50 years of discovery

celebrating

The Medical Foundation

2008 Annual Report

The University of Sydney
The Medical Foundation is dedicated to improving the health of all Australians by investing in a program of world-class research and learning in the Faculty of Medicine at the University of Sydney.
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Sir Victor Coppleson (middle) with unknown colleagues, believed to be at an early Post-Graduate Medical Foundation Council meeting during the 1960s. Sir Coppleson founded The Medical Foundation in 1958.

IMAGE COURTESY OF DR J V MALCOLM COPPLESON
$4.5 million was expended by The Medical Foundation and Divisions for the support of research, schools and centres in 2008.

New grants commencing in 2008 were awarded to Dr Ryuichi Aikawa, Dr Andrew Duggins, Dr Gemma Figtree, Associate Professor Ian Kerridge, Professor John McAvoy, Dr Martin Ng, Dr Rajesh Puranik and Dr Sue Towns (Dr Rajesh Puranik pictured with Dr John Gregory-Roberts).

Administrative costs remained low at 7.3% of total income.

Realisation of investment income boosted total equity at book value to $59.1 million.

The prestigious Medical Foundation Scholarship was awarded to Ms Emily Fuller in 2008 with an additional scholarship announced for commencement in 2009 (see Fellowships, scholarships and prizes on pages 34–35).

A new bequest was received from the Estate of the Late Sydney Ralph Reader whilst additional funds were received from the Estates of the Late Rowena Vaughan Milgrove, Robert W Storr and Beverley Tivey.

Assistant Professor Andrew Moran was awarded the 2008 Lucy Falkiner Fellowship. Professor Moran visited The University of Sydney from the Columbia University Medical Centre, New York City to share his novel Cardiovascular Disease Policy Model – China (see Fellowships, scholarships and prizes on pages 34–35).
The inaugural Roly Dunlop Scholarship for neurological research was awarded to Dr Constance M Y Yap in 2008 (see Fellowships, scholarships and prizes on pages 34–35).

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The School of Public Health and The Medical Foundation presented the Grand Challenges in Health & Medicine Public Lecture Series 2008.

The Sydney Burns Foundation was established as a Division of The Medical Foundation. The aim of the Sydney Burns Foundation is research, education and scholarship in the field of burns medicine and reconstructive surgery, through the Faculty of Medicine.

13 recent Medical Foundation Fellows were awarded NHMRC Project Grants totalling $6.7 million over three years, beginning in 2009.

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ACHIEVEMENTS

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I set about writing this report with the goals of providing an overview of our achievements of the past 12 months and highlighting some of those of the past 50 years; and also of outlining the guiding principles and strategies which we have adopted to deal with the challenges we faced during 2008.

The Medical Foundation is currently considered the largest and most established provider of private funds for medical research in Australia. Where alternative sources of funds, such as governments and corporations, fail to meet the needs of the Faculty of Medicine at the University of Sydney, and, in a broader sense, society, the Foundation, with its dedicated donors and researchers, often steps in to fill the funding shortfall. This is particularly challenging in the current financial environment and our governors have taken all reasonable steps to ensure our investments are protected and our commitments fully funded.

The history that has emerged over the past 50 years is one characterised by the steady growth of capital and income and commitments to longer term projects as greater funds become available. Invariably, the funds go to the Faculty of Medicine and to the great teaching and research hospitals associated with it, Royal Prince Alfred, Royal North Shore, Concord, Westmead, Westmead Children’s and Nepean Hospitals.

First there were fellowships and then chairs such as the Douglas Burrows Chair of Paediatrics and Child Health and, more recently, the Chair of Developmental Neurobiology, the Medical Foundation Chair of Cancer Biology and a second Chair in Ophthalmology, funded largely by the Gregory-Roberts family, eight in all. These were followed by post-graduate and PhD scholarships focusing on neuroscience, the heart and liver, always evolving to meet new scientific challenges. Symptomatic of its evolution is the joint funding by the Foundation of the Medical Foundation Building by contributing $10 million. Initially inspired by the exciting emergence of an understanding of the human genome, today the building houses some of the best laboratories and distinguished medical researchers in the world.

It is fair to say that The Medical Foundation assists medical research very broadly. Our working mantra is one of stewardship, capital growth and relevance, especially in the context of the enormous current day competition for philanthropic funds and volatile financial markets. Our approach is personal and considered, reflecting our long established understanding of philanthropy. We currently have close to $60 million under management and in 2008 spent $4.5 million on grants and scholarships. In our 50 year history, we have spent over $100 million in supporting medical research. We continue to tackle new projects, such as the establishment of a Chair of Adolescent Medicine at The Children’s Hospital at Westmead, commenced in 2007. This appeal will reach completion early in 2009, culminating in the appointment of a world-class specialist to the new Chair. The healthy future of our adolescents makes this project a
very worthy recipient of the generosity of our donors. The Medical Foundation continues to work in strategic partnership with the Dean of the Faculty of Medicine to establish ongoing funding priorities.

NEW GRANTS IN 2008

New grants which began in 2008 were awarded to:

- The Save Sight Institute, Professor John McAvoy
- Cardiovascular research development initiative, Dr Ryuichi Akawa, Dr Martin Ng and Dr Rajesh Puranik
- The cardiac magnetic resonance imaging research unit, Dr Gemma Figtree and team
- Restoring values to medicine, Associate Professor Ian Kerridge
- Diagnosis and differentiation of dementia syndromes, Dr Andrew Duggins
- Adolescent medicine, Dr Sue Towns

(You will find further information about these grants outlined throughout this report).

OTHER INITIATIVES AND PROJECTS

Through the generous funds of the Chapman Bequest, The Medical Foundation continues to support a number of researchers in the field of cardiovascular medicine, such as the team headed up by Dr Gemma Figtree at Royal North Shore Hospital. Its support of the Chapman Fellow, Dr Chris Semsarian at Royal North Shore Hospital. Its support of Prion disease, and Professor Jürgen Stocker’s work in the field of vascular medicine, has been ongoing. In the area of vascular biology, Professor Jennifer Gamble’s research is focusing on the genes responsible for the formation and function of blood vessels. It is likely that The Medical Foundation will also commit to supporting three additional Chapman Fellows in 2009.

Neurodegenerative disorders continue to be an important area of research supported by The Medical Foundation through the work of Professor Simon Hawke on the mechanisms of Prion disease, and Professor Jürgen Götz with the use of functional genomics. Researching Alzheimer’s Disease is Associate Professor Jillian Kril through the Brain Donor Program. The generous support of the Bluesand Foundation has enabled Hussein Mansour to make a valuable contribution to the understanding of physiological changes which occur in Alzheimer’s disease. Important connections are being forged with organisations sharing similar goals which may further assist epidemiological research into Alzheimer’s.

The significant funds from the Storr Bequest continue to support The Storr Liver Unit at Westmead Hospital under the auspices of The Robert W Storr Professor Of Hepatic Medicine, Professor Jacob George. Whilst at The Children’s Hospital at Westmead, Professor Kathryn North, The Douglas Burrows Professor of Paediatrics and Child Health, continues her research in the diagnosis and treatment of inherited neuromuscular disorders.

Medical Foundation Fellow Professor Adrian Bauman, continues to research rising obesity rates, physical activity and health. In a rural adolescent cohort study conducted by Dr Catherine Hawke, hormones, health, education, environment and relationships were the focus of funding-assisted research.

The Molecular genetics of common human diseases is the research field of Professor Juergen Reichardt, Medical Foundation Fellow 2005–2009. With Medical Foundation support, Professor Reichardt’s research aims to translate basic science discoveries into clinical activities and ultimately into practical methods of diagnosis, prevention and treatment. A key area of study is prostate cancer as well as other complex diseases which take their toll on human health. Also making significant strides towards the treatment of advanced prostate cancer is Dr Qihan Dong, with the generous donations through The Medical Foundation, of The Reginald Ward and Adrian Cotter Foundation. In 2008 Medical Foundation Fellow, Associate Professor in Geriatric Medicine, Gustavo Duque, was recruited to undertake his research on osteoporosis in the elderly and Medical Foundation Fellow, Associate Professor Christopher Jackson continued his important work on enhancing healing in chronic wounds.

The Medical Foundation will commit to supporting three new higher degree post graduate research scholarships through the Faculty of Medicine in 2009. In past years the Foundation has financially supported these scholarships which both attract and assist strong candidates in their individual fields of research.

ACKNOWLEDGEMENTS AND THANKS

As we commence the next 50 years, I wish to thank all our dedicated Council members for the contributions they have made during 2008. In particular, I wish to extend my heartfelt thanks to our outgoing Honorary Treasurer, Mr Paul Garrett. Paul has been an unflagging contributor and highly effective in the role, having made a very significant contribution over the last 10 years and I have thoroughly enjoyed working with him. I wish Paul every success and happiness in the future.

This is also an opportune time to thank our Divisions, which include: The Ageing and Alzheimer’s Research Foundation; The Bone and Joint Research Foundation; The Dermatology Research Foundation; The Endocrinology and Diabetes Foundation; The Microsearch Foundation of Australia; and the newly formed Sydney Burns Foundation. The integration of the Divisions of the Foundation continues to reap benefits as we explore ways to work more closely and effectively. Reducing our collective overhead, for example, remains an area of focus. During 2008, the Senate approved the establishment of the Sydney Burns Foundation. Dr Peter Maitz from Concord Hospital has played a key role in this initiative. Each year a member of one of the Divisions is asked to represent the Divisions at Council meetings throughout the year. I would like to thank Professor David Le Couteur who worked with The Medical Foundation Council during 2008. There are now six important Divisions in all and I encourage you to view our new website to understand their activities in more detail.

Sally Thomson joined as the new Manager of the Medical Foundation during the year, Sally replaced Wendy Marceau, with whom many of you will be familiar, and now works alongside Melanie Balsom. Respectively, they cover funding and administration in a tireless and highly competent way that helps keep costs at a minimum. The Foundation is privileged to have their service.

Finally, and most importantly, I wish to extend warm wishes to all of our donors from the last 50 years until now. You have enabled the concepts we have discussed to be explored and to continue uninterrupted. I wish you all the very best during 2009 and look forward to catching up as we step confidently into the future.

Yours sincerely,

RICHARD CALDWELL
It is an enormous benefit for me as Dean to know that the University’s largest and most successful Foundation continues to commit its resources to the educational and research activities of the Faculty. This allows us to grow and push the boundaries of knowledge in ways not possible if we were to depend entirely on Government funding.

Elsewhere in this report the Foundation has outlined its varied contributions including scholarship schemes, and its support for new academic and research staff of the Faculty. This latter support is particularly valuable for those new members of the Faculty whom we have attracted to Sydney from overseas. Foundation support enables them to recruit new staff and purchase new equipment with minimal disruption to their research programs. This commitment from the Foundation may well be the crucial deciding factor in a potential new appointee accepting the University’s offer of appointment.

It was with great pride that I attended the graduation in December of nearly 200 PhD, Masters and Diploma students from the Faculty of Medicine. No other Faculty in the University has a graduation solely for the purpose of graduating research and postgraduate coursework students. This is a great achievement and a remarkable credit both to the students and their supervisors.

In many of our locations our infrastructure is in need of upgrading. Federal government support of our rural clinical schools and university departments of rural health has ensured that outstanding educational facilities and accommodation are available for our students. In metropolitan Sydney we strive to work with NSW Health in a partnership aiming to produce doctors who will lead our health system into the future.

The Federal Government recently announced funding for infrastructure support for health and hospital facilities and we applied for the upgrading of several of our research and clinical school facilities. We are hopeful that these applications will be favourably received and enable us to build the facilities that are so urgently needed.

The new Kolling Building at the Royal North Shore Hospital which houses both researchers and the Clinical School has set the standard for facilities needed at all of our sites. The development of a clinical research facility in the new Kolling Building is one of our goals, a recommendation from our Faculty Retreat in 2008.

It is a great pleasure again to acknowledge the fine work of The Medical Foundation and its support for the Faculty of Medicine. It is also gratifying to see the Foundation’s range of activities and its support for smaller foundations by accepting them as Divisions.
CELEBRATING 50 YEARS OF DISCOVERY
WITH THE MEDICAL FOUNDATION

On Wednesday 30 July 2008, The Medical Foundation celebrated the commitment of its founders, the generosity of its donors, the dedication of numerous volunteer Council members, and the accomplishments of its many fellows, chairs and scholarship recipients by celebrating 50 years of discovery in the Great Hall at The University of Sydney.

The evening began with a lecture from notable alumnus and guest of honour, Professor Sir Gustav Nossal, AC CBE, at the Eastern Avenue Auditorium. Sir Gus, as he is affectionately known by many Faculty of Medicine staff and alumni, spoke about The Fifty-Year Revolution in Global Public Health, an issue which he brought to life for attendees with his passion and knowledge. Sir Gus also expressed personal pride in The Medical Foundation due to its support of, “enterprising projects in the international health field.”

Following Sir Gus’s lecture, guests travelled the short distance to the Great Hall where Mr Richard Caldwell, President of The Medical Foundation, outlined the Foundation’s past and many of its accomplishments. Professor Bruce Robinson, Dean, the Faculty of Medicine, and Her Excellency Professor Marie Bashir AC CVO, Chancellor, The University of Sydney, discussed the importance of ongoing support from The Medical Foundation for the Faculty of Medicine’s research and teaching priorities.

The occasion was a chance to celebrate the accomplishments of the Foundation and for old friends and colleagues to share fond memories of their experiences in the field of medical research, whether in the role of fellow, student or friend of The Medical Foundation.

