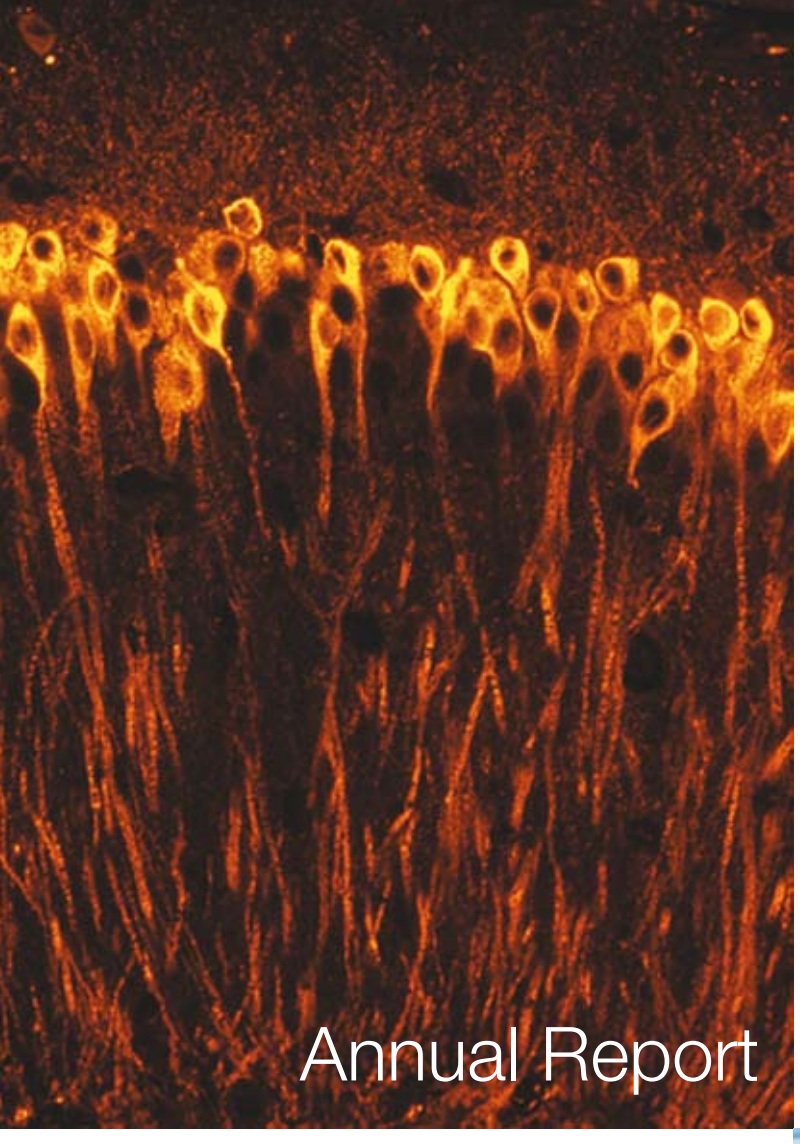

Annual Report 2008

Alzheimer's Australia Research

10 years on …

Alzheimer's Australia Research Limited

ABN 79 081 407 534

Annual Report 2007 2008

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Information about Alzheimer's Australia Research Ltd. can be found on the Research section of the Alzheimer's Australia website **www.alzheimers.org.au**

Acknowledgement of support

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In particular, Alzheimer's Australia Research would like to extend special thanks to the following entities:

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Deacons
The Cecilia Freshman Estate
The George Hicks Foundation
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Ingres Australia
The Isabel & John Gilbertson Charitable Trust
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The J.O. & J.R. Wicking Trust
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The Rosemary Foundation for Memory Support Inc.
The Sylvia and Charles Viertel Charitable Foundation
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Mr Peter Collett (Snr) & Mrs Mary Collett
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Ms Libby Higgin
Ms Angela Keelan
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Mr Enzo Mandich
Miss Ann Miller
V Newman
Ms Natasha Norton
Mr Neville & Mrs Denise Odell
Mr Anthony Peterson
Ms Sue Pieters-Hawke
Mr Tom Power
Dr Wesley & Mrs Elly Rigg
Mrs Hannah Schuhmann
Ms Pamela Skapin
Ms Nerissa Torcasio
Mr Malcolm Whittingham
Ms Boh Yeng

In addition to those mentioned above, we would also like to show our appreciation to the many other people who have donated to AAR, including through the Hazel Hawke Fund or the Peter Collett Atlantic Solo Challenge and for generously supporting AAR's Dementia Research Grants Program.

Front cover photographs provided by Natasha Deters (top left and back cover) and (clockwise from top left of bottom corner) Dr Shayne Bellingham, Dr Michael Valenzuela, Dr Jess Nithianantharajah, Professor Megan-Jane Johnstone, Dr Yue Huang, and Patricia Shuter.

Other photographs in the report provided by: Britta Campion (p.11); Glenn Rees (p.12); Dr Michael Valenzuela (p.15); Dr Justin Yerbury (p.16); Grant Stuchbury (pp.16-17); Dr Jennifer Torr (p.18); Dr Astrid Rogoz (pp.18-19); Dr Kate Webster (p.19); Dr Colleen Doyle (p.20); Dr John Gehman (p.21); Dr Shayne Bellingham (pp.21-22); Dr Yue Huang (p.22); Dr Cindy Kersaitis (p.22); Dr Tanya Davison (p.23); Dr Bridget Ryburn (p.24); Dr Adrienne Withall (p.24); University of Wollongong (p.25); Dr Matthew Hopcraft (p.25); Professor Megan-Jane Johnstone (p.25); Dr Nicolas Cherbuin (pp.26,31-32, 40); Dr Jess Nithianantharajah (p.27); Lolita Warden (pp.27, 34); Dr Tarja-Brita Robins Wahlin (p.28); Loretta Quinn (p.29); Associate Professor Adrian West (p.30); Dr Giuseppe Verdile (p.33); Megan Steele (p.34); Natasha Deters (p.35); Patricia Shuter (p.36); Kathryn Nicholson (p.37); Dr Fiona Millard (p.37); Emile Werden (p.38); Holly Yeatman (pp.38-39); and Pavithra Amadoruge (p.39).

Finally, Alzheimer's Australia Research would like to thank Dr Anna Conn and Dinusha Fernando for the support they gave the Board and the Panel, and Suzanne Dixon and Michele Hawkins for their hard work in research communication during 2007-08.

Fundraising Champions

Alzheimer's Australia Research's 2007/2008 financial year has been occupied with some very exciting initiatives and momentous events.

Neville Odell

Beginning in 2005, Neville has compiled two books entitled *'Bowl 'em Over'* and *'A Tad More Grass'*. Both books are collections of humorous bowls stories, poems, cartoons and quips. A proportion of the profits for the books were nominated to go to Alzheimer's Australia Research, and to date Neville, with the help of his wife, Denise, have raised $9,763.00.

'Bowl 'em Over' and *'A Tad More Grass'* are available directly from Alzheimer's Australia regional offices.

The Peter Collett Atlantic Solo Challenge

An exciting initiative began (after much preparation) on the 3rd December 2007 when Peter Collett started the gruelling 2,900 nautical mile WoodVale Atlantic Rowing Race in order to raise funds for Alzheimer's Australia Research. Peter's grandmother suffered from Alzheimer's disease and her struggle with the disease and the impact it had on her family and friends inspired Peter to complete his odyssey in her memory. Peter chose to raise funds for Alzheimer's Australia Research because he would like to help prevent the pain and suffering his family went through for others.

The race began without Peter, who was having stitches at the local hospital for a cut sustained to his cheek whilst preparing his boat, at La Gomera, Canary Islands. Despite missing the start of the race, Peter pressed on, and was escorted out of the harbour at La Gomera by a friendly pod of dolphins.

Peter's seven metre boat "Charmed Life" carried all his supplies as he rowed (yes, that's right, no sails, no engines, just muscle power and sheer determination!) into the lonely ocean swells. On his journey he faced numerous obstacles, including rough seas and storms, equipment malfunction, tonsillitis, mouth ulcers, a leaking hatch, risk of collision with freighters, an eye infection, blisters and sunburn, a broken oar, a cellulitis infection in his arm, frustration, and possible disqualification from the race if the support boat brought antibiotics to combat his cellulitis infection (later over-ruled to Peter's great relief!).

However, the cause he was fighting for, a burning desire to complete the race and numerous messages of support Peter received on his satellite phone gave him the encouragement to keep going.

Finally, on the 16th February 2008, after an amazing 75 days, 23 hours and 46 minutes at sea, Peter arrived at Antigua in the West Indies as the winner of the solo category of the race. He was enthusiastically welcomed ashore by his wife, Louise, and his parents, Peter Snr & Mary. In completing the race, Peter was the first Australian citizen to row across the Atlantic Ocean alone and unassisted. He also raised $63587.90 towards dementia research.

Alzheimer's Australia would sincerely like to thank Peter for his extraordinary and inspiring effort, as well as the work he continues to do for Alzheimer's Australia in raising awareness of Alzheimer's disease and dementia. Our thanks are also extended to those who sponsored Peter's row.

In addition, special thanks go to all the individuals in Australia, Canada, France, Ireland, Japan, New Zealand, Singapore, the United Kingdom and the United States of America who donated to Peter's amazing challenge.

Contents

About AAR

Alzheimer's Australia Research (AAR) is the research arm of Alzheimer's Australia, established as a separate not-for-profit company to encourage and support Australian dementia research.

Why is Research Important?

Research has real potential to lessen the impact of dementia, through reducing the number of people who develop dementia and by creating a better quality of life for those who are living with dementia. Most of our current knowledge of dementia has been discovered by researchers in the last 15 to 20 years. The next 15 to 20 years could yield significant progress in many areas of dementia research.

We must invest in dementia research now, to help reduce the present and future impact of the dementia epidemic in Australia. Currently it is estimated that 0.57% of the total direct cost of dementia care in Australia is spent on research annually. A research investment of only 1.5% of the total costs of dementia each year, or $36 million per annum, would be money wisely invested as the number of people diagnosed with dementia will significantly increase in the future. Resultant research may lead to the prevention or cure of dementia as well as improvements in dementia diagnosis, management and care.

The Role of AAR

AAR aims to support the research effort in Australia through directly funding research, advocating for increased research spending, distributing research information and publicising research findings.

Research Grants

AAR actively encourages dementia-related research in Australia by providing annual grants and scholarships in many areas of dementia research, including biomedical research and dementia care. Some AAR grants are allocated to specific research areas according to donor's requests, such as the pledge of the Jack & Ethel Goldin Foundation to help develop a cure for Alzheimer's disease.

Supporting New Researchers

A key priority is to support emerging Australian researchers to undertake dementia research. AAR provides new investigator grants, postgraduate research scholarships, postdoctoral fellowships and travel grants to new researchers on a competitive basis.

Research Collaborations

AAR welcomes research collaborations and partnerships to promote Australian dementia research. In this financial year, AAR has continued partnerships with the National Health and Medical Research Council and the Australian National University in order to provide joint research fellowships and with the Dementia Collaborative Research Centres, part of the Dementia National Health Priority Initiative of the Australian Government, to provide joint research scholarships. In addition, AAR has continued its partnership with the Jack & Ethel Goldin Foundation, funding research into a cure for Alzheimer's disease. In the latter half of 2007 AAR developed a new partnership with the Sylvia and Charles Viertel Charitable Foundation, which aims to provide support for a number of researchers and their projects through the creation of several postgraduate scholarships and postdoctoral fellowships.

