



ALZHEIMER'S RESEARCH RECEIVES FUNDING BOOST

Prof Ralph Martins and team leaders Dr Simon Laws and Dr Giuseppe Verdile are set to embark on further exciting work researching Alzheimer's disease (AD). This follows their success obtaining prestigious National Health and Medical Research Council (NH&MRC) funding in the 2011 round of grants. Prof Martins and Dr Laws will investigate novel biomarkers (genetic and lipids) in human blood. This work will help clarify recent evidence that certain lipid profiles are linked with the development of AD. In addition Dr Verdile, Prof Martins and their team will explore at a molecular level, the effects of the compound latrepirdine. This has recently been shown to have benefits in cognition and could lead to future drug development. As part of this program, Prof Martins and Dr Verdile will collaborate with Dr Sam Gandy from the Mt Sinai Medical School, New York. Congratulations to all researchers – this funding is great recognition of the valuable work carried out at ECU, assisted by the Foundation.

RESEARCHER REWARDED!



Prof Ralph Martins and Belinda Brown discussing her presentation at the recent ICAD conference (see next page)

Belinda Brown, a PhD candidate from UWA undertaking her studies in our lab in Nedlands, has received a Mecu scholarship, provided by the Victorian credit union Mecu. This is a grant made to promising young researchers and recognises Belinda's work examining lifestyle and memory. Belinda was nominated for this award by the CSIRO team who are working with Prof Ralph Martins' team on the AIBL (Australian Imaging, Biomarkers and Lifestyle) study.

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Improved lab facilities

Work is steaming ahead on refurbishment of our new premises at unit 2, 142 Stirling Highway. Thanks to a grant from Lotterywest the building has now been purchased and fit out for our memory and lifestyle studies is well under way. We are also grateful to our Lions clubs' supporters who have raised money for new minus 85°C freezers to store blood samples at this site. In addition, the McCusker family and the McCusker Charitable Foundation are funding our vital back up generator and power system. We plan to be working from the Stirling Highway, Nedlands site from late February 2011.

Foundation patron WA Australian of the Year 2011

The Foundation congratulates its patron Malcolm McCusker AO QC on his award of WA Australian of the Year 2011. Malcolm McCusker, one of Australia's top barristers, is highly regarded for his enduring commitment to social justice. He has championed many community causes and is well known for his prolific charity work. Malcolm's award follows Prof Ralph Martins' recognition as 2010 WA citizen of the year. The Foundation thanks Malcolm for his continuing contribution to Alzheimer's research.



Malcolm McCusker and
Foundation chairman Graham Nixon

Prof Ralph Martins – Research Overview

Research at the McCusker Alzheimer's Research Foundation Inc focuses on four key areas; understanding the disease; identifying factors likely to defer or prevent the onset of the disease; the development of an early diagnostic test; and discovering new treatments.

Currently an absolute diagnosis of AD is only possible through post-mortem examination of the brain for evidence of damage. As more is learnt about both disease modifying treatments and helpful lifestyle interventions for AD, the discovery of biomarkers for early diagnosis and to monitor response to treatment is vital. We are therefore very excited about our NH&MRC work. In addition, we continue to seek opportunities for collaboration - see stories on our CRC proposal and Prof Gotz' visit.

Work is continuing on our highly specialised brain imaging, known as PET-PIB. This allows detection of the accumulation of beta amyloid in the living brain. While beta amyloid is a diagnostic marker, it is not sufficiently reliable on its own, but assists our work developing bio-markers for a reliable diagnostic tool for AD. We also continue to progress potential therapeutic strategies, particularly beta amyloid neutralising agents and the hormone testosterone. An exciting project under Prof Martins' supervision is underway in Indonesia investigating the impact of testosterone on Alzheimer's disease.

Our research relies on our participants – so a huge thanks to everyone who takes part. Your contribution is valued and appreciated.