The Medical Foundation would like to thank Professor Sir Gustav Nossal, AC CBE, The Provins Group: Catering Specialists, McGill Design Group, Mimosa Floral Designs, and the Bloodwood String Quartet for their generous support of The Medical Foundation 50th Anniversary Dinner.

To view photographs from The Medical Foundation 50th Anniversary Dinner, visit our website at: www.medicalfoundation.usyd.edu.au. A link is also available to view Sir Gustav Nossal’s lecture, which was filmed by Slow TV in accordance with ABC Fora.

1. The Great Hall at The University of Sydney.
2. Her Excellency Professor Marie Bashir, AC CVO, with Professor Sir Gustav Nossal, AC CBE.
3. (From left) Professor Sir Gustav Nossal, AC CBE, Mr Richard Caldwell and Professor Bruce Robinson.
4. Professor Sir Gustav Nossal, AC CBE, presenting his lecture.
5. Mrs Robyn Ogborne and Dr Warren Ogborne.
6. (From left) Mr Andrew Beecher, Ms Jeanne Rockey, Mrs Libby Fairfax and Mr John B Fairfax.

Photos © Jamie Williams Photography
In 2008 The Medical Foundation celebrated its half centenary holding assets of over $59 million. Its annual contribution to funding medical research and education had reached $4.5 million and it had grown into the largest private medical research funding body in Australia.

The story began far more modestly in 1957 when Dr (Sir) Victor Coppleson approached Sir Frank Packer and Bill Farnsworth with a proposal to seek funding from the private sector for postgraduate medical teaching and research at The University of Sydney. Together with Sir Garfield Barwick, (Sir) Vincent Fairfax and (Sir) Robert Crichton-Brown, they established The Post-Graduate Medical Foundation, The University Of Sydney.

On July 7, 1958, University Senate formally ratified the establishment of the Foundation. Under its founding principles the new body raised and managed financial contributions from the private sector, while the University recommended the specific medical projects to be funded. On May 27, 1959, Sir Frank Packer was formally elected the first President of The Post-Graduate Medical Foundation.

From its inception the Foundation has supported a broad range of medical projects. These have included funding for research programs, medical training, equipment and conferences. In an effort to overcome the isolation felt by Australian researchers at the time, the Foundation supported overseas research undertaken by medical graduates from The University of Sydney. Similarly, the Foundation also supported research undertaken at The University of Sydney by overseas researchers. As a measure of its early success, The Post-Graduate Medical Foundation allocated more than £160,000 towards medical education and research in its first two years. By July 1962, total monies raised exceeded £250,000, an impressive sum in its historical context.
In the early years, major benefactors not only guided the progress of the organisation as Council members, but also paid for its administrative expenses. This financial generosity was matched by a willingness of both men and women to devote their time and energy to the Foundation. The Women’s Committee perfectly exemplified this spirit. Beginning life in 1962 as The Ladies’ Christmas Card Auxiliary, it worked as an important fundraising body for almost forty years, promoting the Foundation’s cause through its social networks in the city and the bush. These voluntary contributions of labour at Council and grassroots level enabled the Foundation to maintain the enviably low running costs which continue into the 21st century. Throughout the 1960s the Foundation maintained its spectacular growth, attracting donations from a diverse range of philanthropic interests, from major industry contributions, to small donations and large bequests.

In 1965 Sir Victor Coppleson died of cancer. A year later the Victor Coppleson Appeal Fund was established to honour the memory of the man who had been instrumental in initiating the Foundation. It was decided to use the appeal funds to build an Institute of Postgraduate Medical Studies. The principal objective of the proposal was to provide a permanent base for the administration of postgraduate education and research. The building was completed on the University’s Western Avenue in 1977. Its construction was symbolically important, for at last the Foundation had a home and a presence on campus.

In 1975 (Sir) Robert Crichton-Brown was elected President of the Foundation. Under his stewardship the focus of Foundation funding broadened significantly to encompass senior researchers involved with major long-term projects. In 1983 he proposed that the Foundation endow the University with a Chair in Paediatrics and Child Health, with an annual commitment of $200,000 over five years. Funding had now moved to a new level. In the same year the Foundation’s name was changed to the Medical Foundation, the University of Sydney.

By the mid 1990s the Medical Foundation headed the University’s 38 foundations with capital exceeding $20 million. Funding focused increasingly on major projects of senior researchers, taking the form of a series of fellowships, grants, and the endowment of Faculty of Medicine Chairs. This has continued to the present day with the launch in mid 2007 of an appeal to establish The Medical Foundation Chair of Adolescent Medicine at The Children’s Hospital at Westmead. By the end of 2008 $2.3 million had been raised towards the establishment of the Chair in perpetuity.

Perhaps the most tangible reflection of the Foundation’s expanded vision was the acquisition of the Worksafe Building on Parramatta Road, Camperdown in 2000. This important investment was bought with a contribution of $10 million from the Foundation. Opened by the State Premier, The Honourable Bob Carr on 30th November 2004, it was named The Medical Foundation Building, and has become a centre for post-genomic biomedical research, and a visible flagship as The Medical Foundation looks to the next 50 years with justifiable optimism.

Written by Dr Vanessa Witton and drawn from original research undertaken by Tessa Milne for The Medical Foundation: One of Sydney’s Oldest and Largest: A History of The Medical Foundation, The University of Sydney (2008).
Since its launch in September 2007, The Medical Foundation’s Healthy Futures for Young People Appeal has generated much interest in the underresourced but important field of adolescent medicine.

The appeal will fund The Medical Foundation Chair of Adolescent Medicine to be based at The Children’s Hospital at Westmead.

In 2008 the appeal continued to gain momentum with a 60 second television commercial accepted as a community service announcement, and granted free airing by the Seven Network Limited, Channel Nine and SBS television, on rotation until June 2008. During this time advertising began in order to attract a world-class adolescent specialist to fill the Chair. Numerous applications were received and interviews held between applicants and representatives from both the Faculty of Medicine and The Medical Foundation. The Medical Foundation hopes to announce the successful candidate in early 2009.

The Chair will integrate the various strands of research and teaching, promote the health needs of young people to government, and raise youth health issues in the media. They will also ensure that experts in this field, work cohesively with each other and pursue exciting new collaborations with other universities, while developing a comprehensive program in adolescent medicine research. To donate to this appeal, see page 52.

**CHRONIC ILLNESS PEER SUPPORT (CHIPS)**

Promoted and Supported by Dr Susan Towns at the Department of Adolescent Medicine, The Children’s Hospital at Westmead, CHIPS helps young people come to terms with their illness and stay in treatment.

**KYLIE’S STORY:** Kylie (pictured above) was diagnosed with cystic fibrosis at age 14. Lungs were collapsing... I was depressed. CHIPS was the only thing I got motivated to drag myself out of bed for. I really enjoyed meeting with my group.

In 2007, Kylie had a double lung transplant and returned to school to complete year 12.

“I want to be a social worker. I’d like to use all my horrible experiences in a positive way. I’ll be able to say to people, I know what it’s like, because I do!”
Support from The Medical Foundation for the new Save Sight Institute (SSI) research laboratories on the Sydney Hospital and Eye Hospital University of Sydney Campus, has added a further dimension to research into the major eye diseases that cause blindness.

Researchers at SSI are involved in national and international programs that investigate diseases of the retina, including age-related macular degeneration and diabetic retinopathy; cataract, the most common disease of the lens; glaucoma, often referred to as the sneak-thief of sight because of the lack of symptoms until serious irreversible photoreceptor cell degeneration has occurred; and keratoconus, a corneal defect that often requires corneal transplantation.

In addition, new strategies to treat eye cancers are being investigated and genes that cause congenital eye defects are being identified.

The new laboratories are critical for the growth of existing groups as well as new research programs. The additional research space provided by these laboratories has facilitated the recruitment of two leading research groups to the SSI, and this will contribute to developing new approaches to identifying molecular changes that underlie early disease processes and subsequently developing new treatment therapies. At SSI, a central theme is the recognition that development of effective strategies to slow or prevent eye disease depends on early diagnosis, and as much as possible, some understanding of cellular and molecular origins.

With these new state-of-the-art laboratory facilities being developed at SSI the future offers exciting prospects for identifying the underlying causes of major eye diseases.

As a result of pioneering research by scientists and clinicians at SSI a new treatment for age-related macular degeneration (AMD) has been developed. Currently the active component, triamcinolone acetonide, has significant practitioner acceptance as a valuable tool to treat wet AMD in conjunction with photodynamic therapy.

PROFESSOR FRANK A BILLSON, AO
THE SSI HONOURED ITS FOUNDER AND DIRECTOR, PROFESSOR FRANK A BILLSON, AO BY BUILDING THE BILLSON RESEARCH LABORATORY. SINCE THE 1970S, PROFESSOR BILLSON HAS WORKED TIRELESSLY IN AUSTRALIA AND DEVELOPING COUNTRIES SUCH AS CAMBODIA AND BANGLADESH TO SAVE THE SIGHT OF THOUSANDS OF NEWBORNS AND CHILDREN.
In 2007 The Medical Foundation agreed to support the Faculty of Medicine’s cardiovascular research development initiative. Dr Ryuichi Aikawa, Dr Martin Ng and Dr Rajesh Puranik, were each awarded a grant in 2008 based on their innovative proposals for combating cardiovascular disease.

**CARDIOVASCULAR RESEARCH DEVELOPMENT INITIATIVE**

**DR MARTIN NG**  MEDICAL FOUNDATION FELLOW 2008–2009

Cardiovascular disease is now the leading cause of mortality worldwide. With advances in technology, implantable cardiovascular devices (e.g. conduits, stents, heart valves etc.) are playing an increasingly important role in modern cardiovascular medicine. Despite this, clinically effective and biocompatible materials for cardiovascular devices are currently lacking. The current synthetic conduits for vascular bypass surgery are stiff and highly thrombogenic, making them unsuitable for all but large calibre vascular grafting. Metal alloys are widely used but have a worrying propensity to thrombose, frequently causing heart attacks.

The project has initiated an interdisciplinary program drawing together expertise from Medicine (Dr Martin Ng), Biochemistry (Professor Ton) and Physics (Professor Ma) that are widely used but have a worrying propensity to thrombose, frequently causing heart attacks.

Harnessing the biocompatible properties of synthetic human elastin, one of the major structural components of vessels and conduits, this project seeks to develop: 1) highly biocompatible metallic stents to treat coronary artery disease and; 2) elastin-based synthetic conduits/arteries for bypass surgery.

In 2008 the team made significant progress with the first time development of a technique that allows strong attachment of proteins to metal surfaces while retaining their biological activity. This achievement is immensely exciting as it allows the team to coat metallic medical implants (e.g. coronary stents) with human proteins to enhance their biocompatibility and efficacy. By coating stainless steel with human elastin the team has been able to profoundly reduce the thrombogenicity (clotting tendency) of the metal alloy. This finding has fundamental implications for improving the function of all metallic vascular devices from stents to heart valves.

In addition to work on metal alloys, the team has made significant inroads in bioengineering synthetic arterial conduits using human elastin.

**DR RYUICHI AIKAWA**  MEDICAL FOUNDATION FELLOW 2008–2010

Australia has one of the highest rates of cardiovascular disease in the world, with heart failure representing a large proportion of this group. In a recent epidemiological study chronic heart failure was reported to affect 300,000 Australians.

Although the availability of sophisticated medical management has contributed to a decrease in the death rate, the prognosis is still poor.

Gene therapy holds a promising approach for cardiovascular diseases. Adeno-associated virus (AAV) is derived from a non-pathogenic human parvovirus, and AAV can transduce a variety of cell types including skeletal muscle and heart muscle for the long-term.

In recent work, Dr Aikawa found that growth hormone expression by AAV improves cardiac function post-myocardial infarction.

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In addition to work on metal alloys, the team has made significant inroads in bioengineering synthetic arterial conduits using human elastin.
In September 2008, Dr Puranik’s group commenced a study examining heart and exercise function in adults who were born with heart abnormalities (including adults who were born as blue babies or with heart blockages and/or holes in the heart) in Australia. It is now believed that there are more adults with congenital heart disease than children. This has largely occurred through the development of better treatments such as complex open-heart operations resulting in improved survival from these conditions. The implication of this is that this group of patients are in need of more sophisticated imaging to help understand how heart function can be improved, as patients get older.

Dr Puranik’s study involves inviting all adult patients who were born with a condition called Tetralogy of Fallot to have a cardiopulmonary exercise test, heart ultrasound and MRI on the same day. As exercise capacity determines patients’ prognosis, Dr Puranik aims to understand how parameters derived from ultrasound and MRI relate to this.

Further, by using MRI technology for the first time ever in this local population, Dr Puranik aims to be able to ultimately reduce the need for invasive tests.

The information gained will also assist in better determining the optimal time to implement various procedures and surgeries that this complicated group of patients frequently need.

Thus far Dr Puranik has imaged 10 subjects with Tetralogy of Fallot in preliminary studies. His group is at the stage of image optimisation and has been able to develop the necessary sequences in the last quarter of 2008. It is envisaged that from January 2009, recruitment of 10 subjects per month will occur to enable 120 patients to be enrolled over the year.

Anticipated health outcomes of this project include the development of more sophisticated heart imaging, resulting in improved timing of treatments, and a diminution in the necessity for risky and invasive procedures. Ultimately the use of MRI technology can directly assist in the treatment of congenital heart conditions.
Magnetic Resonance Imaging (MRI) has revolutionised general body and organ imaging, however its application to the heart is still evolving rapidly because of complexities in studying a moving organ.

