anatomy, revealing potential structural changes by utilizing powerful magnets and radio waves to produce detailed cross-sectional images. This enables clinicians to rule out other causes of cognitive decline and identify structural changes, such as brain atrophy that may accompany Alzheimer's progression.

PET (Positron Emission Tomography) scans highlight metabolic activity and pinpoint the accumulation of abnormal proteins like amyloid plaques, which are hallmark features of Alzheimer's disease.

Together, these non-invasive methods provide clinicians and researchers with invaluable insights into early detection, disease tracking, and the evaluation of potential treatments.

By fostering a better understanding of Alzheimer's on both structural and molecular levels, MRI and PET scans are instrumental in shaping the future of Alzheimer's diagnosis, care, and intervention strategies.



*Typical MRI (left) and some of the changes able to be observed after the onset of Alzheimer's (right).*

*Typical PET scan (left) and some of the changes able to be observed after the onset of mild cognitive impairment and Alzheimer's disease (right).*

## Meet Our New Board Members



### Pamela Anne Cresswell

Pam is an Adjunct Professor at Curtin University and has extensive senior experience in leading and delivering on strategy in complex environments.



### Rebecca Hanrahan

Rebecca is a Special Counsel at Clayton Utz. Rebecca's expertise in corporate governance and risk management makes her a valuable addition to our team.



### Yvonne Parnell

Yvonne has broad strategic experience across a portfolio of governance and leadership roles in public health and not-for-profit sectors.

## New Collaborative Journey

The Foundation is delighted to announce that Murdoch University and AARF Research Lead A/Prof Stephanie Rainey-Smith has joined an exciting collaboration between researchers from Australia and Japan.

The partnership will allow researchers to examine modifiable risk in mixed dementias, including inherited dementias, and will be a crucial step towards advancing treatments and prevention strategies.

The research is funded under a \$1.5 million grant by the National Health and Medical Research Council and the Japan Agency for Medical Research and Development.

The Foundation will be supporting the research at our facilities in Nedlands.

## Another Memorable Moment in a Life Devoted to Neuroscience

After a career spanning nearly 60 years, Professor Colin Masters AO is excited by recent developments in treatments of Alzheimer's disease.

Prof Masters is Laureate Professor of Neuroscience at the Florey Institute of Neuroscience, and has been a supporter of AARF since its inception and a board member since 2020.

His career has focussed on research in Alzheimer's disease and other neurodegenerative diseases, and his work is widely acknowledged as having had a major influence on Alzheimer's disease research worldwide, particularly the collaborative studies conducted with Prof Konrad Beyreuther in the late 1970s-1980s, when they discovered the origin of the A $\beta$  amyloid protein which is present in Alzheimer's disease.

This work has led to the continued development of diagnostics and therapeutic strategies, focusing on amyloid in the brain.

Prof Masters recalls the uncertainty when it was proposed in the 1990s that antibodies, which form part of the body's immune system, might be of use in the fight against amyloid.

"Many people were sceptical 25 years ago, but it has only taken 20 years to get a drug that works. In 2016, the first of its class was shown to have some efficiency.

"It's a great vindication for the work not only of myself but of many other people over the last 40 years."

The drug Lecanemab, by Eisai/Biogen, received full approval from the U.S. Food and Drug Administration (FDA) in July 2023. In an exciting breakthrough, this is the first treatment to receive full approval from the agency to help slow the progression of Alzheimer's disease.

Another drug, Donanemab by Eli Lilly, is expected to be approved by the FDA by the end of the year. Both Lecanemab and Donanemab must be administered intravenously or subcutaneously.

Prior to general release in Australia, the drugs will need approval by the Therapeutic Goods Administration. Both drugs have been shown to slow the progression of Alzheimer's in people with mild cognitive symptoms.

"It's not a cure at this point. It will only be used in people with mild symptoms. In some people there is a very long extension of the quality of life," Prof Masters said.

Clinical trials of potential treatments have been conducted over the last 10 years or more on selected participants, including some trials conducted at AARF.

"These are first in class treatments and we need to monitor them very carefully and determine what their full efficacy and safety profiles look like in the real world," Prof Masters said.

He said as research and trials continued, he hoped there would be even more effective treatments developed in the future, following other pathways to reduce the symptoms of Alzheimer's disease.

"We can see it. It's very exciting," he said.