Distributing Research Information

AAR works to increase the information available to consumers in order to further awareness of the importance of research and the quality of Australian dementia research, through initiatives such as the weekly Dementia News electronic newsletter and the Research section of the Alzheimer's Australia website. Providing the public with a reliable source of information about dementia research and promoting responsible reporting by the media and scientific community are central roles.

Promoting Australia Dementia Research

AAR aims to increase the profile of dementia research in Australia through publications, fundraising activities, media events and Dementia Awareness Month.

Mission Statement

Our mission is to promote, disseminate, and fund research in Alzheimer's disease and related disorders causing dementia.

About This Annual Report

In this annual report we have taken the opportunity to not only report on grants awarded in 2007-2008, but also provide updates on projects reported in the 2006-2007 annual report, based on their latest progress reports. Grants awarded in 2008 have not been included in this annual report as successful projects were determined during the 2008-2009 financial year.

Alzheimer's Australia Research Board of Directors

Professor Henry Brodaty AO, *Chairman*

Professor Henry Brodaty is Professor of Age Care Mental Health and Director of the Primary Dementia Collaborative Research Centre at the University of New South Wales. He is also Director, Aged Care Psychiatry and Head of the Memory Disorders Clinic, Prince of Wales Hospital. He has served on several New South Wales and Commonwealth committees related to ageing and dementia. He is past chairman of Alzheimer's Disease International (ADI), representing 77 national Alzheimer Associations and is past president of Alzheimer's Australia and Alzheimer's Australia (NSW).

Dr Alan McCutcheon, *Vice Chairman*

Dr McCutcheon works as a staff specialist in geriatric medicine at Fremantle Hospital and at Armadale Hospital in WA. In 1992, Dr McCutcheon was appointed as an inaugural member of the Guardianship and Administration Board of WA, whose functions were subsumed by the State Administrative Tribunal in 2005, and he is rostered regularly for Tribunal hearings in Perth to consider applications made regarding management of the personal and financial affairs of people with cognitive impairment. Dr McCutcheon is the Honorary Medical Director of Alzheimer's Australia (WA), a position he has held since 1988, and he was made a Life Member of the organisation in 1997.

Gordon Robinson, *Treasurer*

Gordon has a business background with over 30 years in the consumer goods industry, including Australian and overseas CEO positions in South America and Europe. Gordon has been associated with Alzheimer's Australia for the past 15 years as past Victorian President and National Vice President.

Glenn Rees, *Company Secretary*

Glenn has worked at senior levels in the British and Australian Public Services. In Britain he worked as Private Secretary to senior Ministers, in the Cabinet Office and in Economic Departments. In Australia since 1976 he has worked in program and policy areas including Prime Minister and Cabinet, Employment and Training, Aged Care, Disabilities, Housing and the Aboriginal and Torres Strait Islander Commission. He was Chair of the Nursing Homes and Hostels Review in 1986 and was involved in implementing the first wave of aged care reforms. Glenn has been National Executive Director of Alzheimer's Australia for 8 years during which time dementia has been made a National Health Priority.

Professor John McKellar AM ED

Professor McKellar is currently the President of Alzheimer's Australia SA and is also a Director and Secretary of the Rosemary Foundation. Professor McKellar was awarded Member of the Order of Australia in the Queens Birthday Honours list in 2008 for "Service to people with dementia, particularly Alzheimer's, and their carers through organisations that provide education, support services and funding for research".

Kaye Pritchard

Kaye's husband David was diagnosed with Fronto Temporal Dementia in 1998. Kaye is a Past President of the Board of Alzheimer's Australia ACT and a current Board Member. Kaye has also represented Alzheimer's ACT on the National Board of Alzheimer's Australia from 2001 to 2006. In October 2006, Kaye attended the Alzheimer's disease International Conference in Berlin and co-presented a paper on carer support. Kaye is currently the consumer representative on the Coordinating Committee of the Dementia Collaborative Research Centres and is also a member of the Ministerial Dementia Advisory Committee. As a member of the Board of Alzheimer's Australia Research, Kaye has a keen interest in helping others to understand what it is like living with dementia.

David Scarlett

David is a lawyer and brings to the board a valuable legal background. He serves on the Research Ethics Committee of the Royal North Shore Hospital overseeing the ethical aspects of medical research. The insights he gains from this voluntary work equip him to contribute on other aspects of the work of the organisation. David has been a member of the Alzheimer's Australia NSW Board of Directors since 1998 and has held the position of Vice President (2000-2002), President (2002-2004), immediate Past President (2004-2005) and Director in 2006. David continues to represent AANSW on the Alzheimer's Australia Research Board.

Dr Robert Yeoh AM

Dr Yeoh is a General Practitioner with a special interest in dementia. He has been a member of the Board of Directors of Alzheimer's Australia NSW since 1994 holding positions as Vice President (1996-1998), President (1998-2000) and Immediate Past President (2001). Robert also held the position of National President of Alzheimer's Australia from 2000 to 2005. Dr Yeoh is a professional member of the Guardianship Tribunal and has been the NSW Delegate to Alzheimer's Australia (1995-2000) and Honorary Secretary of Alzheimer's Australia (1997-2000).

Associate Professor Marc Budge

Associate Professor Budge is the Head of the Geriatric Medicine Unit, ANU Medical School, Director of Geriatric Medicine, Aged Care and Rehabilitation Services, ACT Health, President of Alzheimer's Australia and Director of the Dementia Collaborative Research Centre (Prevention, Early Intervention and Risk Reduction). He was formerly a clinician and MRC-funded Senior Research Fellow in the multi-disciplinary Oxford Project to Investigate Memory and Ageing (OPTIMA) at the Radcliffe Infirmary (1996-2003, Oxford, UK). His role as collaborating investigator to the NIH-funded Maine-Syracuse (USA) longitudinal study of cognition and ageing continues.

Medical and Scientific Panel

Alzheimer's Australia Research and Alzheimer's Australia have established a Medical and Scientific Panel chaired by Professor Henry Brodaty. The role of the Panel is to advise on research priorities and on the latest developments in dementia research worldwide, as well as assist in the assessment of grant applications.

Professor Henry Brodaty

Professor of Psychogeriatrics,
University of New South Wales

Associate Professor Kaarin Anstey

Director, Ageing Research Unit,
Centre for Mental Health Research,
Australian National University

Professor Lynn Chenoweth

Professor of Aged and Extended Care Nursing,
University of Technology Sydney

Dr Peter Dodd

Associate Professor, School of Molecular and Microbial Sciences, University of Queensland

Professor Leon Flicker

Professor of Geriatric Medicine,
University of Western Australia

Professor Colin Masters

Laureate Professor, Department of Pathology,
School of Medicine, University of Melbourne

Professor Rhonda Nay

Professor of Gerontic Nursing,
La Trobe University

Professor James Vickers

Head, Discipline of Pathology,
University of Tasmania

Chairman's Report

During the twenty-four years I have been associated with Alzheimer's Australia (AA), I have valued the opportunity to work with a consumer organisation in advocating for greater investment in dementia research.

In my experience, consumers are very supportive of medical research and dementia research is no exception. Alzheimer's Australia Research (AAR) and Alzheimer's Australia form an important partnership, with one partner providing expert research knowledge, and the other the capacity to promote awareness of, and to attract funding for, dementia research.

As both Chair of AAR and Director of the Primary Dementia Collaborative Research Centre at the University of New South Wales, I was delighted to have the opportunity, along with my colleagues, Dr Lee-Fay Low and Dr Lisa Gomes, to prepare the report for Alzheimer's Australia, *'Australian Dementia Research'*.

This research, which was funded by the ANZ Wicking Trust, allowed us to discover that current financial investment into dementia research over the last six years has been about $13 million per annum, which was 0.6% of the total direct cost of the condition.

Importantly, we found that dementia research in Australia is significantly under-funded in relation to other chronic diseases. According to 2003 figures, dementia funding is 50% of research funding for cancer, relative to the current disease burden, and 30% of research funding for cardiovascular disease relative to current direct cost of care.

Despite this low level of funding, it remains the case that Australian dementia researchers have an excellent track record and are undertaking research that attracts international recognition.

By 2013 the total cost to the health care system of dementia is projected to rise to $8.2 billion per annum and the number of people with dementia to double to more than 450,000.

The recent initiatives taken by the Federal Government in establishing three Dementia Collaborative Research Centres and a program of dementia grants are encouraging. But, investment in dementia research falls short of what is needed if more effective medical interventions are to be provided to the ever-increasing number of people at risk of developing dementia or with a diagnosis of dementia.

Increasing funding for dementia research is not just a government responsibility. Support from the wider community, trusts and the corporate sector is necessary if we are to increase funding for dementia research to the level recommended in our report, that is, 1.5% of the direct cost of dementia, to keep pace with the increasing costs of treatment and care, which represents about $36 million per annum today.

With *'Australian Dementia Research'*, AAR and AA are better positioned to advocate for increased funding for dementia research, to promote greater understanding of the importance of finding ways to reduce the numbers of those with dementia in the future, and to help those affected and their families.

Professor Henry Brodaty, Chairman

Company Secretary's Report

Alzheimer's Australia Research (AAR) is now ten years old. Much has happened since AAR was officially registered in January 1998 as a public company by Alzheimer's Australia.

Dementia research has become an increasingly important part of the advocacy and work of Alzheimer's Australia and in 2000 it was agreed that research and care services should be given equal priority.

The establishment of a separate company to promote research has been successful with funds more than tripling to over $1.5 million since incorporation, resulting in rapid growth in the research grants program from funding for just three or four small grants a year to nineteen grants and scholarships being awarded in 2007.

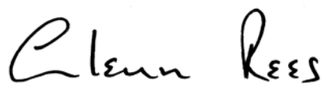
AAR has also diversified its portfolio of grants to include postgraduate scholarships and post-doctoral fellowships. Research activities include dementia care; dementia prevention and risk reduction; and cure. AAR also awards grants for general biological and psychosocial research, and travel grants.

These developments have been made possible in large part through the commitment of Professor Brodaty, as Chair of the Medical and Scientific Panel, along with the other Panel members.

In this annual report, as well as providing updates on all ongoing AAR-funded research projects, we report on the success of some of the past AAR grant recipients. AAR is committed to assisting new researchers to establish a successful career pathway.

Alzheimer's Australia, and AAR in particular, has valued partnerships with foundations such as the Jack and Ethel Goldin Foundation and the Sylvia and Charles Viertel Foundation, which have substantially increased resources and allowed for diversification in AAR's activity. Although AAR has attracted significant funding, the challenge remains to attract more.

For the future AAR, with support from AA, hopes to develop strategies that lead to greater consumer involvement in all aspects of research, from setting priorities to disseminating research outcomes.



Glenn Rees
Company Secretary

2007/2008: A Year in Review

Alzheimer's Australia Research 2007/2008

Highlights

The year 2007/2008 has brought a number of highlights for AAR, including:

- A new partnership with the Sylvia and Charles Viertel Charitable Foundation,
- Continued partnerships with the Dementia Collaborative Research Centres,
- Increased number of research grants available in the 2007 Dementia Grants Program,
- Record number of applications for the 2007 Dementia Grants Program and the 2007 Postgraduate Research Scholarships Program.