Unique challenges of Cardiac MRI (CMRI) relate to the need for specialised hardware such as coils and complex software that is unique to the heart. This project will lead to the establishment of a CMRI facility dedicated to clinical and translational cardiac research, with the long-term goal of maximising diagnostic information with minimal radiation and invasive procedures.

The initial six months of the project has focused on the establishment of the facility, as well as gathering together a team that has international experience in driving CMRI research.

Through a research partnership with General Electric Healthcare and North Shore Radiology, the project has installed the necessary coil and software on an existing MRI scanner on the North Shore Campus, and performed the first cardiac scan in November, 2008.

Early aims of the project include establishing protocols to precisely delineate and quantify myocardial infarction; to assess myocardial perfusion in individuals with known coronary artery disease; and to identify novel parameters of right ventricular function for use in patients with acute or chronic pulmonary hypertension. The project aims to develop novel methods for characterising and assessing atherosclerotic plaque.

The combination of the new cardiac MRI facility and the team of physicians and scientists it has brought together will support advances in CMRI at the level of acquisition, analysis and clinical application. It will also provide a unique phenotyping facility which will be available for cardiovascular research by collaborating scientists.

The team of investigators working collectively with Dr Figtree on this project include: SM Grieve, J McCrohon, C Choong, S Hunyor, L Kritharides, J Lagopoulos, G Malhi, R Puranik, HH Rasmussen and M Ward.
It is generally assumed that medicine is a science. This is both true and untrue as medicine is also fundamentally a moral activity — as everything it does aims to improve health and well-being and create the possibility for people and for communities to ‘live well.’

With the support of The Medical Foundation, throughout 2008 to 2011, Associate Professor Ian Kerridge and colleagues from the faculty’s Centre for Values, Ethics and the Law in Medicine (VELIM) will investigate how clinicians, academics and biomedical scientists understand a series of philosophical questions that are at the heart of all medical practice and are the major determinants of how we organise our health care systems.

What are medical services meant to achieve? How do we understand, define and diagnose ‘abnormality’, disease and illness? What is it that we want from our health system? How many resources should we commit to health and biotechnology? How do we deal with complexity and uncertainty in clinical medicine? What counts as evidence? How can we translate the results of scientific research to the care of particular patients with particular needs? How do health services meet the needs of individuals as well as populations?

And how should doctors behave? These questions are relevant to all parts of medicine and yet are rarely made explicit or held up for analysis.

This research will use qualitative research methods to establish an evidence-based framework for the teaching and learning of foundational issues and concepts in medicine and science, including the use of evidence, critical reasoning, ethics, values, and professionalism.

Importantly, this framework will enable the examination not only of the humanities and social sciences in medicine, but medical science and clinical medicine itself. A grand challenge, but one that holds out the promise of the restoring value(s) to medicine.
ADOLESCENT MEDICINE

DR SUE TOWNS  ADOLESCENT MEDICINE GRANT RECIPIENT 2008

The Department of Adolescent Medicine has a strong, multidisciplinary research program which focuses on informing and evaluating the department’s clinical practice.

Projects include research into eating disorders, chronic illness, drug and alcohol use, attention deficit hyperactivity disorder (ADHD) and weight management.

In collaboration with the Department of Psychological Medicine, the service examines biological and treatment outcomes impacting on the aetiology, diagnosis and management of eating disorders. The current major project is an NHMRC-funded randomised controlled study evaluating length of in-patient stay for the treatment of anorexia nervosa.

Current research into chronic illness and transition to adult care has been used to inform and develop the transition program at the Children’s Hospital at Westmead and beyond. The project examines the treatment of complex medico-psycho-social conditions such as pain disorder and post-viral fatigue.

A training program has been developed to teach clinicians to implement a brief smoking cessation intervention for adolescents and their parents. Teen-Link, an outreach service of the department, has undertaken research on resilience building in high risk youths.

DIAGNOSIS AND DIFFERENTIATION OF DEMENTIA SYNDROMES

DR ANDREW DUGGINS  ALZHEIMER’S DISEASE AND DEMENTIA GRANT RECIPIENT 2008

The Westmead Cognitive Clinic is a combined geriatric and neurologic clinic that aims to diagnose specific causes of cognitive decline.

Specificity is important, because dementias vary in prognosis, as do in-care demands and genetic implications for family members, as well as potential therapies.

Unfortunately, there is no testing protocol of cognitive function available that is practical for clinicians and that has been shown to differentiate reliably the various forms of dementia in an Australian clinical setting.

With the support of The Medical Foundation, the Clinic has been trying to correct this problem, by asking how well one particular set of cognitive tests, known as the Addenbrooke’s Cognitive Examination Revised (ACE-R), tailored for the Australian population, is able to predict the final agreed dementia diagnosis or if the patient will develop dementia.

This is a process of validation of the tests against the weight of other evidence the clinicians have available such as history, examination, brain imaging and laboratory tests.

The ACE-R study has now gathered together information on more than 480 subjects. Analysis is well under way.

If the test protocol proves to be robust, Australian cognitive clinicians will finally have an evidence basis for the application of new research from overseas for the benefit of their Australian patients.

The department is also involved with a series of projects to examine the neuropsychological and neurobiological aspects of ADHD and the impact of stimulants and other medications.

Also operating is a randomised controlled trial of a community-based martial arts intervention program examining its effect on adolescent obesity.
The vascular biology program is investigating the formation and function of blood vessels with special emphasis on one of the major cell types of the vessel, the endothelial cell.

Angiogenesis is the process of new blood vessel growth from the pre-existing vasculature. Angiogenesis takes place normally in development and during the reproductive cycle of the female and is also aberrantly stimulated during diseases such as cancer and rheumatoid arthritis.

Professor Gamble’s team is focussed towards identifying the genes that are essential to angiogenesis and the signals that control their function. This, hopefully, will identify novel molecules that can be developed as drug targets.

Endothelial progenitor cells can also contribute to vessel growth and repair. These stem cells circulate in the blood but specifically lodge at sites of vascular injury where they are induced to undergo differentiation to mature endothelial cells. The team has identified an enzyme, sphingosine kinase-1 which regulates the rate of endothelial progenitor cell differentiation.

It is proposed that targeting sphingosine kinase-1 could be used to manipulate the number of mature endothelial cells, for example, during the re-endothelialization of vascular grafts and stents used to treat coronary artery disease.

Senescence, from the Latin, senex, meaning old age or old man, is the permanent inhibition of the ability of a cell to replicate although the cell still remains alive. Senescence has been described in a number of normal physiological and pathological conditions, including syndromes of premature ageing, atherosclerosis, diabetes and cancer.

In cancer, senescence is a mechanism to limit uncontrolled cell growth.

In cardiovascular disease and atherosclerosis, senescent endothelial cells are believed to contribute to vascular dysfunction. Professor Gamble’s team are investigating the molecular basis for endothelial cell ageing in order to develop intervention strategies.

Protein Linked To Cardiovascular Disease

Professor Gamble’s team have identified a protein essential for endothelial cell survival which is involved in the induction of senescence. Levels of this protein are increased by factors linked to tumour growth, cardiovascular disease, in the vasculature of some tumours, and in regions of atherosclerosis.
In 2008, Associate Professor Duque implemented the Ageing Bone Research Program at Nepean Clinical School. The program includes three elements; basic sciences, translational research and clinical trials.

For the basic sciences component, the program recruited Dr Wei Li who coordinated the bone phenotyping facilities at McGill University. Dr Li has been provided with all the required technology to perform bone phenotyping at Nepean. The School’s facilities have the capacity to process bone biopsies, perform bone histomorphometry and quantify bone biochemical markers. Several projects are being developed at the basic sciences facilities which range from stem cell differentiation to testing of new therapeutic targets for osteoporosis in animal models of ageing bone.

For the translational component, Associate Professor Duque has been allowed access to the Framingham Osteoporosis Study. In collaboration with Dr Douglas Kiel and his team at Harvard Medical School, Associate Professor Duque is testing new diagnostic approaches to osteoporosis in older persons. In addition, the Framingham database is being tested to identify some of the genes that Associate Professor Duque has reported as involved in bone formation in vitro, in this case in a major human cohort.

Finally, the clinical component includes several trials testing the effectiveness of new therapies for osteoporosis in older subjects. In addition, Associate Professor Duque has implemented a state-of-the-art Falls and Fractures Clinic at Nepean Hospital which provides patients with a comprehensive assessment of their risk of falls and fractures as well as complete care planning for the prevention of new episodes. For the success of the clinical research program, Associate Professor Duque has recruited Mrs Emma Thembani. Mrs Thembani has been recruited from Johns Hopkins University where she was in charge of coordinating several clinical trials including the Women’s Health Initiative and the Baltimore Cardiovascular Study.

Thanks to the support of the Foundation, major advances have been made in 2008. With the implementation of the three research branches, it is expected that this important research will be continued in 2009.
The research projects of the Centre for Physical Activity and Health continue to grow in 2008. The Centre has been fortunate to build on their research track record, and have obtained several large grants and research contracts in the areas of physical activity, obesity prevention and public health.

Post-doctoral researchers and fellows of the Centre were also successful in acquiring grants, post-doctoral fellowships, and academic positions. The team’s research group has strong collaborative links within the University, The Physical Activity, Nutrition and Obesity Research Group (PANORG), and the Faculty of Medicine’s own Institute for Obesity, Nutrition and Exercise.

In 2008, the Centre explored diverse research projects, starting with interventions in clinical settings, where they explored the effects of physical activity and lifestyle change in people with chronic disease, to broader community-based studies of population-level diabetes and cardiovascular disease prevention. The Centre extended their international work around global physical activity surveillance and monitoring, measurement studies of physical activity, and the use of non-health data population sets for assessing participation in physical activity. This led to more extensive collaboration with different groups, ranging from the Australian Sports Commission to the World Health Organisation.

The Centre has also developed greater involvement in physical activity as an exposure measurement in epidemiological cohort studies, and will explore this further in 2009, in particular the amount of activity which prevents chronic disease and the costs of inactivity to the Australian health care system. The Centre is interested in social disadvantage and health, and whether socio-economic status works the same way in relation to chronic disease risk factors, especially obesity and inactivity, in developing countries, compared with developed countries.

Finally, the team are exploring how behaviour change and lifestyle interventions work, who improves the most in response to them, and analysing elements of behaviour change theory to understand and develop better interventions. As an extension of this, the Centre is involved in replication and dissemination studies, testing proven interventions in the real world, and assessing their effectiveness, costs and feasibility as population-wide behaviour change programs.
in 2008 the Storr liver unit commenced work on a project funded by the cancer council of NSW to understand the epidemiology of liver cancer in NSW, to undertake screening programs for its early detection, and to develop centres for treatment excellence.

In addition to this, more than 100 subjects were recruited into a cancer surveillance program with a final target of 500 subjects. It is hoped that stored samples will enable the unit to identify novel markers for the detection of liver cancer at an early stage, similar to the Prostate Specific Antigen (PSA) used for the detection of prostate cancer.

In an extension of existing projects, the unit is investigating the role of adiponectin and its receptors in the development of fatty liver and liver cancer progression. This will enable researchers to test their importance with a view to developing future therapeutics.

Apart from these new strategic developments, the unit continues to publish widely in the fields of fatty liver disease, chronic hepatitis C, insulin resistance, hepatic metabolism, injury and fibrosis and in nuclear receptor biology.

Publication highlights of the past year include a paper that has been listed among the top 100 publications in the field of hepatology for 2008, which shows the first demonstration that visceral (intra-abdominal) rather than subcutaneous fat is the principal driver of end-organ (hepatic) inflammation and fibrosis in fatty liver disease. Also noteworthy is a publication that confirms insulin resistance rather than hepatic fat as a principal driver of liver fibrosis (scarring) in chronic hepatitis C.

The Storr Liver Unit continues to expand its research on liver disease and liver cancer while supporting its PhD students. The Unit currently supervises eight students, with a further two being awarded their PhDs in 2008. Four new students are expected to start in 2009.
The research of Professor Jürgen Götz is focusing on Alzheimer’s disease and related disorders which affect more than 24 million people worldwide. The social and economic burden of Alzheimer’s disease is enormous, and within less than a generation, the associated health costs will be in the range of 3% of the GDP.

Professor Jürgen Götz and his research team try to understand what causes the formation of tangles and neuronal cell death and how the presence of plaques affects the tangle pathology. The Götz group also developed a tissue culture system modelling selected aspects of the human Alzheimer pathology which may be suitable for drug screening.

A major focus of the research activities in 2008 was to understand how Aβ, the major component of the amyloid plaques, causes toxicity, and how this is related to a second key player in Alzheimer’s disease, the protein tau, that forms precipitates in the diseased brain.

It has been shown that tau pathology in AD models is augmented by Aβ but that Aβ toxicity is also tau-dependent. The Götz team found that not only reduction of tau, but also expression of Δtau reduces premature lethality and susceptibility to excitotoxic seizures in Aβ-forming APPswe mutant APP23 mice. They also found that uncoupling of the NR/PSD interaction with peptides protects primary cortical neurons from Aβ toxicity preventing premature lethality in APP23 mice. The data suggest that reduction of tau and expression of Δtau both ameliorate excitotoxicity by uncoupling NR, with implications for AD therapy.

Other activities include studies into the role of oxidative stress in Alzheimer’s disease and how phosphorylation of the tau protein contributes to its aggregation. Furthermore, the Götz laboratory used quantitative mass spectrometry (iTRAQ), unbiased transcriptomics methods (such as SAGE) and antibody arrays (Kinexus) to dissect pathogenic mechanisms in Alzheimer’s disease and related disorders.

