

FRAMEWORK

FOR THE FUTURE



2007

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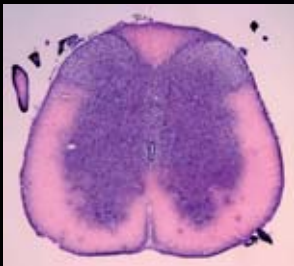
OUTLOOK

The outlook for 2007 and beyond is truly remarkable. The opportunities to translate our work into clinical therapies, creating a natural synergy amongst our researchers, are impressive. Through scientific tenacity we will continue to conduct world-class, collaborative medical research to cure human disease, improve quality of life, and create a legacy for the future.

HIGHLIGHTS

2000

The Spinal Injuries Research Centre was established.



2001

Dr Kay Double and her research team developed a blood test for the early diagnosis of Parkinson's disease.



2002

Completion of the neurodegenerative disease data collection for Wave 5 of "The Sydney Older Persons Study", now one of the longest running longitudinal ageing studies in Australia.



2003

Launching of the first 3 Tesla Magnetic Resonance Imaging (MRI) scanner in NSW through a joint venture with Mayne Health to create the Mayne (now Symbion) Clinical Research Imaging Centre.



Opening of the Impact Injuries Research Laboratory.

2004

Institute researchers, under Professor Glenda Halliday, discovered a new form of dementia often confused with Alzheimer's disease – Dementia with Lewy Bodies.

Assoc Professor Stephen Lord's Falls Clinic developed a "Falls Screening Kit" which is used by aged care specialists worldwide in identifying people at risk of falls.



Professor Simon Gandevia, the Institute's Deputy Director, and his team advanced the development of a new technique to allow a quadriplegic patient to deliver an effective cough, treating a key complication of spinal cord injury.

2005

The Institute was selected by the University of New South Wales for the location of the inaugural NewSouth Global Professor of Brain Sciences. Professor Caroline (Lindy) Rae was appointed to the position.



In Alzheimer's disease research, a new Research Fellow, Dr Brett Garner, and his team of researchers, were appointed.



A prestigious international award was conferred on Professor Simon Gandevia by the International Research Promotion Council for his work on the long term effects of polio.

2006

On successfully winning a competitive process to host the NISAD Chair of Schizophrenia Research resulting in an \$8 million investment by NISAD, the University of New South Wales and POWMRI over the next 5 years, a major international research team is being established to study the developmental biology of schizophrenia. Professor Cyndi Shannon-Weickert was recruited from the National Institutes of Health in the US to head the team.



The use of our Impact Injuries Laboratory to undertake crash test simulations of child injury in car crashes has led to educational, Standards and legislative changes to prevent childhood injury.

A new laboratory for 16 scientists focusing on genetics and mental health research was established. This work has already led to important advances in our understanding of the genetic contributions to depression and bipolar disorder.



The Rat Brain in Stereotaxic Coordinates 6th Ed was the latest in the series of the world's leading brain atlases published by the Institute's scientists Professors George Paxinos and Charles Watson. This atlas is the most cited neuroscience publication and the most cited Australian publication of all times. It is ranked amongst the 50 most cited publications in the history of science.

LEADERSHIP FOR THE FUTURE

As Chairman of the Board, I am proud to be associated with the Prince of Wales Medical Research Institute, a recognised leader in Australia's research into fundamental and clinical neuroscience. The Institute's outstanding research initiatives are founded on excellence in leadership and will accelerate discovery and redefine neuroscience to reduce the global burden of disease.

My fellow Board Members and I are committed to support the Institute in its mission to undertake and facilitate scientific and medical research which is, or may prove to be, of value to Australia and for the common good of humankind; and to relieve pain and suffering in humans through our scientific and medical research to prevent, treat or cure diseases and improve the quality of life.

The Board I would like to acknowledge the significant commitment made by POWMRI Directors this past year and thank them for their wise counsel.

Mr Peter Kemp was appointed to the Board in October. Peter, who has been involved in commercial legal practice for over 30 years, is Principal of Peter Kemp Solicitors, a specialist law firm in Sydney.

Dr Andrew Refshauge joined the Board's Audit Committee in June and his financial expertise is greatly appreciated.

We were sorry to lose the services of two Directors. Mr Philip Salter resigned as an independent Director in February. Professor Mark Wainwright resigned in October when he retired as Vice-Chancellor and President of UNSW. The advocacy and encouragement of these Directors during their terms of service are greatly appreciated.

One of the Board's major tasks this year has been to undertake the work necessary to establish a Foundation for the Institute, "The Brains Trust". While the official launch of The Brains Trust will occur in 2007, the Board has been especially grateful to Henry Davis York solicitors for their pro bono support in establishing this important new venture. The Brains Trust will hold and manage the Institute's endowments and bequests from members of the Phyllis Luker Society, as well as philanthropic and wider community donations. This will significantly enhance the ability of the Institute to conduct its ongoing research.

A successful year Under the eminent leadership of Professor Peter Schofield, Executive Director and CEO, and Professor Simon Gandevia, Deputy Director, the Institute continues to flourish and provide a first-rate environment for the Institute's team of dedicated scientists to achieve optimal results from their research programs in the neurosciences. Our research has, and will, continue to make substantial contributions to the health and wellbeing of the Australian community.

On behalf of the Board, I sincerely thank all those who have contributed to the Institute's achievements in 2006. A vital

component of the Institute's success is the support of individuals, corporations, trusts and foundations that assist our scientific research. Friends and supporters also play a crucial role by volunteering their time and resources, and by attending Institute meetings and functions throughout the year.

Space limitations The Prince of Wales Medical Research Institute faces critical space limitations. Our staff numbers have increased from 43 when the Institute was established in 1993 to 154 in 2006. We have now reached full capacity and urgently require a purpose-built facility to provide the specialist research laboratories and facilities necessary for our scientists and clinicians. This will ensure we can properly support our mission to understand, diagnose and treat brain and nervous system disease.

Vision for the future The Institute seeks to establish a world-class Neuroscience Research Precinct as a major research hub located on our site of the Randwick Hospitals' Campus. The establishment of this Precinct is consistent with the recommendations of the National Neuroscience Consultative Taskforce commissioned by the Federal Minister for Health & Ageing, The Hon Tony Abbott, and the Medical Research Strategy of the NSW Government. Importantly, the development of the Neuroscience Research Precinct has been designated as one of six medical research hubs in the NSW Government's Medical Research Strategy.

The Prince of Wales Medical Research Institute's partners in the Neuroscience Research Precinct are South Eastern Sydney & Illawarra Area Health Service and the Randwick Campus Hospitals, the University of New South Wales (including Brain Sciences UNSW) and the Black Dog Institute.

The Neuroscience Research Precinct will require major capital investment from various sources, including both the Federal and State Governments. We have the land for this development and our Architects and Planners have completed the design. We now require the funds to make this vision a reality.



Paul Brassil
Chairman





FRAMEWORK

FOR THE FUTURE

New research programs and staff POWMRI has made substantial advances in neuroscience research for the past 13 years, with practical application of many of our research projects in diagnosis of neurological disorders, preventing falls, protecting against injury and changes in rehabilitation management techniques.

Over the last year, the Institute has developed new research programs using molecular, cellular and genetic approaches to our existing research strengths in neurological disease especially in Alzheimer's and Parkinson's disease. We have also undertaken a strategic expansion into research on the major psychiatric disorders including schizophrenia, bipolar disorder and depression.

In September 2006, we established a new laboratory for 16 researchers focusing on genetics and mental health research. This work, undertaken by my own team of researchers, has already led to important advances in our understanding of the genetic and environmental contributions that lead to depression with the use of this genetic information in a clinical intervention trial on the effective management of stress to prevent depression. We have also identified a gene that predisposes to the onset of bipolar disorder.

The Institute was selected as the location for the NISAD Chair in Schizophrenia Research. This prestigious appointment is supported by a funding commitment, worth \$8 million over the first five years, by NSW Health, NISAD, UNSW and the Institute. Professor Cynthia (Cyndi) Shannon-Weickert was recruited from the National Institutes of Health in the US to establish a significant international research team to study the developmental biology of schizophrenia. Cyndi commenced at POWMRI in November 2006 and fast-tracked the recruitment of a research team with vision and a commitment to innovative science. This enterprise will undoubtedly provide the framework for important developments in understanding how disturbances in brain development can lead to the onset of schizophrenia. Extensive renovations to accommodate her research team were supported by a grant from the NSW Government.

Dr Thomas Weickert also relocated from the US National Institutes of Health in November 2006 to take up a new position as Senior Lecturer in the School of Psychiatry, UNSW and is based at

POWMRI. Tom is a cognitive psychologist, who has joined the POWMRI Faculty as a Research Fellow. Using brain imaging technology he will conduct clinical research into schizophrenia.

Dr John Kwok moved to the Institute to continue his work in the genetics of Alzheimer's disease and frontotemporal dementia in my own laboratory. He was appointed to the POWMRI Faculty as a Research Fellow with his research into the genetics of dementia benefiting from the outstanding collaborative opportunities that are presented at the Institute.

The "Genetics Repositories Australia" national research facility was established in 2006 with a \$2 million NHMRC "Special Facilities" Enabling Grant over five years. In creating this national initiative, the Institute has set a benchmark for future investment in genetic research by providing the essential support to establish, distribute and maintain long-term secure storage of human genetic samples (DNA and cell lines) from researchers throughout Australia. Steve Turner has been appointed as Manager of the GRA facility.

New operations staff As the Institute continues to grow, it has become essential to provide additional operational and administrative support to ensure our researchers can work to maximal efficiency. In 2006 we invested heavily in a major capital and staffing upgrade to our IT services. Dr Andrew Cartwright was appointed as the new IT Manager and we recruited both an IT Database Programmer and a Support Officer.

We have underpinned our increased laboratory research efforts with the appointment of a new technical support officer. In our PR and Fundraising Department we have created separate Events Manager and part time Donor Database Coordinator positions.

Staff promotions, awards and recognition The Institute is proud of the achievements of its staff. We now have 15 scientists on staff holding appointments at levels of Professor or Associate Professor. There are 8 NHMRC Research Fellows and 3 RD Wright Fellows on the Faculty from a staff of 160.

Several staff members received promotions in 2006. Professor Stephen Lord was promoted to a NHMRC and POWMRI Senior Principal

“The opportunities for discoveries have never been greater and we have a compelling vision for the future of our research that we believe will have a profound effect on medical research worldwide.”

Research Fellow and Associate Professor James Brock as POWMRI Principal Research Fellow. Professor Vaughan Macefield has been appointed as the Foundation Chair of Physiology at the University of Western Sydney. Vaughan will continue components of his research at POWMRI and holds a conjoint appointment with the Institute.

In 2006, Dr Kay Double was honoured by the Federal Minister for Health & Ageing, The Hon Tony Abbott, as one of “Ten of the Best” NHMRC funded researchers for her work on Parkinson’s disease.

Many of our staff members have attracted significant media coverage for their work over the past year. These include: Professor Cyndi Shannon-Weickert on her prestigious new appointment as NISAD Chair of Schizophrenia Research; Associate Professor Lynne Bilston for research on child car restraints; Associate Professor Matthew Kiernan on Motor Neurone Disease; Professor Glenda Halliday and Dr Kay Double for research on Parkinson’s disease; Dr Richard Fitzpatrick on “remote control” of walking; Dr Gunnar Wasner on chronic pain in spinal cord injury; and myself (in my capacity as a member of the Lockhart Review Committee in 2005) on the “stem cell and therapeutic cloning” debate.

Competitive grant success Medical research is a highly competitive sector, but the Institute continues to excel. Our success rate for NHMRC grants was almost twice the national average and, in our partnership in Brain Sciences UNSW, we collectively produced 35% of all NHMRC grants that were awarded to, or administered by, UNSW. The Institute currently holds 88 competitive research grants valued at \$8.75 million.

Our outstanding support from the NHMRC includes leadership of the “Partnership in Injury Grant”; leadership of one and partnership in a second Enabling Grant for genetic and brain tissue repositories, respectively; and partnership in several recently awarded initiatives, including a Clinical Centre of Research Excellence in Anxiety and Depression, and ARC Thinking Systems Grant.

Outstanding publication record The Institute had an outstanding publication record in 2006, producing 149 peer-reviewed papers, books and chapters. This exceeds our record of 126 publications

Artist's impression of the proposed new building



in 2005 and is substantially above the publication outputs of many similar sized and larger medical research institutes.

Citation analysis provides a way of assessing the value and importance of research publications. Professor George Paxinos AO is particularly noteworthy in this regard since his book, *The Rat Brain in Stereotaxic Coordinates*, has attracted over 30,000 citations over its several editions, making it the tenth most cited publication and the third most cited scientific book in the world.

Supporters and donors The Institute continues with a range of fundraising events and in the 2005/06 financial year we raised \$1,298,000.00 for our research. These included our ongoing participation in the ASX-Reuters Charity Foundation partnership; “Bridge for Brain” Research Challenge; the innovative “Creative Madness” art exhibition; and our annual Food for Thought Gala Dinner which, in 2006, had an Italian theme, “Maestri della Cucina”. Proceeds from this event were directed towards our research into mental illness.

Computer generated image of the proposed new building



Our direct mail campaign has continued through 2006 as part of a long-term strategy to increase our donor base. The Phyllis Luker Society, a program to encourage supporting the work of the Institute through bequests, has not only provided a vehicle by which we can honour those who have provided for the Institute in their Will, but has also increased public awareness of the Institute.

My colleagues and I regularly invited many friends and supporters to visit the Institute, to meet our Board members and senior scientists, and see firsthand the extent of our research in the neurosciences. This has been a valuable exchange as we have gained many new supporters from this initiative.

Individual donors and supporters have also been most generous in 2006, with key individuals and families providing significant donations. I extend my sincere thanks to all those made donations for your philanthropy and foresight.

The past and the future Although we have continued to thrive in a stimulating research environment, the physical environment has been challenging to say the least. POWMRI's current facilities were built in the '60s and served as the Randwick Chest Hospital. In the early 1990s, the Institute renovated and extended the two Villas with capital grants of only \$1.7 million from each of the Federal and State Governments to accommodate its research teams. The Institute has quadrupled in size over the past 13 years, and is now at full capacity. In fact, it has exceeded capacity!

The Institute is at a critical stage where we must substantially expand our laboratories and facilities to allow us to use our intellectual capacity and commitment to undertake and apply effective medical research to reduce the nation's burden of disease.

Our current growth trajectory and plans for the future require a significant new investment into a purpose-built, world-class, research facility. For example, our new work in genetics and molecular biology requires more sophisticated equipment and space than the current building can support, while further developments in our brain magnetic imaging research require purpose-built facilities.

Quality laboratory space and clinical research facilities are critical to attracting and supporting research excellence.

Working with Cox-Richardson Architects & Planners and the South East Sydney & Illawarra Area Health Service, we have developed plans for a new \$69.1 million building. The new building will provide 11,000m² of new research capacity. This would double the space of our existing research facility. Consistent with the recommendations of the National Neuroscience Consultative Taskforce, the Institute's building developments will lead the establishment of the "Neuroscience Research Precinct" on the Prince of Wales Campus at Randwick.

The opportunities for discoveries have never been greater and we have a compelling vision for the future of our research that we believe will have a profound effect on medical research worldwide.

Establishment of the Neuroscience Research Precinct would lead to enhanced opportunities for cooperation across the basic neurosciences, the clinical disciplines of neurology and psychiatry, and the population-based health sciences.

As part of the long-term future of the Institute and the Neuroscience Research Precinct, we have embarked on a major campaign to raise the substantial funds required to make our vision a reality, and our research outputs, a benefit to the health and wellbeing of the Australian community.

Professor Peter R Schofield
Executive Director and CEO

Board Of Directors
2006



Mr Paul Brassil BEc LLB ACA FTIA

Director, POWMRI Limited, 1997 – present

Chairman of the Board, POWMRI Limited, 2004 – present

Chairman of the Audit Committee, POWMRI Limited, 2003 – present

Partner of PricewaterhouseCoopers, Chartered Accountant and a Fellow of the Taxation Institute of Australia, specialising in advising local and international clients on income tax and related matters.

Professor Peter Schofield PhD DSc

Executive Director and Chief Executive Officer, POWMRI, 2004 – present

Professor Mark Wainwright AM MAppSc PhD DSc

Director, POWMRI Limited, 2004 – October 2006

Former Vice-Chancellor and President, University of New South Wales. He served on boards of a number of Co-operative Research Centres and as a Director of NewSouth Innovations Pty Ltd.

Professor Peter Smith RFD MD FRACP FRCPA

Director, POWMRI Limited, November 2005 – present

Dean, Faculty of Medicine, UNSW

He has served on a number of Commonwealth and State Government committees and advisory boards, and is recognised as a leading clinician, researcher and educator.

Mr John Walton AM MBA BEc FCPA FAIM

Director, POWMRI Limited, 1991 – present

An inaugural Director of POWMRI, he was Chairman of Eastern Sydney Area Health Service 1991 – 1996, having been a Director since 1976. He is Chairman of Walton Enterprises Pty Ltd, Deputy Chairman of the Australian Institute of Management, and a Director of Young & Rubicam Australia Pty Ltd, Capital Investments Pty Ltd, and Sydney Children's Hospital Foundation. He has also served as Chairman or Director of many corporate and community boards.

Mr Barry Shepherd PSM

Director, POWMRI Limited, July 2005 – present

Former Director of Corporate Services, SESIAHS and Deputy CEO, South Eastern Sydney and Eastern Sydney AHS. He served as POWMRI Director during the Institute's formative years and was renominated to the Board by the Area Health Service. He has extensive expertise in the health and medical research sector and the delivery of major projects.



Professor Roger Dampney BSc PhD DSc

Director, POWMRI Limited, 1995 – present

Professor of Cardiovascular Neuroscience at the University of Sydney and an Honorary Consultant Physiologist at Royal North Shore Hospital. He is also a member of a number of Societies and Advisory Committees and has served on a number of NHMRC Grant Review Panels.

Dr Andrew Refshauge MBBS GAICD

Director, POWMRI Limited, October 2005 – present

Member, Audit Committee, POWMRI Limited, June 2006 – present

Former Deputy Premier of NSW (1995 – 2005), former Treasurer and Minister for Health, and a medical practitioner with extensive skills and experience in the political, financial and health sectors.

Mr David Thomas

Director, POWMRI Limited, 1997 – present

David's business is in the hospitality industry.

Ms Judi Hausmann MPRIA

Director, POWMRI Limited, 2003 – present

Principal of Hausmann Communications in Sydney and a Member of the Public Relations Institute of Australia.

Mr Peter Kemp LLB

Director, POWMRI Limited, October 2006 – present

Principal of Peter Kemp Solicitors, a specialist commercial law firm in Sydney. Peter has been involved in commercial legal practice for over 30 years, mainly in his role as one of the founding partners of Kemp Strang Lawyers. He is also a member of the Business Law Section of the Australian Law Council and a founding member of its Insolvency Section.