Collaborations

Dementia Collaborative Research Centres

The Australian Government made dementia a National Health Priority in 2006, and established a network of three Dementia Collaborative Research Centres (DCRCs), which aim to translate research into practice and so to improve quality of life for people with dementia, their carers and families as well as striving to prevent dementia.

In 2007 AAR, in conjunction with the DCRC based at the Queensland University of Technology working on Consumers, Carers and Social Research (DCRC-CCSR), awarded the second of two Joint AAR/CRC Scholarships to Ms Kathryn Nicholson with the first scholarship awarded to Ms Patricia Shuter in 2006. AAR and the DCRC-CCSR also co-fund a research officer who writes the e-newsletter Dementia News, which is sent out to professionals and consumers working or dealing with dementia. The number of Dementia News subscribers increased by over 200% between February and June 2008.

The Primary DCRC, based at the University of New South Wales, was commissioned by AAR to write a report entitled *Australian Dementia Research: current status, future directions?*, which was launched at the Parliamentary Friends of Dementia in June 2008. The report found that dementia research in Australia is under-funded compared to other chronic diseases and also dementia research in other countries. It recommended that funding for dementia research be set at 1.5% of the direct cost of dementia or $36 million per annum.

Other Partnerships

In late 2007 the Sylvia and Charles Viertel Charitable Foundation granted AAR $540,000 over three years, which has been made into two Sylvia and Charles Viertel Postgraduate Research Scholarships awarded in December 2007, as well as four Viertel Foundation Postdoctoral Fellowships in Dementia to be awarded in September 2008.

In early 2008, Dr Nicolas Cherbuin completed his two-year Joint Postdoctoral Research Fellowship awarded by AAR in conjunction with the Centre for Mental Health Research (CMHR) at the Australian National University.

Since 2004, AAR had also been involved with a funding partnership with the National Health and Medical Research Council (NHMRC), which committed to support a Biomedical Career Development Award (the R.D. Wright Fellowship) for five years. This fellowship was awarded to Associate Professor Pradeep Nathan, however, in late 2007 Professor Nathan relinquished his fellowship to take up a joint appointment with the University of Cambridge and GlaxoSmithKline.

In 2006, the Jack & Ethel Foundation pledged $250,000 over three years for biomedical research specifically focused on developing a cure for Alzheimer's disease. The 2006 recipients of the Research into a Cure for Alzheimer's Disease Grant, researchers from the NeuroRepair Group at the University of Tasmania's School of Medicine, are now halfway through their project, due for completion in 2009.

Past Grants Recipients:

Michael Valenzuela

Name *Dr Michael Valenzuela*
Year of Grant *1999*
Title of Project *Neural plasticity in late life recovery of cerebral N-Acetylaspartate after cognitive memory training.*

Dr Valenzuela is a Research Fellow at the School of Psychiatry, UNSW, and the Neuropsychiatric Institute, Prince of Wales Hospital.

Dr Valenzuela received a grant from Alzheimer's Australia Research, which allowed him to research the effect of memory training on brain biochemistry in older individuals. This research, along with other work investigating the ways in which complex mental activity can reduce dementia risk, was awarded the prestigious Eureka Prize for Medical Research in 2006.

Dr Valenzuela is continuing his research into the competing forces of *neuroplasticity* and *neurodegeneration* in the ageing brain. Specifically, he is investigating how mental activity can affect brain biology at the cellular level, and the potential for stem cells to treat memory dysfunction. In addition, he is involved in a new clinical trial investigating whether combining mental and physical exercise can help to prevent the onset of dementia.

Over the next few years Dr Valenzuela aims to finish these long-term projects and to continue to grow his fledgling team. He has been particularly lucky to have a great mentor in Professor Perminder Sachdev, who has helped guide him through the often perilous transition from PhD student to independent researcher.

Dr Valenzuela is committed to communicating dementia prevention to the general public. He has written a popular science book, *'It's Never too Late to Change Your Mind'*, about what individuals can do to minimize their chances of getting dementia. The book is due for release by ABC Books in February 2009.

AAR Research Programs

2006 Dementia Grants Program

The 2006 Dementia Grants Program included new investigator grants, travel grants, and grants to research dementia care. Below are updates on projects funded in the 2006 Dementia Grants Program.

New Investigator Grants

The Rosemary Foundation Loader Research Grant, offered in partnership with the Rosemary Foundation, was a seeding grant for new researchers, valued at up to $10,000. The AAR Dementia Research Grants were seeding grants for new researchers. Valued at up to $20,000, they were given for research in a dementia-relevant area, including both biological and psychosocial research areas.

2006 Rosemary Foundation Loader Research Grant

Dr Justin Yerbury[1]
& Professor Mark Wilson[1]
[1]**University of Wollongong**

Do the effects of extracellular chaperones on Aß clearance and toxicity provide potential therapeutic targets?

Alzheimer's disease (AD) is thought to arise from the accumulation of a molecule called amyloid beta peptide (Aß) in the brain. It is thought that when the production of Aß is increased or its rate of removal is decreased, it becomes toxic to brain cells and forms plaques typical of AD. Thus, identifying mechanisms to counter the accumulation of Aß, and its associated toxicity, will be critical to the development of new and effective AD therapies. There are naturally-occurring molecules called extracellular chaperones that may control the removal and breakdown of Aß. Dr Yerbury and his colleagues have shown, in test tube experiments, that increasing the levels of these extracellular chaperones in the fluid that bathes the brain helps to remove Aß and protects brain cells from Aß toxicity. These experiments suggest that increasing the concentration of extracellular chaperones in the AD brain could increase the rate of Aß clearance and protect neurons from Aß-mediated toxicity.

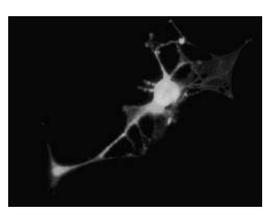
2006 AAR Dementia Research Grant

Mr Grant Stuchbury[1]
& Dr Gerald Münch[1]
[1]**James Cook University**

Prevention of Alzheimer's disease by synthetic and plant-derived antioxidants.

Clusters of beta amyloid protein, surrounded by microglial cells (specialised cells from the immune system), are commonly found in the brains of people with Alzheimer's disease. Over-stimulation of these microglial cells in the brain is considered one of the major causes of the slow but constant loss of neurons and neural connections associated with Alzheimer's disease. Therefore, microglial cells provide a target for long-term prevention of the disease. Given the long and slow progression of Alzheimer's disease, a preventative medicine may need to be administered for many years. Although there are commercial anti-inflammatory medications available that may inhibit microglial cells, the side effects that come with prolonged use make them unsuitable for the treatment of Alzheimer's. Using a novel, fluorescent neuron-based cellular model of Alzheimer's disease, Grant and his colleagues have been researching naturally-occurring compounds that may provide protection for neurons against microglial-induced death.

They have found that natural compounds provide greater protection of neurons than several commercially available anti-inflammatory medicines. Of the natural compounds, Coenzyme Q10 (involved in cellular energy production), Apigenin (found in celery), and Diosmetin (found in thyme) provided the greatest increase in neuron viability. These compounds are readily available and not known to have dramatic side effects, which makes them ideal candidates for further studies in mouse models of Alzheimer's disease and, perhaps in the future, in human trials.



A GFP-expressing HT22 neuron used in co culture with microglia for neuroprotective assays.

2006 AAR Dementia Research Grant

Dr Michael Bauer[1], Dr Les Fitzgerald[1] & Associate Professor Susan Koch[1]
[1]**La Trobe University**

Improving hospital discharge preparation and support for families of patients with dementia.

The aim of this study is to understand the experience of the family carer of a person with Alzheimer's disease (AD) or dementia of the hospital discharge planning process.

The literature suggests that the needs of family carers are not always addressed in the hospital discharge process. Thirty family carers of people with dementia who had been treated in two large metropolitan hospitals and one rural hospital, will be interviewed within eight weeks of the discharge of the family member with AD or dementia to determine how the family carer perceived their preparation for, and execution of, hospital discharge; how well this met their needs; and what improvements could have been made to better assist them with the transition from hospital to residential (nursing home/hostel) or home-based care.

Hazel Hawke Research Grants in Dementia Care

The aim of these grants is to provide up to $20,000 for research into dementia care. Suitable projects might include research into carer support, best quality care practices, activities and therapies for people with dementia, or any other aspect of dementia care research.

2006 Hazel Hawke Research Grant in Dementia Care

Dr Jennifer Torr[1], Associate Professor Christine Bigby[2] & Dr Teresa Iacono[1]
[1]**Monash University**, and [2]**La Trobe University**

Alzheimer's disease and Down syndrome: pathways of care.

The average life expectancy of people with Down syndrome (DS) is approaching 60 years. Up to 75% of people with DS will develop dementia of Alzheimer type (DAT) before the age of 65 years. This joint project between Monash and La Trobe Universities aims to document pathways of care of people with DS and DAT; the changing care needs over twelve months; and the demands on family and paid caregivers. Dr Torr and colleagues are also examining the relationship between the progression of DAT, carer burden, and transitions in care arrangements. Stage one of data collection is nearing completion. The researchers are aiming to include twelve people with DS and DAT and their caregivers. The researchers have overcome challenges to recruitment, including caregivers being too stressed to participate and ethical issues relating to people with DS with no known next of kin, a common issue for this cohort. This study includes people with DS at different stages of DAT, from those living in the community when first diagnosed to those subsequently admitted to nursing homes for end-stage dementia care, as well as a range of care providers, including family members, disability direct support workers, nursing home staff, and mental health clinicians. The results of the project will feed the development of policy and programs that enable service systems to best respond to this group of people whose numbers will significantly increase in the next few years.

2006 Hazel Hawke Research Grant in Dementia Care

Dr Astrid Rogoz[1,2], Dr David Burke[1] & Ms Pearl Price[1,2]
[1]**St Vincent's Hospital**, and [2]**Brain and Mind Research Institute, University of Sydney** (from July 2008)

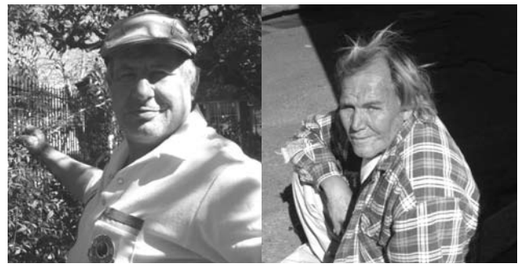
Cognitive impairment in the elderly homeless.

The numbers of older people who are homeless are growing and as a group they have special needs and problems. Older homeless people are more likely to have multiple problems with their physical and mental health as well as memory problems, which makes it more difficult for them to seek help and to access services. Because of their underlying problems, once homeless they are more likely to remain homeless and have their problems go unrecognised and untreated.

The purpose of this study is to identify people who are old and homeless, to test them for any memory problems, and to find out more about their physical and mental health. People in the "intervention group" will get help with any underlying problems.

By doing that, out of 105 older homeless people that we had seen so far, 66.7% of them were found to have memory problems. The majority of older homeless people with memory problems also suffer with mental illness (85.7%), various medical problems (84.2%) and almost half of them (48.5%) drank alcohol.