Professor Götz hopes that his group’s efforts will eventually assist in the development of safe treatment strategies of Alzheimer’s disease, Parkinson’s disease and related disorders.
MOLECULAR GENETICS OF COMMON HUMAN DISEASES

PROFESSOR JUERGEN REICHARDT MEDICAL FOUNDATION FELLOW 2005–2009

Professor Reichardt’s laboratory has a long-standing interest in analysing the genetic variants of human metabolic enzymes that are associated with various diseases.

Currently, Professor Reichardt’s group is focused on investigating a number of complex diseases that have a significant impact on public health, especially prostate cancer. In prostate cancer, the group is investigating androgen (male hormone) metabolic genes. Androgens have been reported to regulate cell division in the prostate and there is a long record of evidence showing that androgens are involved in prostate cancer. The group is particularly interested in the metabolism of dihydrotestosterone (DHT), the most active androgen in the human prostate, and the genes that regulate its levels. Furthermore, his lab is interested in atherosclerosis.

In 2008, Professor Reichardt’s group began sequencing constitutional DNA from 100 Australians for a number of genes: AKR1C2 (which encodes the enzyme that metabolises DHT and hence may be relevant to prostate cancer), HMGCOR (which synthesis cholesterol and, therefore, is important in atherosclerosis) and SRD5A3 (which synthesizes DHT and may be relevant to prostate cancer). The aim is to systematically identify and characterise genetic variants in these genes called single nucleotide polymorphisms (SNPs) which may make individuals more susceptible to prostate cancer or atherosclerosis, respectively.

In the coming year, the team plans to conclude its sequencing project and begin functional characterisation of SNPs and haplotypes. It will also begin investigating somatic mutations in tumour DNA in the five genes mentioned above in order to identify additional mutations involved in prostate cancer progression. Their research has the potential to provide a clearer picture of the role played by androgen-metabolic genes in prostate cancer and cholesterol metabolism in atherosclerosis.
MECHANISMS OF PRION DISEASE

PROFESSOR SIMON HAWKE  MEDICAL FOUNDATION FELLOW 2005–2009  JESSIE ALBERTI PROGRAM GRANT

Prion diseases such as Creutzfeldt-Jakob disease (CJD) and BSE (Mad cow disease) are rapidly fatal neurodegenerative disorders for which no treatment exists. Uniquely they result from the transformation of normal cellular prion protein (PrPC) into infectious proteins called prions that cause nerve cell death.

During 2008, Professor Hawke’s team commenced long term experiments assessing the potential of gene therapy for murine prion disease. The aim is to show that by knocking down the prion gene encoding PrPC using lentiviral vectors, the formation of prions is reduced, prolonging survival. With an incubation period of 300 days in the mouse model of CJD, the results take a year or more to become available. At the same time preliminary experiments were conducted using Adeno-associated virus (AAV) as an alternative vehicle for gene delivery.

The main impediment to success with this strategy is ensuring that the greatest possible area of the brain is transduced leading to the widest area of prion gene knockdown. AAV has the advantage that it is currently being used in human clinical trials for gene delivery and therefore a positive outcome in animal experiments could be rapidly translated into the human disease setting.

The team has also been studying gene expression at the human blood brain barrier, hoping to develop methods of transporting large therapeutic molecules into the brain, and also to determine if dysfunction of the blood barrier induces nerve cell death that accompanies chronic progressive Multiple Sclerosis (MS) and other neurodegenerative diseases.

To date the team has identified significant dysregulation of genes involved in the specific transport of molecules from the blood to the brain and are now conducting experiments looking at the consequences of transporter dysfunction to brain homeostasis.

Professor Hawke’s team includes, Dr Padraig Strappe, Senior Scientific Officer; Dr Ka Ka Ting, Post-doctoral Fellow; Mr Peter Kaub, NHMRC Postgraduate Scholar; Ms Annie Gray, Research Assistant; Ms Christine Remediakis, MSRA Brain Bank Co-ordinator.

MULTIPLE SCLEROSIS RESEARCH AUSTRALIA (MSRA) BRAIN BANK

In 2008 Professor Hawke was appointed Director of the new MSRA Brain Bank. Nearly 600 people with Multiple Sclerosis have signed up to donate their brains with 13 brains being retrieved in 2008. The MSRA Brain Bank, jointly funded by MSRA and the NSW Government will support scientists working on MS in Australia and overseas.

Professor Semsarian has had a long-standing interest in understanding the genetic basis of heart disease. Most recently, this had led to major insights into both the clinical and genetic basis of cardiomyopathies and heart failure, and translating these findings to new avenues of disease treatment and prevention.

In 2008, Professor Semsarian’s team made a number of important advances in both the identification of specific genes linked to heart failure and sudden death in the young, and understanding how these genes cause disease. Major new insights have emerged from his team’s research related to understanding the genetic basis of heart disease, including the influence of gender, the role of faults in heart rhythm genes in young people who die suddenly, the role of genetic factors in type 1 diabetes, and understanding the role of gene-gene interactions in heart failure. To complement these human-based studies, Professor Semsarian’s group have developed a number of novel mouse models of human genetic heart disease, which has enabled them to further understand the precise molecular events involved in disease development, heart failure, and sudden death.

The highlight of 2008 was the development of a novel double gene fault mouse model which replicates severe heart failure in humans. This world-first model was published in the highest ranking and most-prestigious journal in cardiovascular medicine, *Circulation*. The model is being used to identify the key molecular steps involved in the development of heart failure, and to use this knowledge to develop new treatment and prevention strategies.

At a national level, Professor Semsarian has led the establishment of a *National Genetic Heart Disease Registry*. This Registry has already enrolled over 300 families with a variety of genetic heart diseases including cardiomyopathies, congenital heart problems, and heart rhythm diseases. The goal of the Registry is to increase the understanding of genetic heart diseases; to improve patient education about their diseases and appropriate treatment and monitoring; and to provide Australian researchers with a resource to enable key clinical trials to be performed, with the ultimate goal of improving the heart health of all Australians.
Professor Stocker’s laboratory aims to better understand the contribution of oxidative processes in atherosclerosis, the major cause of heart disease, and how these processes can be modulated by pharmacological intervention.

During the course of this work, the group discovered that increasing the activity of a protein, known as heme oxygenase-1, protects the body’s arteries from becoming diseased. Under his Medical Foundation Fellowship, Professor Stocker and his team are trying to understand how this enzyme protects against atherosclerosis.

Working in the Stocker laboratory and using baker’s yeast, Dr Emma Collinson discovered in 2008 that the yeast equivalent of heme oxygenase-1 regulates a large number of other proteins involved in diverse cellular processes. These include antioxidant defense, gene regulation, sulfur metabolism, mitochondrial function and stress responses.

This surprising finding challenges present dogma of the function of heme oxygenase-1, that is, one limited to the degradation of the co-factor heme to waste products. It suggests that heme oxygenase-1 may have several presently unrecognised activities that help explain the observed altered cell function. Importantly, altering heme oxygenase-1 activity in yeast alters cell functions in the same way it does in mammalian cells, supporting the notion that yeast is a useful model to study the functions of heme oxygenase-1 in human cells.

These exciting findings have formed the basis of a successful application for an Australian Research Council Discovery Grant.

With the assistance of The Medical Foundation, and in collaboration with another Medical Foundation Fellow, Professor Jennifer Gamble, Dr Robyn Midwinter discovered that in animals, heme oxygenase-1 contributes to the maintenance of an intact endothelium, that is, the layer of cells that line artery walls, by promoting the release of endothelial progenitor cells from the bone marrow. It is increasingly recognised that the number of endothelial progenitor cells in the blood inversely relates to the risk of cardiovascular disease in humans.

Interestingly, drugs that inhibit atherosclerosis and that are being developed in Professor Stocker’s laboratory increase endothelial progenitor cells in the blood in a heme oxygenase-1-dependent manner. These findings provide new insight into how heme oxygenase-1 protects against atherosclerosis, and how this property can be used for drug development.
Increasing accurate diagnosis

Detailed protein characterisation has led to the discovery of a novel gene that will allow accurate genetic diagnosis, prenatal diagnosis, and prevention for families with the same disorder. Further research will provide insights into the disease mechanisms and new therapies.

The Burrows Chair of Paediatrics and Child Health was named in honour of Mr Douglas Burrows. An additional grant of $750,000 was provided over six years (2004–2009).

Professor Kathryn North’s team cares for more than 1800 patients with neuromuscular disorders – disorders which constitute one of the major causes of ongoing disability in childhood.

Professor North’s research encompasses laboratory and clinical research, as well as opportunities to make available new drugs and therapies via clinical trials to better understand what causes, how to diagnose, and how to treat the disease.

The team’s laboratory has an extensive bank of tissue samples that enable the examination of the genes and proteins in muscle tissue, and the tissue itself, to look for specific markers of a disorder that link this information with clinical symptoms. The team has led research into improved diagnosis for congenital myopathies and limb-girdle muscular dystrophies. Two key internationally cited publications by Professor North’s team have highlighted how critical it is to incorporate tissue DNA, and protein characterisation for accurate diagnosis. A range of techniques have been developed which are necessary to accurately characterise tissue.

Professor North is able to provide a diagnostic service for her patients as well as for clinicians within Australia and South-east Asia. Each year around 100 patients are referred for a diagnostic workup based on the clinical phenotype and tissue, gene and protein characterisation; an accurate genetic diagnosis can now be provided for almost half of these patients with a complex range of muscle disorders (compared to less than 10% ten years ago) and this figure is constantly improving.

Professor North’s research has led to a number of significant health outcomes for patients. The implementation of therapies through clinical trials has resulted in the increase of life span for many patients, some by up to 15 years. Professor North’s team is currently running three major trials, one of which is a multi-site trial involving children with Duchenne Muscular Dystrophy (DMD) to investigate if a form of steroid called Deflazacort can improve patients’ quality of life and lessen the side effects of current medication. It is the availability of new medications and treatments through clinical trials that can provide enormous benefits for patients and their families.
RURAL ADOLESCENT COHORT STUDY

The Adolescent Rural Cohort: Hormones, Health, Education, Environment and Relationships (ARCHER) study will describe the hormonal changes of young people in puberty and determine how these changes interact with individual, family, community and environmental factors to influence health and behaviour.

The ARCHER investigators are led by a steering group chaired by Professor Bruce Robinson, Dean of the Faculty of Medicine, and led by chief investigator Associate Professor Kate Steinbeck. The management committee includes community engagement and rural health experts from Orange, Dubbo, Lismore, Moree and Broken Hill. Over 50 academics and clinicians from a wide range of specialities and disciplines are involved in the study.

One of the most challenging aspects of the study will be to recruit and retain students for a research study which involves the annual collection of blood and urine. A feasibility study funded by The Medical Foundation was completed in September 2008 to provide important information on the attitudes of schools, students and their parents regarding their involvement in such a study. Preparation for the study will continue with the engagement of rural and indigenous communities and project stakeholders. ARCHER will function as a platform from which many further novel studies can take place.

PROSTATE CANCER

Dr Dong leads a prostate research program aiming to develop a treatment based on targeting cytosolic phospholipase A2 (cPLA2 in short) for the advanced form of prostate cancer.

Over the past 50 years the ratio of dietary intake of omega-6 over omega-3 fatty acids has increased substantially in Western countries. The dietary Omega-6 fatty acids are taken in and end up on our cell membranes while Omega-6 fatty acids are released by the enzyme, cPLA2, and function as the precursor of several pro-inflammatory chemicals. These inflammatory chemicals can contribute to the development and progression of prostate cancer.

Dr Dong’s team hypothesises that, while a reduction of omega-6 and/or increase in omega-3 fatty acid intake may decrease prostate cancer development and progression, a blockade of cPLA2 activity, which makes no or less Omega-6 available for further inflammatory reaction, could have a therapeutic effect in treating the advanced form of prostate cancer.

In supporting their hypothesis, the team discovered an aberrant activation of cPLA2 in human prostate cancer tissue. The team also found that cPLA2 inhibitor works via suppressing the oncogenic Akt pathway. Akt is known to provide survival advantage and is activated in the advanced form of prostate cancer and is positively correlated with the aggressiveness of the disease.

The team is planning to determine the efficacy of a cPLA2 inhibitor in animals carrying the advanced form of human prostate cancer cells in 2009.
BRAND DONOR PROGRAM

ASSOCIATE PROFESSOR JILLIAN KRIIL  ALZHEIMER’S DISEASE GRANT RECIPIENT 2008

Neurodegenerative diseases are a group of disorders which result in progressive loss of brain function. In most cases they manifest as deficits in cognition or movement.

The prevalence of neurodegenerative disorders rises steeply with age to as high as one in four people aged over 80 years.

With the exception of a small number of families with inherited disease due to genetic mutations, the cause of neurodegenerative diseases is unknown. This, in part, is due to the complex nature of the brain and the absence of disease homologues in other species.

For the past two decades, Professor Jillian Kril and colleagues have run a brain donor program where people can consent to donate their brain for research.

Samples are then characterised neuropathologically to confirm diagnoses and classify cases. This tissue is then used in a variety of research studies using histological, proteomic, cell biology and genetic techniques. Application can be made by any Australian researcher with appropriate ethical approval to access this tissue resource.

The Medical Foundation provides ongoing support to the brain donor program to assist with the characterisation of enrolled donors through questionnaires sent to participants, their family and doctors.