Professor Colin Masters AO

## A Tour Through Our World-Class Laboratories

An informative walk through our world-class facilities in Nedlands was very well-received by guests who toured the facilities in June.

The tour showcased our team of brilliant researchers, who work together to deepen the understanding of Alzheimer's and other dementias.

During the tour, visitors had the opportunity to see where and how the remarkable work is conducted and discoveries are made, and were briefed on the work on early diagnostics including retinal imaging and blood biomarkers.

An explanation of the cutting-edge technology that is being used to develop exciting new medical solutions was welcomed by the visitors.



# The Importance of Good Sleep

Good sleep is often seen as being essential to wellbeing, but we are just beginning to understand how important sleep is to brain health.

Every piece of the puzzle is being examined in the relationship between sleep, memory, thinking skills and brain-based biomarkers of Alzheimer's disease.

Making changes to your sleep routine could play an important role in delaying and preventing the symptoms of Alzheimer's and other dementias, according to Associate Professor Stephanie Rainey-Smith from Murdoch University and AARF.

With September being World Alzheimer's Month, it's a good time for people to assess their sleeping habits and make changes to ensure they are sleeping well.

"It's never too late to start making changes. If you change something today you can actually make a difference to your brain health," says A/Prof Rainey-Smith.

"A lot of people don't understand how important sleep is. There are a lot of misperceptions around sleep and the importance of it for health."

When the body sleeps, the brain continues to work and one of the things that happens is a "cleaning out" of toxins that are known to be markers of Alzheimer's.

## Physical Activity May Assist

**A physically active lifestyle may help alleviate consequences of poor sleep, according to insights gleaned from AARF studies.**

Murdoch University PhD student Kelsey Sewell's recent publication on the impact on brain health of two important lifestyle factors – sleep and physical activity – has won the **Murdoch University Prize for Higher Degree by Research - Exercise Science.**

Kelsey's research used AIBL data and found that physical activity may compensate for some of the negative effects of poor sleep on memory and thinking skills.

"Our results show that in people who are less physically active, poorer sleep was associated with worse memory and thinking skills. However, in those with higher physical activity, sleep did not have a significant impact on their memory and thinking," Ms Sewell said.

Results illustrated that physical activity may compensate for some of the negative effects poor sleep has on memory and thinking skills in older adults.



This adds support to the idea that improving sleep could have an important role to play in slowing the rates at which these toxins are accumulating in the brain, and thus delaying the onset of Alzheimer's symptoms.

"Poor sleep has been shown to affect the brain's house-keeping system at a molecular level," she said.

"We know that if you have poor sleep, it affects cardiovascular health, diabetes risk and other factors which are known risk factors for dementias."

She said research had shown that there was an intimate link between sleep and thinking, and that consolidation of memory occurs during sleep.



## OUR SLEEP TRAINING TIPS!

### ARE YOU TIRED?

Only go to bed when you're feeling tired. If you can't fall asleep within 20 minutes, get up and do something else, then return to bed when sleepy.



### UNPLUG

Unplug an hour before bed. The blue light from electronic devices stimulates the brain, so stay away from screens before bedtime.

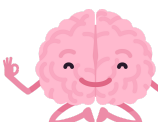


### THE ENVIRONMENT

Keep your room cool and comfortable. The ideal room for sleeping is cool, quiet, and dark.

### ROUTINE IS KEY

Create a bedtime routine. Your brain releases hormones that induce sleep when sleep is expected.



### TRY MEDITATION

Try some calming meditation techniques. A simple meditation based on counting the breaths can really help.

### YOUR BED IS FOR SLEEPING

Don't use your bed for other activities, such as eating meals or watching television. Your brain needs to know that when you are in bed, it's time to wind down and sleep.



## Fulbright Scholarship

Edith Cowan University PhD student and AARF employee Shane Fernandez has headed off to Indianapolis on a prestigious Fulbright scholarship to study the genetics of Alzheimer's disease.

The Fulbright Program is a distinguished foreign-exchange scholarship program aimed at increasing research collaboration and the exchange of ideas.

The program was established by Senator J. William Fulbright in 1946 and is now the largest educational exchange scholarship program in the world, operating in over 160 countries.