Results so far confirm that older people who are homeless tend to have multiple and serious problems and need continuing assistance from a team of various health professionals to help them have their needs met in order to leave the cycle of homelessness.



Two participants from Dr Rogoz's study, Vasili (left) and Ray (right).

2006 Hazel Hawke Research Grant in Dementia Care

Dr Kate Webster[1]

& Dr Hylton Menz[1]
[1]**La Trobe University**

Falls risk assessment in people with Alzheimer's disease.

This project's aims were to assess falls-risk in people with Alzheimer's disease. On simple physiological tests people with Alzheimer's disease demonstrate significant impairments in several physiological domains, particularly in reaction time, compared to age- and sex-matched people without Alzheimer's disease. These impairments may increase the risk of falling in people with Alzheimer's. The investigations into how people with Alzheimer's disease walk have been completed.

Variability in constant speed walking is closely related to falls-risk in people with Alzheimer's disease, who fall at three times the rate of normal elders. Falls are likely to be provoked when people start walking, so another aim of this study was to determine whether people with mild to moderate Alzheimer's disease have greater variability of gait at initiation. The results indicate that people with mild to moderate Alzheimer's disease have greater variability in

measures of timing when initiating walking than do healthy older people, suggesting that they may be at greater risk of falling during initiation of walking. These findings may help to identify individuals at risk of falling and to develop fall-prevention strategies for people with Alzheimer's disease.

Images from Dr Webster's laboratory

Travel Grants

AAR provides travel grants to assist new researchers to develop scientific presentation skills, learn about cutting-edge advances in international dementia research, showcase emerging Australian research, and build connections with the international scientific community.

2006 AAR Traveling Scholarship

Dr Colleen Doyle
La Trobe University

Consumer involvement in dementia care research and evaluation.

Dr Doyle received an Alzheimer's Australia Research Travel Scholarship in 2007. She spent seven weeks traveling throughout the U.S. and the U.K. in December 2007 and early January 2008.

The aims were to learn about consumer involvement in dementia care evaluation; exchange information about evaluation of dementia care in Australia; attend seminars in dementia and care-giving; learn about quality of life issues and dementia care-giving; and to promote international links in the area of consumer involvement and dementia.

The principle findings were: that some people with dementia who are young and diagnosed early are very keen to have a public role in the development of policy, services, and evaluation; that there is independent organisational support and government encouragement of such roles; that many people with dementia and their families and carers find involvement in research and evaluation satisfying; that some older people with dementia, and those with moderate to severe dementia, are often interested in their own care rather than in policy or service-development; that advisory boards, working groups, and voluntary groups are not always representative of the wider population; and that if such groups set priorities, those priorities should clearly reflect the wishes of the community as a whole.

As a result of what Dr Doyle learnt in the U.S. and the U.K. she has appointed a consumer liaison team member to her evaluation projects to facilitate consumer involvement in the team's research evaluation and policy activities.

2007 Dementia Grants Program

The 2007 Dementia Grants Program included new investigator grants, travel grants and grants into dementia care.

New Investigator Grants

The Janssen-Cilag Research Grant for new Researchers, offered in partnership with research-based pharmaceutical company Janssen-Cilag, was a seeding grant for new researchers, valued at up to $20,000. The Ann Miller New Investigator Dementia Research Grant was made possible by a bequest. This was a seeding grant for new researchers, valued at up to $20,000 and available specifically for Victorian researchers. The AAR Dementia Research Grants were seeding grants for new researchers, valued at up to $20,000, to be allocated for research in a dementia-relevant area. Grants were awarded in both biological and psychosocial research areas.

2007 Janssen-Cilag Research Grant

Dr John Gehman[1],
Professor Frances Separovic[1]
& Anil K. Mehta[2]
[1]**University of Melbourne**,
and [2]**Emory University**

Investigation of the cytotoxic structural determinants of Aß peptide in Alzheimer's disease.

Fragments of the Amyloid Precursor Protein are believed to cause loss of nerve cell function in individuals suffering from Alzheimer's disease. An understanding of the molecular structure of these protein fragments is integral to understanding the chemical mechanisms underlying disease pathology. Previous studies report a range of plausible structures, as researchers vary sample conditions in attempts to mimic the natural molecular environment. This sensitivity to sample preparation suggests that the structure relevant to disease may exist only in the true natural environment. Dr Gehman and his colleagues employed lipid vesicles made of natural brain extracts, the closest mimic to date of the nerve cell environment, and solid state nuclear magnetic resonance, one of the few technologies available to study the target protein fragments associated with such lipid vesicles, in their research. Using specific enrichment of nuclear magnetic resonance nuclei they performed measurements that suggested that they had indeed identified a novel protein fragment structure: (1) the specific molecular segment probed was not helical, contrary to suggestions in several previous reports in which the nerve cell environment was less clearly imitated; and (2) linear protein fragment strands do not assemble in a parallel array as reported for amyloid deposits. Dr Gehman and his colleagues are conducting further experiments to confirm and extend these exciting results.

2007 Ann Miller New Investigator Dementia Research Grant

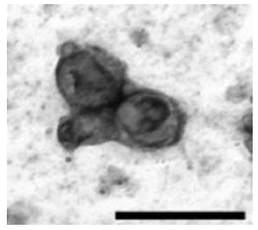
Dr Shayne Bellingham[1]
& Dr Andrew Hill[1]
[1]**University of Melbourne**

The role of exosomes in genetic signaling mechanisms and the implications in Alzheimer's disease pathogenesis.

Dr Bellingham of the University of Melbourne was awarded the Ann Miller New Inventor

Dementia Research Grant for 2007. He is investigating the role of certain exosomes (vesicles secreted by mammalian cells) in the development of Alzheimer's disease. The exosomes of interest have been implicated in the production of toxic amyloid-beta, a protein associated with Alzheimer's disease. By communicating with other cells, exosomes may be able to transfer genetic information that instructs these cells to also produce toxic amyloid-beta. Dr Bellingham is hoping to discover the genetic switches responsible for toxic amyloid-beta production in exosomes secreted by cells with Alzheimer's pathology.

This research may lead to the development of therapeutic targets and clinical interventions to prevent amyloid-beta formation. Hopefully this will delay the progression of Alzheimer's disease.



Exosomes.

2007 AAR Dementia Research Grant

Dr Yue Huang[1],
Dr John Kwok[1],
Professor Glenda Halliday[1]
& Professor Shengdi Chen[2]
[1]**Prince of Wales Medical Research Institute**, and
[2]**Shanghai Jiao Tong University**

Characterising the phenotypes of a novel causative dementia gene.

Dr Huang's project aims to characterise the clinical features of a gene recently identified as being linked to dementia in Australian and Chinese populations. Dr Huang and her collaborators have so far collected DNA samples from approximately 600 Australian and 300 Chinese people with dementia, and they have begun looking for this gene among the samples. Dr Huang expects to find a high incidence of this gene amongst people with dementia from both groups. Although both Australian and Chinese people suffer from the same forms of dementia, Dr Huang has found unique differences in dementia symptoms amongst these two groups. For example, in a dementia case report she presented at the Australian and New Zealand Association of Neurologists Annual Scientific Meeting in 2008, she described the unique language and imaging deficit in a Mandarin speaking person with dementia. Together with her Australian and Chinese collaborators, Dr Huang has been working to increase awareness of this work among Chinese scientists. With her colleagues she has written a review of "Frontotemporal dementia", introducing clinical dementia rating scales to Chinese neurologists. Hopefully this will lead to successful collaboration between Australian and Chinese scientists studying dementia.

Dr. Yue Huang standing in front of her poster at the Australian and New Zealand Association of Neurologists Annual Scientific Meeting in 2008 (http://www.anzan2008.com/abstract/10.asp). The work she presented was supported by Alzheimer's Australia Research.

2007 AAR Dementia Research Grant

Dr Cindy Kersaitis[1],
& Dr Jillian Kril[2]
[1]**University of Western Sydney**, and [2]**University of Sydney**

Immunoglobulins and inflammation in frontotemporal dementia.

Dr Kersaitis and her colleagues are currently investigating the mechanisms underlying neuron loss in frontotemporal dementia (FTD). The inflammatory response and other immune responses have been implicated in other types of dementia, so Dr Kersaitis and her colleagues have looked for evidence of these processes in the pathophysiology of FTD. They looked for antibodies on the surface of neurons, and assessed the extent of inflammation by counting the number of inflammatory cells, in sections of brain from people with FTD and sections of brain from healthy people of similar ages. Their initial analysis shows that in people with one subtype of FTD (those that do not deposit tau protein in their neurons), the proportion of neurons with surface antibodies is three times greater than another subtype of FTD (those that do deposit tau protein in neurons). This research is continuing with final results and analyses expected to be completed by the end of the year. But these preliminary findings are of great interest as they indicate that there may be a subset of FTD patients for whom an alteration in the brain's immune response is one of the mechanisms by which the disease progresses. There is currently no treatment for FTD, and this information may be helpful in developing therapies aimed at decreasing the immune response.

2007 AAR Dementia Research Grant

Dr Tanya Davison[1],
Dr Catherine Hudgson[2],
Professor Marita Mccabe[1]
& Associate Professor Michael Bird[3]
[1]**Deakin University**,
[2]**Eastern Health**, and [3]**Greater Southern Area Health Service**

Randomised controlled trial of an individualised psychosocial treatment approach for behavioural and psychological symptoms of dementia in residential aged care.

Dr Davison and her team are comparing the different approaches currently being used to treat nursing home residents with severe dementia who have been referred to a psychiatric service because staff find it difficult to manage their behaviours. Examples of problematic behaviours include hitting staff or other residents, wandering, and screaming. Most commonly medications are used to try to control these behaviours, but they are not particularly effective and can have unacceptable side-effects. The research team is comparing this traditional pharmacological approach with a psychosocial approach in which nurses, psychologists, and occupational therapists work closely with nursing home staff to change the ways that personal care is delivered; change the resident's physical or social environment; and help staff to communicate more effectively with the resident. Individual care plans that target the underlying causes of the behaviours of concern are developed for each resident. Dr Davison's team has begun a comparative study of sixty nursing home residents who have behaviours of concern. Thirty of the residents are being treated with drugs and the other thirty are being treated with the psychosocial team-care approach. The researchers will

study both groups over six months to determine which approach best minimises problematic behaviours. Hopefully, the results will help in the development of the best care for nursing home residents with severe dementia.

2007 AAR Dementia Research Grant

Dr Bridget Ryburn[1], Dr Colleen Doyle[1] & Dr Yvonne Wells[1]
[1]**La Trobe University**

The impact of residential respite care on family carers and individuals with dementia.

Residential respite care provides stress relief for family carers of people with dementia. Most carers are aware that residential respite offers them relief from the responsibility and strain of care-giving and that relief from these stressors may be beneficial to their health and wellbeing. In spite of this, up to 50% of carers of people with dementia remain reluctant to access respite services, principally because they are concerned about the effect that residential respite may have on their loved ones.

Dr Ryburn and her colleagues are investigating the impact of residential respite on people with dementia and their carers. Of particular interest is the extent to which residential respite affects the mental state of people with dementia, especially their mood, behaviour, and cognition. The researchers are interviewing twenty people with dementia and their carers before, during, and after the person with dementia goes into residential respite care. Dr Ryburn and her colleagues hope this research will help to strengthen their understanding about the impact of residential respite on people living with dementia, which may have important implications for future developments in respite services.