Rejuvenating the brain through lifestyle

The Effects of Physical Exercise and Cognitive Stimulation on Memory and Plasma Beta Amyloid in the Elderly – the PEACS study

Conquering the rising statistics of Alzheimer's disease and providing hope with clinical evidence that strategies as simple as modifying lifestyle, may prevent or delay the onset of the disease, are the major aims of the PEACS study being undertaken by Dr Tejal Shah and her colleagues.

Alzheimer's disease has no known cure. Delaying the onset by even a year would help sufferers and have an enormous impact on the socioeconomic burden of the disease. The study's top priorities are to demonstrate the clinical significance of the effects of physical exercise and also commercially available brain training products (that build on the brain's ability to make more connections with its neighbouring brain cell).

There is sufficient evidence to say that both

physical exercise and brain training can enhance memory as assessed by memory tests but this study is the first in the world examining whether these activities are causing any changes in the blood biomarkers thought to be related to Alzheimer's disease. To further build concrete evidence the study has certain sub groups that will undergo brain scans and also body fat and body composition studies through a DXA scan. Lumbar punctures are also performed as a part of this study.

To date the PEACS study has recruited 223 participants and assigned each into one of four groups – physical exercise, brain training, a combination of physical and brain training exercise, or a control group. These participants are closely monitored over the 16 week study through fasting blood samples, memory tests, physical activity assessments and their own record of daily lifestyle activities. Certain participants also attend monthly group meetings to train



Dr Tejal Shah with PEACS study participant John Angus

them in the particular activities and to motivate and monitor their adherence of the program. Exercise physiologists are closely involved. Equipment used include gym sticks, pedometers, actigraphs, ankle weights as well as two US based brain training software programs.

The results are proposed to be analysed early next year. Watch this space!!



On TV, Dr Hamid Sohrabi

DIAN - searching for new Alzheimer clues (Dominantly Inherited Alzheimer's Disease Network)

Prof Ralph Martins and his team are working hard on this innovative study of early onset Alzheimer's disease. They are one of ten research groups around the world involved in the study which is investigating the form of Alzheimer's which is inherited and occurs in much younger people

The study is building an international data base of participant's blood and cerebro spinal fluid samples as well as brain images. These will be examined to see what changes

occur before Alzheimer's disease manifests itself. It is hoped that the results can then also be applied to the more common form of Alzheimer's disease that occurs later in life.

Pictured here is Dr Hamid Sohrabi explaining a memory test to DIAN participant Lorinda Klaric while being filmed by a Channel 7 cameraman!. Ralph and Lorinda were recently interviewed by Channel 7 and featured on their nightly news.

ICAD – American Alzheimer's Association International Conference on Alzheimer's Disease

Ralph Martins and a number of research staff recently attended the prestigious ICAD meeting in Honolulu. Ralph participated in a number of sessions and reported on our work in Western Australia. Great interest was shown in our work on the early diagnosis of Alzheimer's disease. One of Ralph's PhD candidates, Belinda Brown, received an ICAD fellowship to attend. She presented her PhD findings on physical exercise and memory. Posters were presented by other team members including Dr Giuseppe Verdile, Dr Veer Gupta and Kevin Taddei for Dr Simon Laws. Congratulations to all involved on the very positive feedback our research received.

Public lectures successful

Our public lectures held in October at the State Library were extremely successful. Prof Ralph Martins outlined exciting progress being made in Alzheimer's research. One factor that was highlighted was the impact of life style factors on the disease. There is emerging evidence that exercise and diet can play a role in preserving memory and well being. The role of genetic factors was explained by Dr Simon Laws and the influence of nutrition by Ph D candidate Rhona Creegan. A number of these presentations can be viewed on our website www.alzheimers.com.au It is planned to hold two public lecture series in 2011 – one in autumn and one in October. There will be evening and daytime presentations on both occasions.



At the Public lecture are Rhona Creegan and Robin Garbutt

Royal Show and Mingenew and Moora Shows

Our Lions partners have been very busy over the past few months. They have run display stalls at the Mingenew, Moora and Perth Royal shows. These have been a great way to reach and inform people about Alzheimer's disease and the research undertaken by the Foundation.