Mr Philip Salter

Director, POWMRI Limited, 2004 – February 2006

Member, Audit Committee, POWMRI Limited, 2005 – February 2006

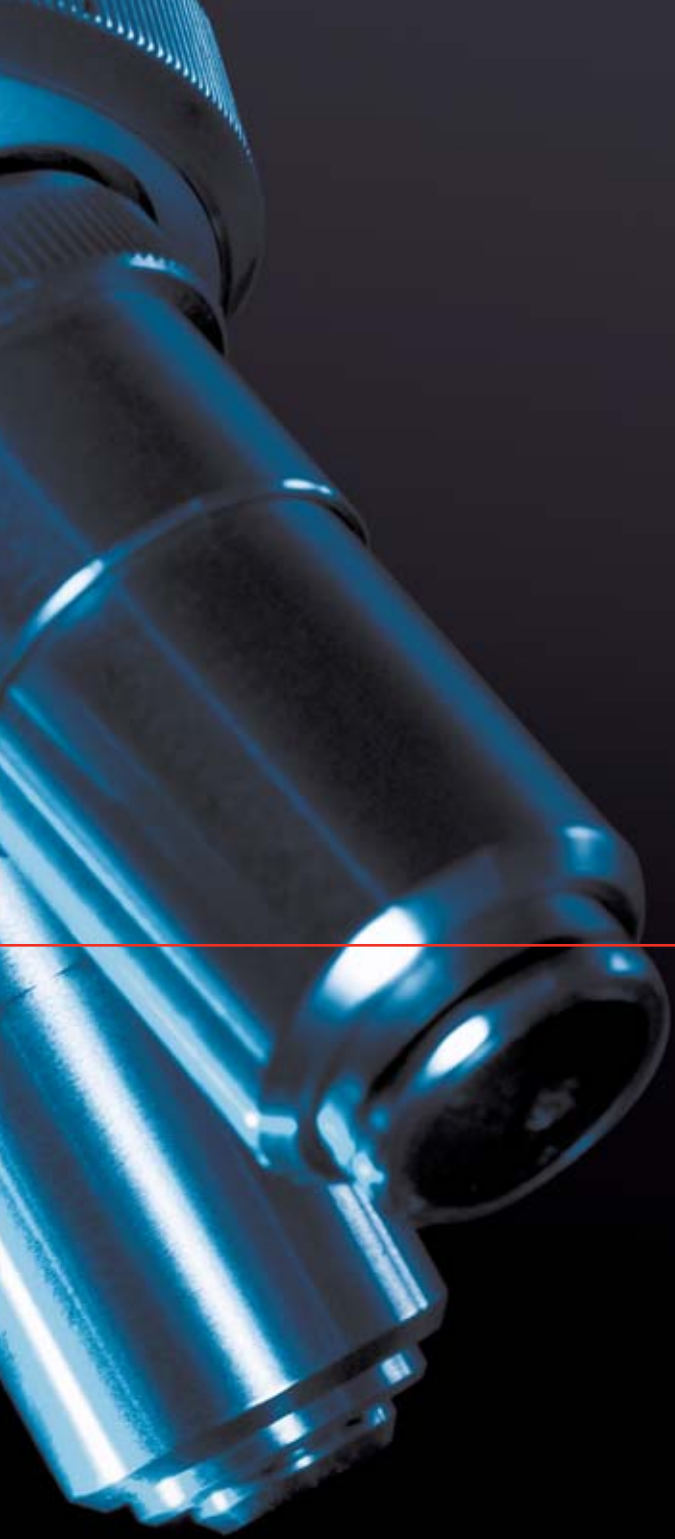
Joint Managing Director of Salmat Limited, member of the Company Directors Association of Australia and former Director of the Australian Direct Marketing Association.

Mr Andrew Dermott BEc CA

Company Secretary and Finance Manager, POWMRI

Research Projects
2006

RESEARCH



The Prince of Wales Medical Research Institute (POWMRI) is dedicated to fundamental and clinical neuroscience research. The outstanding medical research initiatives undertaken at the Institute are founded upon excellence in research leadership and will redefine neuroscience and mental health globally by accelerating discovery. The Institute's research has and will continue to make substantial contributions to the health and wellbeing of the Australian community.

The Institute harnesses exceptional research in degenerative disorders such as Parkinson's and Alzheimer's disease; in psychiatric disorders including schizophrenia, bipolar disorder and depression; in spinal cord injury; in falls, balance and human movement; and in brain mapping and imaging. The Institute is a model for the outstanding collaboration of neuroscientists.

*“And in the end, it’s not the years in your life that count.
It’s the life in your years.”* Abraham Lincoln 1809 – 1865

NEURODEGENERATION AND AGEING

Parkinson’s disease genetics Professor Glenda Halliday and Dr Yue Huang are participating in an Australian-wide collaboration to develop the necessary resources to study the genetic effects on Parkinson’s disease. In their first studies, they have focused on families with more than one member with Parkinson’s disease. Assessment of these families has shown genetic anticipation – people in younger generations get the disease earlier in life – that is not explained by previously published genetic causes. Further genetic studies in these families are being completed and a number of studies have commenced on larger populations of patients with Parkinson’s disease.

Factors influencing normal and pathological cognitive ageing

Dr Olivier Piguet, Professor Tony Broe and Professor Glenda Halliday are undertaking research which is aimed at developing objective tools to identify the earliest markers and correlations of the most common dementia syndromes associated with ageing. These studies confirm that loss of the hippocampal brain region is a good predictor of memory performance and that both memory and motor deficits contribute significantly to functional decline. From these studies they developed a simple rating scale for the evaluation of the hippocampus on brain MRI scans and found that older people with smaller hippocampi have more difficulties socialising. A surprising result has been that both sides of the brain may need to be affected for considerable dysfunction with ageing to occur. Our studies have also demonstrated the deleterious effect of alcohol on the cerebellum, even at very low doses, of very old individuals.

Healthy ageing Professor Tony Broe is undertaking research across a number of projects investigating different aspects of population ageing and brain function. With colleagues from the University of Queensland and the Australian Institute of Health and Ageing, a computer-based modelling project was designed to calculate patient flows between the community, hospital and residential aged care sectors with the aim of improving aged care planning and service design in Australia. Professor Broe’s focus on the dementias and on healthy ageing also saw him involved in the Dementia Collaborative Research Centre (DCRC) with Professor Henry Brodaty and colleagues from UNSW and the initiation of the Project “How to age well” from the “Australian Longitudinal Studies on Ageing” with Dr Kaarin Anstey and colleagues from the

ANU. He also gained combined funding from the ARC Ageing Well Network and the DCRC to review what is currently known about cognitive impairment, dementia, Alzheimer’s disease and brain injury in Aboriginal communities. While indigenous Australians currently have a much lower life expectancy than non-indigenous Australians, this pattern is starting to change and it will become increasingly important to understand how brain ageing affects urban, rural and remote indigenous populations.

Professors Schofield, Broe and Halliday are co-investigators on the NHMRC/ARC Ageing Well Ageing Productively project to undertake the Ageing Twins Study, which is led by Professor Sachdev from the Prince of Wales Hospital.

Understanding frontotemporal dementia: Identifying any clinical variations that can predict the different cellular mechanisms

Frontotemporal dementia is a leading cause of dementia, accounting for between 12 and 20% of all dementia cases. In contrast to other degenerative diseases, frontotemporal dementia has different cellular mechanisms that produce similar but variant clinical pictures.

Studies conducted by Professor Glenda Halliday and colleagues Professor John Hodges and Assoc Professor Jillian Kril have identified that the majority of frontotemporal dementia patients presenting with language difficulties and/or motor neuron disease will have one cellular form of frontotemporal dementia whereas the majority presenting with corticobasal degeneration or progressive supranuclear palsy will have the other cellular form. As these presentations are rarer clinical variants of frontotemporal dementia, for many patients it is still not possible to predict the underlying cellular pathology at present. The research team has also found that a proportion of patients with frontotemporal dementia have early severe memory impairment which has significant implications for clinical diagnosis, as this type of presentation is currently used to identify patients with Alzheimer’s disease.

Identifying any similarities at the cellular level in the different forms of frontotemporal dementia Professor Glenda Halliday and colleagues have identified that there is considerable similarity in the progression and pattern of atrophy for most of the clinical variants

Christine Song *PhD Student*

Christine Song was recently awarded a GlaxoSmithKline (GSK) Post Graduate Support Grant for her work on improving the outcomes for people who have atypical forms of Parkinson's disease that causes the brain to degenerate. Her research aims to identify early changes in the brain before significant damage is caused.





with two notable exceptions: patients with progressive supranuclear palsy do not have gross brain atrophy over time, despite significant deposition of abnormal tau in cortical regions, and about 10% of patients with a behavioural variant have minimal atrophy which does not progress over time. In most patients, the degree of temporal lobe atrophy can predict disease progression. This data contributed to the development of a novel and simple clinical tool to visually evaluate the degree of brain atrophy in patients with frontotemporal dementia to assist in predicting disease subtype, severity and survival. Overall these studies indicate that once frontotemporal dementia has commenced there is a similar speed and distribution of atrophy for most patients regardless of the underlying cellular pathology. However, for patients with certain clinical phenotypes, the type of cellular pathology can be largely predicted, although a proportion of patients will be clinically diagnosed with Alzheimer's disease using current criteria. This research has already translated directly into clinical practice with the development of a new clinical tool and an evidence base for the refinement of diagnostic criteria.

Genetics of frontotemporal dementia The relocation of the research laboratories of Professor Schofield and Dr Kwok to the Institute in 2006 provided a major research boost into the genetic causes of frontotemporal dementia. Two key studies are underway, examining the genetic defects which may lead to this important form of dementia.

PhD student Agnes Luty has been studying a large South Australian family that has frontotemporal dementia and motor neurone disease. Using genetic linkage studies, the team has identified linkage to chromosome 9p, a well-established locus for this disease. Positional cloning studies are aiming to identify the gene that is responsible for this inherited disorder. In a second study, PhD student Dr Clement Loy is examining a family with a recessively inherited form of frontotemporal dementia, using a unique genetic mapping tool termed homozygosity mapping. This approach offers the potential in closely related family members of rapidly narrowing the location of the dementia causing gene.

Targeting inflammatory mechanisms in Alzheimer's disease Alzheimer's disease accounts for more than 50% of all dementia cases. Recent evidence shows that brain inflammation mediates most of the irreversible tissue damage and loss found in Alzheimer's disease, and that this mechanism can be therapeutically manipulated. Dr Claire Shepherd and Professor Glenda Halliday have been concentrating on determining molecules that participate in this type of brain inflammation with the aim of identifying those that are amenable to modification for future treatment development. In 2005 they found a novel "inflammatory" pathology in the brains of patients with genetic forms of Alzheimer's disease and over the

past year they have been seeking to identify the proteins in this pathology. To do so, they developed a novel method for the retrieval of tissue proteins from formalin-fixed archival tissue samples. The development of this new technique is likely to have considerable impact on protein studies in the human brain. Dr Shepherd and Professor Halliday identified proinflammatory mediators, and most recently found that, out of the 17 relevant molecules tested, levels of soluble monocyte chemoattractant protein appear to be a potent driver of this inflammatory response.

Genetics of early onset Alzheimer's disease Newly appointed POWMRI Research Fellow Dr John Kwok, together with Dr Bill Brooks have continued their studies of the genetics of early onset Alzheimer's disease. A particular focus of the collaborative studies is the identification of potential genes that may modify the onset or progression of dementia, as these genes may provide key therapeutic targets for successful treatment for all cases Alzheimer's disease.

Do changes in neuromelanin pigment and associated brain fats trigger brain cell death in Parkinson's disease? Recent research by Dr Kay Double and colleagues has identified changes in neuromelanin, a dark pigment found in the brain cells which die in Parkinson's disease. Dr Double suggested that an increase in iron in the vulnerable brain cells and the ability of neuromelanin to bind iron results in an increase in damaging oxygen-based molecules in the brain in Parkinson's disease. This would disturb normal cellular events, such as the ability to remove waste proteins, within the pigmented neurons. Another interesting change identified in neuromelanin in the brain in Parkinson's disease was a decrease in the amount of cholesterol associated with the pigment. Cholesterol belongs to a group of fats called isoprenoids and there is evidence that this family of fats may be changed in the periphery and also in the brain in Parkinson's disease.

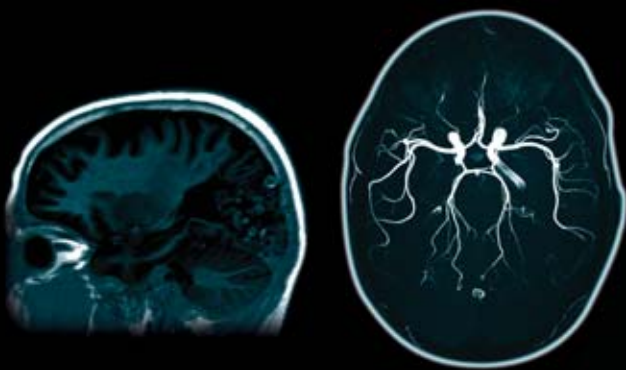
Dr Double and her colleagues published a review of the known links between isoprenoids, neuromelanin and the mechanisms by which brain cells die in Parkinson's disease and proposed that changes in isoprenoids in Parkinson's disease represent an early triggering event for cell death in this disorder. Their experimental work is currently investigating this novel hypothesis in the brain and in the periphery in Parkinson's disease patients and controls and also in model systems. The identification of an early, common change within the vulnerable cells which might ultimately result in brain cell death in Parkinson's disease could lead to the development of novel, more effective treatments for this disorder.

An associated research project to develop a novel way of diagnosing Parkinson's disease based on ultrasound is also thought to reflect changes in iron within the Parkinsonian brain. Dr Double's team was able to show that the typical brain changes seen using ultrasound imaging in people with a clinical diagnosis of Parkinson's disease are also seen in almost 50% of healthy aged persons and are associated with subtle changes in movement. These findings suggest that the brain changes typical of Parkinson's disease can also be associated with mild motor dysfunction in otherwise healthy individuals. Dr Double and her team now plan to identify the cellular basis of these changes in both healthy individuals and in Parkinson's disease.

Motor neurone disease A particular focus for Assoc Professor Matthew Kiernan in 2006 has related to the pathophysiology of motor neurone disease (MND), a universally fatal condition that kills one Australian every day. The cause of MND is unknown in the

Dr Olivier Piguet Senior Research Officer
NHMRC Neil Hamilton Fairley Fellow

Over the next five years, Olivier's research will use new approaches to understand the links between the cognitive changes associated with healthy ageing and those found in abnormal (pathological) ageing and to define their brain correlates.



whether in the brain, spinal cord or in the peripheral nerves. Assoc Professor Kiernan and his team have been investigating where MND begins through studies directed at different levels of the neural axis from the brain, through to the peripheral nerve. Complementary studies are proceeding in MND patients and pre-symptomatic carriers of a genetic mutation linked to the development of MND. In addition to providing information about the disease site of the origin, progression and thereby prognosis, new quantifiable measures are being developed which may subsequently be used in conjunction with other markers of disease progression to objectively monitor MND patients in future treatment and prevention trials.

Understanding age-related macular degeneration (AMD) Age-related macular degeneration is the leading cause of blindness in industrialised countries. A recent Australian study estimated that AMD currently costs \$2.6 billion each year, expected to rise to \$6.5 billion per year by 2025. Thus there is a strong imperative to find ways of treating, and ultimately preventing, AMD.

Recent genetic evidence suggests that a healthy innate immune system may protect against AMD by preventing the accumulation of abnormal deposits beneath a layer of cells critical to the function of photoreceptors – the retinal pigment epithelium. Focal accumulation of these deposits results in “drusen”, the hallmark lesions of AMD. An ongoing challenge in AMD research is the correlation of genetic and laboratory findings with clinical findings. This is particularly difficult since the earliest deposits are not visible to the clinician using an ophthalmoscope.

Dr Shirley Sarks continues to correlate clinical changes in the eye with microscopic changes in cellular architecture. By analysing a unique

collection of eyes that have been examined by an ophthalmologist during life, Dr Sarks' group has been able to identify two separate pathways by which eyes accumulate the abnormal deposits characteristic of early AMD. These two pathways lead to two disease endpoints in AMD – “drusen-related atrophy” and “drusen-unrelated atrophy”. It is anticipated that this finding will assist with both the design and interpretation of genetic susceptibility studies.

Using clinical data collected over the course of up to 19 years, Dr Sarks' group also found that the disciform scars caused by the neovascular, or “wet” form of AMD, may continue to cause loss of vision, despite being considered “stable” by most clinicians. This appears to occur due to ongoing loss of the retinal pigment epithelium, in response to remodelling of the vascular bed that supports it. These findings will ensure that clinicians can better plan management and treatment, thus providing better support for patients with neovascular AMD.

Molecular basis of neurological disease The primary research focus for Dr Brett Garner and his team is to understand how lipids, such as cholesterol, can regulate fundamental cellular functions that result in neuron death – important in Alzheimer's disease and Parkinson's disease – and also how lipids cause vascular disease such as atherosclerosis – important in heart disease, stroke and vascular dementia. Dr Garner's group aims to understand disease mechanisms at a molecular level in order to identify new therapeutic approaches which are very limited or nonexistent for most forms of dementia and neurodegenerative disease.

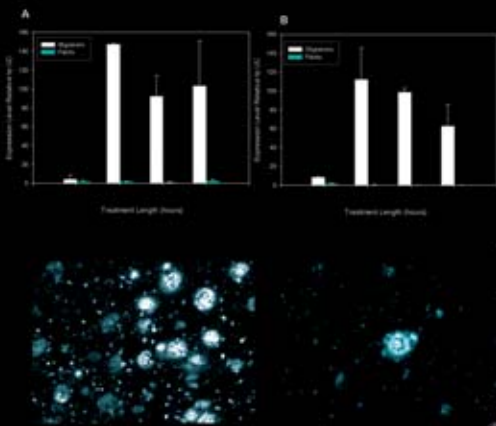
Cholesterol and neurodegeneration in Alzheimer's disease With key contributions from Dr Scott Kim, Dr Garner's team has completed the first detailed analysis, for all of the major human brain cell types,

Research Projects

Neurodegeneration and Ageing

Lolita Warden PhD Student

Lolita is the recipient of the 2005 Hunter Doctoral Research Scholarship into the Causes of Alzheimer's Disease awarded by Alzheimer's Australia. Her research investigates inflammation in relation to the key pathological hallmark inclusions of Alzheimer's disease in the brain, these being amyloid protein deposition, tau pathology and the associated cell loss.





'A Kind of Alaska', The Sydney Theatre Company, with Justine Clark and Caroline Lee, directed by Cate Blanchett. Photo: Heidrun Lohr

of a family of lipid transport proteins called ABC transporters. This study identified several ABC transporters in neurons and subsequent work revealed that two of the ABC transporters identified in neurons could play a major role in regulating the production of a toxic peptide (amyloid-beta) that has been known for many years to be one causative factor in Alzheimer's disease. This latter research, which also revealed for the first time how cholesterol is transported from neurons, was published online late in 2006 and attracted the attention of New Scientist magazine and Australian and overseas news agencies. The next phase of this research, on the role that specific ABC transporters play in regulating pathology in mouse models of Alzheimer's disease, has now commenced.

Novel function for lipid transport protein ApoE ApoE is a lipid transport protein that plays a role in both brain and blood cholesterol transport. PhD student David Elliott, working with Dr Brett Garner, discovered that apoE level is dramatically increased in neurons that undergo a specialised type of programmed cell death known as apoptosis. This research also suggests that apoE may facilitate the removal of neuronal debris in the brain thereby limiting inflammatory pathways in neurodegenerative disease. Follow-up research is focusing on attaining an understanding of the role that apoE may play in apoptosis and whether apoE expression can directly protect cells from programmed cell death. In a closely related project, David Elliott has worked with the research team to examine apoE proteolytic processing in Alzheimer's disease brain samples and identified several novel disease-associated modifications which could provide insight into the possible function of apoE in Alzheimer's disease.

Novel therapeutic approaches for vascular disease Atherosclerotic vascular disease severely reduces blood supply to the heart and brain and this can lead to heart attack, stroke and vascular dementia. In the last few years, Dr Garner's group has pioneered a new area of research that aims to treat atherosclerotic vascular disease by inhibiting a class of lipids known as glycosphingolipids. Elias Glaros has worked on this project as a research assistant for four years and has recently gained a scholarship to continue this work as a PhD student. One of the highlights of the year for this work includes the discovery that a new candidate drug, myriocin, significantly reduces atherosclerosis in apoE gene knockout mice

by suppressing the synthesis of glycosphingolipids. The transition of this work from cell biology into an animal model adds further support to the idea that therapies targeting sphingolipid synthesis may be useful in a human disease context.

Neurohistory: Encephalitis lethargica, the forgotten epidemic (1916 – 1930?) The first history of encephalitis lethargica, or the "sleeping sickness" epidemic, which afflicted the world between the two World Wars, is being prepared by Dr Paul Foley. About one-third of victims died during the acute phase; at least equally tragic was the fact that almost all survivors, mostly under the age of thirty years, developed incurable neurological syndromes resembling Parkinson's disease – as seen in the film *Awakenings*. This ARC-funded project has already attracted international interest from neurohistorians, neurologists and others, and the first book on the subject since 1931, and several papers, are in final preparation. Reflecting the significance of his historical research, Dr Foley was invited by Cate Blanchett to provide historical and medical advice, plus historical notes for the program, for Sydney Theatre Company performance of *A Kind of Alaska*.

POWMRI Tissue Resource Centre: Donated brain tissue for national distribution The Institute became part of the Australian Brain Bank Network in July 2004, a facility funded by a five year NHMRC Enabling Grant. The total number of donor brains collected through the POWMRI brain donor program over this time has remained relatively stable, averaging around forty brains per year. The number of brain tissue samples that are available upon request for non-collaborative studies increased to over half of donated tissue due to the donors signing new consent forms allowing tissue to be given out to third parties for ethically-approved research purposes. It is expected that these donations will increase over time. Currently, 650 brains are stored in the Institute's Tissue Resource Centre.