2007 AAR Dementia Research Grant

Dr Adrienne Withall[1], Associate Professor Brian Draper[1,2], Professor Henry Brodaty[1] & Ms Colleen Mckinnon[3]
[1]**University of New South Wales**, [2]**Prince of Wales Hospital**, and [3]**South Eastern Sydney Illawarra Health Service**

A pilot study to determine the prevalence of younger onset dementia in Sydney.

There are few worldwide data on the number of people with younger onset dementia (defined as under 65 years of age when symptoms start). Dr Withall and her colleagues used case-finding surveys to quantify the prevalence of younger onset dementia in the Eastern Sydney area. Health professionals and teams, including community and residential care workers, were asked to identify younger person(s) with dementia who had been seen between June 2007 and May 2008. The response rate from health professionals has been high; currently 81% of specialists alone have completed the survey. Of 159 cases that have so far been identified, 102 reside within the catchment area and are included in the analyses. The main diagnoses for the 102 people in the catchment area break down into alcohol-related dementia (21.0%); unspecified dementia (18%); frontotemporal dementia (16%); vascular dementia (9%); and Alzheimer's disease (9%). The range of diagnoses represented in the remainder of the group included mostly cases of dementia occurring secondary to another medical illness such as multiple sclerosis, Parkinson's disease, epilepsy, Huntington's disease and HIV-related dementia. Importantly, alcohol-related dementia was the most common diagnosis and was a main diagnosis for 21% of persons and a secondary diagnosis for 4.9%; a total which accounts for more than a quarter of cases. There were equal numbers of men and women diagnosed with younger onset dementia and women were significantly younger than men at time of onset and diagnosis. The average age of onset for the group was 52.9 years (range 15-64) and the time from symptom onset to diagnosis averaged 3.8 years (range 1-10 years). These preliminary data highlight the range of diagnoses found under the umbrella term of younger onset dementia, as well as the high rate of alcohol-related dementia. Further work will focus on reviewing the clinical notes and checking the validity of these diagnoses and will examine the experiences of persons with dementia and their carers through interviews probing burden, service use, and needs.

Dr Adrienne Withall (foreground) pictured with the Dean of the Division of Health and Behavioural Sciences and Head of the Eastern Australia Dementia Training and Study Centre (EADTSC), Professor Patrick Crookes, and Senior Lecturer in University of Wollongong's School of Nursing, Midwifery and Indigenous Health, Dr Margaret Wallace. Dr Withall gave a lecture on younger onset dementia at the EADTSC as part of their guest lecture series. Photograph sourced from: http://media.uow.edu.au/news/UOW043785.html.

Hazel Hawke Research Grants in Dementia Care

The aim of these grants is to provide up to $20,000 for research into dementia care. Suitable projects might include research into carer support, best quality care practices, activities and therapies for people with dementia, or any other aspect of dementia care research.

2007 Hazel Hawke Research Grant in Dementia Care

Dr Matthew Hopcraft[1] & Professor Mike Morgan[1]
[1]**University of Melbourne**

Evaluation of oral health care training for carers of nursing homes residents with dementia.

Early in 2008 this project was given ethics approval, but a number of amendments to the protocol were subsequently made. The revised ethics application was approved by The University of Melbourne Human Research Ethics Committee in August 2008. In the interim, twenty-one aged care facilities were invited to participate in the project; expressions of interest were received from fourteen (with a total of approximately 500 residents and 400 staff members), with a further four homes still considering participation.
Dr Mihiri Silva, a Master of Dental Science student, is managing the data collection for the project; a dental hygienist has been employed to undertake education sessions; and another dentist is collecting clinical data. Data collection began in September through carer/nurse questionnaires and clinical examinations of residents. Data collection will continue over 16–18 months, beginning

with baseline data being collected over approximately four months; twelve month follow-up data will be collected over approximately four months.

2007 Hazel Hawke Research Grant in Dementia Care

Professor Megan-Jane Johnstone[1] & Dr Olga Kanitsaki[2]
[1]**Deakin University**, and [2]**RMIT University**

The use and misuse of Alzheimer's disease in the euthanasia/physician assisted suicide debate.

This project, lead by Professor's Megan-Jane Johnstone of Deakin University and Olga Kanitsaki, AM, of RMIT University, has explored how Alzheimer's disease is 'used' in the news media, documentaries, films, public opinion polling, professional literature, official documents, and other forms of communication to shape what people think and understand about euthanasia and assisted suicide, and whether these practices should be legalised in Australia. The most significant finding to date is that those on both sides of the euthanasia debate have portrayed facts and opinions about euthanasia, assisted suicide, and the 'mentally incompetent' in misleading ways. The news media — arguably the main means by which members of the public are kept informed about the euthanasia debate — have been particularly skilful in using 'errors in reasoning' that can easily lead an unsuspecting public into accepting one point of view over another and which may not necessarily be in the interests of people living with Alzheimer's disease. It is anticipated that by drawing attention to the errors in reasoning discovered in the context of this study, people living with Alzheimer's disease will be alerted to and become familiar with how spokespersons on both sides of the debate are manipulating public opinion on this difficult and emotionally charged issue, and the possible implications of this manipulation for public policy development and decision making in end-of-life care.

Travel Grants

AAR provides travel grants to assist new researchers in developing scientific presentation skills, learning about cutting-edge advances in international dementia research, showcasing emerging Australian research and building connections with the international scientific community. Travel project grants are valued at up to $10,000, whilst travel stipend grants are valued at up to $5,000.

2007 AAR Travel Stipend Grant

Dr Nicolas Cherbuin
Australian National University

Conversion to Mild Cognitive Impairment: predictors in a large longitudinal study of ageing.

In 2007, Dr Cherbuin received an AAR travel award to enable him to attend and present his work at the meeting of the Gerontological Society of America in San Francisco. Gerontological Society of America meetings are amongst the largest ageing-focused conferences in the world and attract some of the best international researchers. Dr Cherbuin reported on research into the health, lifestyle, and dietary predictors of conversion from normal cognition to mild cognitive impairment, a precursor stage to dementia. Identifying early predictors of cognitive decline is particularly important in allowing for early intervention and planning. Dr Cherbuin's research has confirmed that known risk factors for dementia, such as high blood pressure, smoking, and medications that relieve anxiety, are also significant risk factors for cognitive impairment, which often occurs prior to dementia onset. Of particular interest is that the proportion of polyunsaturated fat in the diet is a very strong predictor of cognitive decline. Further research is planned to identify which foods underpin the effects of fat intake.

2007 Rosemary Foundation Travel Stipend Grant

Dr Jess Nithianantharajah
Previously of the
Howard Florey Institute, University of Melbourne

Gene-environment interactions, cognitive dysfunction and molecular correlates of synaptic plasticity in Huntington's disease transgenic mice.

Dr Nithianantharajah's research has focused on how gene-environment interactions affect changes, or plasticity, in the functional connections between networks of brain cells. Identifying these interactions is important to our understanding of many brain diseases, including Huntington's disease (HD), an inherited disease of the nervous system. Common symptoms of HD are jerky movements of the arms and legs (known as 'chorea'), and difficulties with concentration and memory. Using a mouse model with a human HD gene mutation, Dr Nithianantharajah and her colleagues have recently shown that HD mice, like HD patients, develop impairments on tests of learning and memory at an early stage of the disease, in fact prior to there being overt signs of movement problems.

But when these mice are exposed to an enriched environment that enhances their opportunity for greater mental and physical stimulation, they perform better on memory tests. In addition, evidence has emerged for environmental enrichment to affect molecular changes relating to communication between brain cells (synapses) in distinct regions of the brain; these molecular changes may explain the behavioral changes.

HD mice who have no environmental enrichment show decreased levels of essential excitatory proteins at the synapses whereas HD mice who are exposed to increased mental and physical activity do not show this decrease in levels of excitatory synaptic proteins. Furthermore, these changes specifically occur in the hippocampus, a region of the brain that plays a significant role in the formation of memories, suggesting therapeutic possibilities for HD and other neurodegenerative disorders, including Alzheimer's disease.

2007 Rosemary Foundation Travel Stipend Grant

Ms Lolita Warden
Prince of Wales Medical Research Institute

Soluble Aß oligomers more potently stimulate a wider array of inflammatory mediators compared with fibrillar Aß in primary human astrocytic cultures.

Amyloid deposition is thought to be responsible for initiating inflammation

in Alzheimer's disease (AD) and this inflammation can damage neurons and even result in neuronal death. Amyloid is a protein which exists in a number of conformational forms, and, in the past, AD research has primarily focused on one of these forms — aggregated fibrillar amyloid — although recent studies suggest that soluble oligomeric amyloid may be more toxic. The direct contribution of oligomeric amyloid to the inflammatory response is unclear. Astrocytes are an important inflammatory cell in the human brain. Using human brain astrocytes in culture, Lolita's research demonstrated that oligomeric amyloid is a more potent stimulator of the inflammatory response than fibrillar amyloid. In addition, a number of previously unmeasured mediators of the inflammatory response (cytokines and chemokines) were detected in large amounts in brain astrocyte cultures following incubation with oligomeric amyloid. Further research is needed to determine the exact role of these mediators in AD because understanding the major stimulators of the inflammatory response is an important area of AD research. The Rosemary Foundation Travel Grant allowed Lolita to attend the 37th Annual Neuroscience Society Meeting in San Diego, California, USA, where she presented these findings.

2007 Rosemary Foundation Travel Project Grant

Dr Tarja-brita Robins Wahlin
University of Queensland

Cognitive functioning in preclinical Huntington's disease: the problem of early detection.

Huntington's disease is a genetic, neurological disease characterised by cognitive decline and dementia, personality change, and motor impairments. Discovery of a specific genetic marker for the illness has made a certain diagnosis of the disease possible before neurological symptoms appear.

The main purpose of this study is to determine whether cognitive deficits can be identified in gene carriers of Huntington's disease.

A broad neuropsychological assessment battery, including tests of intelligence (Wechsler Adult Intelligence Scale-Revised), was administered to 64 participants in a predictive testing program, none of whom exhibited neurological or psychiatric signs of Huntington's disease. All participants were tested individually prior to genetic analysis. There were 30 gene carriers and 34 non-carriers amongst the participants.

Gene carriers attained significantly lower scores than non-carriers in intelligence tests, with significantly worse performances in seven of the eleven subtests of the Intelligence Scale. The impaired cognitive functioning in carriers showed primary deficits in language abilities, attention, abstract thinking, problem solving, visuo-spatial ability, and speed. Non-carriers also performed better in the remaining tests.

Deficits in functions, such as reasoning, attention, abstract thinking, and speed are early preclinical signs of Huntington's disease. These impairments affect general intelligence and functioning in asymptomatic carriers of Huntington's disease.

Past Grants Recipients:

Loretta Quinn

Name *Loretta Quinn*
Year of Grant *1999*
Title of Project *The impact of music therapy on the quality of life of persons with Alzheimer's disease: perception of clients and carers.*

Whilst working as a Registered Music Therapist for the Royal District Nursing Service, I met many people with dementia and their carers. I was intrigued by the immediate positive effect that familiar tunes had on the people with dementia as well as on their carers. Carers cried, were surprised, joyful, and amazed as they watched people with dementia sing or hum to familiar tunes from the early years of their lives.