ASSOCIATE PROFESSOR JILLIAN KRIIL’S BRAIN DONOR PROGRAM RECEIVES SUPPORT FROM THE FAMILY OF THE LATE DR ELEANOR MOLLIE HORADAM

CHRONIC WOUNDS

ASSOCIATE PROFESSOR CHRISTOPHER JACKSON  MEDICAL FOUNDATION FELLOW 2007–2008

Chronic leg ulcers are a major public health burden associated with high direct health-care costs and substantial negative impact on the quality of life of patients and carers. Despite recent advances in wound care many ulcers still fail to heal.

In 2005, Associate Professor Jackson’s team published the first report to show that activated protein C (APC), a naturally occurring anti-clotting agent, promotes cutaneous wound healing. Since that time the team has resolved mechanisms underlying APC’s actions in wound healing.

The aim of current clinical work is to test the hypothesis that topical APC promotes the healing of chronic leg ulcers. A small open-labelled pilot clinical trial has been conducted with patients suffering chronic wounds of varying aetiology.

The results are very promising with all patients either completely healing or showing significant improvement in healing. Since that time the team has resolved mechanisms underlying APC’s actions in wound healing.

The results have the potential to make an enormous contribution to the international knowledge of wound healing as well as having a significant impact on both patients and society as a whole.

Professor Jackson’s multidisciplinary research team is uniquely placed to successfully translate research from bench to bedside, having discovered the role of APC in wound healing; extensive expertise in designing and performing clinical trials; and a committed group of clinicians for patient referral.

THE MEDICAL FOUNDATION GRANT TO ASSOCIATE PROFESSOR CHRISTOPHER JACKSON TOTALS $106,000 OVER TWO YEARS (2007–2008)
Professor McLachlan’s research focuses on understanding the causes and consequences of variability in response to medicines to inform their optimal use in older people. The preliminary work on this project provided the basis for a successful NHMRC Project grant in 2008 titled, *Pain control in older people*. Led by Professor McLachlan and in collaboration with Dr Vasi Naganathan, Professor David G Le Couteur, Dr Sarah N Hilmer and Professor Stephen J Gibson, the project will provide a detailed understanding of the causes of variability in response to analgesic medicines in frail older people with a view to providing improved strategies for pain management.

Professor McLachlan’s team also has research strengths in investigating drug interactions. Recent studies have investigated the impact of herbal medicines on conventional medicines such as the anticoagulant warfarin and the anti-diabetes drug gliclazide. The team has established a number of important interactions of potential clinical significance that clinicians should be aware of. For example, co-administration of cranberry with warfarin can lead to an increase risk of bleeding in people receiving warfarin. Patients should undergo careful monitoring when using this herb-drug combination.

Investigating the right dose of medicine for the right patient with cancer is another active area of research collaboration for Professor McLachlan. This involves a series of projects which centre on understanding the clinical pharmacology of drugs used in this setting and the factors that influence the way the body handles and responds to them.

Professor McLachlan’s team, in collaboration with other researchers, also conducts research projects investigating inter-ethnic differences in drug response, optimal management of gout and acute low back pain, and adverse effects of psychotropic medicines and pharmacogenomics.

Taken together this information can help guide clinicians and consumers to achieve quality of use of medicines – minimising the unwanted effects and maximising the beneficial effects of medicines.

In 2008 Professor Andrew McLachlan was the recipient of seed funding from The Ageing and Alzheimer’s Research Foundation (AARF), a Division of The Medical Foundation, The University of Sydney, to investigate medicines used in the pain management of frail older people.
The Earl Owen Fellowship, named in honour of the founder of Microsearch, was awarded to Dr Szun Szun Tay, an immunologist who completed her PhD at the University of London and postdoctoral studies at Cambridge University, to research new ways to prevent rejection of transplanted organs.

Currently, organ transplant recipients must take powerful drugs for life to prevent rejection. These drugs suppress the immune system to stop it from rejecting the foreign organ, but the weakened immune system also leaves the person vulnerable to bacterial and viral infections as well as malignancies. Long-term use of these drugs also causes severe side-effects including kidney failure and heart disease.

One of Dr Tay’s projects aims to identify genes that might be natural suppressors of rejection, by using a gene therapy approach. This involves delivering the immunosuppressive genes with recombinant viruses to genetically modify the liver before transplantation.

Dr Jerome Laurence, who recently completed his PhD degree at The University of Sydney, showed that this system was extremely efficient in expressing potentially immunosuppressive genes in the transplanted liver.

Dr Tay will also study models in which liver transplants are spontaneously accepted without the use of immunosuppressive drugs, in order to understand how different cells and genes promote acceptance. If this natural phenomenon could be harnessed, it would allow recipients to discontinue or minimise immunosuppressive drug usage, so that transplant rejection could be prevented in a much less debilitating way.

The research will be carried out in the microsurgical and molecular biology facilities in laboratories which have recently been refurbished by Microsearch, with the support of the Faculty of Medicine.

THE MICROSEARCH FOUNDATION OF AUSTRALIA

MICROSEARCH PROMOTES RESEARCH AND TRAINING IN MICROSCUERG, THE JOINING OF VERY SMALL BLOOD VESSELS, NERVES AND TISSUES, WITH THE AID OF AN OPERATING MICROSCOPE. MICROSEARCH ALSO TRAINS THE NEXT GENERATION OF MICROSURGEONS AT ITS NEW LABORATORIES SITUATED AT THE UNIVERSITY OF SYDNEY.

The Medical Foundation 2008 Annual Report
DERMATOLOGY

Australia has the highest incidence of skin cancer in the world with 370,000 new cases per year. This results from the excessive sun exposure experienced by many Australians and the fact that the majority have fair skins. The indigenous population very rarely develop skin cancers. Most skin cancers are relatively benign, in that they do not invade internal organs, although they enlarge in the skin. The exception is malignant melanoma of which there are 18,000 new cases per year, where the tumour spreads early into the internal organs, causing death. If they are diagnosed early, this can be prevented.

Most of the research in the Dermatology laboratories centres on the immune response to skin cancers, and the mechanisms involved.

A number of skin cancers undergo spontaneous regression where the tumours disappear due to the immune response. If the mechanisms are fully understood, the treatment of skin cancers such as malignant melanoma can be facilitated.

Professor Gary Halliday’s group have been working on the genes in the immune response which may prevent the skin cancers from developing.

Associate Professor Diona Damian has been performing human studies to identify chemicals which may prevent ultraviolet induced immunosuppression. A front runner is nicotinamide (vitamin B3) which could be added in the future to sunscreens to prevent skin cancers.

Associate Professor Scott Menzies’ group have centred on melanoma diagnosis, and ways of making the diagnosis early to prevent metastatic spread to internal organs. They have been using a number of new instruments to enable this. The prognosis has improved as a result. Fifty years ago the prognosis for melanoma was 50% mortality: it is now about 10%. Dr Nicholas Haass has also worked on melanoma, finding ways of treating patients with metastatic melanoma, who would otherwise die. This is a very important focus of research and there are a number of groups working on this topic.

Professor Wolfgang Weninger’s group have been studying the white blood cells involved in the immune response using a new instrument, the two-photon microscope which allows visualisation of single cells in the skin, within the intimate three-dimensional context of intact tumours.
ENDOCRINOLOGY AND DIABETES RESEARCH

The Endocrinology and Diabetes Research Foundation supports research conducted by the Department of Endocrinology at The University of Sydney and Royal Prince Alfred Hospital.

The main focus of clinical research continues to be on improving our understanding of the cause and treatment of diabetic complications. An important study of 624 patients revealed that, even adjusting for other risk factors, patients who develop diabetes at a younger age are much more susceptible to diabetic retinopathy.

Another important study also published in Diabetes Care in 2008 was the finding that the thalamus in the brain stem has a lower concentration of a chemical, N-acetyl aspartate, in patients who suffer from painful neuropathy. This helps to explain why only some diabetic patients with neuropathy have distressing pain, a conundrum which has baffled scientists for a long time.

Other important research conducted includes studies on the relationships between endothelial dysfunction and diabetic microvascular complications, lipohypertrophy and poor glycaemic control, types of renal dialysis and hyperglycaemia, vitamin D metabolism and metabolic syndrome, foot deformities and recurrence of foot ulceration, clinical characteristics and long survival of diabetes.

At the basic science level, the focus of research was on how abnormalities of metalloproteinases and connective tissue growth factor impact on the healing of diabetic foot ulcers and on the development of diabetic liver disease.

An intriguing finding was that the initial pattern of the metalloproteinase enzymes in an ulcer can predict whether the ulcer is likely to heal. Hitherto a major clinical problem in the treatment of diabetic foot ulceration has been in determining when to intervene surgically. The finding of this study has the potential to help clinicians in making this decision.

Apart from research activities, the Department also sponsored two important meetings during the year. A Diabetic Foot Disease Meeting was held in Chengdu, China and was co-sponsored by the Diabetes Foot Group of the Chinese Diabetes Society. Another Diabetes Foot Care Symposium was held in Sydney.

Each meeting was attended by more than 200 health care professionals. These meetings have helped to promote the Department to the forefront of diabetes foot disease, both in clinical care and in research.

All the staff are to be thanked for having worked enthusiastically during the year.

Congratulations to Jencia Wong and Lisa Lo whose presentations at the Australian Diabetes Society were judged to be the best in their respective categories. The Department also congratulates Associate Professor Stephen Twigg who was elected President of the Australian Diabetes Society.

Report prepared by Professor Dennis Yue
Dr Benjamin Chan, commenced on the 1 October 2008 as a post-doctoral fellow, undertaking a research project on *The molecular mechanisms of bone change in osteoarthritis*. Funds of $130,000 have been made available over a two year period by the Alex Brennar Fellowship, to provide new funding for a young PhD researcher to “investigate novel areas of bone and joint disease and generate data that will lead to future opportunities and funding”.

Ms Emily Fuller is a PhD student studying *The mechanisms of knee meniscal degeneration*. She was awarded a three year scholarship of $30,000 per year, from The Medical Foundation. Ms Fuller is supervised by Associate Professor C Little and Dr J Melrose of the Raymond Purves Bone and Joint Research Laboratories at the Royal North Shore Hospital. Associate Professor Chris Jackson, Director of the Sutton Arthritis Research Laboratories was also supported by The Medical Foundation in 2008 to continue research into chronic wound healing.

A donation of $430,000 from the estate of the late Dorothy Caton will be used to attract a new group leader with specific interest and expertise in bone biology.

In late 2008, the bone and joint research laboratories re-located to high-tech facilities in the new Kolling Building at Royal North Shore Hospital. For the first time all of the musculoskeletal research groups are co-located on the one floor, enabling cross-fertilization, collaboration and research advancement.

To facilitate this move the Raymond E Purves Foundation generously provided over $600,000 for the fit-out of the bone and joint laboratories. This included the purchase of equipment for analysis of gene expression changes in bone and joint tissues with diseases.
FELLOWSHIPS, SCHOLARSHIPS AND PRIZES

THE MEDICAL FOUNDATION SCHOLARSHIP
In 2008 The Medical Foundation continued to support outstanding postgraduate medical research at the Faculty of Medicine by awarding the third Medical Foundation Scholarship to Ms Emily S Fuller for her project, Investigating the mechanisms of knee meniscus degeneration. The scholarship provides support totalling $90,000 over three years.

Mr Jason Coombes, the 2007 recipient is currently researching, Actin microfilament cytoskeleton and its role in maintaining cellular structure and function. While Dr Reena Fotedar, the inaugural Medical Foundation Scholarship recipient will complete her final year in mid 2009.

Dr Aniruddh Vijay Deshpande was awarded the 2009 scholarship for his project, Study of the role of the bladder in lower urinary tract disorders in children — towards better understanding and treatment.

THE ROLY DUNLOP SCHOLARSHIP FOR NEUROLOGICAL RESEARCH
The Roly Dunlop Scholarship for neurological research was established in 2006, in memory of Roly Dunlop. The scholarship offered $20,000 per annum for a period of three years to support neurological research embracing neurological impairment and associated conditions.

In January 2008, the scholarship was awarded to Dr Constance M Y Yap for her project titled, Effect of thyroid inadequacy during pregnancy on the intellectual function of offspring: the role of iodine supplementation and/or thyroxine replacement.

POSTDOCTORAL FELLOW IN MÉNIÈRE’S DISEASE
The Ménière’s Research Fund supports research into Ménière’s disease, a condition that causes periodic episodes of severe vertigo, tinnitus, hearing loss and aural fullness. In 2007 the Fund recruited Dr Daniel Brown as Postdoctoral Fellow to work with cochlear physiology expert Professor Alec Salt, for a period of two years in the United States.

In March 2009 Dr Brown will return to The University of Sydney to complete the final year of his fellowship and establish a Ménière’s research laboratory to further his research into methods of objectively diagnosing the disease, and determining its underlying pathophysiology.
THE FACULTY OF MEDICINE/MEDICAL FOUNDATION SCHOLARSHIP

These unique scholarships were awarded in 2007 at the request of the Faculty of Medicine, due to the high number of exceptional PhD applications that were received.

The recipients of the Faculty of Medicine/Medical Foundation Scholarship, Kristy Rose (above left) and Hyunchul Lee (above right), began their second year of postgraduate research in 2008.

THE BLUESAND FOUNDATION SCHOLARSHIP FOR ALZHEIMER’S DISEASE RESEARCH

Established in 2006, The Bluesand Foundation Scholarship for Alzheimer’s disease research was awarded to Hussein Mansour for his work on the physiological changes of astrocytes in the ageing central nervous system.

Hussein’s research has shown that the ratio of astrocytes to neurons decreases significantly during ageing in the central nervous system. His project, Ageing-related changes in astrocytes in the rat retina: Imbalance between cell proliferation and cell death reduces astrocyte availability, was published in the journal Ageing Cell, Aug 2008. 7 (4), pp 526–540.