DNA extraction techniques for both fresh and fixed brain tissue were developed to be able to provide autopsy confirmed DNA material for research purposes on cases that have provided consent for such studies. To date, 119 DNA samples from fresh and fixed brain tissue samples have been processed.

*“Mental illness is nothing to be ashamed of,
but stigma and bias shame us all.”* Bill Clinton 1946 –

MENTAL ILLNESS

Mental illness is responsible for one of the largest disease burdens in Australia. Schizophrenia and bipolar disorder each affect around 1% of the population, while depression affects approximately 5%. Around 8,000 people, most in their late teens and early twenties, are newly diagnosed with schizophrenia every year, costing Australia close to \$8 billion annually. The affective or mood disorders – bipolar disorder and depression – are also significant burdens with 12% of all suicides attributed to bipolar disorder. The financial costs amount to \$1.59 billion per annum. This year has seen the launch of an important new initiative for the Institute, the commencement of several new projects in mental illness research.



Professor Cynthia Shannon Weickert

Genes that predispose to bipolar disorder Professor Peter Schofield and NHMRC Howard Florey Fellow Dr Jan Fullerton have established their laboratory at the Institute. Over more than 15 years, a cohort of families with a high incidence of bipolar disorder have been recruited by Professor Philip Mitchell from the School of Psychiatry at UNSW, to underpin a series of studies on the genetic risk factors for bipolar disorder. Over 1,200 family members, both affected and mentally well, have been recruited and used for the genetic studies.

The culmination of a decade long study was published in Molecular Psychiatry in which the cadherin gene FAT was identified as the first bipolar disorder susceptibility gene isolated through positional

cloning. However, the identification of polymorphisms within a susceptibility gene leads to further questions, such as which variants within the FAT gene are actually causing the predisposition to bipolar disorder, and how do they alter the function of this protein?

Another genetic study, undertaken by PhD student Erica McAuley, has identified a second susceptibility locus located on chromosome 15. This chromosomal region has been widely implicated in the risk for both mood and psychotic disorders and Institute research studies are focusing on identifying the specific gene variant that results in illness.

Genes, environment and depression In a collaborative study with Assoc Professor Kay Wilhelm and Professors Phil Mitchell and Gordon Parker from the UNSW School of Psychiatry, Professor Peter Schofield and his team examined the genetic variation in the transporter protein that is involved in the reuptake of the key chemical signaling molecule serotonin.

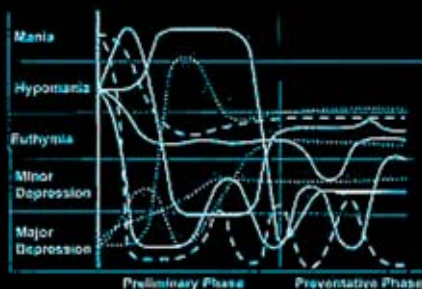
The study, published in the British Journal of Psychiatry, found more than a fifth of the population has a genetic predisposition to depression in response to a series of stressful life events. Researchers based their findings on DNA samples of a group of 128 people who were monitored over 25 years for depression onset and major life events. 42% met criteria for lifetime major depression. The study found an 80% chance that those with the genetic predisposition will become depressed, if there are three or more negative life events in a year. This contrasts with some people who have genetic resilience against depression. Even in similar situations, there is only a 30% percent chance of them becoming depressed. While there is evidence surrounding the significance of family history of depression, until now there has been very little idea about the specific genes involved. This research shows significant implications for reducing the likelihood of depression amongst those with the vulnerable genotype, by training them to improve their coping styles and stress responses.

Appointment of the Schizophrenia Research Professor of Developmental Neuroscience A major new research activity for the Institute was the successful bid, conducted in partnership with UNSW, to host the nation's first Schizophrenia Research

Dr Jan Fullerton Senior Research Officer

NHMRC Howard Florey Centenary Research Fellow

Using her experience in psychiatric genetics and quantitative trait analysis, Jan is developing new, multifaceted tools to identify sub-clinical bipolar disorder as a complementary adjunct to traditional clinical diagnosis. This will facilitate the identification of susceptibility genes for bipolar disorder and related psychopathologies.



Professorial Chair. Core funding for this position is provided by the Schizophrenia Research Institute (formerly NISAD – Neuroscience Institute of Schizophrenia and Allied Disorders) who, together with the Institute and University, conducted an international search that led to the appointment of Professor Cynthia Shannon Weickert as the Schizophrenia Research Professor of Developmental Neuroscience.

Professor Shannon Weickert had spent the past 11 years at the US National Institute of Mental Health where she pioneered human brain studies on the changes in growth-related molecules in schizophrenia. Most recently, she has focused on defining abnormalities in one of these neuronal growth factors, neuregulin, in cerebral cortex of patients, as neuregulin is critical for proper cortical development and is the most convincing schizophrenia susceptibility gene found to date. She plans to continue work on a basic level by determining the precise molecular steps used when a cell migrates towards a neuregulin source and on a clinical level by linking genetic changes in neuregulin to neuronal migration abnormalities found in the patient's brain. Once she has determined the nature of the DNA alterations in neuregulin that lead to the abnormal migration found neuropathologically, she will be able to more accurately identify humans at risk for schizophrenia, to know which pathological changes are a direct consequence of genetic alterations, to recreate models of the etiology of schizophrenia with higher fidelity and to develop drugs aimed at reversing the problems earlier in the development of the disease.

Cognitive psychology and schizophrenia Dr Thomas Weickert was appointed as a POWMRI Research Fellow and Senior Lecturer in Psychiatry at UNSW in late 2006. Dr Weickert has training and experience in the biological sciences, neuroscience, animal behavior, experimental psychology and cognitive psychology. Dr Weickert conducted work on memory deficits and general neuropsychological testing in ageing and early Alzheimer's disease at the New York University Medical Center. He studied cognitive deficits and was responsible for neuropsychological testing in schizophrenia with the National Institute of Mental Health in Bethesda, MD, USA.

In collaboration with the Australian Schizophrenia Research Bank, one of Dr Weickert's projects has been to establish a team

to undertake the recruitment and clinical assessment of volunteer patients with schizophrenia and healthy adults who will participate in cognitive, neuroimaging, and brain stimulation research to determine the neurobiological and genetic underpinnings of schizophrenia.

Genetics of normal brain function Dr Carol Dobson-Stone is investigating to what extent differences within genes may be responsible for differences between people in complex brain functions, such as short-term memory. The Brain Resource International Database, a large collection of psychometric, neuroimaging and demographic information from over 3,000 people is being used for this project. This year, Dr Dobson-Stone found that variations in MAOA, a gene involved in serotonin and other neurotransmitter breakdown, are associated with differences in processing of information and ability to sustain attention. She also detected differences in information processing speed in people with different variants of a gene involved in dopamine metabolism.

Genetic Repositories Australia With the support of a \$2 million NHMRC Enabling Grant, Genetic Repositories Australia has been established as a collaborative venture to develop and provide a genetic repository for DNA and cell lines from defined disease and population cohorts. The goal is to be able to provide appropriately consented biospecimen resources that protect the rights and privacy of donor subjects but can be shared by the research community to expedite research into the causes and treatments of disease.

In 2006, the GRA facility was established with the appointment of Steve Turner as the Facility Manager and the refurbishment of laboratories to allow the creation of this new independent facility that meets best practice standards for processing and provision of biological specimens to qualified researchers, and provides an ethically based system that allows for open access to all researchers. To encourage collaborative initiatives, the GRA cost structure will heavily subsidise academic researchers who make their collections available to other researchers by charging a substantially reduced fee to these contributors. In 2006, over 600 samples were processed from seven different research groups.

*“Life is like riding a bicycle.
To keep your balance you must keep moving.”*

Albert Einstein 1879 – 1955

MOVEMENT, BALANCE AND FALLS

Motor commands influence perception of limb position To plan and execute successful voluntary movements, it is necessary to know the position and movements of joints. The traditional view about how joint position is sensed is that signals from receptors in the muscles provide the information. However, voluntary movements are also accompanied by “command” signals generated within the brain and these could also influence perception of limb position. Such signals of command or effort are important in signalling other aspects of proprioception, such as the heaviness of a weight when lifted. Professor Simon Gandevia, Dr Janet Taylor and colleagues used a novel approach to determine whether the signals of command could contribute to position sense. They paralysed and anaesthetised one arm with ischaemia (using an inflatable cuff to block blood flow) in order to produce a “phantom” hand. Prior to paralysis, the position of the wrist could be accurately sensed and it was not affected if the subject made a static voluntary effort to move the hand. However, perceived position of the wrist changed by more than 20° when subjects attempted to flex or extend their phantom hand when it was paralysed and anaesthetised. These results, which were published in the *Journal of Physiology* and featured in commentaries in *New Scientist* and the *Nature* news website, establish for the first time a definitive role for “command” signals in position sense.

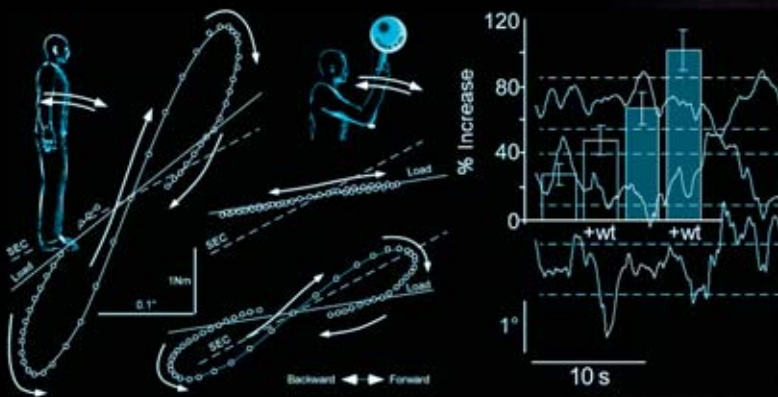
Using the senses to control movement and balance Three sensory systems provide the brain with the information it needs for orientation and to maintain balance. The vestibular system of the inner ear, vision, and sensations from joints, muscle and skin are merged together so automatically that individuals are hardly aware of it – until something goes wrong. Dr Richard Fitzpatrick and his team are researching how the brain combines these different senses to form a single image of the body and its orientation and how, when things do go wrong, it leads to falls and debilitating symptoms such as vertigo and motion sickness. PhD student Rebecca St George has shown how stimulating any one of these sensory systems produces long lasting “after sensations” of spinning or rocking that are equivalent to vertigo. Identifying these mechanisms is providing an understanding of the mechanisms of balance control and its disorders in many disease conditions and with ageing. Disorders of the vestibular system are most often involved with vertigo. Dr Fitzpatrick and colleagues also believe they are a significant cause

of falls in older people but this has been difficult to study because there has been no simple way to assess the vestibular system. They recently discovered how individuals can selectively stimulate the vestibular system in a precise way by applying small electrical currents while engaged in normal activities such as walking. With this technique, the research team has created perceptions of movement and shown how it can be used to steer walking and alter balance. Researchers are now developing the technique to assess balance in older people and others with problems of balance.

This research generated a national and international scientific and media profile through a number of publications and electronic media outlets including *Nature*, *New Scientist*, *LA Times*, *BBC London* and the *ABC’s Catalyst* program.

Techniques like these, which provide ways to assess a person’s basic physiological performance, are providing the tools to investigate more complex problems. As an example, PhD student Annie Butler is using these tests to study a large group of older people to determine how excessive risk taking or timidity relative to a person’s physical capability places them at risk of injuries and falls or, at the other extreme, prevents them from taking up the normal activities of daily life.

Reducing falls and related injury in older people Professor Stephen Lord’s research program includes a range of studies directed to reduce falls and related injury in older people. His team’s work investigates the basic physiology and biomechanics of human balance, including stepping, trips/slips and walking. Professor Lord’s studies of large populations have enabled prediction of people at risk of falls and injury and have been translated into practical screening tools for clinical use in Australia and around the world. The effect of different aspects of shoe design continues to be investigated with the aim of developing safer footwear for older people. Large, randomised, controlled trials will establish whether targeted falls intervention programs can prevent falls in older people staying in acute hospitals and in community-dwelling people at high risk of falls. These interventions include multi-faceted programs and home-based and group exercise.



Dr Richard Fitzpatrick Senior Research Officer

Problems with movement and balance are extremely common with many diseases and among older people. Richard's research studies how the brain combines and uses information from all of the senses to produce the correct muscle contractions required for movement and balance, and the reasons why this goes wrong and leads to common problems such as falls and injuries.

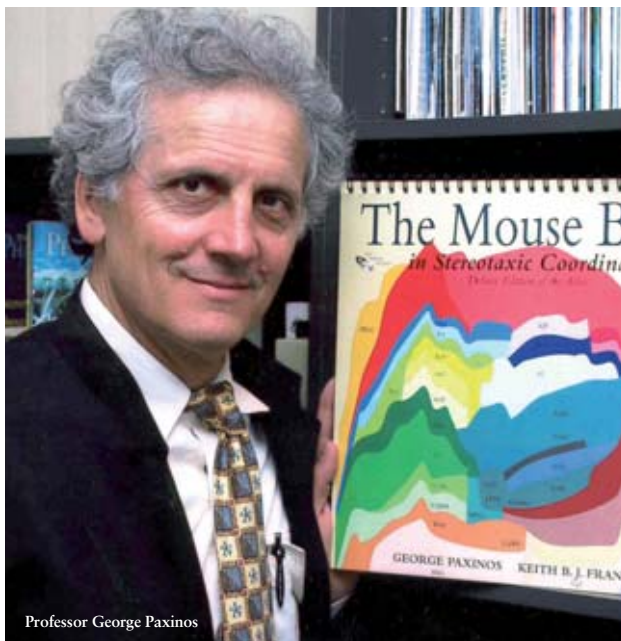
Professor Lord's group conducted a study to determine whether a 22-week water exercise program can improve physical functioning in older people. The controlled study was conducted with 85 water exercise subjects (mean age 71.8 years) and 44 controls (mean age 76.5 years). The outcome measures were leaning balance, knee muscle strength, reaction time and shoulder range of motion. Before the program, the groups were well-matched across most demographic, health and physical performance measures. After the program, the 48 exercise subjects who were available for retest showed significantly improved leaning balance and shoulder range of motion compared with the controls. These findings show that water exercise can produce benefits with regard to improving balance and flexibility in older people.

Muscle control in obstructive sleep apnoea Obstructive sleep apnoea affects more than 4% of males and is more common in the elderly and obese. The tongue (genioglossus) is an important muscle that contracts to keep the upper airway open. During sleep, the activity in the genioglossus muscle is sometimes not large enough and the airway becomes subject to collapse. In severe cases of obstructive sleep apnoea, these obstructions can occur more than 50 times per hour over the whole night, resulting in disrupted sleep and periods of low blood oxygen levels. Dr Jane Butler and her team recently published the first detailed study of the activity in genioglossus muscle during normal breathing during wakefulness to understand how this muscle is controlled. The experiments showed that the control of this muscle is much more complex than originally thought and that there are a number of different neural inputs to this muscle that act together to keep the airway open during normal breathing. Plans are underway to study further the control of this muscle in people with obstructive sleep apnoea.



“The human brain, then, is the most complicated organisation of matter that we know.” Isaac Asimov 1920 – 1992

BRAIN FUNCTION AND IMAGING



Professor George Paxinos

Symbion Clinical Research Imaging Centre The Symbion Clinical Research Imaging Centre is a joint facility between the Institute and Symbion Health. It houses a 3 Tesla magnetic resonance imaging (MRI) scanner which allows researchers to measure brain structure and function, as well as connectivities and chemistry in a non-invasive manner. The scanner will be upgraded in early 2007, enabling researchers to undertake a larger range of new investigations, including 31P (brain bioenergetics) and 13C (brain metabolism) experiments, and obtain higher angular resolution in images.

During 2006, research using the scanner was expanded, with 25 active research projects. New equipment and services were acquired for research use from a grant received from the ARC. A physiological monitoring system was also acquired, allowing safe measurement of heart rate, respiration and inhaled/exhaled gasses, as well as an LED screen for presenting information to the subject. As part of the

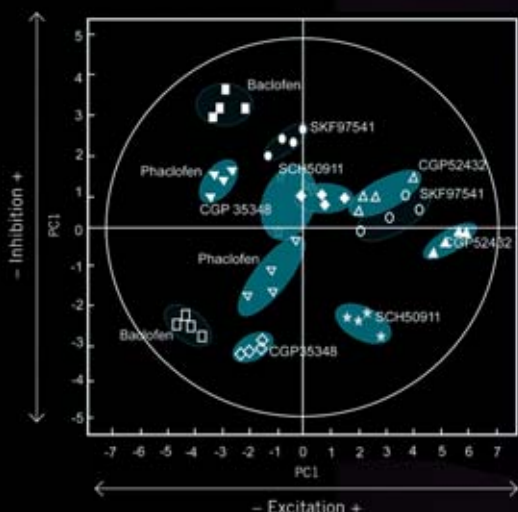
NSW Government's Mental Health initiative, funding was received for a position in diffusion tensor image processing to facilitate collaboration with leading researchers in the field at University of California, San Francisco. This will enable researchers to undertake more advanced fibre tracking and brain connectivity analyses.

Brain mapping Maps of the brain and spinal cord are needed by virtually everyone who studies the relationship between the nervous system and its disorders such as depression, schizophrenia, Parkinson's disease, Alzheimer's disease and motor neurone disease. Scientists also need to know the relationships between the brain and spinal cord of humans and other species so that they can test hypotheses inspired by human considerations and relate their observations to humans.

Professor George Paxinos and colleagues are continuing to develop and refine brain atlases of humans and other species which are used internationally as the standard guides for scientific work. These atlases are also used by neurosurgeons to target small deep lying structures in the brain. In 2006, they published the sixth edition of *The Rat Brain in Stereotaxic Co-ordinates*. This book assists those who use the rat to model human disease. It is listed amongst the 50 most cited items in the Web of Science, and is the only Australian publication and, in particular, the only neuroscience publication on this list. Its five editions have attracted over 34,000 citations. Until the publication of this rat brain atlas, brain research was hampered by the lack of an accurate stereotaxic atlas to study animal models of human neurologic and psychiatric disease. The atlas created a path for a new wave of studies on Alzheimer's disease, Parkinsonism, mental illness, and stroke. This and the authors' other atlases are major training tools of neurologists and neurosurgeons.

With financial support from the Christopher Reeve Foundation, Professor Paxinos and his team also commenced work on the mouse, rat and human spinal cord.

Brain changes in obstructive sleep apnoea In collaboration with Assoc Professor Ron Grunstein of the Woolcock Institute, Professor Caroline Rae has obtained measures of brain chemicals from the brainstem, hippocampus and frontal lobes of persons suffering from



obstructive sleep apnoea. This disorder is characterised by repetitive periods of sleep-disordered breathing, with subsequent arousal from sleep, resulting in excessive daytime sleepiness and cognitive dysfunction. The team is investigating how the repetitive hypoxia experienced impacts brain chemistry and morphology, whether the severity of the disease is related to the changes, and whether the changes are remediated by continuous positive airway pressure (CPAP) therapy. The researchers are also using live bioenergetic measures obtained using ^{31}P magnetic resonance spectroscopy to see in real time how the brain responds to the hypoxic excursions that occur during sleep.

Understanding your inhibitions Any work the brain undertakes requires energy, and that energy comes from metabolism of glucose. Understanding how the brain works therefore requires understanding how brain metabolism relates to brain function. Fatima Nasrallah, a PhD student with Professor Caroline Rae, has been working on understanding how inhibition of brain activity impacts on brain metabolism, using a targeted neuropharmacological approach coupled with use of data-crunching technology available in the field of metabolomics. This work will assist in interpreting brain imaging experiments where inhibitory activity plays a role.

Neural basis of reading Learning to read is a complex task and one that has come relatively late in evolution to the human brain. As part of her investigations of reading disability (dyslexia), Professor Caroline Rae, in collaboration with Professor Max Coltheart and Dr Genevieve Macarthur of the Macquarie Centre for Cognitive Science, has been using functional magnetic resonance imaging (fMRI) to see how people read. The researchers theorize that words that sound like words, but are not real words (such as RANE), can be read correctly only via the phonological (letter to sound) route, while words that are real words, but not possible to sound out (“irregular words”) such as YACHT, can only be read by the dictionary look-up route (lexical route). This is the dual route hypothesis and the team is currently searching for the neuroanatomical substrate of these routes using fMRI. The results from these experiments will then be used to design experiments for use in children with dyslexia and to ascertain whether remediation alters the way these children’s brains read words.