Through a grant awarded to me by Alzheimer's Australia in 1999, I was able to record the responses of both people with dementia and their carers and to gain insight into the many potential effects of music on people with dementia, in particular, the apparent capacity of music therapy to reduce language deficits.

The data I gathered in this project eventually formed the basis of my thesis for my Masters in Music Therapy (Research) degree, which I completed in 2003. I'm currently a PhD student researching the effects of music therapy on people with dementia with language deficits who are residents in a rehabilitative hospital setting at the National Ageing Research Institute, Melbourne. My PhD is due for completion in 2010.

I was invited to run music therapy and songwriting sessions through Carers Link West and the Commonwealth Carer Respite Centre in the western region of Melbourne, for carers of people with dementia. Thanks to some generous Trust funds, and the generosity of some very talented professional singers who performed gratis, eleven songs written by the fifty-nine carers were professionally recorded. The resultant CD, *Catching Dust In Mid Air*, tells of life as commonly experienced by carers. *Catching Dust In Mid Air* was launched by Claire Bowditch and Sue Pieters-Hawke in November 2007, and is available through Carers Victoria: 1800 242 636 or www.carersvic.org.au.

The grant I received from Alzheimer's Australia was a great help to me, allowing me to pursue my interest in music therapy and dementia, an interest that remains undiminished.

Joint Research Programs

Research into a Cure for Alzheimer's Disease Grant Program

The Jack & Ethel Goldin Foundation pledged $250,000 over three years for biomedical research that specifically focuses on developing a cure for Alzheimer's disease. Researchers from the NeuroRepair Group at the School of Medicine — Associate Professor Adrian West, Professor James Vickers and Dr Roger Chung — were awarded the grant in 2006. Their project will run over three years. Below is a summary of progress to date.

Associate Professor Adrian West[1], Professor James Vickers[1] & Dr Roger Chung[1]
[1]**University of Tasmania**

Metallothionein-based therapeutic for Alzheimer's disease.

Associate Professor Adrian West and his team at the Menzies Research Institute are making excellent progress in the quest to demonstrate the potential of metallothionein as a therapeutic agent for the treatment of Alzheimer's disease. With the support of AAR and the Jack and Ethel Goldin Foundation, their aim is to produce a molecule that slows or stops the disease process and that can be administered to people safely and easily. Metallothionein is a small protein found in the brain. It has a number of unique properties that enable it to affect some of the early events in the development of the disease. For example, metallothionein binds the metals zinc and copper, which drive the formation of amyloid-ß, widely considered to be the toxic cause of Alzheimer's. Associate Professor Adrian West and his team have discovered that metallothionein is indeed able to block this process. Furthermore, they have discovered that it not only prevents the development of the toxic form of amyloid-ß, but it also affects production of the protein itself. In work recently published in the prestigious *Journal of Biochemical Chemistry*, the team reported on the mechanism by which metallothionein sustains the growth of injured neurons, suggesting that a therapy based on metallothionein will combine protective and regenerative roles.

Humans have several slightly different types of metallothionein. The team has discovered that each of these forms has a unique spectrum of activity, with differing abilities to protect neurons and modify amyloid-ß biochemistry. They are now combining elements of each type of metallothionein to make a new molecule, which they hope will have an enhanced ability to slow disease progression. They are testing these analogues in the laboratory and will soon compare their therapeutic properties to native metallothionein in animal models of Alzheimer's.

AAR & CMHR Joint Postdoctoral Fellowship

In May 2006, AAR and the Centre for Mental Health Research (CMHR) at the Australian National University (ANU) established a joint Postdoctoral Fellowship in Ageing Research. The Fellowship position was awarded to Dr Nicolas Cherbuin. This two year collaborative project was completed in early 2008. Below is a summary of Dr Cherbuin's progress.

Dr Nicolas Cherbuin
Australian National University

Risk and protective predictors of cognitive ageing and dementia

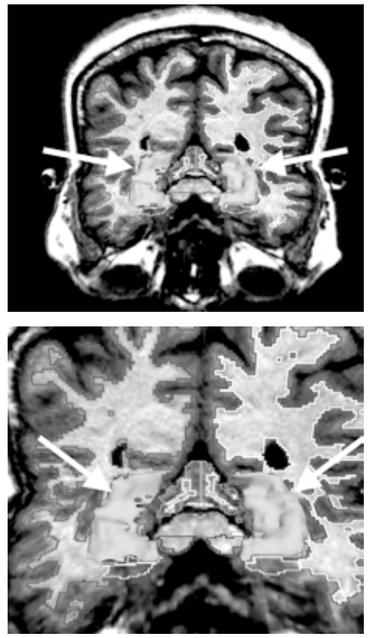
Dr Cherbuin recently completed a two-year postdoctoral fellowship funded in part by Alzheimer Australia Research and by the Centre for Mental Health Research (CMHR) at the ANU. The aims of this fellowship were to address specific research questions and to build capacity in ageing and dementia research.

Dr Cherbuin's work focused on identifying early risk and protective factors for cognitive ageing and dementia; developing expertise and systems in neuroimaging to investigate healthy and pathological ageing; and investigating instruments for screening and early detection of cognitive impairment in ageing. As part of a collaborative epidemiological study of mental health and ageing conducted at CMHR, Dr Cherbuin and his colleagues investigated the predictors of conversion from normal cognitive ageing to a precursor stage to dementia called mild cognitive impairment. Their findings have been presented at two major international conferences and are currently awaiting publication.

Brain scan analysis protocols were developed for the processing and interpretation of vast amounts of imaging data on the national super-computer located at the ANU. The research findings arising out of these analyses have been presented at conferences and have been, or will be, published, making available a wealth of brain measures for further research.

In collaboration with Associate Professor Kaarin Anstey, Dr Cherbuin investigated screening tools for dementia, particularly in the context of self-assessment. The findings on available instruments were documented in a report, which was provided to the Department of Health and Ageing. The data from this research are being used in ongoing work at the Dementia Research Collaborative Centres and in collaboration with Professor Marc Budge.

An important use of the AAR funding was building capacity in ageing research. Through the Fellowship Dr Cherbuin was able to develop his skills and enhance his research profile in a new area of research, making him eligible to apply for further funding. In 2007 he was granted an NHMRC Fellowship that will enable him to pursue his work until 2012 at least.



This figure shows a 3D model of the hippocampus (arrows) on a typical MRI which has been processed to identify grey and white brain matter, and other cerebral structures. The hippocampus is a brain structure involved in memory and emotion regulation which is known to be affected early in pathological processes leading to dementia and other neuro-degenerative diseases. Prepared by Dr Cherbuin using the software package 3DSlicer (www.slicer.org).

Partnership with the National Health & Medical Research Council

In 2004, AAR formed a funding partnership with the National Health & Medical Research Council (NHMRC), the premier health research funding body in Australia. AAR and the NHMRC were to support a Biomedical Career Development Award (the R.D. Wright Fellowship) for five years, but, in October 2007, the recipient, Professor Pradeep Nathan, relinquished his Fellowship to take up a fractional appointment with the University of Cambridge and GlaxoSmithKline. AAR has not received any updates since the 2007 AAR Annual Report was published on Professor Nathan's research into the "Neurochemical basis of cognitive function in Alzheimer's disease".

Past Grants Recipients:

Giuseppe Verdile

Name *Dr Giuseppe Verdile*
Year of Grant *2002*
Title of Project *The role of Presenilin 1 and Nicastrin in the production of the beta-amyloid protein seen in Alzheimer's disease.*

Dr Giuseppe Verdile was awarded a $10,000 Alzheimer's Association dementia project grant in 2002 to investigate two critical components of the enzyme gamma secretase, which is essential in generating beta amyloid. Accumulation of beta amyloid in the brain is linked to the neuronal degeneration seen in Alzheimer's disease. Dr Verdile established a technique that can be used to identify critical regions in gamma secretase that may be targets for modulating beta amyloid accumulation. Findings were published in 2004 in the journal *Molecular Psychiatry* (Verdile et al., Molecular Psychiatry, 9: 594-602).

Dr Verdile is a Senior Lecturer at the School of Exercise, Biomedical and Health Sciences at Edith Cowan University and a Senior Research Fellow at the McCusker Foundation for Alzheimer's Disease Research. He is also a program leader under the direction of Professor Ralph Martins at the Centre of Excellence for Alzheimer's Disease Research and Care.

Dr Verdile's other research interests include the contribution of reproductive hormones in the development of Alzheimer's disease. Age-related changes in reproductive hormones (oestrogen, testosterone, and gonadotropins) appear to be associated with an increased risk of developing Alzheimer's disease and to influence the over-production and accumulation of beta amyloid.
A particular focus for Dr Verdile is the role of the gonadotropin *luteinizing hormone*. In collaboration with Dr Richard Bowen (Voyager Pharmaceuticals), and Dr Craig Atwood (Wisconsin University), Dr Verdile and Professor Martins have shown that luteinizing hormone enhances the production and accumulation of beta amyloid within neuronal cells. Drs Craig Atwood and Richard Bowen further showed that leuprolide, a gonadotropin-lowering agent, can reduce beta amyloid levels in mice.

Professor Martins and Dr Verdile, together with Professors Gary Hulse (UWA), and Tae Ji (University of Kentucky), were awarded a NHMRC project grant in 2007 to investigate luteinizing hormone in a mouse model of Alzheimer's disease and to further assess gonadotropin-lowering agents as effective treatments for Alzheimer's disease.

Dr Verdile is also involved in assessing peptide molecules that neutralise beta amyloid-associated toxicity, and in developing *in vivo* models to allow rapid screening of therapeutic agents for Alzheimer's disease.

Scholarships

Hunter Postgraduate Research Scholarships into the Causes of Alzheimer's Disease

Since 2005, AAR has been pleased to offer the Hunter Postgraduate Research Scholarship, which was made possible through a bequest. The scholarship supports a new researcher completing a PhD that focuses on the causes of Alzheimer's disease. Successful projects receive subsidies over three years. Below are details of all successful applicants and their projects.

2005 Hunter Postgraduate Research Scholarship into the Causes of Alzheimer's disease

Lolita Warden
Prince of Wales Medical Research Institute

Identifying important mediators of tau pathology in Alzheimer's disease: the role of inflammation.

The Hunter Scholarship provides support to a new researcher completing a PhD in the study of Alzheimer's disease. Lolita, who was awarded the Hunter Scholarship in 2005, is now nearing completion of her PhD studies. Over the past three years she has researched inflammation in relation to the key pathological hallmark inclusions of Alzheimer's disease — amyloid protein deposition, tau pathology, and associated cell loss. Lolita examined the major stimuli of inflammation in Alzheimer's disease to ascertain its direct and indirect effects on tau pathology and brain cell death. Lolita particularly focused on a recently identified soluble form of amyloid — oligomeric amyloid — and its role in stimulating the inflammatory response. She has demonstrated that oligomeric amyloid is a potent stimulator of the inflammatory response and is capable of affecting downstream changes in total neuronal tau. In addition, Lolita has identified a number of inflammatory mediators that may be implicated in moderating this response.

2006 Hunter Postgraduate Research Scholarship into the Causes of Alzheimer's disease

Megan Steele
James Cook University
(currently at the **University of Western Sydney**)

Investigation into the role of astrocytes in neuroprotection: when and why do astrocytes stop protecting neurons?