Hussein’s research has provided an invaluable contribution to the field of neuroscience, particularly as it is widely recognised that astrocytes are part of the communicative elements of the brain and serve to regulate key functions. There is an ever increasing body of evidence that astrocytes are affected in a number of neuropathologies, including Alzheimer’s disease.

Hussein completed the final year of his scholarship in 2008.

GRAND CHALLENGES IN HEALTH AND MEDICINE PUBLIC LECTURE SERIES 2008

The Medical Foundation and the School of Public Health maintained the collaboration begun in 2007 by presenting the Grand Challenges in Health and Medicine Public Lecture Series 2008. The Medical Foundation would like to thank the lecturers, Associate Professor Deborah Schofield (population ageing), Professor Sally Redman (health policy), Professor Stephen Leeder (the role of medicine), Professor Bruce Armstrong (chronic illness), Professor Adrian Bauman (physical activity and health) and in particular, Professor Sir Gustav Nossal, AC CBE for his lecture held in conjunction with The Medical Foundation 50th Anniversary Dinner held on Wednesday 30 July 2008 (see page 7 for further details).

All lectures are available for viewing at the School of Public Health website at: www.health.usyd.edu.au.

COMMUNITY AND DOCTOR THEME POSTER COMPETITION

For the eighth consecutive year, The Medical Foundation sponsored the Community and Doctor Theme Poster session, a competition entered by all first year Faculty of Medicine students.

In 2008 students were asked to analyse a public health issue and create a poster based on the theme: urban development and health.

The winning poster titled, The Urban Grind (right) was created by, Thomas Finn, Laura Fong, Lauren Hamner, Chi-Won Lee and Lan Tran. Second prize was awarded to Cuneyt Ads, Andrew Jackson and Andrew Suchoversky for their poster titled, Suicide Bombing.
MAJOR GRANT RECIPIENTS

THE MEDICAL FOUNDATION

Dr Ryuichi Aikawa  
Medical Foundation Fellow 2008–2010  
Centenary Institute

Professor Adrian Bauman  
Medical Foundation Fellow 2004–2009  
School of Public Health

Dr Qihan Dong  
Reginald Ward and Adrian Cotter Foundation Grant Recipient 2008  
Central Clinical School

Dr Andrew Duggins  
Alzheimer's disease grant recipient 2008  
Westmead Hospital

Associate Professor Gustavo Duque  
Medical Foundation Fellow 2007–2008  
Nepean Clinical School

Dr Gemma Figtree  
Medical Foundation Fellow 2008–2010  
Royal North Shore Hospital

Professor Jennifer Gamble  
Medical Foundation Fellow 2007–2011  
Centenary Institute

Professor Jacob George  
Robert W Storr Professor of Hepatic Medicine  
Western Clinical School

Professor Jürgen Götz  
Medical Foundation Fellow 2005–2009  
Central Clinical School

Dr Catherine Hawke  
Adolescent medicine grant recipient 2007–2008  
School of Rural Health

Professor Simon Hawke  
Medical Foundation Fellow 2005–2009  
Central Clinical School

Associate Professor Christopher Jackson  
Medical Foundation Fellow 2007–2008  
Royal North Shore Hospital

Associate Professor Ian Kerridge  
Medical Foundation Fellow 2008–2011  
Centre for Values and Ethics and the Law in Medicine

Associate Professor Jillian Kri  
Alzheimer's disease grant recipient 2008  
Central Clinical School

Dr Martin Ng  
Medical Foundation Fellow 2008–2009  
Central Clinical School

Professor Kathryn North  
Douglas Burrows Professor of Paedics & Child Health  
The Children’s Hospital at Westmead

Dr Rajesh Puranik  
Medical Foundation Fellow 2008  
Royal North Shore Hospital

Professor Juergen Reichardt  
Medical Foundation Fellow 2005–2009  
Bosch Institute

Save Sight Institute  
Ophthalmology Grant Recipient 2008  
Sydney Eye Hospital

Associate Professor Christopher Semsarian  
Medical Foundation Fellow 2007–2008  
Centenary Institute of Cancer Medicine and Cell Biology

Professor Roland Stocker  
Medical Foundation Fellow 2007–2009  
Bosch Institute

Dr Sue Towns  
Adolescent medicine grant recipient 2008  
The Children’s Hospital at Westmead

AGING AND ALZHEIMER’S RESEARCH FOUNDATION

Professor Hal Kendig  
Ageing and Alzheimer’s Research Foundation grant

Associate Professor Lynette Lee  
Ageing and Alzheimer’s Research Foundation grant

Professor Andrew McLachlan  
Seed funding

BONE AND JOINT RESEARCH FOUNDATION

Bone and Joint Research Laboratory  
Bone and Joint Research Foundation capital and equipment grant

Dr Benjamin Chan  
Alex Brennar Fellow 2008

DERMATOLOGY RESEARCH FOUNDATION

Dermatology Laboratory  
Dermatology Research Foundation maintenance grant

Dr Lai Guan Ng  
Dermatology Research Foundation post-doctoral fellow

ENDOCRINOLOGY AND DIABETES RESEARCH FOUNDATION

Endocrinology Laboratory  
Endocrinology & Diabetes Research Foundation equipment grant 2008

MICROSEARCH FOUNDATION OF AUSTRALIA

Dr Chi-Vien Duong  
Myee Codrington Scholarship 2008

Microsearch Laboratory  
Microsearch Foundation of Australia Equipment grant 2008

Ms Rebecca Morton  
Microsearch Foundation of Australia grant 2008

Dr Szun Szun Tay  
Earl Owen Fellow 2008
PUBLICATIONS

DR RYUICHI AIKAWA

PROFESSOR ADRIAN BAUMAN


CMRI RESEARCH UNIT
Dr Gemma Figgure


Dr Stuart Grieve


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**Professor Len Kritchevsky**


**Professor Stephen Hnuny**


**Professor Jane McCrohon**


**DERMATOLOGY**


Byrne SN, Knox MC, Halliday GM. TGFB is responsible for skin tumour infiltration by macrophages enabling the tumours to escape immune destruction. *Immunology and Cell Biology* 2008; 86: 92-97.


Javari A, Huang XX, Bernard F, Mason RS, Halliday GM. Human 8-oxoguanine-DNA glycosylase 1 protein and gene are expressed more abundantly in the superficial than basal layer of human epidermis. *DNA Repair* 2008; 7: 1542-1550.


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ENDOCRINOLOGY AND DIABETES


McLennan SV, Min D, Yue DK. Matrix metalloproteinases: their role in poor wound healing in diabetes. Wound Practice and Research 2008; 16, 116-120.


PROFESSOR JÜRGEN GÖTZ


PROFESSOR SIMON HAWKE


ASSOCIATE PROFESSOR CHRISTOPHER JACKSON


PROFESSOR IAN KERRIDGE


PROFESSOR JUERGEN REICHARDT


Mehrian-Shai R, Marques FZC, Reichardt JK. Genomics of Predisposition to and Progression of Prostate Cancer. Genetic Predisposition to Disease (Columbus, F., ed.) (in press).


SAVE SIGHT INSTITUTE


Truscott RJ. Prestypopia. Emerging from a blur towards an understanding of the molecular basis for this most common eye condition. Exp Eye Res 2008 Jul 15 [Epub ahead of print].


ASSOCIATE PROFESSOR CHRISTOPHER SEMSARIAN


PROFESSOR ROLAND STOCKER


STORR LIVER UNIT


George J, Liddle C. Nonalcoholic fatty liver disease: pathogenesis and potential for nuclear receptors as therapeutic targets. Mol Pharm 2008; 5:49-59.


DR SUE TOWNS


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Professor D I Cook, Honorary Governor
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Dr P A L Lancaster, Honorary Governor
Professor D Le Couteur, Honorary Governor
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Professor D I Cook
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Dr P A L Lancaster
Professor B G Robinson
Ms L Sylvan
Dr M Williams

MANAGER

Ms S Thomson

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A/Professor C Jackson
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A/Professor L March
E/Professor T K F Taylor
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Ms M McGill
Professor C Mellis
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MICROSEARCH FOUNDATION OF AUSTRALIA

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Professor R Allen, Deputy Chair
Dr G A Bishop, Secretary
Ms D Bozowksy, Honorary Treasurer
Professor D Burke AO
Dr A Sharland
Professor B G Robinson, Dean, Faculty of Medicine, The University of Sydney, Ex Officio

Professor B G Robinson, Dean, Faculty of Medicine, The University of Sydney, Ex Officio
MR RICHARD CALDWELL, President

Mr Richard Caldwell holds two graduate degrees from The University of Sydney and has active professional and honorary roles in the advancement and commercialisation of technology. Richard has recently joined Tricom Equities as Head of Corporate Finance after seven years at BBY Ltd where he held the positions of Head of Institutional Sales and Head of Equity Capital Markets. He has considerable corporate advisory experience in oil and gas, telco, health care and biotechnology and small-cap industrial companies. Richard is currently Chairman of the unlisted biomedical device company, Amedics Pty Ltd, a scientific collaboration with the University of Technology, Sydney. Amedics specialises in non-invasive diagnostics for type I and insulin-dependent diabetes. He is also Chairman of Dyeson Limited, a leading renewable energy company listed on the Australian Stock Exchange focusing on research and development in the solar energy sector. Recently, he has accepted a part-time academic role with Macquarie University where he lectures in the Masters degree in Applied Finance.

MS LOUISE SYLVAN, Deputy President

Ms Louise Sylvan is a Commissioner of the Productivity Commission. She was formerly Deputy Chair of the Australian Competition and Consumer Commission, the Chief Executive of the Australian Consumers’ Association (ACA) and President of Consumers International.

An active member and worker in consumer protection nationally and internationally for over 25 years, Louise’s strong impact on the issues of the day was recognised in her inclusion as one of Australia’s 20 True Leaders in 2002 by the Australian Financial Review BOSS magazine.

Currently, Louise serves on the Federal Government’s Australian Statistics Advisory Council, and is also on the Board of the Diplomacy Training Program at the UNSW.

MR B PAUL GARRETT, Honorary Treasurer

After graduating in Business Studies in 1968 Paul commenced his professional career with the London office of Coopers Brothers & Co where he qualified as a member of the Institute of Chartered Accountants in England and Wales. He then worked with Coopers & Lybrand in Sydney from 1973 before moving to Bougainville. Appointed as a Partner in 1977 in Port Moresby, Paul’s clients included major multinationals, locally-owned ventures and politicians. After returning to Australia in 1981, Paul specialised in the consumer goods, pharmaceutical and health sectors and was the leader of the pharmaceutical sector of the PricewaterhouseCoopers practice in Australia until 2004. More recently, responding to the increase in regulatory oversight has been his major challenge and has for the past 3 years been a consultant to the Firm.

Paul’s community interests include being Treasurer of the Foundation of St Catherine’s School, Waverley, for a number of years and being a member of the degree advisory committee for the University of Western Sydney. He has also advised the Ladies Committee of St Vincent’s Hospital, Uniting Care’s Burnside and the NSW Wheelchair Sports Association among a number of non-profit and sporting organisations. Mr Garrett became a Governor of The Medical Foundation in 1993. He has served as a member of the Executive Committee since 1994 and was Vice President for a number of years having also served as Honorary Treasurer since 1998.

MRS M HELEN J BREEKVELDT

Mrs Helen Breekveldt’s career in the banking sector spanned 32 years as private secretary to Managing Directors of the Commonwealth Bank. After retiring, she travelled widely in Europe and Asia and expanded her keen interest in music. Mrs Breekveldt has been a volunteer at the State Library of New South Wales for more than ten years.

As a result of Mrs Breekveldt’s knowledge of The Postgraduate Foundation for Medical Research, then under the direction of Dr Victor Coppleson, the late Robert Storr decided to bequeath the major part of his estate to the University via The Medical Foundation. The Estate funds the Chair of Hepatic Medicine for research into diseases of the liver. Through her involvement with the Storr Liver Unit, she has witnessed its growth and has gained a rich insight into the world of medical research. Mrs Breekveldt was Co-Executor, with Mr John Fletcher, of the Robert W Storr Estate. She has been an Honorary Governor of the Foundation since 1992.

PROFESSOR DAVID BURKE AO

Professor David Burke is a neurologist who was awarded a personal Chair of Clinical Neurophysiology in 1987 at the University of New South Wales. In 1991, he became Professor of Neurology and Chairman of the Department of Neurology at Prince Henry and Prince of Wales Hospitals, and Director of Clinical Research at the Prince of Wales Medical Research Institute. In 2002, he moved to The University of Sydney as Director of Research for the Faculty of Medicine and Dean of Research & Development (for the Health Faculties). In 2008, he was appointed Bushell Professor of Neurology, and continues as Director of Research for the Faculty of Medicine. He maintains an active research program on human neurophysiology in The Medical Foundation Building.

Professor Burke was elected Fellow of the Australian Academy of Science (FAA) and Fellow of the Australian Academy of Sciences and Technology (FTSE) in 1995. In 1999, he was appointed Officer in the Order of Australia (AO) and in 2003 he was awarded the Centenary Medal of Federation by the Australian Government.

PROFESSOR DAVID I COOK

Professor David Cook has been Professor of Cellular Physiology at The University of Sydney since 1989. His area of research expertise is the mechanisms by which organs such as the kidneys and lungs transport salt and water. He was elected to the Fellowship of the Australian Academy of Science in 2004. He is Chairman of the Epithelial Transport Section of the International Union of Physiological Sciences and has served as a member of the Australian Research Council Expert Advisory Panel on Biological Sciences and Biotechnology (2002-2004).