Professor Caroline (Lindy) Rae

Conjoint Senior Principal Research Fellow

NewSouth Global Professor of Brain Sciences UNSW

A biochemist, Lindy uses neuroimaging techniques and a multi-disciplinary approach to explore how the chemistry of the brain underlies its function. Current projects include investigating brain pathways in reading and dyslexia, brain function in obstructive sleep apnoea and the biochemical basis of functional neuroimaging signals.

Examining differences in the processing of pain in men and women

In collaborative studies with Professor Simon Gandevia and Dr Luke Henderson from the University of Sydney, Assoc Professor Vaughan Macefield has shown that males and females process pain differently. Brain imaging studies, conducted in the Symbion Clinical Research Imaging Centre, have revealed different cortical sites being involved in the processing of deep and superficial pain, evoked respectively by intramuscular and subcutaneous injections of small amounts of hypertonic saline.

“So delicate is the fine tracery of the nervous structure, that the damage of a single fibre or a set of fibres destroys the unity of the whole. It is like a grand orchestra, in which one instrument alone out of time or tune disturbs the harmony of the rest.” Forbes Winslow 1810 – 1874

NEURAL INJURY

Spinal Injuries Research Centre The Spinal Injuries Research Centre (SIRC) incorporates work on spinal cord injury by more than ten laboratories in the Institute. The research ranges from experimental studies of the effects of spinal transection on the responsiveness of blood vessels and on inflammation that may lead to spinal hyperexcitability and neurone death to better understanding of how spinal cysts develop in the long term after spinal injuries and the design of improved child restraints in motor cars. Projects on people with spinal cord injury included measurements of the excitability of motor and sensory axons, the evaluation of nerve-muscle units in atrophied muscles and the development of stimulation techniques for generating more effective muscle force to assist coughing and coordinated walking during rehabilitation.

SIRC members were particularly successful in the second round of the NSW Ministry of Health & Medical Research Program for Spinal Cord Injury and Related Neurological Conditions. A Program Grant worth \$1.5 million was awarded to Professor Elspeth McLachlan, Assoc Professor James Brock, Assoc Professor Matthew Kiernan and Assoc Professor Vaughan Macefield for studies of the changes in nerve and muscle excitability below a spinal cord injury. Project grants were also awarded to Assoc Professor Matthew Kiernan for a study of motor neurone disease and Professor George Paxinos to prepare a spinal cord atlas.

Neural function in spinal patients As part of the NSW Government Program Grant in Spinal Cord Injury, studies are now underway investigating plasticity of neural function distal to the site of spinal injury. Dr Rob Boland has been tracking neural function in spinal patients from the time of their acute injury in the intensive care unit, through their period of inpatient rehabilitation and, in some cases, recovery. Preliminary data suggest that decentralisation and consequent inactivity underlie the complex changes in axonal excitability that occur in spinal patients. Irrespective of the specific mechanism, the high frequency of impaired peripheral neural function that has been observed in spinal cord injured patients to date will remain a key issue for future treatments aiming at bridging the spinal lesion.

Mechanisms underlying chronic pain in spinal patients Dr Gunnar Wasner, a visiting Feodor-Lynen Fellow from Germany, has been studying the mechanisms underlying below-level chronic pain in people with spinal cord injury. He has been able to rekindle the pain symptoms using specific chemical stimuli applied to regions of skin areas that lack sensitivity to pressure, touch, pinprick and pinch tested with standard neurological techniques. This demonstrates that central pain pathways remain that were previously undetected and may be the site of ectopic signals generating pain. These studies should lead to better approaches to pain medication.

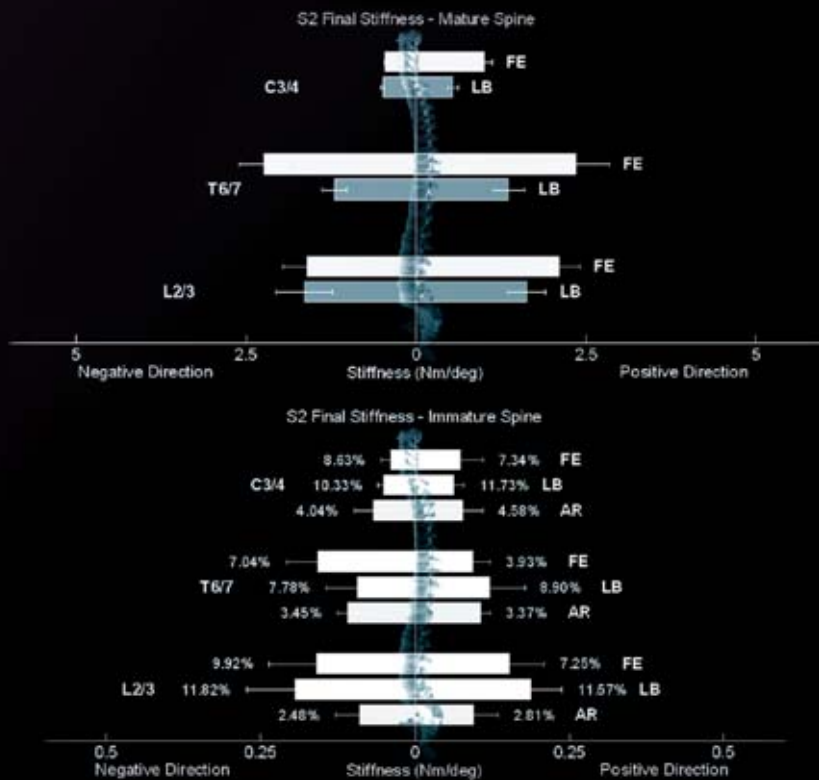
Child injury Assoc Professor Lynne Bilston's team has investigated spinal injury in children, how well children fit into child restraints and seat belts, and studied the differences in the behaviour of the spine between adults and children.

The study of spinal injuries in children was the first to compare the differences in injury type and cause for both serious injuries and minor spinal injuries for children up to age 16. The study found that the type of injury and the mechanism of injury were dependent on the child's age. For example, minor neck injuries, such as whiplash, occurred almost exclusively in older children. Younger children were more likely to be seriously spinally injured in car crashes, or sustain less serious injuries in falls. Older children sustained serious injuries in car crashes, but minor injuries in recreational pursuits such as sports.

A study aimed at determining how well current child restraints and car seat belts fit child occupants found that the design of the rear seat cushion and seat belt is such that most children will not be able to get good seat belt fit until approximately 11 or 12 years of age. Poor belt fit is associated with an increased risk of spinal and abdominal injury, and can also encourage restraint misuse. This research suggests that car manufacturers need to redesign the rear seat environment to better accommodate child occupants. Child restraints generally were able to accommodate the children they were designed for, with the exception that many booster seats were not sufficiently tall for older children. This needs to be addressed by improved designs, and by requiring minimum heights for restraints.

Assoc Professor Lynne Bilston *Principal Research Fellow*

Lynne is researching how mechanical forces affect the nervous system and how these responses differ in adults and children. She studies a wide range of loading – from spinal cord injury to chronic nerve compression.





Dr Michael Green

A study of the mechanical behaviour of the spine, using adult and paediatric sheep spines, showed that there are significant differences in the behaviour of the adult and child spine, over and above differences that would be expected by changes in the size of the spine and ligaments that surround it. This has implications for the design of child crash test dummies, which are largely based on scaling adult spine properties, and also for understanding and preventing paediatric spinal injuries.

Syringomyelia Cysts form in the spinal cord after spinal cord injury and in association with many congenital and acquired spinal cord abnormalities. These cysts, or “syrinxes”, can cause further spinal cord damage and paralysis. The origin of syrinx fluid has been an enigma, making treatment difficult. Assoc Professor Marcus Stoodley’s research team has demonstrated that a major source of fluid is the normal spinal fluid surrounding the cord and that it flows into cysts around the tiny blood vessels penetrating the cord. Their collaborative work with Assoc Professor Lynne Bilston and Assoc Professor Chris Bertram of UNSW has shown that scarring around the cord increases the pressure of pulsations transmitted from each heart beat and that this is likely to contribute to fluid flow around blood vessels. The team is currently investigating whether damage to the lining of blood vessels allows fluid from the blood stream to contribute to syrinx enlargement.

Arteriovenous malformations Arteriovenous malformations are congenital abnormalities of brain blood vessels that are a major cause of stroke in young adults and even children. One method of treating these abnormalities is with a type of radiation that gradually occludes the blood vessels. How this occurs is unknown. Assoc Professor Marcus Stoodley and his team aim to understand this process and develop methods of improving the response to radiation. To do this, they studied the structure and biological features of AVMs removed from patients and then developed an animal model to replicate these features. They have recently demonstrated that it is possible to dramatically improve the response to radiation in this model using a combination of low-dose bacterial toxin and a clotting protein. The team is currently refining this technique and studying the longer term effects on the brain and other tissues.

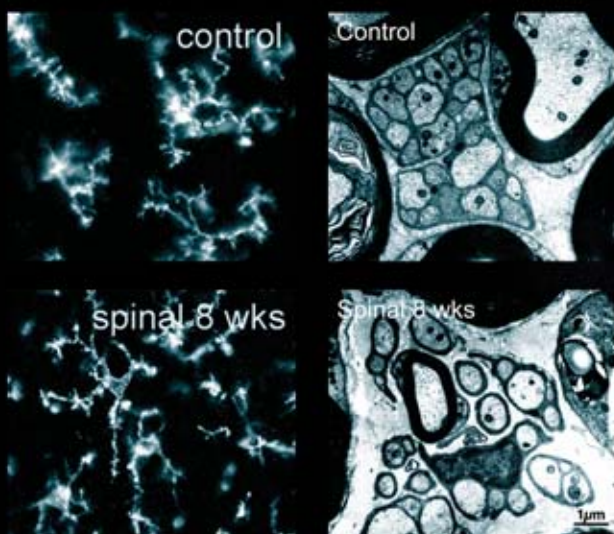
Changes in neurovascular function following spinal cord injury

Bladder distension or minor unheeded injuries in people with spinal cord injury often lead to episodes of high blood pressure (autonomic dysreflexia) that may cause stroke or death. These events require emergency hospitalisation and are expensive as well as dangerous. The development of high blood pressure depends on activation of the sympathetic nerves that supply small arteries. Assoc Professor James Brock and Professor Elspeth McLachlan have demonstrated that nerve-mediated activation of arteries is markedly enhanced following spinal cord injury, contributing to the exaggerated increase in blood pressure. Currently, they are investigating the mechanisms that produce this change in sympathetic nerve mediated control of arteries. The goal is to identify interventions that can prevent the development of autonomic dysreflexia.

Effects of nerve injury on blood vessel function Many people who recover from traumatic injury or who have chronic conditions such as diabetes suffer from peripheral vascular disorders leading to poor circulation in the extremities. These conditions are characterised by impaired wound healing, cold hands and feet and ongoing pain. These people must face a long life with progressively increasing disability. Even normal ageing can lead to similar problems. Assoc Professor James Brock is investigating the changes that occur in nerve-mediated regulation of blood vessels supplying skin in these disorders. The aim is to identify drug targets that can be used to improve control of skin blood flow and thereby alleviate the symptoms.

Understanding how pain is initiated Assoc Professor James Brock uses a unique approach that allows electrical activity to be recorded from the very fine nerve endings of nerves whose activation results in painful sensations. Using this technique, the mechanisms by which substances released in damaged and inflamed tissues lead to discharge of action potentials and the sensation of pain is being investigated. The work seeks to develop more effective treatments for pain.

Neuroinflammation Work on the long term effects of inflammation in peripheral nerve and spinal cord injuries in animal models is continuing in Professor Elspeth McLachlan’s laboratory. Researcher Ping Hu has used immunohistochemical staining for multiple



protein antigens to identify the subtypes of macrophage and lymphocyte that invade the stump of a damaged peripheral nerve. This study is the first to compare the inflammatory changes in the distal part of a damaged nerve a long way below the lesion. If there is no regeneration, the macrophage and T-cell populations differ from those present when the damaged axons regenerate into the stump. This indicates a new type of interaction between growing axons and the immune system. The findings have implications for the regeneration of nerves over very long distances in human limbs.

Ping Hu and Professor McLachlan are also studying the contribution of inflammation to the slow retrograde loss of neurones damaged by nerve and spinal cord injuries. As well as the loss of growth factors important for maintenance of neurones, glial activation seems to play a role in triggering this type of neuronal death. These studies may explain some of the progression of degeneration that prevents recovery after severe nerve injuries.

Ascending projections from the lumbosacral spinal cord Dr Renée Morris, with assistance from PhD student Rathi Ramasamy, spent the year developing methods for preparing maps of the major projection pathways from the lumbosacral spinal cord to some important centres in the brain involved with pain processing, hindlimb movement and control of the bladder and bowel. After injecting a fluorescent dye near the terminals of ascending projection neurones at sites in the hypothalamus and periaqueductal grey, the distribution of neurones in the spinal cord segments with these particular functions can be mapped in three dimensions using computer assisted reconstruction techniques. This project forms the essential basis of a study of the degeneration of these neurones after spinal cord injury.

The effects of pain on human muscle spindles Dr Ingvars Birzniesks, PhD student Alex Burton and Assoc Professor Vaughan Macefield have been examining the effects of muscle and skin pain on the control of muscle spindles, the sensitive stretch receptors that are important in providing proprioceptive information from muscles. Using fine needle microelectrodes inserted into a peripheral nerve, these investigators record the electrical signals (action potentials) from single sensory nerve fibres. Whereas animal experiments have

shown that pain can have significant effects on the sensitivity of muscle spindles, this work in awake human subjects has shown negligible changes, urging caution when interpreting animal data in the light of clinical observations. What is found in anaesthetised experimental animals does not always translate into what occurs in awake human beings.

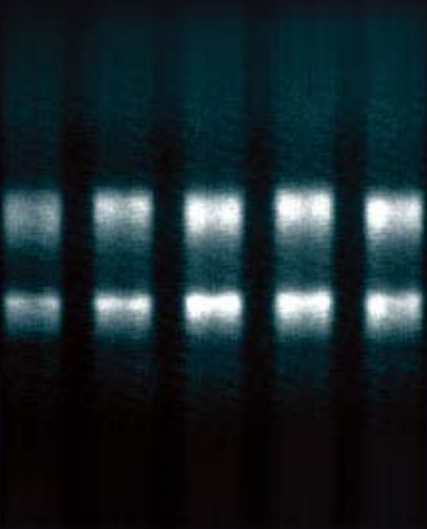
Neurotoxicity Assoc Professor Matthew Kiernan is investigating nerve excitability in patients treated with oxaliplatin chemotherapy to determine the pathophysiology of nerve dysfunction and development of neuropathy. Cross-sectional studies have been completed in patients treated with oxaliplatin at Prince of Wales Hospital and have established that 50% of post-treatment patients had evidence of moderate to severe sensori-motor neuropathy following completion of oxaliplatin. Prospective clinical and neurophysiological studies have been completed in 22 patients to date, encompassing more than 80 cycles of chemotherapy. Differences in nerve excitability measures have been established in paired studies, pre- and immediately post-oxaliplatin, documenting a selective effect of oxaliplatin on voltage-gated sodium channels as the mechanism of neurotoxicity. Dr Cindy Lin, an NHMRC CJ Martin Fellow, has recently returned from a period of advanced training in London and will continue these studies.

Professor Elspeth McLachlan Emeritus Professor
Senior Principal Research Fellow

Elspeth's group is studying how injuries affect nerve and muscle tissues beyond the injury site and what makes damaged nerve cells survive or progressively die. Modified excitability of nerve and muscle fibres leads to spasms, loss of bladder control and hyper-reactive blood vessels. Understanding how the immune response is involved after nerve or spinal cord injury will help devise ways to preserve normal function until the intact nerves above the injury can regenerate.

Dr Albert Chetcuti *Research Officer*

Albert's research focuses on identifying and characterising gene expression in the brain that may potentially be involved in schizophrenia. Using a modern, high throughput technology called "microarray genechip analysis" Albert will be able to identify gene expression profiles for over 30,000 genes simultaneously in a single experiment. Using this technology, it is possible to characterise new genes which may explain what causes schizophrenia.



PRIZES AND AWARDS

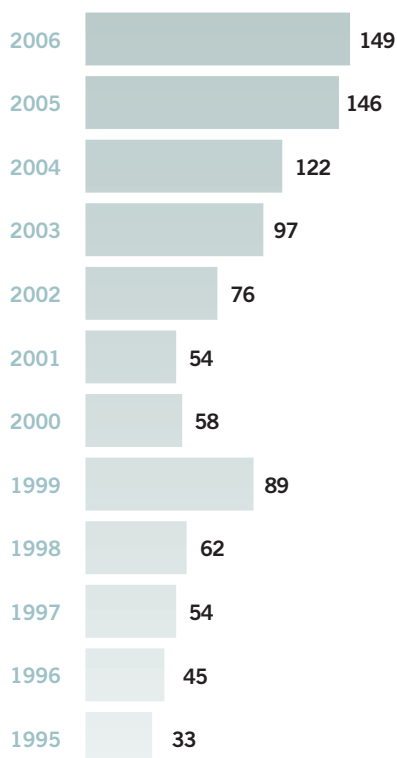
Assoc Professor James Brock	Promoted to Conjoint Associate Professor at UNSW
Dr Kay Double	Featured in 10 of the best 2006 NHMRC funded health and medical research successes
Professor Simon Gandevia	Delsys Prize 2006 – Highly Commended, Delsys Inc. Awarded for promoting the knowledge and use of electromyography
Anna Hudson	Awarded University Medal in Physiology, UNSW
Professor Stephen Lord	Promoted to NHMRC Senior Principal Research Fellow
Assoc Professor Vaughan Macefield	Appointed as the Foundation Chair of Physiology at the University of Western Sydney
Professor Elspeth McLachlan	Awarded the Distinguished Achievement Award by the Australian Neuroscience Society. Appointed Emeritus Professor at UNSW
Professor Peter Schofield	Awarded the Medical Media Research Award by Research Australia for services to research and the media

Postgraduate Degrees conferred in 2006

Student	Degree	Project Title	Supervisor(s)
Dr Arun Krishnan	PhD	Pathophysiology of uraemic neuropathy	M Kiernan/B Pussell
Dr Mark Latt	PhD	Why do patients with Parkinson's disease fall?	S Lord/V Fung
Gang Cheng	PhD	The human solitary nucleus and dorsal motor nucleus of vagus during fetal development	G Paxinos/K Ashwell

PUBLICATIONS

Publication Statistics



Journal Publications

Anstey KJ, Lord SR, Hennessy M, Mitchell P, Mill K, von Sanden C, Effect of cataract removal on cognitive test performance: A randomized controlled trial, *Journal of the International Neuropsychological Society*, 12:632–639, 2006

Ashwell KWS, Hardman CD, Paxinos G, Cyto- and chemoarchitecture of the sensory trigeminal nuclei of the echidna, platypus and rat, *Journal of Chemical Neuroanatomy*, 31:81–107, 2006

Ashwell KW, Lajevardi Se, Cheng G, Paxinos G, The hypothalamic supraoptic and paraventricular nuclei of the echidna and platypus, *Brain, Behaviour and Evolution*, 68:197–217, 2006

Baker K, Huang Y, McCann H, Gai WP, Jensen PH, Halliday GM, P25 α immunoreactive but asynuclein immunonegative neuronal inclusions in multiple system atrophy (Letter), *Acta Neuropathologica*, 111:193–195, 2006

Baron R, Wasner G, Prevention and treatment of postherpetic neuralgia, *The Lancet*, 367:186–188, 2006

Bennett HP, Piguet O, Grayson DA, Creasey H, Waite LM, Lye T, Corbett AJ, Hayes M, Broe GA, Halliday GM, Cognitive, extrapyramidal and MRI predictors of functional impairment in non-demented older community dwellers: the Sydney Older Persons Study, *Journal of the American Geriatric Society*, 54:3–10, 2006

Bent LR, Bolton PS, Macefield VG, Modulation of muscle sympathetic bursts by sinusoidal galvanic vestibular stimulation, *Experimental Brain Research*, 174:701–711, 2006