Chairman's Address



Graham Nixon

As the year draws to a close, I am struck by how much progress the Foundation has made in 2010.

Magnificent help from Lotterywest has enabled the purchase of 330 sq metres at 142 Stirling Highway which will be fitted out and functioning by early March 2011 for

research activities. The recently purchased Suite 22 at the new Hollywood Hospital Medical Centre is now operating as our administrative centre and is where Prof Martins and the Foundation's Executive Manager, Dr Judy Edwards are based.

Having ceased renting, our Foundation's principal objective is to optimise our enhanced facilities by funding a greater research effort. The Foundation must provide more opportunities for the interested public to feel involved in our activities.

Recently, board member Deb Doncon at her own expense, attended a seminar in Sydney aimed at providing opportunities and encouragement for people to consider making bequests to charitable organizations. Our Foundation has seldom benefited from bequests, yet there must be those who would consider donating through a bequest to our vital research, if they realized just how constructively our research team could utilise them.

I encourage everyone reading this column to consider the bequest option, either in their own affairs, or in the encouragement of others. I can guarantee funds so raised would be applied to the most valuable research aimed at the prevention of the dreadful affliction that is Alzheimer's!

In closing, I must congratulate our wonderful patron Malcolm McCusker AO QC in being named WA Australian of the Year for 2011. Given our Director of Research, Professor Ralph Martins was the 2010 winner; this is a quinnella of which our Foundation feels justly very proud. I know both these great men would be most grateful if you could join them in the contribution they make towards a world where Alzheimer's disease can be prevented.

CRC bid

The Foundation has joined with major Australian Alzheimer Research groups to bid for a national co-operative research centre focussed on mental health and the impact of neuro degenerative disease (Alzheimer's disease and Schizophrenia in particular). The bid has been short listed and Executive Manager Judy Edwards represented the Foundation at the formal assessment interview held in Canberra in mid November. The final outcome is expected in late December.



Open Garden event

A very enjoyable Open Garden event was held on Sat 6 Nov in Dalkeith at the home of Tania and Peter Young. This is one of Perth's great gardens and visitors were inspired by the beauty on display. The Foundation is very grateful for the generosity shown by the Young family. Thanks also to our volunteers who made the day so successful. For keen gardeners, the McCusker rose (our emblem) is now available for purchase. Contact Gillian 9347 4200 for further information.

Prof Jurgen Gotz visit



Prof Ralph Martins, Prof Jurgen Gotz and ECU Chancellor, HENDY COWAN

We were delighted to host a lecture from Prof Jurgen Gotz a few months ago. Prof Gotz works in Alzheimer's disease research at the University of Sydney. He is investigating the role of Tau protein in the development of Alzheimer's disease. It is hoped there will be further collaboration in the future.

Speaker available



Judy Edwards and Floreat Lions

The Foundation's Executive Manager Judy Edwards is very pleased to speak to community groups and other organisations about both Alzheimer's disease and the Foundation's work. Recently Judy has spoken at the Sikh community Dementia Away Day in Northam, a nurses professional development day and at a meeting of the Lions Club of Floreat. Please contact Judy on 9347 4200 if your group would like to take up this opportunity. Pictured here is Judy with Floreat Lions club members Jim Haddock and Bill Leake.

Alzheimer Facts

"If the onset of dementia was delayed by 5 years, there would be an incredible 50% reduction in new cases each year and a \$14.5 billion saving by 2020..."

Source: Access Economics, 2009

How Can You Help?

Our research relies on public donations through the McCusker Alzheimer's Research Foundation, to continue its vital work. Every dollar donated goes towards this research.

You can assist in several ways:

- by making a donation directly to the Foundation;
- by becoming a Friend of the Foundation and assisting us in organising events and in promoting the research;
- by volunteering to participate in our studies; and
- by making a bequest.

Please support Professor Martins and join the McCusker Foundation in its fight to make Alzheimer's disease treatable and preventable.

How to Contact Us

Please feel free to contact us:

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Season's Greetings & Best Wishes for 2011