Professor Cook was a Medical Foundation Fellow from 1997 to 2001 and has been a member of Council as an Honorary Governor since 1998.

SIR ROBERT CRICHTON-BROWN KCMG CBE TD

Sir Robert joined the Lurnley Group in 1938 in London. After wartime service in Iceland, France, India and Burma from 1939 to 1945, he rejoined the Group, holding positions in Sydney from 1947 as Director, Managing Director and Chairman, and remaining as a Director until 2003. He was Chairman of Rothmans of Pall mall (Aust) Limited from 1981 to 1985 and Executive Chairman of Rothmans International from 1985 to 1988. He also held positions as Director and Chairman of a range of commercial companies including the Commercial Banking Company of Sydney. Sir Robert was President of the Institute of Directors of Australia from 1967 to 1980, Honorary Federal Treasurer of the Liberal Party of Australia from 1973 to 1985 and a Director of Royal Prince Alfred Hospital from 1970 to 1984. He worked with a number of community organisations including the Salvation Army, the Duke of Edinburgh Award Scheme, the National Scout Association and...
the Girl Guides Association of Australia. Sir Robert was a member of Australia’s winning Admiral’s Cup Team in the UK (Ballyandra) in 1967 as well as the 1970 winner of the Sydney to Hobart Yacht Race (Pacha).

Sir Robert Crichton-Brown is an Honorary Governor and a Founding Member of The Medical Foundation. He held positions as Honorary Treasurer, and President from 1962 to 1987. Sir Robert was appointed an Honorary Fellow of The University of Sydney in 1967 and is an Honorary Life Governor of the Australian Postgraduate Federation in Medicine.

**MS NANCY E DOLAN**

Ms Nancy Dolan BA LLB (Hons) is an Honorary Fellow of the Faculty of Medicine at The University of Sydney.

After beginning practice in New Zealand, Nancy became a solicitor and partner in the commercial disputes group of Mallesons. Stephen Jacques in Sydney, focusing on contracts, equity, administrative law, professional negligence law and commercial disputes.

She subsequently became General Counsel and a partner of Coopers and Lybrand and its successor firm PricewaterhouseCoopers, providing legal advice to executive leaders about partnership arrangements, the firm’s operations, risk management and the management of claims. Nancy was a consultant from 2000 to 2003.

From 2004 to 2007 Nancy was General Counsel of The University of Sydney, responsible for co-ordinating the provision of legal services to the University, for providing advice to the Senate, Chancellor, Vice-Chancellor and senior executives and for establishing and leading an Office of General Counsel.

Nancy is a member of the Human Research Ethics Committee of UTS, the St James Ethics Centre and the Australian Institute of Company Directors.

**MRS BUNNY GARDINER-HILL**

Mrs Bunny Gardiner-Hill has worked with a number of community organisations including the Malcolm Sargent Cancer Fund for Children in Australia, the Australiana Fund, the Australian Red Cross schools program, and Prevention (later CAPS).

Mrs Gardiner-Hill has recently joined the Friends of the Sydney International Piano Competition which welcomes contestants to Sydney from around the world every four years. She was awarded Honorary Life Membership of the Postgraduate Federation in Medicine in 1987.

Mrs Gardiner-Hill was Honorary Secretary of The Medical Foundation from 1982 to 1989 and a member of The Medical Foundation Women’s Committee from 1986 to 1993, holding positions of Chairman and Vice-President. She was appointed to Council as an Honorary Governor in 1981 and a member of the Executive Committee from 1994 to 1998 and from 2000 to 2004.

**DR JOHN GREGORY-ROBERTS**

Dr John Gregory-Roberts was President of The Medical Foundation from 2004 to 2005. He has been an Honorary Governor of the Foundation since 1994 and a member of the Executive Committee since 2000. He is an ophthalmologist in private practice and a Visiting Medical Officer and Chairman of the Vitreo-retinal Unit at the Sydney Eye Hospital.

Dr Gregory-Roberts is a Life Governor of the Royal Institute for Deaf and Blind Children at North Rocks, having been the Honorary Ophthalmologist since 1978. He joined the Board in 1981 and became Vice-President in 2003. He is a member of the Board of Management of the Sydney Eye Hospital Foundation. From 1999 to 2005, Dr Gregory-Roberts was a Board Member and member of the Executive of the Sydney International Piano Competition. As a former Trustee of Centennial Park, he was Chairman of the Bicentennial Committee from 1985 to 1988.

**MRS VICTORIA S M HARPER**

Mrs Victoria Harper’s close association with The Medical Foundation goes back 16 years. From 1990 to 1998, Victoria was the Foundation’s Executive Officer, taking responsibility for its day-to-day management. Victoria is also a graduate of The University of Sydney (BA Hons) and has had a career in political research, public relations and event management. She is currently employed part-time in her barrister husband’s law practice and has three school-age children.

She is also a governor of another University of Sydney foundation, the Australian Archaeological Institute at Athens, and has held various committee positions in community organisations including the NSW Parliamentary Staff Club, University & Schools Club, Sydney University Women’s Group, Ascham School Building Appeal Committee and the Foundation for Classical Archaeology, University of Sydney. Her interests include visual and performing arts, literature and travel.

**DR PAUL A L LANCASTER**

Dr Paul Lancaster graduated from The University of Sydney in 1966 and trained as a paediatrician, subsequently becoming Staff Paediatrician and Director of Newborn Services at the Royal Hospital for Women. In 1977, he was awarded an NHMRC Fellowship in Applied Health Sciences and studied at the London School of Hygiene and Tropical Medicine after which he completed the Master of Public Health in Maternal and Child Health at the University of California Berkeley. On returning to Sydney in 1979, he was the founding Director of the National Perinatal Statistics Unit at The University of Sydney. His main research interests have been in reproductive and perinatal epidemiology and birth defects.

In his role as President of the Australian Birth Defects Society, Dr Lancaster organised national meetings on the history of reproductive and perinatal research and health care in Australia and New Zealand.

He continues as an active member of the International Committee for Monitoring Assisted Reproductive Technology, which he initiated in 1990, and of the Advisory Board of the Australian Twin Registry at the University of Melbourne.

Dr Lancaster’s grandfather, father and wife all graduated in medicine from The University of Sydney. His two sons and daughter are also alumni of the University. Dr Lancaster initiated the Masters course in reproductive Health Sciences and Human Genetics at The University of Sydney in 1994. He now has an academic appointment as Honorary Associate Professor with the Australian Health Policy Institute at the University’s School of Public Health. After organising several reunions of his graduating year, he became a member of the Medical Alumni Association Council in 2006 and its President in 2007.

**PROFESSOR DAVID LE COUTEUR**

Professor David Le Couteur graduated from The University of Sydney with an Honours degree in Medicine in 1982. He is now Professor of Geriatric Medicine at The University of Sydney, Director of the Centre for Education and Research on Ageing (CERAD), Director of the Biogerontology Laboratory of the ANZAC Research Institute, and Senior Staff Specialist Physician at the Concord R5 Hospital in Sydney, Australia. Professor Le Couteur’s current research focuses on the effects of ageing on the liver and its microcirculation. His clinical research interest relates to geriatric pharmacology.
Professor Le Couteur has served on the Australian Medication Regulatory Committee and the Australian Drug Evaluation Committee as a clinical pharmacologist for ten years, and on several education and training committees in the Royal Australasian College of Physicians. He is on the International Advisory Panel of the British journal ‘Age and Ageing’, and a member of the Council of the International Union for Basic and Clinical Pharmacology (IUPHAR).

Mr Robert M Mostyn

Mr Robert Mostyn began his working career at Dalgety & Co Ltd in 1946. He joined the family company Craig Mostyn & Co Pty Ltd in December 1948 and remained there for 53 years until his retirement as Chairman late in 2001.

Mr Mostyn’s father, Mr R L Mostyn, was one of the original Governors of The Medical Foundation. Mr Robert Mostyn joined the Council of the Foundation in the mid 1970s.

Mr George T Reid (until June 2008)

After graduating from The University of Sydney with a bachelor degree in Engineering, Mr George Thyne Reid built a career as an active with a bachelor degree in engineering, mr member of the medical foundation council on after graduating from the university of Sydney. He joined the furniture manufacturing and soft-goods agricultural enterprises, furniture retailing, businesses including non-woven textiles, density residential developments. He has also land subdivision, self storage, property bulky goods retailing, real estate development, activities cover many areas including real property industry for more than 20 years. He

Mr B Richard Scheinberg

Mr Richard Scheinberg has been in the property industry for more than 20 years. He is currently Joint Managing Director of his family group of companies, acting as an active board member for various family trusts, companies and industry foundations.

Mr Reid is a trustee of the philanthropic Thyne Reid Foundation and holds the position of Director for the Round House Unit Trust, specialising in hotel and property management, and Narrangullen Pty Limited. He has held the position of Chairman for The Narrangullen Trust since 1996 and was the Director of the Australian Beef Industry Foundation from 2000 until 2004. Mr Reid was appointed as a member of The Medical Foundation Council on 26 March 2007.

Mr Scheinberg has participated in many communal and charitable activities and is currently a member of various boards and committees of JCA and a Board Member of the Education Heritage Foundation. He is a past Board member of the Microsearch Foundation of Australia, Kesser Torah College and the Yeshiva College Assistance Committee (including its Joint Chair). Mr Scheinberg joined the Council of The Medical Foundation in 1995.

Professor Dennis Yue (until April 2008)

Professor Dennis Yue is Professor in Medicine and the Kellion Professor of Endocrinology at The University of Sydney. He is Head of the Department of Endocrinology and Director of Diabetes at Royal Prince Alfred Hospital. He is also Director of Diabetes at the Sydney South West Area Health Service (Eastern Zone).

Professor Yue completed his medical undergraduate training at The University of Sydney and was awarded a PhD in 1977. He became a Fellow of the Nuffield Foundation and conducted postgraduate research at Cambridge University. His main research interests are in the area of diabetic complications, especially in relation to diabetic neuropathy, diabetic foot disease and diabetic renal disease.

Dr Martin Williams FCIM

Dr Martin Williams is a Fellow and graduate of the Chartered Institute of Marketing. Graduating from Macquarie Graduate School of Management, Martin now thrives as a member of the Faculty of Arts and Social Sciences at The University of Technology Sydney. He is director of Customer Wisdom, an affinity-marketing consultancy and Midas Interactive Pty Ltd. The latter is dedicated to assisting parents and teachers increase awareness and prevention of drug-related addictions amongst their children and students.

Martin came to Australia from Scotland in 1981. He has been a director and Chairman of private companies in which he has international experience in Asia, Australia and Europe. His direct marketing company Cartwright Williams Pty Ltd and CW Database Services Pty Ltd, consulted to worldwide corporate organisations as well as non-profits, were sold to US advertising giant Leo Burnett in 2002. Martin is author of Interactive Marketing and was awarded Australian Direct Marketer of the Year in 1997.

Martin is Chairman of the Salvation Army Direct Marketing Advisory, a position he has held since 2002. Prior to that he was Residential Chair for the Red Shield Appeal, Sydney. His team has helped significantly increase funds as well as shape the ‘Salvos’ future fundraising and volunteer relationship strategies. He also serves on the board of the City of Sydney Red Shield Appeal.

EX OFFICIO MEMBER OF COUNCIL

Professor Bruce G Robinson

Professor Robinson is an endocrinologist and Head of the Cancer Genetics Laboratory in the Kolling Institute. He was appointed Dean of the Faculty of Medicine in May 2007.

Professor Robinson graduated from The University of Sydney in 1980 and then studied for his Master of Science degree. His further molecular research work was performed at the Brigham and Women’s Hospital and the Children’s Hospital, Harvard Medical School, from 1986 to 1989 and he was awarded a Doctorate of Medicine from The University of Sydney in 1990.

He has developed and led the Cancer Genetics Laboratory since 1990 and has supervised over 20 doctoral and masters students working on the genetic basis of tumor formation and gene therapy. He has published over 170 peer-reviewed scientific articles. In 2003, Professor Robinson was awarded the Daichi Prize by the Asia and Oceania Thyroid Association for his work on the pathogenesis of thyroid cancer.

Prior to his current University appointment, Professor Robinson was Associate Dean (International), Faculty of Medicine, at The University of Sydney and was Head of the Division of Medicine at the Royal North Shore Hospital from 1998 to 2006. He also served on the Council of the Endocrine Society of Australia from 2001 to 2005.

He is on the Editorial Board of the international journals Nature, Clinical Practice and Endocrinology and Thyroid. Professor Robinson is the Founding Chairman of Hoc Mai, the Australia Vietnam Medical Foundation, which sponsors and supports medical, nursing, allied health and scientific exchanges between Australia and Vietnam. He is also a Fellow of the Australian Institute of Company Directors.
DONATIONS IN 2008

The Medical Foundation and its Divisions are indebted to the many individuals and organisations that supported our research programs through donations and bequests in 2008. Donors of $250 or more are listed below. In addition to those listed, a significant number of anonymous and other contributions were received during the year.

THE MEDICAL FOUNDATION

Bequests

In 2008 The Medical Foundation received a new bequest from the Estate of the late Sydney Ralph Reader. Additional funds were received from the Estate of the late Rowena Vaughan Milgrove, the Estate of the late Robert W Storr and the Estate of the late Beverley Tivey.