Bilston LE, Fletcher DF, Stoodley MA, Focal spinal arachnoiditis increases subarachnoid space pressure: A modelling study, *Clinical Biomechanics*, 21:579–584, 2006

Blair IP, Chetcuti AF, Badenhop RF, Scimone A, Moses MJ, Adams LJ, Craddock N, Green E, Kirov G, Owen MJ, Kwok JBJ, Donald JA, Mitchell PB, Schofield PR, Positional cloning, association analysis and expression studies provide convergent evidence that the cadherin gene FAT contains a bipolar disorder susceptibility allele, *Molecular Psychiatry*, 11:372–383, 2006

Boufous S, Finch C, Lord SR, Close JCT, Gothelf T, Walsh W, The Epidemiology of hospitalised wrist fractures in older people, New South Wales, Australia, *Bone*, 39:1144–1148, 2006

Brock J, Acosta MC, Al Abed A, Pianova S, Belmonte C, Barium ions inhibit the dynamic response of guinea-pig corneal cold receptors to heating but not to cooling, *Journal of Physiology*, 575:573–581, 2006

Brock JA, Yeoh M, McLachlan EM, Enhanced neurally evoked responses and inhibition of norepinephrine reuptake in rat mesenteric arteries after spinal transection, *American Journal of Physiology: Heart and Circulatory Physiology*, 290:H398–H405, 2006

Brown J, Bilston LE, High back booster seats: in the field and in the laboratory, *Annual Proceedings, Association for the Advancement of Automotive Medicine*, 50:345–59, 2006

Brown J, Bilston LE, Misuse of child restraints and injury outcome in crashes, *Australasian Road Safety, Research Policing and Education Conference*, pp1–12, 2006

Brown J, McCaskill M, Henderson M, Bilston LE, Serious injury is associated with sub-optimal restraint use in child motor vehicle occupants; *Journal of Paediatric and Child Health*, 42:345–349, 2006

Butler JE, Godfrey S, Thomas CK, Depression of involuntary activity in muscles paralysed by spinal cord injury, *Muscle and Nerve*, 33:637–644, 2006

- Carroll TJ, Herbert RD, Munn J, Lee M, **Gandevia SC**, Contralateral effects of unilateral strength training: evidence and possible mechanisms, *Journal of Applied Physiology*, 101:1514–1522, 2006
- Chen JS, Cameron ID, Cumming RG, March LM, **Lord SR**, Sambrook PN, Simpson JM, Seibel MJ, Effect of age-related chronic immobility on markers of bone turnover, *Journal of Bone and Mineral Research*, 21:324–331, 2006
- Cheng G**, Zhu H, Zhou X, Qu J, Ashwell KWS, **Paxinos G**, Development of the human nucleus of the solitary tract: a cyto- and chemoarchitectural study, 128:76–95, 2006
- Cheng SK**, **Bilston LE**, Unconfined compression of white matter, *Journal of Biomechanics*, 40:117–124, 2006
- Chetcuti A, Adams LJ, Mitchell PB, **Schofield PR**, Altered gene expression in mice treated with the mood stabilizer sodium valproate, *International Journal of Neuropsychopharmacology*, 9:267–276, 2006
- Close JCT**, **Lord SR**, Falls in the elderly? *Australian Doctor, How to Treat section*, March 3, 2006: 27–34
- Cordato NJ, **Halliday GM**, Caine D, Morris JGL, Comparison of motor, cognitive and behavioural features in progressive supranuclear palsy and Parkinson's disease, *Movement Disorders*, 21:632–638, 2006
- Cumming RG, Hien LTT, Cameron ID, Chen JS, **Lord SR**, Le Couteur DG, Atypical antipsychotic medications and risk of falls – Response Letter to Dr Sitoh, *Journal of the American Geriatric Society*, 54:175, 2006
- David DC, Ittner LM, Gehrig P, Nergrenau D, **Shepherd C**, **Halliday G**, Götz J, β -Amyloid treatment of two complementary P301L tau-expressing Alzheimer's disease models reveals similar deregulated cellular processes, *Proteomics*, 6:6566–6577, 2006
- Davies RR, Kipps CM, Mitchell J, Kril JJ, **Halliday GM**, Hodges JR, Progression in frontotemporal dementia: identifying a benign behavioural variant by MRI, *Archives of Neurology*, 63:1627–1631, 2006
- Dishman RK, Berthoud HR, Booth FW, Cotman CW, Edgerton VR, Fleshner MR, **Gandevia SC**, Gomez-Pinilla F, Greenwood BN, Hillman CH, Kramer AF, Levin BE, Moran TH, Russo-Neustadt AA, Salamone JD, Van Hoomissen JD, Wade CE, York DA, Zigmond MJ, Neurobiology of exercise, *Obesity*, 14:345–356, 2006
- Double KL**, Functional effects of neuromelanin and synthetic melanin in model systems, *Journal of Neural Transmission* 113:751–756, 2006
- Double KL**, **Halliday GM**, New face of neuromelanin, *Journal of Neural Transmission Supplement* 70:119–123, 2006
- Enoka RM, **Gandevia SC**, Invited Editorial. Neural changes associated with training, *Journal of Applied Physiology*, 101:1009–1010, 2006
- Fedorow H**, **Halliday GM**, Rickert C, Gerlach M, Reiderer P, **Double KL**, Evidence for specific phases in the development of human neuromelanin, *Neurobiology of Aging*, 27:506–512, 2006
- Fedorow H**, Pickford R, Kettle E, **Cartwright M**, **Halliday GM**, Gerlach M, Reiderer P, **Garner B**, **Double KL**, Investigations of the lipid component of neuromelanin, *Journal of Neural Transmission*, 113:735–739, 2006
- Fitzpatrick RC**, **Butler JE**, Day BL, Resolving head rotation for human bipedalism, *Current Biology*, 16:1509–1514, 2006
- Foley P**, *Duboisia myoporoides*: the medical career of a native Australian plant, *Historical Records of Australian Science*, 17:31–69, 2006
- Foley P**, *Robert L Martensen: The Brain Takes Shape. An Early History (book review)*, *Journal of the History of the Neurosciences*, 15:299–302, 2006
- Foley P**, Encephalitis lethargica, Program notes for Reunion/A Kind of Alaska, Sydney Theatre Company, 2006
- Foley SJ, **Lord SR**, Srikanth V, Cooley H, Jones G, Falls risk is associated with pain and dysfunction but not radiographic osteoarthritis in older adults: Tasmanian Older Adult Cohort Study, *Osteoarthritis and Cartilage*, 14:533–539, 2006
- Gandevia SC**, **Hudson AL**, **Gorman RB**, **Butler JE**, De Troyer A, Spatial distribution of inspiratory drive to the parasternal intercostal muscles in humans, *Journal of Physiology*, 573:263–275, 2006
- Gandevia SC**, **Smith JL**, Crawford M, Proske U, **Taylor JL**, Motor commands contribute to human position sense, *Journal of Physiology*, 571:703–710, 2006
- Gandevia SC**, **Taylor JL**, Supraspinal fatigue: the effects of caffeine on human muscle performance (Editorial), *Journal of Applied Physiology*, 100:1749–1750, 2006
- Gerlach M, **Double KL**, Youdim MBH, Reiderer P, Potential sources of increased iron in the substantia nigra of parkinsonian patients, *Journal of Neural Transmission Supplement* 70:133–142, 2006
- Graham BA, **Schofield PR**, Walker S, Sah P, Margrie TW, Callister RJ, Distinct physiological mechanisms underlie altered glycinergic synaptic transmission in the murine mutants, *spastic, spasmodic and oscillator*, *The Journal of Neuroscience*, 26:4880–4890, 2006
- Gray I, **Broe GA**, Duckett S, Gibson D, Travers C, McDonnell G, Developing a policy simulator at the acute-care interface, *Australian Health Review*, 30:450–457, 2006

- Gregory GC, Macdonald V, Schofield PR, Kril JJ, Halliday GM, Differences in regional brain atrophy in genetic forms of Alzheimer's disease, *Neurobiology of Aging*, 27:387 – 393, 2006
- Gunstad J, Schofield P, Paul R, Spitznagel M, Cohen R, Williams L, Kohn M, Gordon E, BDNF Val66Met polymorphism is associated with body mass index in healthy adults. *Neuropsychobiology*, 53:153 – 156, 2006
- Halliday GM, Del Tredici K, Braak H, Critical appraisal of brain pathology staging related to presymptomatic and symptomatic cases of sporadic Parkinson's disease. *Journal of Neural Transmission Supplement* 70:119 – 123, 2006
- Halliday GM, Fedorow H, Rickert CH, Gerlach M, Riederer R, Double KL, Evidence for specific phases in the development of human neuromelanin. *Journal of Neural Transmission*, 113:721 – 728, 2006
- Halliday GM, Song YJ, Creasey H, Morris JG, Brooks WS, Kril JJ, Neuropathology in the S305S tau gene mutation (Letter), *Brain*, 129:E40, 2006
- He Z, Aristoteli LP, Kritharides L, Garner B, HPLC analysis of discrete haptoglobin isoform N-linked oligosaccharides following 2D-PAGE isolation, *Biochemical and Biophysical Research Communications*, 343:496 – 503, 2006
- Henderson LA, Bandler R, Gandevia SC, Macefield, VG, Distinct forebrain activity patterns during deep versus superficial pain, *Pain*, 120:286 – 296, 2006
- Hoth KF, Paul RH, Williams LM, Dobson-Stone C, Todd E, Schofield PR, Gunstad J, Cohen RA, Gordon E, Associations between the COMT Val/Met polymorphism, early life stress, and personality among healthy adults, *Neuropsychiatric Disease and Treatment*, 2:219 – 225, 2006
- Huang Y, Hayes M, Harding AJ, Brooks WS, Fung VSC, Rowe D, Joffe R, Crimmins D, Hely M, Halliday GM, Anticipation of onset age in familial Parkinson's disease without SCA gene mutations, *Parkinsonism & Related Disorders*, 12:309 – 313, 2006
- Hunt NH, Golenser J, Chan-Ling T, Parekh SB, Rae C, Potter S, Medana IM, Miu J, Ball HJ, Immunopathogenesis of cerebral malaria, *International Journal of Parasitology*, 36:569 – 582, 2006
- Hunter SK, Butler JE, Todd G, Gandevia SC, Taylor JL, Supraspinal fatigue does not explain the sex difference in muscle fatigue of maximal contractions, *Journal of Applied Physiology*, 101:1035 – 1044, 2006
- Jeffery S, Butler JE, McKenzie DK, Wang L, Gandevia SC, Brief airway occlusion produces prolonged reflex inhibition of inspiratory muscles in obstructive sleep apnea, *Sleep*, 29:321 – 328, 2006
- Kannus P, Khan KM, Lord SR, Preventing falls among elderly people in the hospital environment (editorial), *Medical Journal of Australia*, 8:372 – 373, 2006
- Kersaitis C, Halliday GM, Xeureb JH, Pamphlett RS, Hodges JR, Kril JJ, Ubiquitin-positive inclusions and progression of pathology in frontotemporal dementia and motor neuron disease identifies a case group with mainly early pathology, *Neuropathology and Applied Neurobiology*, 32:83 – 91, 2006
- Kiernan MC, Back to the future: excitability studies take on a new clinical role, *Clinical Neurophysiology (Invited editorial)*, 117:712 – 713, 2006
- Kiernan MC, Krishnan AV, The pathophysiology of oxaliplatin-induced neurotoxicity, *Current Medicinal Chemistry*, 13:2901 – 2907, 2006
- Kiernan MC, Talman P, Henderson R, Harris, Establishment of the Australian Motor Neurone Disease Registry, *Medical Journal of Australia*, 184:367 – 368, 2006
- Kim WS, Chalfant CE, Garner B, Fine tuning therapeutic targeting of the sphingolipid biosynthetic pathway to treat atherosclerosis, *Current Vascular Pharmacology*, 4:151 – 154, 2006
- Kim WS, Guillemin GJ, Glaros EN, Lim CK, Garner B, Quantitation of ATP-binding cassette subfamily – A transporter gene expression in primary human brain cells, *NeuroReport*, 17:891 – 896, 2006
- Krishnan AV, Goldstein D, Friedlander M, Kiernan MC, Oxaliplatin and axonal Na⁺ channel function in vivo, *Clinical Cancer Research*, 12:4481 – 4484, 2006
- Krishnan AV, Kiernan MC, Axonal function and activity-dependent changes in myotonic dystrophy, *Muscle and Nerve*, 33:627 – 636, 2006
- Krishnan AV, Phoon RK, Pussell BA, Charlesworth JA, Bostock H, Kiernan MC, Ischaemia induces paradoxical changes in axonal excitability in end-stage kidney disease, *Brain*, 129:1585 – 1592, 2006
- Krishnan AV, Phoon RK, Pussell BA, Charlesworth JA, Bostock H, Kiernan MC, Neuropathy, axonal Na⁺/K⁺ pump function and activity-dependent excitability changes in end-stage kidney disease, *Clinical Neurophysiology*, 117:992 – 999, 2006
- Krishnan AV, Phoon RK, Pussell BA, Charlesworth JA, Kiernan MC, Sensory nerve excitability and neuropathy in end-stage kidney disease, *Journal of Neurology, Neurosurgery and Psychiatry*, 77:548 – 551, 2006
- Liu-Ambrose T, Khan KM, Donaldson MG, Eng JJ, Lord SR, McKay HA, Falls-related self-efficacy is independently associated with balance and mobility in older women with low bone mass, *The Journal of Gerontology: Medical Sciences*, 61A:832 – 838, 2006
- Lord SR, Visual risk factors for falls in older people, *Age and Ageing*, 35–S2:ii42 – ii45, 2006
- Lord SR, Matters B, St George R, The effects of water exercise on physical functioning in older people, *Australasian Journal on Ageing*, 25:36 – 41, 2006
- Lord SR, Menz HB, Sherrington C, Home environment risk factors for falls in older people and the efficacy of home modifications, *Age and Ageing*, 35–S2:ii55 – ii59, 2006
- Lye TC, Grayson DA, Creasey H, Piguet O, Bennett HP, Ridley LJ, Kril JJ, Broe GA, Predicting memory performance in normal ageing using different measures of hippocampal size, *Neuroradiology*, 48:90 – 99, 2006

- Macefield VG, Gandevia SC, Henderson LA, Neural sites involved in the sustained increase in muscle sympathetic nerve activity induced by inspiratory-capacity apnea – a fMRI study, *Journal of Applied Physiology*, 100:266–273, 2006
- McKay O, Krishnan AV, Davies M, Kiernan MC, Activity-induced weakness in recessive myotonia congenita with a novel (696 + IG>A) mutation, *Clinical Neurophysiology*, 117:2064–2068, 2006
- McLachlan EM, Brock JA, Adaptations of peripheral vasoconstrictor pathways after spinal cord injury, *Progress in Brain Research* 152:289–297, 2006
- Martin A, Friedlander M, Kiernan MC, Paraneoplastic mononeuritis multiplex in non-small-cell lung carcinoma, *Journal of Clinical Neuroscience*, 13:595–598, 2006
- Martin PG, Gandevia SC, Taylor JL, Output of human motoneuron pools to corticospinal inputs during voluntary contractions, *Journal of Neurophysiology*, 95:3512–3518, 2006
- Martin PG, Gandevia SC, Taylor JL, Theta burst stimulation does not reliably depress all regions of the human motor cortex, *Clinical Neurophysiology*, 117:2684–2690, 2006
- Martin PG, Smith J, Butler JE, Gandevia SC, Taylor JL, Fatigue-sensitive afferents inhibit extensor but not flexor motoneurons in humans, *Journal of Neuroscience*, 26:4796–4802, 2006
- Menz HB, Latt MD, Tiedemann A, Kwan MM, Lord SR, Response to Letter to the Editor: Reliability of the GAITRite®, walkway system for the quantification of temporo-spatial parameters of gait in young and older people, *Gait and Posture*, 23:524–525, 2006
- Menz HB, Lord SR, Fitzpatrick RC, A tactile stimulus applied to the leg improves postural stability in young, old and neuropathic subjects, *Neuroscience Letters*, 406:23–26, 2006
- Menz HB, Morris ME, Lord SR. Footwear characteristics and risk of indoor and outdoor falls in older people. *Gerontology*, 52:174–180, 2006
- Menz HB, Morris ME, Lord SR. Foot and ankle risk factors for falls in older people: a prospective study. *Journal of Gerontology: Medical Sciences*, 61A:866–870, 2006
- Menz HB, Tiedemann A, Plumb K, Kwan M, Lord SR. Foot pain in community-dwelling older people: an evaluation of the Manchester Foot Pain and Disability Index. *Rheumatology*, 45:863–867, 2006
- Moseley GL, Gandevia SC, Re: Sensory-motor incongruence and reports of ‘pain’ by G.L. Moseley and S.C. Gandevia. *Rheumatology* 2005;44:1083–1085: Reply (Letters), *Rheumatology*, 45:645, 2006
- Munn J, Herbert RD, Gandevia SC, Response (Letters), *Medicine and Science in Sports and Exercise*, 38:402, 2006
- Ng PP, Steinfert B, Stoodley MA, Internal carotid artery fenestration with dual aneurysms, *Journal of Neurosurgery*, 104:979, 2006
- Nogajski JH, Engel S, Kiernan MC, Focal and generalised nerve dysfunction in spinal cord injured patients, *Journal of Clinical Neurophysiology*, 23:273–279, 2006
- Palma C, Keast JR, Structural effects and potential changes in growth factor signaling in penis-projecting autonomic neurons after axotomy, *BMC Neuroscience*, 7:41, 2006
- Palombi O, Shin JW, Watson C, Paxinos G, Neuroanatomical affiliation visualization-interface system, *Neuroinformatics*, 4:299–318, 2006
- Parekh SB, Bubb WA, Hunt NH, Rae C, Brain metabolic markers reflect susceptibility status in cytokine gene knock out mice with murine cerebral malaria. *International Journal for Parasitology*, 36:1409–1418, 2006
- Pickering-Brown SM, Baker M, Gass J, Boeve B, Dickson D, Loy CT, Brooks WS, Martins RN, Kwok JBJ, Halliday GM, Kril J, Schofield PR, Mann DMA, Hutton M, Mutations in progranulin explain atypical phenotypes associated with variants in MAPT, *Brain*, 129:3124–3126, 2006
- Piguet O, Bennett HP, Waite LM, Kril JJ, Creasey H, Broe GA, Halliday GM, Preserved cognition and functional independence after a large right posterior cerebral artery infarct: longitudinal clinical and neuropathological findings, *Neurocase*, 12:81–90, 2006
- Piguet O, Cramsie J, Bennett HP, Kril JJ, Lye TC, Creasey H, Broe GA, Contribution of age and alcohol consumption to cerebellar integrity, gait and cognition in non-demented very old individuals, *European Archives of Psychiatry and Clinical Neuroscience*, 256:504–511, 2006
- Potter EK, Tripovic D, Modulation of sympathetic neurotransmission by neuropeptide Y Y2 receptors in rats and guinea pigs, *Experimental Brain Research*, 173:346–352, 2006
- Prasartwuth O, Allen TJ, Butler JE, Gandevia SC, Taylor JL, Length-dependent changes in voluntary activation, maximum voluntary torque and twitch responses after eccentric damage, *Journal of Physiology*, 271:243–252, 2006
- Rae C, Moussa CE-H, Griffin JL, Parekh SB, Bubb WA, Hunt NH, Balcar VJ, A metabolomic approach to ionotropic glutamate receptor subtype function: a nuclear magnetic resonance *in vitro* investigation, *Journal of Cerebral Blood Flow and Metabolism*, 26:1005–1017, 2006
- Rahimi F, Shepherd CE, Halliday GM, Geczy CL, Raftery MJ, Antigen-epitope retrieval facilitates proteomic analysis of formalin-fixed brain tissue, *Annals of Chemistry*, 78:7216–7221, 2006
- Saboisky JP, Butler JE, Fogel RB, Taylor JL, Trinder JA, White DP, Gandevia SC, Tonic and phasic respiratory drives to human genioglossus motoneurons during breathing, *Journal of Neurophysiology*, 95:2213–2221, 2006
- Salter AE, Khan KM, Donaldson MG, Davis JC, Buchanan J, Abu-Laban RB, Cook W, Lord SR, McKay HA, Community-dwelling seniors who present to the emergency department with a fall do not receive guideline care and their fall risk profile worsens significantly: a 6-month prospective study, *Osteoporosis International*, 17:672–683, 2006
- Sambrook PN, Chen CJ, March L, Cameron ID, Cumming RG, Lord SR, Simpson JM, Seibel MJ, High bone turnover is an independent predictor of mortality in the frail elderly, *Journal of Bone and Mineral Research*, 21:549–555, 2006