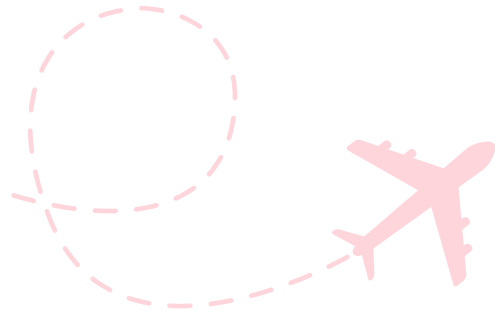
Shane will be studying at the Indiana Alzheimer's Disease Research Centre until early 2024, when he will return to Perth to finish his PhD and continue his work at AARF as research data manager.

Shane's PhD research at the Centre for Precision Health at ECU is focused on the genetics of rates of progression in Alzheimer's disease, particularly in cognitive change.



Shane Fernandez

“I'm looking forward to experiencing the different culture and having access to so many experts. There are so many researchers collaborating from different fields.” - Shane Fernandez.



Our Tax Appeal Raised

**\$170k**

**Our pioneering research is only possible due to our generous supporters. Thank you!**

## Success in Amsterdam at the AAIC

Several researchers from AARF and Murdoch University, including Prof Hamid Sohrabi and PhD student Louise Pivac, attended the world's largest dementia research conference in Amsterdam in July.

Over five days at the Alzheimer's Association International Conference (AAIC), more than 550 podium presentations and 4000 poster presentations covered the breadth of dementia research, including advancements in treatment, early diagnosis, and the understanding of risk factors for Alzheimer's and other dementias.

Louise presented posters outlining findings from two of her research studies, focused on the relationship between sleep, memory and thinking skills and biomarkers of Alzheimer's disease. She also attended various professional interest events and scientific sessions.

“Attending allowed me to be part of a community of dementia professionals over 7000 strong, meeting in person to learn, network and accelerate science into a new era,” said Louise, whose scholarship is 50% funded by AARF.

Louise said her attendance was possible thanks in part to a Murdoch University Conference Travel Award and an Alzheimer's Association fellowship which provided complimentary conference attendance.



Louise Pivac

“The conference provided exciting opportunities to grow our network and shed more light on the importance of sleep in Alzheimer's disease progression.”  
- Louise Pivac

## 'Music Festivals Bring Us Together'

The power of music is behind a new partnership between a leading Australian events brand and AARF.

We are excited to be supported by event organiser Reminisce, which creates music events and festivals that are fully interactive, with fans voting for the songs they want to hear. The top 50 are played in a countdown format at the event.

"We are thrilled to partner with AARF in our shared mission to combat Alzheimer's disease," said Corey Topp, co-founder of Reminisce. "There is such a strong synergy with our brand and preserving memories, and through that we hope to inspire our attendees and make a significant contribution towards finding a cure for Alzheimer's."

Having grown from a backyard affair 11 years ago to a full-scale festival at the Sydney Myer Music Bowl, Reminisce is now planning a national tour in 2024.

As part of this partnership, Reminisce (in conjunction with The Hardware Foundation) will contribute \$1 from each ticket sold for its events to AARF. Guests are encouraged to donate to further support the cause.

Corey said he hoped the partnership would extend the influence of Reminisce beyond providing memorable experiences to actively contributing to the fight against Alzheimer's.



“This collaboration aims to support ground-breaking research and raise awareness about Alzheimer's disease, while making a tangible difference in the lives of those affected by this debilitating condition.” – Corey Topp

## Hoodies Making a Difference

Thank you to Speak & Share, who chose AARF to be the recipient of their \$3,000 June fundraiser.

Every 3 months, these community-minded best mates design a new Hoodie and \$5 from each sale is given to a charity.

Their choice to support AARF was made for a very personal reason that many of our supporters can resonate with... the father of one of the partners has recently been diagnosed with Alzheimer's.

Speak & Share is a not-for-profit organisation that encourages tough conversations and challenges the stigma associated with mental health.

"Drawing on our own personal experiences, we have identified that there is a need to positively impact our community," said one of the founders of Speak & Share. "We have a story to share and are willing to show our vulnerability to lead the way for others to follow."



**Thank you for supporting the Australian Alzheimer's Research Foundation**

*Whether it's \$2 or \$200,000, any funding the Australian Alzheimer's Research Foundation receives takes us a step closer to our vision – a world in which Alzheimer's disease no longer exists.*

**If you are able to make a donation you can do so by ...**

Calling (08) 6457 0253

Or on our website [www.alzheimers.com.au](http://www.alzheimers.com.au)

Or by mailing the completed form in the envelope provided to:  
**PO Box 963, Nedlands WA 6909**

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