Estate of the Late Rowena Vaughan Milgrove $1,173,306
Estate of the Late Beverley Tivey $1,129,771
Estate of the Late Robert W Storr $639,490

Donations $250 and over

Mr W Bruce and Mrs Juliet A Kirkpatrick $50,050
The Reginald Ward & Adrian Cotter Foundation $20,000
Dr Francis M Hooper $19,000
Race Capital Pty Ltd $16,667
Mr Ian S Dunlop $15,000
Estate of the Late Sydney Ralph Reader $10,000
Bluesand Foundation Pty Ltd $10,000
Mr David Burns $10,000
New York Presbyterian Hospital $9,511
Dr Clarice M Smith $6,000
Dr Barry R Catchlove $5,000
Mrs Dorothy M Dudeney $5,000
Mr Edward F Griffin $5,000
Craig Mostyn and Company Pty Limited $4,000
Mrs Doris Jones $4,000
Mrs Margaret D Cumberland $3,000
NSW Meniere’s Support Group Inc $2,613
Mr Jack and Mrs Hessie Grossberg $2,500
Mr Roy M Randall $2,250

Donations $250 and over (cont)

Queensland Sawmills Pty Ltd $2,000
Family of the Late Dr Eleanor Mollie Horadam $2,000
Mr Robert L and Mrs Susan C Maple-Brown $2,000
Dr Anna Ziegler $2,000
Anonymous $2,000
Mrs Helen Breekeveldt $1,500
Dr Bill Thoo $1,200
Dr Gabrielle I M O’Sullivan $1,020
Dr Boo Y Khoo $1,009
Woolworths Limited $1,000
Blinnowski Foundation Pty Limited $1,000
Gadi Pty Limited $1,000
Dr Helen V Bashir $1,000
Dr Timothy H Begbie $1,000
Mr David A Boag $1,000
Dr Margaret G Collins $1,000
Dr John F Foxwett $1,000
Mrs A J B Fox $1,000
Professor William P R Gibson, AM $1,000
Dr David L Green $1,000
Mrs Mary Rose R McDonald $1,000
Mrs Wendy Miles $1,000
Mr Robert M Mostyn $1,000
Dr William P and Dr Sally Nelson $1,000
Dr William P Nguyen $1,000
Ms Genevieve Page $1,000
Mrs Patricia G Pritchard $1,000
Dr Anthony Rumore $1,000
Professor Sir Bruce R Williams, KBE $1,000
Anonymous $1,000
Mr S Cremer $750
Mrs Ann Emmett $750
Mr David W Kirkpatrick $690
Mr Michael A and Mrs Bunny Gardiner-Hill $600
Ms Gabrielle L McDonagh $600
Peter Priestley Associates NSW Pty Limited $500
I J Norman Nominees Pty Limited $500
Mr Jim Athos $500
Mr Len L Bosman $500
Sir Ronald A Brierley $500
Dr Grosvenor C T Burfitt-Williams $500
Mrs Valma Burrows OAM $500
Dr Barry L Chapman $500
Mr Brian C France $500
Dr T Haymet $500
Ms Heather Irwin $500
Dr Geoffrey E Jordan $500
Mrs Gwynneth McBean $500
Mrs Laurel N McCartney $500
Mr Derek McIntosh $500
Dr Helen E Morrison $500
Mrs Colleen M Quinton $500
Dr Thelma J Reid $500
Dr Robyn J Searl $500
Dr Geoffrey H Wall $500
Mr Robert J White, AO $500
Mrs Roslyn G Wong $500
P H W Lai Pty Ltd $500
Anonymous $495
Ms Shay Barlow $405
Emeritus Professor Richard S B Gye, AO $400
Ms L M Ray $400
Dr William H Wolfenden $400
Mr Bertram L Wood $400
THE MEDICAL FOUNDATION (cont)

Donations $250 and over (cont)

Dr Bernard T Cook $375
Mr Clive Baskin $360
Mrs Sheila M Green $350
Anonymous $350
Evandale Pty Limited $300
Russell and Fairfax Pty Limited $300
John Gregory Roberts and Associates $300
Dr James D P Chesworth $300
Dr Ki Douglas $300
Dr Glenys M Miller $300
Mrs Colleen Murphy $300
Mr John Pope $300
Mrs Elly Simmons $300
Dr Martin R Stockler $300
Mrs Audrey J Timbs $300
Mr Geoffrey N Walker $300
Dryden Goulburn Pty Ltd $250
Mr Michael L Barlow $250
Mrs Nan L Hunt $250
Ms Hilary J Kelman $250
Dr Alan G McLean $250
Dr Neil M Muirden $250
Dr Wal Utber $250
Dr Cornelius van der Weyden $250
Dr Kenneth P Wilson $250

DIVISIONS

Ageing and Alzheimer's Research Foundation
Estate of the Late Gabrielle Lorraine Lee
Dr Jennie Churchill in memory of Mrs Norah Donne
Mrs Joy Foster
Mr E A Hansen in memory of Mrs Doreen Hansen
Professor David Le Couteur
Professor Andrew McLachlan + Honorarium
Ms Ruth Mawson
Memo Corporation Aust P/L in memory of Henry (Harry) F Judge
National Seniors Trust
NSW ALP Parliamentary Caucus in memory of Henry (Harry) F Judge
Mr Alan H and Mrs Audrey J Timbs
Mr Don Unwin
DT. E C Willey
Ms Christina Wu

Bone and Joint Research Foundation
The Hillcrest Foundation $50,000
Estate of the Late Margaret Nancy Brennan $15,000
Mr Neil L Cutler $10,000

Endocrinology and Diabetes Research Foundation
Professor Dennis K S Yue $20,000
New South Wales Women's Bowl for Others Club $4,000
Mr Chun Y Tong $3,500
Mr Frank and Mrs A M Shute $2,000

Microsearch Foundation of Australia
Myee Codrington Medical Foundation $56,005
Trust Company Limited $34,506
Estate of the Late Marjorie Hamilton $10,000
Lin Corporation Pty Ltd $3,000
Mrs Beryl M Woodgate $3,000
Mr George L Andrews $2,500
Mr Thomas Lyons $2,000
Dr Agnes E Sinclair $2,000
NHST Pty Limited $2,000
New South Wales Women's Bowl for Others Club $2,000
The Preece Family Trust $1,000
Chester Hill RSL & Bowling Club Co-operative Limited $1,000
Rotary Club of Gosford $1,000
Don Stein Investments Pty Limited $1,000
Lions Club of Hawkesbury Bells Line Inc $1,000
Dr George L Douglass $1,000
Expatriate Club $900
Rotary Club of Rockdale City Inc $750

Microsearch Foundation of Australia (cont)
Naval Association of Australia $600
Canterbury Bankstown Sub Sect $600
Miss Audrey D Neville $600
Mr G L Webb $600
Mr George R Jones $550
Campsie RSL Sub-Branch Club Limited $500
Lions Club of Manly $500
Mr Neil M C Anderson $500
Mr C L Bowen $500
Sir Ronald A Brierley $500
Mr John T Cameron $500
Mrs Doreen G Carter $500
Mrs Patricia Grove $500
Mrs Nathalie Kulakowski $500
Mrs G G Lamb $500
Mr John M Phillips OAM $500
Mr Andrew G Richardson $500
Mr Harry Sebel $500
Mr Eric Warth $500
Mr W J Duffy $300
Mr John W Farley $300
Mr Graham Lees $300
Mrs Betty Lenart $300
Mrs Marion Low $300
Mr John Gissing $265
Lodge Mark Owen No. 828 $250
Mr Harold Berman $250
Mr Peter C Dunn $250
Mr Gary W Whipp $250
INCOME STATEMENT
FOR THE YEAR ENDED 31 DECEMBER 2008

INCOME

Grants
Donations, Bequests and Scholarships
Business and Investment Income
Internal and Other Income
Total Income

EXPENDITURE

Salaries
Other Expenses
Contributions to Research, Schools and Centres
Total Expenditure

Surplus
Accumulated Funds as at 1 January
Total accumulated funds

TOTAL RESEARCH EXPENDITURE ($m) 2003–2008

TOTAL EQUITY AT BOOK VALUE ($m) 2003–2008

ADMINISTRATIVE COSTS (INCLUDING FUNDRAISING) AS A PERCENTAGE OF TOTAL INCOME

Administrative costs $515,091
Total Income $7,063,134

7.3%
## BALANCE SHEET

FOR THE YEAR ENDED 31 DECEMBER 2008

### ASSETS

<table>
<thead>
<tr>
<th>Notes</th>
<th>31 December 2008 $</th>
<th>31 December 2007 $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petty Cash</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>Investments – Cash Balance</td>
<td>33,629,809</td>
<td>31,328,018</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>33,630,509</td>
<td>31,328,718</td>
</tr>
<tr>
<td><strong>NON CURRENT ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest in Medical Foundation Building</td>
<td>10,000,000</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Investments</td>
<td>15,508,169</td>
<td>15,745,144</td>
</tr>
<tr>
<td><strong>Total Non Current Assets</strong></td>
<td>25,508,169</td>
<td>25,745,144</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>59,138,678</td>
<td>57,073,862</td>
</tr>
</tbody>
</table>

### EQUITY

<table>
<thead>
<tr>
<th>Notes</th>
<th>31 December 2008 $</th>
<th>31 December 2007 $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated Funds</td>
<td>48,295,726</td>
<td>46,230,910</td>
</tr>
<tr>
<td>Capital</td>
<td>5,447,952</td>
<td>5,447,952</td>
</tr>
<tr>
<td>Reserve</td>
<td>5,395,000</td>
<td>5,395,000</td>
</tr>
<tr>
<td><strong>Total Equity</strong></td>
<td>59,138,678</td>
<td>57,073,862</td>
</tr>
</tbody>
</table>

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2008

1. **Statement of Significant Accounting Policies**
   (a) These accounts have been prepared on a cash basis and amounts are stated at historical cost.
   (b) Income tax is not applicable to activities of the Foundation.
   (c) All fixed assets are expensed in the year of purchase with the exception of the interest in a property.
   (d) Some comparative items have been reclassified to conform to the current year’s presentation.

2. **Interest in the Medical Foundation Building**
   The Medical Foundation Building is held to meet service delivery objectives rather than to earn rental income or for capital appreciation and will not meet the definition of investment property. It is classified by the University as Commercial Teaching and Research property and is valued every three years. The last independent valuation of property at $37 million was undertaken by the University on 31 December 2007. The amounts shown in these financial statements reflect the Medical Foundation’s 54% share of the initial cash purchase price.

3. **Investments**
   Growth Fund Investments are recorded in the financial Statements of The Medical Foundation at their initial Book value (cost). Due to the volatility in the global financial markets, the fair value of these investments has declined during 2008; however, this decline is not reflected in the Foundation accounts which carry the investments at cost. A reconciliation to the market (fair) value is provided below:

<table>
<thead>
<tr>
<th>31 December 2008 $</th>
<th>31 December 2007 $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth pool funds</strong></td>
<td></td>
</tr>
<tr>
<td>Book value of investments</td>
<td>15,508,169</td>
</tr>
<tr>
<td>Unrealised gain / (loss)</td>
<td>(2,133,837)</td>
</tr>
<tr>
<td><strong>Market value of investments</strong></td>
<td>13,374,332</td>
</tr>
</tbody>
</table>

I certify that the Income Statement and Balance Sheet of the Foundation have been prepared in accordance with the University’s accounting practices and procedures. These Foundation accounts form part of The University of Sydney’s financial reports which have been audited by the Auditor-General, New South Wales.

Dominic Curtin, CA
Finance Director, Faculties of Health
March 9, 2009
This is a significant achievement by our donors as The Medical Foundation’s research is made possible by the many generous gifts from people who are interested in medical research, or who want to commemorate the life of a loved one or say thank you in a practical way for medical care they themselves have received.

No matter how large or small, whether a single or annual donation, or a bequest, every contribution you make plays an important role in enabling the discoveries made by the leading researchers funded by The Medical Foundation.

We would like to thank our many donors and invite you to join them in supporting the Foundation’s work.

DONATIONS

Donations to The Medical Foundation at The University of Sydney are tax deductible. Gifts may be sent to: The Manager, The Medical Foundation, Edward Ford Building A27, The University of Sydney NSW 2006.

BEQUESTS

Contact The Medical Foundation for more information on making a bequest to support medical research. The Manager will be pleased to meet with you to discuss in more detail how you can make a bequest to the Foundation and how your gift will benefit our research teams.

For more information, please call 02 9351 7315 or email us at medfdn@med.usyd.edu.au.

Here is how some of the past bequests received by The Medical Foundation have been used:

- **The Robert W Storr Bequest** funds the academic Chair of Hepatic Medicine at Westmead Hospital and provides support for research into diseases of the liver, particularly liver cancer.
- The late **Jessie Isabel Alberti**’s wish was to fund research into the brain. This bequest supports two programs of research into neurological diseases conducted by Professor Simon Hawke and Professor Jürgen Götz.
- The bequest from the late **Dorothy Caton** supports research into anaesthetics.
- The **Chapman Bequest** supports research into heart disease.
- The bequest of the late **Doris Curran** is supporting research into improving clinical outcomes for transplant patients.
- The **Robinson Bequest** funds research programs for both cancer and the eye.
- The **Roly Dunlop Legacy** supports research into neurological impairment and associated conditions such as epilepsy.
- The **Tivey bequest** will support research into HIV/AIDS.

Other endowment funds support the Burrows Professor of Paediatrics and Child Health and research into diseases of childhood, ophthalmology research, cancer, Alzheimer’s disease, and research into arthritis.

The Medical Foundation is a foundation of The University of Sydney. The University of Sydney is endorsed as a deductible gift recipient under Subdivision 30-BA of the Income Tax Assessment Act 1997.