Sarks J, Tang K, Killingsworth J, Arnold J, Sarks S, Development of atrophy of the retinal pigment epithelium around disciform scars, *British Journal of Ophthalmology*, 90:442–446, 2006

Schwarz a, Danckaert A, Torsten Reese T, Gozzi A, Paxinos G, Watson C, Merlo-Pich EV, Bifone A, A Stereotaxic MRI template set for the rat brain with tissue class distribution maps and co-registered anatomical atlas: application to pharmacological MRI, *NeuroImage*, 32:538–550, 2006

Shek S, Willey K, McNulty P, A purposely designed neural signal amplifier for short interval stimulation and recording microneurography using a common electrode, *Journal of Neuroscience Methods*, 152:130–135, 2006

Shepherd CE, Goyette J, Utter V, Yang Z, Geczy CL, Halliday GM, Inflammatory S100A9 and S100A12 proteins in Alzheimer's disease, *Neurobiology of Aging*, 27:1554–1563, 2006

Shiarli AM, Jennings R, Shi J, Bailey K, Davidson Y, Tian J, Bigio EH, Ghetti B, Murrell JR, Delisle MB, Mirra S, Crain B, Zola P, Arima K, Iseki E, Murayama S, Kretschmar H, Neumann M, Lippa C, Halliday G, MacKenzie J, Khan N, Ravid R, Dickson D, Wszolek Z, Iwatsubo T, Pickering-Brown SM, Mann DMA, Comparison of the extent of tau pathology in patients with frontotemporal dementia with parkinsonism linked to chromosome 17 (FTDP-17), frontotemporal lobar degeneration with Pick bodies and early onset Alzheimer's disease, *Neuropathological and Applied Neurobiology*, 32:374–387, 2006

de Silva R, Lashley T, Strand C, Shiarli A-M, Shi J, Tian J, Bailey KL, Davies P, Bigio EH, Arima K, Iseki E, Murayama S, Kretschmar H, Neumann M, Lippa C, Halliday G, MacKenzie J, Ravid R, Dickson D, Wszolek Z, Iwatsubo T, Pickering-Brown SM, Holton J, Lees A, Revesz T, Mann DMA, An immunohistochemical study of cases of sporadic and inherited frontotemporal lobar degeneration using 3R- and 4R-specific tau monoclonal antibodies, *Acta Neuropathologica*, 111:329–340, 2006

Søgaard K, Gandevia SC, Todd G, Petersen NT, Taylor JL, The effect of sustained low-intensity contractions on supraspinal fatigue in human elbow flexor muscle, *Journal of Physiology*, 573:511–523, 2006

Stuart M, Taylor JL, Subthreshold transcranial magnetic stimulation during the long latency component of the cutaneomotor reflex, *Experimental Brain Research*, 170:285–294, 2006

Sturnieks D, Calling on exercise scientists to participate in broader efforts to prevent falls in older adults, *Journal of Science and Medicine in Sport*, 9:195–198, 2006

Tate RL, Broe GA, Cameron ID, Hodgkinson AE, Soo, CA, Pre-injury, injury and early post-injury predictors of long-term functional and psychosocial recovery after severe traumatic brain injury, *Brain Impairment*, 6:75–89, 2006

Taylor JL, Stimulation at the cervicomedullary junction in humans, *Journal of Electromyography and Kinesiology*, 16:215–223, 2006

Taylor JL, Todd G, Gandevia SC, Evidence for a supraspinal contribution to human muscle fatigue, *Clinical and Experimental Pharmacology and Physiology*, 33:400–405, 2006

Teber ET, Crawford E, Bolton KB, Van Dyk D, Schofield PR, Kapoor V, Church WB, Djinn Lite: a tool for customized gene transcript modeling, annotation-data enrichment and exploration, *BMC Bioinformatics (Software)*7:33,2006

Todd G, Butler JE, Gandevia SC, Taylor JL, Decreased input to the motor cortex increases motor cortical excitability, *Clinical Neurophysiology*, 17:2496–2503, 2006

Tribl F, Riederer P, Double KL, Gerlach M, Neuromelanin, ein pigment mit unbekannter function, *Neuroforum*, 2.06:188–194, 2006

Tu J, Stoodley MA, Morgan MK, Storer KP, Responses of arteriovenous malformations to radiosurgery: ultrastructural changes, *Neurosurgery*, 58:749–758, 2006

Tu J, Stoodley MA, Morgan MK, Storer KP, Ultrastructure of perinidal capillaries in cerebral arteriovenous malformations, *Neurosurgery*, 58:961–970, 2006

Vucic S, Black K, Chong PST, Cros D, Cervical nerve root stimulation. Part II: Findings in primary demyelinating neuropathies and motor neurone disease, *Clinical Neurophysiology*, 117:398–404, 2006

Vucic S, Cairns KD, Black KR, Chong PST, Cros D, Cervical nerve root stimulation. Part I: Technical aspects and normal data, *Clinical Neurophysiology*, 117:392–397, 2006

Vucic S, Cordato DJ, Yiannikas C, Schwarz RS, Schnier RC, Utility of magnetic resonance imaging in diagnosing ulnar neuropathy at the elbow, *Clinical Neurophysiology*, 117:590–595, 2006

Vucic S, Howells J, Trevillion L, Kiernan MC, Assessment of cortical excitability using threshold tracking techniques, *Muscle and Nerve*, 33:477–486, 2006

Vucic S, Kiernan MC, Axonal excitability properties in amyotrophic lateral sclerosis, *Clinical Neurophysiology*, 117:1458–1466, 2006

Vucic S, Kiernan MC, Novel threshold tracking techniques suggest that cortical hyperexcitability is an early feature of motor neurone disease, *Brain*, 129:2436–2446, 2006

Vucic S, Tian D, Chong PST, Cudkowicz ME, Hedley-Whyte ET, Crod D, Facial onset sensory and motor neuronopathy (FOSMN syndrome): a novel syndrome in neurology, *Brain*, 129:3384–3390, 2006

Walker JG, Anstey K, Lord S, Psychological distress and visual functioning in relation to vision-related disability in older individuals with cataract, *British Journal of Health Psychology*, 11:303–317, 2006

Walsh LD, Allen TJ, Gandevia SC, Proske U, Effect of eccentric exercise on position sense at the human forearm in different postures, *Journal of Applied Physiology*, 100:1109–1116, 2006

Wasner G, Baron R, Peripheral burning cold pain, *Pain*, 120:325, 2006

Wasner G, Fleetwood-Walker SM, Garry EM, Abbadie C, Baron R, Johnson RW, Postherpetic neuralgia: a disease with many faces. In: Flor H, Kalso E, Dostrovsky JO (Eds), *Proceedings of the 11th World Congress on Pain*. IASP Press, Seattle, pp 663–680, 2006

Wasner G, Koltzenburg M, Jorum E, Baron R, Jensen TS, Cold allodynia: From the molecule to the clinic. In: Flor H, Kalso E, Dostrovsky JO (Eds), *Proceedings of the 11th World Congress on Pain*. IASP Press, Seattle, pp 651–662, 2006

Wilhelm K, Mitchell PB, Niven H, Finch A, Wedgwood L, Scimone A, Blair IP, Parker G, Schofield PR, Life events, first onset depression and the serotonin transporter gene, *British Journal of Psychiatry*, 188:210–215, 2006

Winhammar JMC, Joffe D, Simmul R, Schoeffel R, Kiernan MC, Rowe DB, Nocturnal hypoxia in motor neurone disease is not predicted by standard respiratory function tests, *Internal Medicine Journal*, 36:419–422, 2006

Youdim MB, Double KL, Gerlach M, Riederer P, Preface – special issue: neuromelanin, *Journal of Neural Transmission*, 113:717–719, 2006

Z'Graggen WJ, Lin CSY, Howard RS, Beale RJ, Bostock H, Nerve excitability changes in critical illness polyneuropathy, *Brain*, 129:2461–2470, 2006

Zijdwind I, Butler JE, Gandevia SC, Taylor JL, The origin of activity in the biceps brachii muscle during voluntary contractions of the contralateral elbow flexor muscles, *Experimental Brain Research*, 175(3):526–535, 2006

Zoing M, Pamphlett R, Burke D, Kiernan MC, Riluzole therapy for motor neurone disease – an early Australian experience (1996–2002), *Journal of Clinical Neuroscience*, 13:78–83, 2006

Book Chapters

Bilston LE, “Viscoelasticity”, (invited chapter) In: *Wiley Encyclopedia of Biomedical Engineering*, Akay M (Ed), Wiley, Hoboken, NJ, USA, April 2006

Bressler SB, Bressler NM, Sarks SH, Sarks JP, Age related macular degeneration: nonneovascular early AMD, intermediate AMD, and geographic atrophy. In: Ryan SJ, Schachar AP (Eds), *Retina, Volume 2: Medical Retina (4th Edition)*, Elsevier Mosby: St Louis. 60:1041–1074, 2006

Broe GA, Dementia. In: Schulz R, Noelker L, Rockwood K, Sprott R (Eds), *Encyclopedia of Aging (4th Edition)*, Springer, 2006

Burke D, Kiernan M, Developments in the assessment of peripheral nerve function. In: Daube JR, Mauguire (Eds), *Handbook of Clinical Neurophysiology*, Amsterdam, Elsevier, Chap 43: 927–943, 2006

Dennis JA, Windsor PA, Schofield PR, Healy PJ, Bovine hyperekplexia. In: *Animal Models of Movement Disorder*. Le Douarin M (Ed), Academic Press, Burlington, MA, USA. pp 479–486, 2005

Foley P, ‘Black Dog’ as a metaphor for depression: A brief history, in: *Eyers K (Ed), Tracking the Black Dog: Hairy Tales and Historical Legwork from The Black Dog Institute’s Writing Competition*, UNSW Press, pp.140–203, 2006

Gerlach M, Double KL, Götz ME, Moussa BH, Youdim MBH, Riederer P, The role of iron in the pathogenesis of Parkinson’s disease. In: Sigel A, Sigel H, Sigel RKO (Eds), *Metal Ions in Life Sciences*, Vol. 1, *Neurodegenerative Diseases and Metal Ions*, John Wiley & Sons, England, Chapter 6: 125–149, (2006)

Lin C, Kiernan M, Burke D, Bostock H, Assessment of nerve excitability properties in peripheral nerve disease. In: Daube JR, Mauguire (Eds), *Handbook of Clinical Neurophysiology*, Amsterdam, Elsevier, Chap 17: 381–403, 2006



Lord SR, Sherrington C, Menz HB, Ageing and Falls. In: Haslam R, Stubbs D (Eds), *Understanding and Preventing Falls*. Taylor & Francis Boca Raton, FL, Chapter 5:89–114, 2006

McLachlan EM, Structural basis for interaction between sympathetic and sensory neurones after nerve lesions. In: Schmidt RF, Willis WD (Eds), *Encyclopedia of Pain*, Springer-Verlag, Heidelberg, Berlin, ISBN 3540439579

Piguet O, Corking S, The aging brain. In: Feinstein S (Ed), *The Praeger Handbook of Learning and the Brain*, CT: Praeger, Westport, pp38–44, 2006

Wasner G, Deuschl G, Pain in Parkinson’s disease. In: Jensen TS, Cervero F (Eds), *Handbook of Clinical Neurology*, Vol. 81 (3rd Series. Vol. 3) *Pain*. Elsevier, Amsterdam, pp 747–760, 2006

Wasner G, Baron R, Sympathetically maintained pain in CRPS I: human experimentation. In: Schmidt RF, Willis WD (Eds), *Encyclopedia of Pain*. Springer-Verlag, Heidelberg, p19, 2006

Our Profile

Professional service to the scientific community and related organisations

Assoc. Professor Lynne Bilston

- Member, Engineers Australia National Panel on the Biomechanics of Injury, 1995 – present
- Board Member, College of Biomedical Engineers, Engineers Australia
- Member, Kidsafe NSW
- Member, Australian Standards Committee for Child Restraints in Motor Vehicles (CS-085)(incl drafting panel)
- Editorial Board – Computer Methods in Biomechanics and Biomedical Engineering

Assoc. Professor James Brock

- President (2003 – 2005) – Australian and New Zealand Microcirculation Society
- Treasurer (2005 – 2007) – Australian and New Zealand Microcirculation Society
- Member, NHMRC Grant Advisory Group 4 (2002, 2004, 2005)
- Member, Animal Care and Ethics Committee, UNSW 2004 –
- Teacher, International Brain Research Organization Neuroscience Schools 2001–
- Editorial Board – Autonomic Neuroscience: Basic and Clinical

Dr Jane Butler

- Member, local Organising Committee, 2010 meeting of the Australian Neuroscience Society

Dr Kay Double

- Member, Management Council, Parkinson's NSW Inc and Scientific Editor of newsletter
- NSW Representative of the Australian Association of Alexander von Humboldt Fellows
- Representative of the Australian Neuroscience Society at the Federation of Australian Scientific and Technological Societies "Science meets Parliament" event
- Member, NHMRC Grant Review Panel 4F Neurology and Brain Imaging
- Editorial Board, Journal of Neural Transmission; Parkinson's Disease and Allied Conditions.

Dr Richard Fitzpatrick

- Editorial Board – Journal of Physiology
- Editorial Board – Gait and Posture

Dr Paul Foley

- Books Editor – Journal of the History of the Neurosciences
- Member, Organising Committee, 2007 meeting of the International Society for the History of the Neurosciences

Dr Brett Garner

- Member, NHMRC Grant Review Panel
- Member, Regional Grants Interview Committee, National Heart Foundation
- Editorial Adviser – Biochemical Journal
- Editorial Adviser – Clinical Science

Professor Simon Gandevia

- Chair, Section on Exercise & Work Physiology for the International Union of Physiological Sciences, 2002 –
- Co-Convenor of Exercise Group, Australian Physiological and Pharmacological Society, 1999 –
- Associate Editor – Journal of Applied Physiology, 2005 –
- Editorial Board – Encyclopedic Reference in Neuroscience
- Editorial Board – Acta Physiologica
- Editorial Board – Journal of NeuroEngineering and Rehabilitation
- Editorial Board – Australian Journal of Physiotherapy
- Faculty of 1000 – Section Head for Muscle and Connective tissue

Professor Glenda Halliday

- Director, Tissue Resource Centre, POWMRI, 2005 – 2009
- Chair, Grant Review Panel, Neurology & Brain Imaging, NHMRC, 2005 – 2006
- President/Past President, National Association of Research Fellows of NHMRC, 2004 – 2007
- President/President Elect/Past President, Australian Neuroscience Society, 2005 – 2008
- Member, Scientific Advisory Board, Victorian Movement Disorders Collaborative Research Group, 1998 – 2008
- Member, Finance Committee, Faculty of Medicine, UNSW, 1999 – 2006
- Member, Research Committee, Faculty of Medicine, UNSW, 1999 – 2006
- Member, Tow Research Committee, Coast Medical Association, 1999 –
- Member, Membership Committee, International Brain Research Organization, 2001 – 2008
- Member, ad hoc professional appointment committees, POWMRI & UNSW Faculty of Medicine, 2003 –
- Member, Network for Australian Parkinson's Project, 2003 – 2008
- Member, Network of Australian Brain Banks, 2005 – 2009
- Member, Organising Committee, the International Brain Research Organization 7th World Congress of Neuroscience, 2005 – 2007
- Member, Organising Committee, 17th International Congress on Parkinson's Disease and Related Disorders, 2005 – 2007

- Co-convenor, 3rd Australian Dementia, Ageing and Neurodegenerative Diseases group meeting, 2006
- Editorial Board – Acta Neuropathologica
- Editorial Board – Journal of Neural Transmission
- Editorial Advisory Board – Brain

Assoc. Professor Matthew Kiernan

- Chair, Specialist Advisory Committee in Neurology, Royal Australian College of Physicians
- Chair, Neurology Curriculum Writing Group, Royal Australian College of Physicians
- Member, Committee for Physician Training, Royal Australian College of Physicians
- Member, Conjoint Committee, Memorandum of Understanding between Specialty Societies and the Royal Australian College of Physicians
- Honorary Secretary, Australian Association of Neurologists
- Council Member, Australian Association of Neurologists
- Postgraduate Coordinator, Prince of Wales Clinical School, UNSW
- Member, Higher Degree Committee, UNSW
- Member, Examination Committees 4th and 6th Year Medicine, UNSW
- Member, Human Research Ethics Committee, Prince of Wales Hospital
- Board Member, Australian Brain Foundation NSW Committee
- Editorial Board – Journal of Neurology, Neurosurgery and Psychiatry
- Editorial Board – Journal of Clinical Neuroscience

Assoc. Professor Stephen Lord

- President, Australia and New Zealand Falls Prevention Society (establishment committee)
- Member, Osteoporosis Australia Medical and Scientific Committee
- Founding Member and Scientific Advisor, New South Wales Falls Prevention Network
- Member, Australian Injury Prevention Network
- Member, Injury Prevention Research Institutions of Australasia
- Establishment of Australian Falls Prevention Conference
- External advisor to European Union Fall Prevention Network (ProFaNE)
- Foundation member of Injury Prevention Research Institutes Australia
- Editorial Board – Journal of Aging and Physical Activity
- Editorial Board – Journal of Gerontology: Medical Sciences
- Editorial Board – Journal of the American Geriatrics Society



Dr Jean-Sébastien Blouin (left) and Professor Simon Gandevia (right)

Assoc. Professor Vaughan Macefield

- Chair of Local Organizing Committee, 2006 meeting for the Australian Neuroscience Society, 2005

Professor Elspeth McLachlan

- Chair, International Program Committee, 7th IBRO Congress on Neuroscience
- Regional Coordinator, IBRO Public Awareness Committee
- Member, Nuffield Foundation Medical Fellowship Committee
- AVCC Representative, ARC/AVCC/ NHMRC Joint Working Group to revise the National Statement and Guidelines on Scientific Practice
- Selection Advisory Committee, ARC/ NHMRC Thinking Systems
- NSW Regional coordinator, Australian Academy of Science
- Advisory Committee, Parkinson's NSW Inc.
- Editorial Board – Clinical and Experimental Pharmacology and Physiology
- Editorial Board – Clinical Autonomic Research

Assoc. Professor George Paxinos AO

- President, 7th International Brain Research Organisation World Congress of Neuroscience (Melbourne 2007)

- Editorial Board – Neuroscience and Biobehavioural Reviews
- Editorial Board – Journal of Chemical Neuroanatomy

Professor Caroline Rae

- Secretary, Australian and New Zealand Society for Magnetic Resonance (ANZMAG), 2006–
- NSW State rep to Council of ASBMB (Australian Society for Biochemistry and Molecular Biology), 2006 –
- UNSW Node Director, Australian National Imaging Facility, 2006 –

Professor Peter Schofield

- Public Officer, (Lorne) Genome Conference Incorporated, 1992 –
- Co-Convener, The Neuroscience Panel & Member of Scientific Steering Committee, NISAD, National Institute for Schizophrenia and Allied Disorders, 1998 –
- Member, Scientific Advisory Board, Mental Health & Addiction Research Centre, University of Otago, Christchurch, New Zealand, 2003 –
- Member, Inaugural Course Management Committee, Australian Advanced Neuroscience Initiative, 2004 –

- Member, Scientific Advisory Board, Apollo Life Science Pty Ltd, 2004 –
- Member, Program Committee, 11th International Congress of Human Genetics, 2004 – 2006
- Member, Legislation Review Committee for Prohibition of Human Cloning Act 2002 and Research Involving Human Embryos Act 2002, 2005 – 2006
- Member, Scientific Program Committee, Australasian Schizophrenia Conference, 2006
- Member, NHMRC Discipline Panel, 2006
- Member, NHMRC Program Grants Panel, 2006
- Member, Editorial Board, Psychiatric Genetics, 2002 –

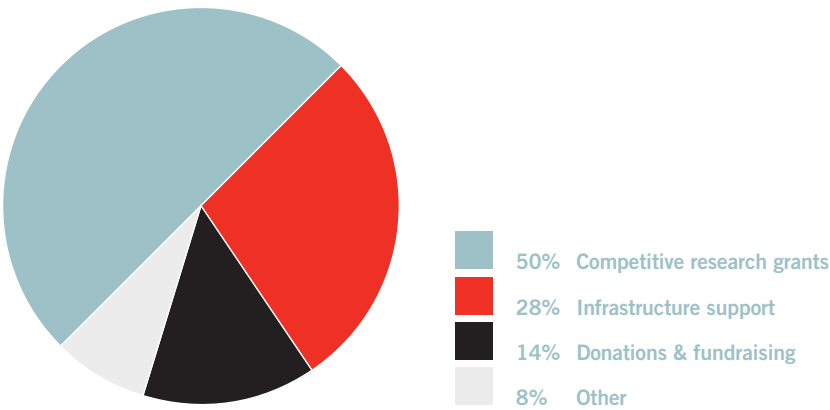
Dr Claire Shepherd

- Member, Organising Committee, 2006 Australian Neuroscience Conference
- Media liaison officer, 2006 Australian Neuroscience Society conference
- Scientific judge, 2006 Australian Neuroscience Society Conference
- Co-convener and Chair, 3rd Australian Dementia, Ageing and Neurodegenerative Diseases group meeting, 2006
- Organiser, Neuroinflammation Symposium, International Brain Research Organization 7th World Congress of Neuroscience, 2007

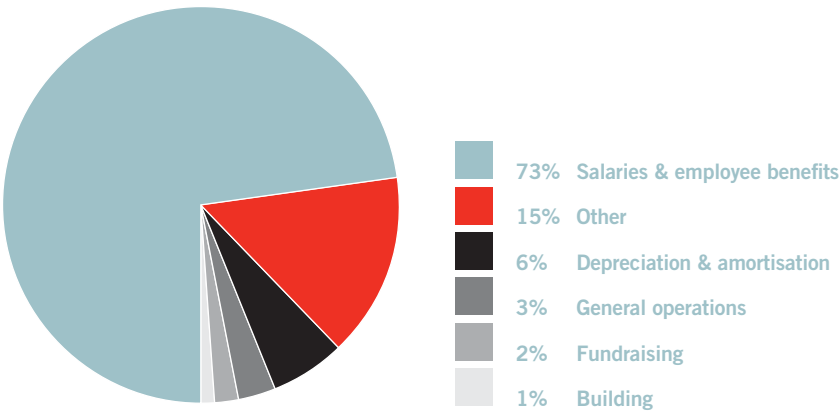
Assoc. Professor Marcus Stoodley

- Member, Scientific Advisory Board, Cure for Life Foundation.
- Member, RACS Board of Surgical Research
- Member, Brain Foundation NSW Committee.
- Board Member, Australian Brain Foundation
- Editorial Board – Pediatric Neurosurgery
- Member, SESIAHS Human Research Ethics Committee

Income



Expenditure



Financial information was extracted from the audited Financial Statements of POWMRI Limited, the statutory entity of the Prince of Wales Medical Research Institute, for the year ending 30 June 2006 and is included here for information purposes only. A full copy of the audited Financial Statements, including Notes to the Financial Statements and the Audit Opinions, can be obtained free of charge on request to the Finance Manager, Prince of Wales Medical Research Institute, Barker Street, Randwick NSW 2031.