In order to get a better understanding of what causes Alzheimer's disease, Megan is researching how two key processes that are believed to be important in the progression of the disease, oxidative stress (an overproduction of reactive oxygen molecules that can damage cell membranes, proteins and DNA) and inflammation, affect a certain type of brain cell called an astrocyte. Astrocytes are star-shaped cells in the brain which have many important functions in supporting and protecting neurons. In the past, astrocytes were largely ignored by scientists researching Alzheimer's disease since the neurons are the brain cells that die, leading to memory loss and cognitive decline. Megan's research involves finding out whether neurons die after becoming more vulnerable to oxidative stress and inflammation, due to "stressed" astrocytes neglecting their role of supporting and protecting the neurons. She is testing this theory by treating astrocytes with combinations of pro-inflammatory cytokines

(chemicals produced by activated cells) and amyloid-beta (a peptide which is found in high concentrations in Alzheimer's patients' brains) to see how they change their behaviour and specifically how neuron-astrocyte interactions are affected. This research will provide a better understanding of the role astrocytes play in neuroprotection and in Alzheimer's disease.

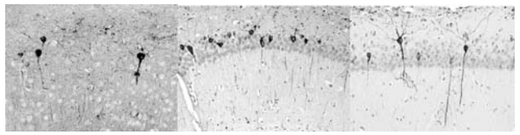
2007 Hunter Postgraduate Research Scholarship into the Causes of Alzheimer's disease

Natasha Deters
University of Sydney

Pathophysiology of Alzheimer's disease.

Tauopathies, including Alzheimer's disease, are a group of brain disorders resulting from aggregation of the protein "tau". Tau protein is abundant in brain cells and plays an important role in stabilising cell structure by binding to microtubules (cell skeleton). Binding of tau to the microtubules is regulated by a process called "phosphorylation". In Alzheimer's disease tau becomes excessively phosphorylated (hyperphosphorylation), which causes it to detach from the cell's skeleton. The consequences of detachment are severe and adverse for cell stability and function. Hyperphosphorylated tau tends to aggregate into filaments, which then form microscopic structures called neurofibrillary tangles, one of the pathological hallmarks of Alzheimer's disease.

Hyperphosphorylated tau and neurofibrillary tangles can be reproduced in mice in the same brain areas as they are found in humans with Alzheimer's disease. These mice have impaired memory and behavioural function. Ms Deters is researching tau hyperphosphorylation to try to determine which areas of the tau protein become hyperphosphorylated in ageing mice. Also under investigation are the roles of oxidative stress, for example, from pesticides, and antioxidants, for example those found in green tea, in the formation of tau tangles.



Tau tangles (left) and hyperphosphorylated tau (centre & right).

Joint AAR/CRC and AAR Entirely Postgraduate Research Scholarships in Social Research and Dementia

In 2006 and 2007, AAR was pleased to offer the Joint AAR/CRC Postgraduate Research Scholarship in Social Research and Dementia in partnership with the Dementia Collaborative Research Centre: Consumers, Carers and Social Research (DCRC – CCSR), based at the Queensland University of Technology. DCRC – CCSR is one of three dementia research centres established by the Australian Government as part of its Dementia National Health Priority Initiative. In 2007, AAR also offered the AAR Entirely Postgraduate Scholarship in Social Research and Dementia. Below are details of the successful applicants and their projects.

2006 Joint AAR/ CRC Postgraduate Research Scholarship in Social Research and Dementia

Patricia Shuter
Queensland University of Technology

Can a palliative care framework ameliorate complicated grief and improve medium term health outcomes in carers of people at the terminal stage of a dementia illness?

The aim of this PhD research is to determine the predictors of complicated grief and its correlation with health outcomes in family care-givers of people with dementia. A comprehensive literature review has been completed to underpin the aims and objectives of the research project, as has a scoping study which began in March 2007. Data from the scoping study were collected through semi-structured interviews with family care-givers of people with severe dementia and those whose relatives with dementia had died during the previous year. Preliminary findings indicate that the issues that have the most impact on family care-givers of people with dementia are not those directly related to day-to-day care-giving tasks, but rather centre around individual characteristics and coping strategies; loss and grief; and encounters with formal care providers. Other significant issues include the existence of a spiritual dimension in their life, recognition of the positive aspects of the care-giving experience and the relationship between the care-giver and the person with dementia. This highlights the complexity of the issues associated with caring for a person with dementia. Understanding these issues presents the opportunity to identify appropriate and effective interventions for this group.

Patricia with two caregivers.

2007 Joint AAR/ CRC Postgraduate Research Scholarship in Social Research and Dementia

Kathryn Nicholson
University of Melbourne

Dementia with Lewy Bodies: evaluating carers' experiences.

Kathryn is a PhD candidate at the University of Melbourne. Her supervisors are Dr Pam St Leger and Professor David Ames. Kathryn is researching the impact that caring for someone with dementia with Lewy bodies has on carers. Dementia with Lewy bodies, a sub-cortical dementia that is closely related to Parkinson's disease, is often a secondary diagnosis made late in the course of the disease. Kathryn is currently recruiting research participants for her qualitative, heuristic inquiry. She will use questionnaires and in-depth interviews to investigate how carers make meaning of their changing relationships with the people they care for as those peoples' symptoms develop. She will also explore how carers of those in the early stages of the disease relate to, and interpret information provided by, health professionals and support services' staff.

2007 AAR Entirely Postgraduate Research Scholarship in Social Research and Dementia

Dr Fiona Millard
James Cook University

Dementia: promoting early diagnosis and management by general practitioners to patients and their carers.

Dr Millard received a Postgraduate Research Scholarship in Social Research and Dementia to help her in her PhD candidacy at James Cook University. She is supervised by Professors Bernhard Baune and Lee Kennedy. Dr Millard and her colleagues are researching general practitioner (GP) dementia services, including testing interventions that may improve these services. Previous research has confirmed the importance of GPs in dementia diagnosis and referral, but also found that many GPs are unaware of the importance of their role in dementia care and many also lack dementia training. The results from a pilot project on GP education and auditing showed a significant increase in GP-documented diagnosis of dementia when GPs attended dementia education and reflected on audits of their practice dementia diagnoses and memory tests, whereas education alone made no difference. The results have been submitted for publication. A risk reduction project was undertaken in September 2008 to test the impact of a 'Mind Your Mind' summary on patient understanding of dementia risk factors. This project was done in conjunction with Dementia Awareness Week.

Dr Millard and her colleagues plan to collect data on GP dementia practice and to promote their national GP education and audit project. In 2009 they will work with GPs and nursing homes in Mackay and Townsville to measure and improve the levels of neuro-protective vitamins being taken by older people.

The Sylvia and Charles Viertel Postgraduate Research Scholarships in Dementia

The Sylvia and Charles Viertel Foundation has pledged $540,000 over three years to support doctoral and postdoctoral researchers conducting dementia-related research. In 2007, two Sylvia and Charles Viertel Postgraduate Research Scholarships were offered to doctoral researchers and in 2008 four Viertel Foundation Postdoctoral Fellowships in Dementia have been offered to postdoctoral researchers. Below are details of the successful applicants for the Sylvia and Charles Viertel Postgraduate Research Scholarships and their projects.

2007 Sylvia and Charles Viertel Postgraduate Research Scholarship in Dementia

Emile Werden
University of Melbourne

Detecting cognitive deterioration in the elderly population: Can the Object-Place Association Task (OPAT) identify individuals most at risk of developing Alzheimer's disease?

To diagnose Alzheimer's disease (AD) at an early stage, physicians need a test that is sensitive to the earliest brain changes in AD, preferably one that is cheap and easy to administer. The first aim of Emile's study is to examine whether the Object-Place Association Task (OPAT) is able to identify both individuals with AD and those at risk of developing it. The OPAT tests a person's ability to remember the locations of objects in space, an ability that is known to be affected very early in AD.

The second aim of Emile's study is to examine the connections between certain structures of the brain in individuals with AD and healthy elderly people. By inspecting the relationship between the strength of these connections and performance on the OPAT, Emile may be able to better understand how the brain is affected in AD and the possible consequences on an individual's ability to remember information.

If the OPAT can successfully distinguish between people with AD and the healthy elderly, it may have a role, along with other cognitive and behavioural measures, in screening for dementia.

2007 Sylvia and Charles Viertel Postgraduate Research Scholarship in Dementia

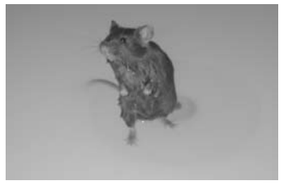
Holly Yeatman
University of Melbourne and the Howard Florey Institute

The use of small molecule IRAP inhibitors for treating dementia in Alzheimer's disease.

Predictions are that, by 2050, there will be more than 175,000 new cases of Alzheimer's disease diagnosed annually in Australia. The commonly prescribed medications for treating the cognitive symptoms of Alzheimer's disease all share the same treatment target and suffer from modest efficacy with limited tolerability. Thus there is considerable need for new, effective treatments for memory loss due to dementia.

Insulin regulated amino-peptidase (IRAP) is normally found in the memory centres of the brain, specifically in neurons that store and transmit information. IRAP has been observed at increased levels in particular cell populations in the brains of Alzheimer's patients. Small, drug-like compounds that inhibit the activity of IRAP have been shown to enhance memory in rodents and to prevent memory loss resulting from various amnestic agents. IRAP inhibitors may have the potential to effectively treat memory loss.

Holly plans to investigate whether drug-like IRAP inhibitors can modulate disease progression and memory loss in an animal model of Alzheimer's disease.



Training in the water maze: a spatial navigation task to test learning and memory in mice.

The George Hicks Postgraduate Scholarship for Dementia Prevention and Risk Reduction Research (for Victorian researchers)

Through the kind generosity of the George Hicks Foundation, Alzheimer's Australia Victoria and Alzheimer's Australia Research were pleased to offer the George Hicks Postgraduate Scholarship for Dementia Prevention and Risk Reduction Research in 2007. The aim of the scholarship is to support a PhD student who is enrolled in a Victorian university and who is undertaking research in an area relevant to the prevention and/or risk reduction of Alzheimer's disease or dementia.

The George Hicks Postgraduate Scholarship for Dementia Prevention and Risk Reduction Research (for Victorian researchers)

Pavithra Amadoruge
University of Melbourne

Metal complexes for modulating metal-bioavailability in Alzheimer's disease.

Pavithra Amadoruge, a biomedical science graduate from the University of Melbourne, is the recipient of the George Hicks Postgraduate Scholarship. She is a PhD candidate under the supervision of Associate Professor Kevin Barnham, and is investigating the effects that metals, especially copper, zinc, and iron, have on the function and expression of a protein in the brain that is known to modulate and control memory. She is also investigating compounds capable of modulating metal availability in the brain, and whether these compounds can prevent Alzheimer's disease pathology. Miss Amadoruge hopes to elucidate some of the neuronal pathways involved in some abnormalities in the brain associated with Alzheimer's disease.

Past Grants Recipients:

Nicolas Cherbuin

Name *Dr Nicolas Cherbuin*
Year of Grant *2006* and *2007*
Title of Project *Risk and protective predictors of cognitive ageing and dementia* (2006), and, *Conversion to Mild Cognitive Impairment: predictors in a large longitudinal study of ageing* (2007).