Statement of Financial Performance for the Year Ended 30 June 2006

	02/03	03/04	04/05	05/06
Revenue	\$000	\$000	\$000	\$000
Research Grants	1,678	4,147	3,828	4,592
Infrastructure	2,228	1,592	1,826	2,550
Donations and fundraising	1,262	211	1,000	1,298
Other	542	564	822	707
	5,710	6,514	7,476	9,147
Expenses				
Salaries and employee benefits	3,271	4,832	4,955	5,909
Depreciation and amortisation	430	478	467	454
Fundraising	405	7	176	151
Building	91	80	201	93
General operations	135	314	297	268
Other	854	658	808	1,254
Total	5,186	6,369	6,904	8,129
Operating Surplus	524	145	572	1,018

Statement of Financial Position as at 30 June 2006
Balance Sheet

Current Assets	5,096	5,163	6,938	11,081
Property, Plant & Equipment	7,220	6,945	6,552	6,703
Total Assets	12,316	12,108	13,490	17,784
Current Liabilities	1,351	885	1,655	4,831
Provisions	112	225	265	365
Total Liabilities	1,463	1,110	1,920	5,196
Retained Surplus	7,203	7,348	7,920	8,938
Reserves	3,650	3,650	3,650	3,650
Total Net Funds	10,853	10,998	11,570	12,588

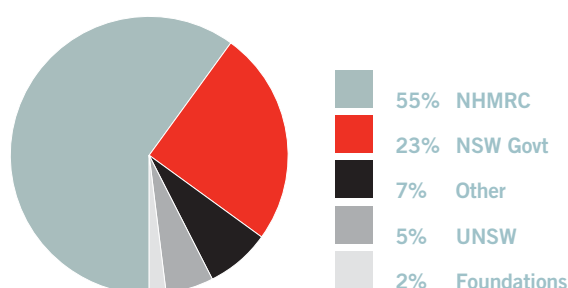
Research Funding

Grants awarded for Research Funding

Funding

Research Grants The Institute attracts competitive external grant funding from a number of national and international organisations every year. Total peer-reviewed funds for the 2006 calendar year were \$9.11M. The most significant funding body is the National Health and Medical Research Council. In 2006, NHMRC income was \$5.08M. While the NHMRC continues to be a major source of research funding, there has been a significant expansion in ARC funding as Institute researchers continue to actively seek research funds from other sources.

NSW Medical Research Support Program The Institute has been successful in securing funding of \$4.41M for the 2006 – 2009 triennium from the NSW Medical Research Support Program. The Institute also received \$1.54M of infrastructure funding from UNSW in 2006.



Research Funding 2006

Research Grants and Fellowships for January – December 2006
Summary information on competitive peer reviewed research grants, fellowships and scholarships, and other sources of external research grant income, applied for and awarded in 2005 for expenditure through the calendar year 2006:

National Health and Medical Research Council

Bilston LE, Senior Research Fellowship A (2004 – 2008), 2006 amount \$99,250

Brock J, Senior Research Fellowship B (2005 – 2009), 2006 amount \$103,500

Brock J, McLachlan E, Mechanisms underlying disordered skin blood flow following nerve injury, NHMRC Project Grant (2005 – 2007), 2006 amount \$134,000

Butler J, Studies of motor control in health and disease, NHMRC RD Wright Fellowship (2004 – 2008), 2006 amount \$83,500

Butler J, McKenzie D, Gandevia S, Cortical, descending and reflex control of human inspiratory muscles, NHMRC Project Grant (2005 – 2007), 2006 amount \$104,625

Colebatch JG, Assessment of vestibular function and balance in humans, NHMRC Project Grant (2004 – 2006), 2006 amount \$63,250

Double KL, Senior Research Fellowship A (2006 – 2010), 2006 amount \$103,500

Double KL, Garner B, Halliday GM, Isoprenoids, neuromelanin and neuronal vulnerability in Parkinson's disease, NHMRC Project Grant (2006 – 2008), 2006 amount \$176,000

Finch CE, Stevenson MR, Norton RN, Zye AB, Lord SR, Williamson AM, Cameron DI, Addressing injury in a population health framework – an integrated approach to prevention, acute care and prevention, NHMRC Capacity Building Grant in Population Health (2005 – 2009), 2006 sub-contract amount \$77,400

Fullerton J, The molecular basis of bipolar disorder, NHMRC Howard Florey Centenary Research Fellowship (2006 – 2007), 2006 amount \$41,875

Gandevia S, Senior Principal Research Fellowship + SEO (2005 – 2009), 2006 amount \$156,500

Gandevia S, Proske U, Taylor JL, Fitzpatrick RC, Neural mechanisms underlying human proprioception, NHMRC Project Grant (2005 – 2007), 2006 amount \$156,000

Garner B, Cholesterol efflux, apolipoprotein-E and glycobiology, NHMRC RD Wright Career Development Award (2005 – 2009), 2006 amount \$87,250

Halliday GM, Principal Research Fellowship (2005 – 2009), 2006 amount \$125,250

Halliday GM, Harding A, Alzheimer's disease and dementia with Lewy bodies: How different are they? NHMRC Project Grant (2004 – 2006), 2006 amount \$180,750

Kiernan M, Pathophysiology of oxaliplatin-induced nerve dysfunction and neuropathy, NHMRC Project Grant (2006 – 2008), 2006 amount \$108,750

Kril J, Creasey H, Halliday G, Understanding the variation in frontotemporal dementia, NHMRC Project Grant (2004 – 2006), 2006 amount \$139,250 (Administered by University of Sydney) 2006 POWMRI allocation \$88,315

Kwok J, Identification and characterisation of causative and modifier genes involved in variant forms of Alzheimer's disease, NHMRC RD Wright Career Development Award (2006 – 2007), 2006 amount \$43,625

Lin C, NHMRC CJ Martin Fellowship (2003 – 2006), 2006 amount \$63,500

Lord SR, Principal Research Fellowship (2002 – 2006), 2006 amount \$115,000

Lord SR, Prevention of injuries in older people, NHMRC Health Research Partnerships in Injury (2002 – 2006), 2006 amount \$521,046

Lord SR, Close J, Fitzpatrick R, Understanding fear of falling and risk taking in older people, NHMRC Project grant (2006 – 2008), 2006 amount \$129,250

Lord SR, Haran M, Cameron I, Ivers R, Simpson J, A randomised controlled falls prevention trial of long distance glasses in elderly multifocal wearers, NHMRC Project Grant (2005 – 2007), 2006 amount \$169,000

Macefield VG, Senior Research Fellowship A (2006 – 2010), 2006 amount \$103,500

Macefield VG, Sympathetic control of cutaneous blood flow and blood pressure in human spinal cord injury, NHMRC Project grant (2006 – 2008), 2006 amount \$114,750

Macefield VG, Henderson L, The autonomic, somatic and central neural responses to deep and superficial pain in human subjects, NHMRC Project Grant (2005 – 2007), 2006 amount \$123,250

McLachlan E, Delayed neuronal death after peripheral nerve and spinal cord injury, NHMRC Project Grant (2006 – 2008), 2006 amount \$149,250

Mellick G, Halliday GM, Mastaglia F, Silburn PA, Rowe DB, The Australian Parkinson's Project – Uncovering genetic risk factors for sporadic PD, NHMRC Project Grant (2006 – 2008), (administered by University of Queensland), POWMRI 2006 sub-contract amount \$55,000

Paxinos G, NHMRC Senior Principal Research Fellow (2006 – 2010), 2006 amount \$141,500

Piguet O, Structural, functional and neuropathological correlates of normal and pathological cognitive ageing, NHMRC Neil Hamilton Fairley Fellowship (2003 – 2006), 2006 amount \$63,500

Purves-Tyson T, The effect of estrogen on signaling mechanisms of the pelvic autonomic nervous system underlying bladder and erectile dysfunction in diabetes, NHMRC Peter Doherty Fellowship (2004 – 2008), 2006 amount \$66,000

Rae C, Coltheart M, McArthur G, The Rane and Spain routes in the brain: functional studies and remediation in dyslexia subtypes, NHMRC Project Grant (2006 – 2008), 2006 amount \$131,750

Schofield PR, Cavanaugh J, Forrest S, Hopper J, Genetic Repositories Australia, NHMRC Enabling Grant – Special Facilities (2006 – 2010), 2006 amount \$400,000

Schofield PR, Halliday GM, Mitchell P, Wilhelm K, Broe GA, Brodaty H, Tetrad 2 DNA Engine base unit and accessories; Chromo4 Real Time Alpha Unit, NHMRC Equipment Grant, 2006 amount \$80,000

Shepherd C, Geczy C, Targeting inflammatory mechanisms in Alzheimer's disease, NHMRC Project Grant (2004 – 2006), 2006 amount \$127,000

Taylor J, Senior Research Fellowship A, 2006 amount \$105,500

Taylor J, Butler J, Gandevia S, How changes in the motor cortex and spinal cord with exercise contribute to fatigue in humans, NHMRC Project Grant (2005 – 2007), 2006 amount \$102,000

Little D, Bilston LE, Cowell C, Relationship of the anabolic and catabolic responses in healing a critical sized defect in rats, NHMRC Project Grant (2005 – 2007), 2006 amount \$111,750 (administered by University of Sydney)

McNulty P, Neurophysiological investigation of motor pathways in subjects with stroke, NHMRC Peter Doherty Fellowship (2004 – 2007), 2006 amount \$63,500 (administered by University of Sydney)

Schofield PR, Molecular determinants of inhibitory synaptic function studied using mutant and transgenic mice, NHMRC Project Grant (2004 – 2006), 2006 amount \$165,500 (administered by the Garvan Institute)

Schofield PR, Blair I, The biological role of the cadherin gene FAT in bipolar disorder susceptibility, NHMRC Project Grant, (2006 – 2008), 2006 amount \$122,500 (administered by the Garvan Institute)

Schofield PR, Kwok J, Brooks W, Identification and characterisation of phenotypic modifier genes in familial Alzheimer's disease, NHMRC Project Grant (2004 – 2006), 2006 amount \$137,750 (administered by the Garvan Institute)

Australian Research Council

Bilston LE, Finch CE, Hatfield J, Effectiveness and appropriateness of child restraints, Linkage Project Grant (2005 – 2007), 2006 amount \$120,000

Bilston LE, Gandevia S, Ehman RL, Development of new methods to measure in vivo properties of human body tissues, Discovery Project (2004 – 2007), 2006 amount \$155,000

Breakspear M, Morley J, Harris J, Sammut C, Goodhill G, Paxinos G, Lovell N, Knock S, Lagopoulos J, Malhi G, Macefield V, Optimising autonomous system control with brain-like hierarchical control systems, Thinking Systems Grant (2006 – 2010), 2006 amount \$644,000

Broe GA, ARC research network in ageing well, Research Network Grant (2004 – 2008), Administered University of Sydney, 2006 POWMRI sub-contract amount \$10,000

Burke D, Kiernan M, Resurgent sodium currents in peripheral nerve axons and sensory neurons, Discovery Project (2004 – 2006), 2006 sub-contract amount \$9,799

Foley P, Encephalitis lethargica in the 1920s (and afterwards): the forgotten epidemic, Australian Postdoctoral Fellowship (2004 – 2006), 2006 amount \$80,000

Garner B, Nuclear trafficking of apolipoprotein-E, Discovery Project (2005 – 2007), 2006 amount \$105,000

Mareels I, Egan G, McDonnell K, Rae C, Kotagiri R, Data management technologies for the magnetic resonance imaging e-research grid, ARC Linkage Project Grant (2006 – 2009), 2006 amount \$58,000

Paxinos G, Watson C, Bilston LE, Puelles L, Rhombomeric topography of structure in the adult mouse: evidence from avian homologies and mouse gene expression, ARC Discovery Project (2006 – 2007), 2006 amount \$67,000

Schofield PR, Williams L, Development of integrated biological markers of brain function, ARC Linkage Project Grant (2005 – 2007), 2006 amount \$69,848

Von Hippel W, Paxinos G, Affective influences, social thinking and behaviour: a social neuroscience approach, Discovery Project (2004 – 2006), 2006 amount \$70,000

Research Funding

Grants awarded for Research Funding



Dr Steve Vucic with patient Michael Smith

NSW Government

(Dept of Health/Ministry for Science & Medical Research)

Clarke E, NSW Spinal Cord Injury and Related Neurological Conditions Research Grants Program – Travel Scholarship, NSW Ministry for Science and Medical Research, 2006 amount \$5,500 (administered by University of Sydney)

Kiernan M, Origin and patterns of neuronal degeneration in motor neurone disease, NSW Ministry for Science & Medical Research Spinal Cord Injury & Other Neurological Conditions Project Grant, (2005/06 – 2006/07), 2006/07 amount \$87,500

Lord SR, Prevention of injuries in older people, NSW Department of Health Partnership Grant (2002 – 2006), 2006 amount \$50,000

Lord SR, NSW Falls Injury Prevention Network, NSW Department of Health, 2006 amount \$34,876

McLachlan E, Brock J, Kiernan M, Macefield V, Altered nerve and muscle excitability after spinal cord injury – challenges for functional recovery, NSW Ministry for Science & Medical Research Program Grant (2006 – 2010), 2006 amount \$218,750

McNulty P, Neurophysiological investigation of single motor unit properties, and sensorimotor integration and control in subjects with spinal cord injury, NSW Ministry for Science & Medical Research Spinal Cord Injury & Other Neurological Conditions Project Grant (2005 – 2006), 2006 amount \$100,000

Middleton J, Davis G, Gandevia S, Craig A, Nickolls P, Scott T, Lee B, Butler J, Lord S, Enhancing functional recovery and independence after spinal cord injury, NSW Ministry for Science & Medical Research Spinal Cord Injury & Other Neurological conditions Program Grant (administered by University of Sydney) (2005 – 2008), 2006 POWMRI sub-contract amount \$70,296

Paxinos G, The spinal cord of the rat and human: Atlases and 3D models, NSW Ministry for Science & Medical Research Spinal Cord Injury & Other Neurological Conditions Project Grant (2006 – 2007), 2006 amount \$100,000

Schofield PR, Mental illness research, NSW Ministry for Science & Medical Research Infrastructure Grant, 2006 amount \$1,300,000

Stoodley M, Cerebrospinal fluid flow in post-traumatic syringomyelia, NSW Ministry for Science & Medical Research Spinal Cord Injury & Other Neurological Conditions Project Grant (2005 – 2006), 2006 amount \$95,500

Other Funding Bodies

Bilston LE, Finch CF, Hatfield J, Effectiveness and appropriateness of child restraints, Motor Accidents Authority industry partner contribution to ARC Linkage Project Grant (2005 – 2007), 2006 amount \$20,000

Bilston LE, Finch C, Hatfield J, Effectiveness and appropriateness of child restraints, Roads & Traffic Authority of NSW industry partner contribution to ARC Linkage Project Grant (2005 – 2007), 2006 amount \$33,000

Bilston LE, Gandevia S, Development of tagged MRI methods for measuring pharyngeal muscle mechanics, UNSW Faculty Research Grant, 2006 amount \$25,000

Broe GA, UNSW Faculty of Medicine contribution to ARC research network in ageing well, Research Network grant, 2006 amount \$10,000

Double KL, Top-up funding towards a Waters Alliance 2695 High Pressure Liquid Chromatography system, Clive & Vera Ramaciotti Foundations Equipment Gift, 2006 amount \$25,000

Fitzpatrick RC, Neurophysiology of human balance and posture, UNSW Goldstar Award, 2006 amount \$40,000

Garner B, A novel cholesterol efflux accelerator as an anti-atherosclerotic in Apo-E deficient mice, National Heart Foundation Grant-in-Aid (2005 – 2006), 2006 amount \$60,000

Loy C, Longitudinal clinical, imaging and genetic study of a cohort of patients with frontotemporal dementia, Pfizer Neuroscience Research Grant, 2006 amount \$37,900

Macefield VG, Sander M, Celermajer DS, Nitric oxide and sympathetic reflex control of blood pressure in health and hypertension, National Heart Foundation Grant-in-Aid (2006 – 2007), 2006 amount \$60,000

McNulty P, Investigation of the length-tension relationship for single motor units in human muscles measured using intraneural motor axon microstimulation, Clive & Vera Ramaciotti Foundations Establishment Gift, 2006 amount \$30,000

Nasrallah F, Cold Spring Harbor Laboratory travel award, 2006 amount \$250

Paxinos G, The rat and human spinal cord: Atlases and 3D models, Christopher Reeve Paralysis Foundation (2006 – 2007), 2006 amount US\$74,980 (~\$92,294)

Paxinos G, Organisations of the human cortex revealed by gene expression profiles, UNSW Goldstar Award, 2006 amount \$40,000

Paxinos G, An atlas of the human cerebral cortex, Ronald Geoffrey Arnott Foundation (2005 – 2007), 2006 amount \$10,000

Rae C, Coltheart M, Functional imaging the dual route: a study of lexical and non-lexical reading, UNSW Faculty Research Grant, 2006 amount \$26,000

Schofield PR, Gordon E, Grant SGN, Identification of synaptically expressed genetic variants that contribute to brain function, UNSW Goldstar award, 2006 amount \$40,000

Schofield PR, Halliday GM, Kwok J, Dobson-Stone C, Chetcuti A, The Genetics Initiative, UNSW Faculty of Medicine Strategic Research Initiatives Grant, 2006 amount \$250,000

Shepherd C, Halliday GM, Schofield PR, Guillemin G, Inflammation mediators in Alzheimer's disease: identifying targets for therapeutic intervention, JO & JR Wicking Trust Medical and Scientific Research Grant, 2006 amount \$50,000

Stoodley M, Vascular targeting enhancement of radiosurgery for arteriovenous malformations, Brain Foundation, 2006 amount \$19,090

Stoodley MA, Vascular targeting enhancement of radiosurgery for arteriovenous malformations, Sydney Children's Hospital Foundation, 2006 amount \$14,995

Scholarships

Brooks D, Department of Education Science and Training, Australian Postgraduate Award, (2004 – 2006), 2006 amount \$19,231

Butler A, Albert Chua Scholarship, (2004 – 2006), 2006 amount \$19,000

Cheng S, Department of Education Science and Training, Australian Postgraduate Award (2004 – 2006), 2006 amount \$9,615

Chew JZZ, Department of Education Science and Training, Australian Postgraduate Award (2004 – 2006), 2006 amount \$19,231

Clarke E, Department of Education Science and Training, Australian Postgraduate Award (2004 – 2006), 2006 amount \$19,231 (administered by University of Sydney)

Duma S, Broe GA, Piguet O, Alzheimer's Australia Research, Rosemary Foundation Loader Research Scholarship, 2006 amount \$9,900

Duncan C, Department of Education Science and Training, Australian Postgraduate Award (2004 – 2007), 2006 amount \$19,231

Fairhall J, Royal Australasian College of Surgeons Scholarship, 2006 amount \$50,000

Han E, Prince of Wales Clinical School Postgraduate Research Scholarship, 2006 amount \$27,000

Krishnan A, NHMRC Medical Postgraduate Scholarship (2004 – 2006), 2006 amount \$21,470

Loy C, NHMRC Medical Postgraduate Scholarship (2005 – 2007), 2006 amount \$30,014

Luty A, Department of Education Science and Training, Australian Postgraduate Award (2004 – 2007), 2006 amount \$19,231

Luu B, Department of Education Science and Training, Australian Postgraduate Award (2005 – 2007), 2006 amount \$19,231

Martin P, Department of Education Science and Training, Australian Postgraduate Award (2005 – 2006), 2006 amount \$19,231

McAuley E, NHMRC Dora Lush (Biomedical) Postgraduate Scholarship (2005 – 2007), 2006 amount \$21,231

Murray N, NHMRC Postgraduate (Medical) Research Scholarship (2006 – 2007), 2006 amount \$30,014

Saboisky J, Department of Education Science and Training, Australian Postgraduate Award (2004 2006), 2006 amount \$14,423

Schofield E, NHMRC Dora Lush (Biomedical) Postgraduate Scholarship (2004 – 2006), 2006 amount \$10,242

Song C, Department of Education Science and Training, Australian Postgraduate Award (2005 – 2007), 2006 amount \$19,231

St George R, UNSW, University Postgraduate Award (2004 – 2007), 2006 amount \$19,231

Vucic S, Kiernan M, MND Research Institute Clinical Research Scholarship (2005 – 2006), 2006 amount \$37,500

Warden L, Alzheimer's Australia Research Hunter Doctoral Research Scholarship into the Causes of Alzheimer's Disease (2006 – 2007), 2006 amount \$20,000

FUNDRAISING AND PUBLIC RELATIONS

Building strong relationships with key stakeholders, enhancing our public profile and raising significant funds to support our research are integral to the success of the Institute.

Whilst our scientific leadership is reflected in the numerous competitive research grants that our researchers receive, we depend on financial support through donations and bequests to underpin our achievements.

Our progress is greatly accelerated through the generosity of so many. Gifts from individuals, families, trusts, business, community and other private organisations build the foundation from which the Institute's research advances. We remain indebted to you for your considerable contributions, partnership and engagement. This philanthropy furthers our mission to discover and implement new treatments for many debilitating diseases and conditions.

Your gifts help in immeasurable ways. Your support allows us to attract the best scientific minds in the world to join our research team. It also funds the facilities and equipment needed to build new laboratories.

But raising significant funds will never be more important as the Institute enters a pivotal new era in 2007. The year ahead will be marked by dynamic change as future plans to expand become a reality. We will be pushing all boundaries! The challenges for the fundraising team will certainly be great but the long-term rewards will speak for themselves.

It is your continued financial support that keeps the momentum. Quite simply, your gifts build a healthier world. We thank you sincerely for your support.

Raising funds – raising awareness

Maestri della Cucina Gala Dinner This year's Food for Thought gala dinner, Maestri della Cucina – the corner stone of the Institute's annual fundraising events – was a great success! Each year, this stunning degustation event provides an evening of gourmet cuisine for those passionate about fine food and wine. Our sincere thanks to MC Simon

Marnie, Guest Speaker Rowena Wallace, our wonderful Italian chefs and generous guests for making it such a memorable evening.

Creative Madness An art exhibition entitled Creative Madness was held during Mental Health Week in October to raise funds for bipolar disorder. Organised by passionate curators Lisa Cahill and Justine Topfer, the event helped raise understanding and awareness of this stigmatised illness and, at the same time, celebrated Australian contemporary art.

Bridge for Brain Research Challenge This unique event, which sees over 3,000 Bridge players throughout Australia playing hands in support of the Institute's 2006 Challenge, raised funds for dementia research. The event was supported by the NSW Bridge Association, the Australian Bridge Federation and major sponsors Nokia, Ursa Communications, The Bridge Shop and Video Easy.

ASX Reuters Charity Foundation In 2006, the ASX Reuters Charity Foundation once again supported our research through a major donation. Eligibility for a grant from this philanthropic organisation hinges on the presentation of a significant research project and the ability to work in partnership with the Foundation to raise funds. We are sincerely grateful to ASX Reuters Charity Foundation for their continued financial assistance.

Institute Tours Throughout 2006, we were delighted that so many of our donors, research participants, their friends and family visited the Institute for tours, and to meet scientists and Board members. These regular tour evenings enabled us to profile our research and provided an important conduit between supporters and researchers.

The Phyllis Luker Society The Phyllis Luker Society was established in December 2005 as the Institute's bequest society. It is named in honour of a long-time supporter of the Institute, Phyllis Luker, whose commitment to brain research led her to make significant

How you can help

Donations Throughout our lives, we all have the ability to support and care for others. Whether the gift is small or large this simple gesture will have an important impact on another's world. We appreciate your interest in supporting our world-class research. You can donate by phone, by mail or online. All donations over \$2 are tax deductible and a receipt will be provided.

By Phone To make a gift by phone or if you have a general question about making a gift please call 02 9399 1000 or email a.graham@unsw.edu.au

By Mail If you would like to make a gift by mail, please make your cheque payable to the Prince of Wales Medical Research Institute and mail to: Prince of Wales Medical Research Institute, Fundraising Department, PO Box 82, St Pauls NSW 2031

Online Donate today to the Prince of Wales Medical Research Institute online at www.powmri.edu.au

Make regular donations Your regular donation will allow us to plan ahead and make giving easier for you by spreading your gift across the year. Call 02 9399 1000 to establish a regular giving program.

Bequests Even beyond our lifetime, we can still make a gift that can change lives. By leaving a donation in your Will you make a gift that will always be remembered and one that contributes to better health for future generations. Leaving a gift in your Will is a significant way you can support research at the Institute. Advising us of your decision to make a gift to the Institute in your Will greatly assists us in planning for the future. It also provides us with an opportunity to discuss with you the area of research you could like to support. We would of course also like to acknowledge your generosity by inviting you to become a member of The Phyllis Luker Society, but understand and respect any wish for anonymity.

All gifts made to the Prince of Wales Medical Research Institute are directed towards medical research projects. For further information, including wording for your Will or literature regarding bequests, contact Robyn Maher on 02 9399 1125

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donations over a number of years culminating in a decision to support the Institute through a provision in her Will. The Society recognises those supporters who have made a bequest.

The Phyllis Luker Society held three luncheons in 2006, giving the Institute an opportunity to celebrate, in life, those who made a bequest. Society lunches are very popular and provide a fun, informal venue for members to hear talks by Institute scientists on topics of interests, and to receive updates on current research. Members and guests enjoyed great food and conversation, met like-minded people and heard, first hand, about scientific advances geared towards eradicating diseases of the brain. We look forward to the Society growing and flourishing in 2007 and beyond.

Direct Mail Appeal Program We are sincerely grateful to those supporters who allowed us to tell their personal stories in a series of letters to prospective donors. Their stories enabled us to secure donations towards specific research projects including Alzheimer's and schizophrenia. It cannot be easy to 'bare your soul' in such a public way and our heartfelt thanks go to them, and to those who responded so generously. Fundraising appeals are primarily aimed at sourcing new donors and promoting the work of our scientists.

Media coverage and publications The Institute's research featured regularly in national television programs and news bulletins, radio and major Australian and international print media. In particular, Professor Peter Schofield (stem cell debate), Professor Simon Gandevia (how the mind senses movement), Dr Richard Fitzpatrick (remote control of walking), Professor Cyndi Shannon-Weickert (NISAD appointment), Dr Kay Double (Parkinson's disease), Professor Tony Broe (healthy ageing), A/Professor Lynne Bilston (child restraints) Professor Stephen Lord (falls and balance in the elderly) and Dr Gunnar Wasner (spacesuit to aid research).

Publications, such as our newsletter Brainworks, are produced to promote the Institute's strong research areas, educate the community on the latest research outcomes and keep our donors and potential donors informed.



Professor Tony Broe filming Channel 9's 'What's Good for You'

Why support the Prince of Wales Medical Research Institute?

Our health tomorrow depends on the discoveries from medical research today. It is difficult to envisage a cause more worthy of support than research which is designed to eliminate or alleviate human suffering.

Our ability to continue to help ensure the health of future generations is critically dependent on our base of support. Private contributions play a vital role.

Please consider making a gift to the Institute, and become a part of something really important – the prevention and eventual cure of some of the world's major diseases and disabilities. While the challenges are daunting, solutions are attainable – with your help.

The Prince of Wales Medical Research Institute is a not-for-profit organisation.

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Zheng, Mr/s Y Z

OUR PEOPLE

In 2006 the Institute had seventeen staff at professorial or associate professorial level, and nine staff holding NHMRC Research Fellowships.

During 2006 there were two Fellows of the Australian Academy of Science on the Institute staff, Professors Simon Gandevia and Elspeth McLachlan. One of the Institute's staff is a former President, Professor George Paxinos, and one is current President of the Australian Neuroscience Society, Professor Glenda Halliday; Professors Elspeth McLachlan and George Paxinos have been awarded the Ramaciotti medal recognising excellence in medical research; Professor George Paxinos has also been made an Officer of the Order of Australia (AO) for his service to neurological science; and two of the Institute's senior scientists, Professors Tony Broe and Shirley Sarks have been awarded Member of the Order of Australia (AM). Members of the scientific staff also occupy senior positions in national and international organisations concerned with nervous system function and dysfunction.



Left to right: Professor Peter Schofield, Erica McAuley, Dr Jan Fullerton

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Deputy Director & Co-Director SIRC

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Prof Elspeth McLachlan DSc FAA (Co-Director
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Prof Caroline Rae BSc(Hons) PhD (UNSW
NSGlobal Professor)
Prof Shirley Sarks AM MD FRCS FRANZCO
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Prof Cynthia Shannon Weickert BA PhD
(NISAD Chair of Schizophrenia Research)
[from Nov 2006]

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Assoc Prof Lynne Bilston BE(Mech)(Hons)
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Assoc Prof David McKenzie MBBS BSc(Med)
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Assoc Prof Marcus Stoodley MBBS(Hons) PhD
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Dr Brett Garner BSc(Hons) PhD (NHMRC RD
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Dr John Kwok BSc PhD (NHMRC RD Wright
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Dr Tom Weickert BA MA MPhil PhD (UNSW
Senior Lecturer, Psychology) [from Nov 2006]

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Research Officers

Dr Albert Chetcuti BTechBiotech
[from Jul 2006]
Dr Vadim Dedov MD PhD
Dr Kim Delbaere MPT PhD
Dr Carol Dobson-Stone BSc DPhil (EMBO
Research Fellow) [from Jul 2006]
Dr Paul Foley BSc(Hons) PhD (ARC Australian
Postdoctoral Fellow)
Dr Michael Green BSc PhD
Dr Claire Heise BSc(Hons) PhD [from Sep 2006]
Dr Yue Huang BM MSc PhD
Dr Cindy Lin MEngSc BE PhD (NHMRC CJ
Martin Fellow)
Dr Renée Morris BSc MSc PhD
Dr Farid Rahimi BSc(Hons) [to Nov 2006]
Dr Daina Sturnieks BAppSc(Hons) PhD
Dr Nivan Weerakkody BBiomedSc(Hons) PhD
Dr Ingvars Birnieks Dr. MedSci, Dr. Biol
(Swedish Medical Research Council Fellow)

Dr Gunnar Wasner Priv.-Doz. Dr. med
(Feodor Lynen Research Fellow, Germany)

Senior Research Assistants

Ms Julie Brown BSc
Mr Ping Hu BMed MM
Ms Heather McCann DipHlthSci BMedSci(Path)
Ms Kerrie Pierce BSc(Hons) [from Jul 2006]
Mr Steve Turner BAppSc(MedLabSc) BSc(Hons)
MSc GradCert (Mgmt) [from Jul 2006]
Ms Hongqin Wang MBBS (China)
Mr Collin Yeo

Research Assistants

Ms Miriam Abeshouse BSc(Hons) Psych
[from Jun 2006]
Mr Amr Al Abed BSc(Hons) [from Apr 2006]
Ms Kerrie Atkins RN [to Nov 2006]
Ms Claire Boswell-Ruys BPhy
Ms Rachael Brown RN
Mr Bob Bryans
Mrs Danielle Burton RN
[from Aug 2006]
Ms Anne Butler BA(Tourism Mgmt)
Ms Francine Carew-Jones BSc(Med)
Mr Hilary Carter
Ms Heidi Cartwright BSc
Mr Michael Cartwright BSc
Mr Shaokoon Cheng BMechEng(Hons)
[from Jul 2006]
Ms Kim Dilati BPsych [to Jun 2006]
Ms Marcelle D'Ugo [to May 2006]
Mr Elias Glaros DipAppSci BMedPharmBiotech
Ms Elissa Gilbertson [from May 2006]
Ms Marianne Hallupp BSc [from July 2006]
Ms Anna Heath BSc(BiomedSc) BAppSc(Hons)
[from July 2006]
Ms Sarah Hemley BBiotech(Hons)
[from Apr 2006]
Ms Catherine Kirkham BPhy [to Oct 2006]
Ms Marcella Kwan BSc GradDip(Biotech)
GCHSM MPH
Mr Francesco La Tella BSc(Maths)
Ms Rachel McBain BMedSc(Hons)
Ms Maaike Mintjes Drs (Neth) [to Feb 2006]
Ms Karen Murphy BSc(Hons)
Ms Sandra O'Rourke BMedSc(Hons)
Ms Teresa Orr RN MN [to Oct 2006]
Ms Svetlana Pianova MScMs Kate Plumb
BA(Hons)

Assoc Professor James Brock *Principal Research Fellow*
James is studying the effects of injuries that damage nerves controlling blood vessels. Modified excitability of blood vessels following nerve injuries can change in the function of organs like skin and can lead to high blood pressure that increases the risk of damage to the heart and of strokes. Understanding how injuries produce changes in blood vessel function helps devise ways to preserving normal function



Ms Mamta Porwal BHMS MPH
 Ms Rathi Ramasamy BSc(Hons)
 Ms Layla Roberts BA(Hons) [from Sept 2006]
 Ms Emma Schofield BSc(Hons) [from Oct 2006]
 Ms Connie Severino [from Mar 2006]
 Ms Janette Smith BPsych
 Ms Rebecca St George BSc(Hons) BA
 Ms Julia Stevens BBiotech(Hons)
 Ms Anne Tiedemann BSc GradDipBiomedSci
 Ms Diana Tripovic BSc(Hons)
 Dr Esther Vance BSc (Hons) PhD
 Mr Lee Walsh BE(Hons) BSc(Hons)
 Ms Amy Watling BSc [to Mar 2006]
 Mr Lajos Weisz
 Ms Tanya Wiendels BSc DipEd [to Nov 2006]

Laboratory Assistants

Ms Ariel Luo MSc(MedSci) [from Nov 2006]
 Mrs Kathy (Ping) Wang BSc(Chem) MEnvStud
 [from Sep 2006]
 Ms Jacqueline Zheng BSc(Med) Comm(Acct&Fin)
 BVSc(Hons) [from Nov 2006]

Administration

Ms Ursula Daniels
 Ms Rosalie Dworjanyan BSc GradDipInfoMgmt
 Mrs Karen Gobbe
 Mrs Lee Hilton
 Ms Deborah McKay BHLthAdmin JP
 Ms Roslyn Nickolls BA DipEd
 Mrs Andrea Riley
 Dr Liz Temple BA PhD DipEd

Finance

Mr Andrew Dermott BEc CA, Company
 Secretary
 Ms Ruby Wang MCom

Information Technology

Dr Andrew Cartwright BSc PhD
 [from May 2006]
 Gunawin BIS [from Sep 2006]
 Mr John Hales BSc MBiomedE [to Mar 2006]
 Mr Jonathon Ong BSc (Comp Sci) [to Aug 2006]

Public Relations and Marketing

Ms Anne Graham RN MFIA

Fundraising and Events

Ms Stephanie Barker BA(Comm) [to Apr 2006]
 Ms Angela Fury BA LLB [from Apr 2006]
 Ms Catherine Rienmueller [from Nov 2006]

Bequests

Ms Robyn Maher

PhD Candidates

Dr Svetlana Cherepanoff BSc MBBS
 Dr Jacob Fairhall BSc(Med) MBBS(Hons)
 Dr Athula Karunanayaka (P/T) MBBS
 Dr Jack Liao MBBS
 Dr Clement Loy BA MBBS MMed(Clin Epi)
 FRACP [from Jul 2006]
 Dr Nicholas Murray MBBS(Hons) FRACP
 Dr Kingsley Storer MBBS BMedSc(Hons)
 Dr Connie Vogler MBBS FRACP
 Dr Steve Vucic MBBS(Hons)
 Jason Amatoury BE(Hons) MBiomedE
 Claire Boswell-Ruys BSc BAppSc(Hons)
 Daniel Brooks BSc(Hons)
 Julie Brown BSc
 Alexander Burton BSc(Hons) BNursing RN
 Annie Butler BA(Tourism Mgmt)
 Sharon Chan BSc(Hons) [from Jul 2006]
 Shaokoon Cheng BMechEng(Hons)
 John Chew BE(Comp Eng)(Hons) MBiomedEng
 Elizabeth Clarke BSc BE(Hons)
 Stephen Duma BEng(Elec)(Hons) MBiomedEng
 Carlotta Duncan BSc(Adv)(Hons) [from Jul 2006]
 David Elliott BSc(Hons)
 Guangqiang (John) Geng B Biomed Eng M
 Biomed Eng
 Erica Han BE(Hons)
 Phu Hoang BAppSc(Phy)(Hon)
 Anna Hudson BSc(Biomed Sc) BSc(Hons)
 Cindy Kersaitis BSc MA GradDipSci
 Agnes Luty BMedSci(Hons) [from Jul 2006]
 Billy Luu BMedSc (Hons)
 Peter Martin BHMvt(Hons) BA(Comm)
 Erica McAuley BA BSc (Hons) [from Jul 2006]
 Jasmine Menant BSc(Hons)
 KhuenYen (Ian) Ng MSc
 Troy Rubin BSc(Hons)
 Julian Saboisky BHMv(Hons)
 Emma Schofield BSc(Hons)

Christine Song BSc(Hons)
 Rebecca St George BA BSc(Hons)
 Anne Tiedemann BSc GradDipBiomedSci
 Alex Voukelatous MA (Psychol)
 Lolita Warden BAppSc Biotech(Hons)
 Vanessa Young BSc(Hons)
 Wei Shin Yu BE(Hons) Ph.D
 Henry Zheng MEcon MComm(Hons)

Masters Candidates

Rachael Brown RN
 Amy Watling BSc
 Fatma Nasrallah BSc(Biochem)

Honours Candidates

David Beck [from Aug 2006]
 Clement Cheung [from Aug 2006]
 Jason Fung [from Aug 2006]
 Ameya Hattangadi
 A lvin Kamili
 Karl Leung
 Elizabeth Newton
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