Dr Cherbuin completed his PhD in psychology in 2006. With a background in intensive care nursing and a strong interest in neuroscience he was keen to pursue a research career that would be challenging and cutting-edge and that would make a difference to people. Researching the risk and protective factors of cognitive ageing, dementia, and Alzheimer's disease was a perfect match. But completing the transition from almost ten years of study to the world of research is difficult. Making the transition into the field of ageing research is particularly challenging as there is no official curriculum, few formal colleges or institutes focus on ageing and dementia, and very limited funding is available for this type of research, especially for those in the early stages of a scientific career.

This lack of a structured path into the world of ageing research is particularly surprising given that Australia's population is ageing and the challenges of ensuring that ageing Australians enjoy a good quality of life, excellent care, and a supportive environment, become greater. All would benefit greatly from research that sheds light on the causes and mechanisms leading to an ageing body and mind, and from research that improves treatments and care of people suffering from dementia and other age-associated illnesses.

In 2006 Dr Cherbuin was awarded a two-year Alzheimer's Australia Research and Centre for Mental Health Research (ANU) Fellowship to undertake research into the risks and protective factors of cognitive ageing and dementia. He was able to develop new skills, particularly in neuroimaging; analyse data and use the findings to help to guide policy and health advice; develop a research network; publish his work; build his career profile; and make a difference to people with dementia.

In 2007 Dr Cherbuin was granted a National Health and Research Council training fellowship that will fund his next four years of research in the Ageing Research Unit at the Centre for Mental Health Research at the ANU. He will investigate the involvement of the prefrontal cortex in cognitive ageing and dementia.

2008 Dementia Grants Program

The 2008 Dementia Grants Program offers a wide range of research grants including new investigator grants, travel grants, grants in dementia care and postdoctoral fellowships. The Program was advertised in February 2008 and applications closed in late April 2008. After assessment by external expert reviewers, the successful applicants were chosen by the Medical and Scientific Panel and the AAR Board in September 2008.

The grants offered in the 2008 Dementia Grants Program are listed below.

2008 Dementia Grants Program

- Four AAR Dementia Research Grants for new researchers of $20,000 each.
- Three Rosemary Foundation Travel Stipend Grants of $5,000 each.
- Hazel Hawke Research Grant in Dementia Care of $20,000.
- AAR Postdoctoral Fellowship in Dementia of $90,000 p/a for two years.
- Four Viertel Foundation Postdoctoral Fellowships in Dementia of $45,000 p/a (cost-shared with applicant's institution) for two years.

AAR Dementia Research Grants

The AAR Dementia Research Grants are seeding grants for new researchers, valued at up to $20,000, to be allocated for research in a dementia-relevant area. Grants are awarded for both biological and psychosocial research.

Rosemary Foundation Travel Stipend Grants

AAR and the Rosemary Foundation are offering three travel stipend grants valued at $5,000 each to enable Australian researchers to attend and present at conferences or similar events. Researchers will present their research findings on understanding dementia, dementia care and management, or carer support.

Hazel Hawke Research Grant in Dementia Care

This grant provides up to $20,000 for research into dementia care. Suitable projects include research into carer support, best quality care practices, activities and therapies for people with dementia, or any other aspect of dementia care research.

AAR Postdoctoral Fellowship in Dementia

AAR is offering a postdoctoral fellowship valued at $90,000 per annum for two years to support a PhD graduate undertaking research in an area related to dementia.

Viertel Foundation Postdoctoral Fellowships in Dementia

AAR, in partnership with the Sylvia and Charles Viertel Foundation, is offering four cost-shared postdoctoral fellowships valued at $45,000 per annum (matched by the applicant's institution) for two years, to support a PhD graduate undertaking research in an area related to dementia. Postdoctoral fellowships are awarded for both biological and psychosocial research.

Financial Report

Alzheimer's Australia Research Ltd.
ABN 79 081 407 534
Financial Report
For the year ended 30 June 2008

Financial information was extracted from the audited financial statements of Alzheimer's Australia Research Ltd., for the year ended 30 June 2008 and is included here for information purposes only.

A full copy of Financial Statements, including Notes to the Financial Statements and the Audit Opinions, can be obtained free of charge on request from:
Alzheimer's Australia Research Ltd.,
PO Box 4019, Hawker ACT 2614.

INDEPENDENT AUDITORS REPORT
TO THE DIRECTORS OF ALZHEIMER'S AUSTRALIA RESEARCH LIMITED

Report on the Financial Report

We have audited the accompanying financial report of the Alzheimer's Australia Research Limited (the company), which comprises the balance sheet as at 30 June 2008 and the income statement, statement of recognised income and expenditure and cash flow statement for the year ended on that date, a summary of significant accounting policies and other explanatory notes and the directors' declaration.

Directors' Responsibility for the Financial Report

The directors of the company are responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards (including the Australian Accounting Interpretations) and the *Corporations Act 2001*. This responsibility includes establishing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. We conducted our audit in accordance with Australian Auditing Standards. These Auditing Standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the directors, as well as evaluating the overall presentation of the financial report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

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your extra asset

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Independence

In conducting our audit, we have complied with the independence requirements of the *Corporations Act 2001*. We confirm that the independence declaration required by the *Corporations Act 2001*, provided to the directors of the Alzheimer's Australia Research Limited on 23 October 2008, would be in the same terms if provided to the directors as at the date of this auditor's report.

Auditor's Opinion

In our opinion, the financial report of the Alzheimer's Australia Research Limited is in accordance with the *Corporations Act 2001*, including:

i. giving a true and fair view of the company's financial position as at 30 June 2008 and of its performance for the year ended on that date; and

ii. complying with Accounting Standards (including the Australian Accounting Interpretations) and the Corporations Regulations 2001.

James Barrett, CA
Registered Company Auditor
WalterTurnbull
Dated: 23 October 2008

Canberra, ACT

ALZHEIMER'S AUSTRALIA RESEARCH LIMITED
ABN 79 081 407 534

DIRECTORS' DECLARATION

The directors of the company declare that:

1. The financial statements and notes, as set out on pages 9 to 21 are in accordance with the *Corporations Act 2001:*

    a. comply with Accounting Standards and the Corporations Regulations 2001; and
    b. give a true and fair view of the financial position as at 30 June 2008 and of the performance for the year ended on that date of the company;

2. In the directors' opinion there are reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the Board of Directors.

Name C E Rees

Date 22 Oct 08

Name B Rentschler

Date 22nd October, 2008.

ALZHEIMER'S AUSTRALIA RESEARCH LIMITED
ABN 79 081 407 534

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2008

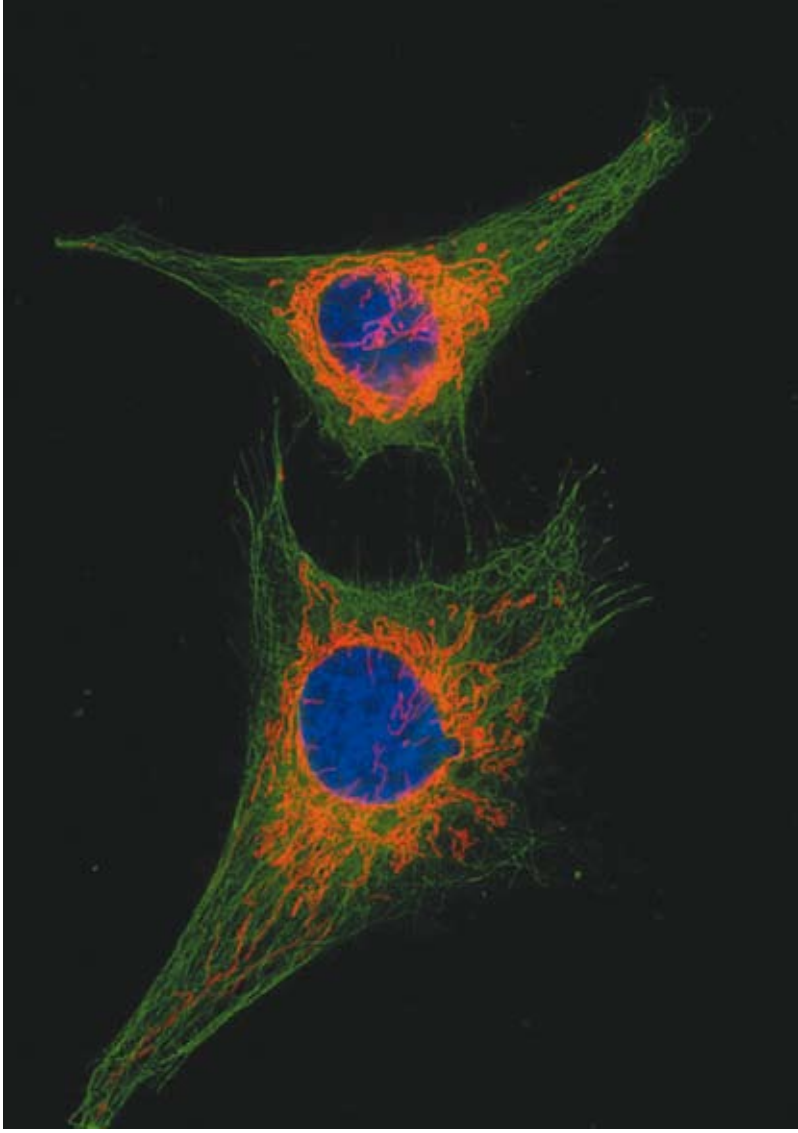
	Note	2008 $	2007 $
Revenue	2	704,644	774,810
Employee benefits expense		(30,380)	(28,616)
Grants issued	3	(453,445)	(266,645)
Loss on Investment		(191,023)	-
Other expenses		(25,190)	(31,880)
Profit		4,606	447,669

The accompanying notes form part of this financial report.

ALZHEIMER'S AUSTRALIA RESEARCH LIMITED
ABN 79 081 407 534

BALANCE SHEET AS AT 30 JUNE 2008

	Note	2008 $	2007 $
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents	4	823,420	743,625
Trade and other receivables	5	78,845	21,400
Prepayment		1,680	-
TOTAL CURRENT ASSETS		903,945	765,025
NON-CURRENT ASSETS			
Financial assets	6	919,284	1,135,461
TOTAL NON-CURRENT ASSETS		919,284	1,135,461
TOTAL ASSETS		1,823,229	1,900,486
LIABILITIES			
CURRENT LIABILITIES			
Trade and other payables	7	54,161	34,098
Other current liabilities	8	51,236	153,162
TOTAL CURRENT LIABILITIES		105,397	187,260
TOTAL LIABILITIES		105,397	187,260
NET ASSETS		1,717,832	1,713,226
EQUITY			
Retained Earnings		1,717,832	1,713,226
TOTAL EQUITY		1,717,832	1,713,226



If you would like to know more about Alzheimer's Australia Research or make a donation please visit the Alzheimer's Australia website at **www.alzheimers.org.au**

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Fax (02) 6278 7225
aar@alzheimers.org.au

For more information about dementia or to learn about the services that Alzheimer's Australia provides in your State or Territory please visit the website www.alzheimers.org or call the National Dementia Helpline
1800 100 500

Alzheimer's Australia Research