

Issue 12 November 2004

# MCRI NEWSLETTER

SPRING EDITION

## FEATURES

The sun, your skin and vitamin D

Born to be depressed?

Genetic screening for haemochromatosis

Finding genes that harm children



[www.mcri.edu.au](http://www.mcri.edu.au)

MCRI at the Royal Children's Hospital, affiliated with the University of Melbourne.



# Tribute to Bob Williamson

In September, staff and supporters farewelled Professor Bob Williamson AO FRS FAA, who retired as Director of MCRI after almost 10 years.

*Clockwise from below left: Dame Elisabeth Murdoch; Bob Williamson with Health Minister Bronwyn Pike; Deputy Chair Bill Hodgson presents Bob Williamson with his farewell gift, a Samuel Namundja painting; Michael Kantor with Karina and David Calvert-Jones; Robyn O'Hehir and Mimi Tang*

A scientific symposium was held in Bob's honour, at which colleagues and prominent scientists, including Sir Gustav Nossal, spoke about Bob's medical research and the MCRI.

The MCRI Board of Directors hosted a dinner at the Australian

Club, and presented an Aboriginal painting by Samuel Namundja as a farewell gift.

Bob led the MCRI through a merger and enormous growth. He widened the scope of MCRI's research, fostered a close link between disciples, and was

a great proponent of 'bench to bedside to community'. Bob also strongly supported ethics, education and public relations. We thank him for all his hard work, and wish him all the best for his future endeavours.



## BOARD PROFILE

### Anthony Dart

**Anthony Dart has been a board member of MCRI since 2001. He is a Senior Principal Research Fellow of the National Health and Medical Research Council (NHMRC), and an Honorary Professor of Medicine at Monash University.**

Anthony was nominated to the MCRI board as an NHMRC representative, where he is the chief investigator for clinical research excellence grants. He has also chaired various NHMRC grant assessment panels.

Anthony did his clinical training at Oxford University after completing undergraduate and postgraduate degrees in physiology. He undertook

cardiology training in Cardiff and Edinburgh before beginning his career in cardiology research in Heidelberg, Germany.

Anthony is currently the Associate Director at the Baker Heart Research Institute, where he has worked since 1989. His current research involves both pre-clinical and clinical studies that focus on coronary heart disease and its complications. He is currently Director of Cardiovascular Medicine at the Alfred Hospital.

Anthony is proud to be associated with MCRI, and is a strong supporter of the "molecules to man" (or child!) research ethos espoused by the MCRI.



Anthony Dart

# The sun, your skin and Vitamin D

**Being exposed to the sun isn't always a bad thing. Our skin needs the sun to produce Vitamin D, which once synthesised plays an important role in bone health, and may be important for normal fetal growth.**

Researchers have found that pregnant women in Australia who are dark skinned or who wear veils, frequently have severe vitamin D deficiency. This can have serious implications for their babies. One result of Vitamin D deficiency in children is rickets, a condition that involves softening and weakening of the bones.

Dr Ruth Morley and her collaborators at MCRI are conducting research into the prevalence of Vitamin D deficiency in pregnant women and infants. There is emerging evidence that many pregnant women in Australia from all racial groups are Vitamin D deficient, especially during winter.

Dr Ruth Morley said the research aims to uncover more about the role of Vitamin D during pregnancy, and the effects of Vitamin D before and after birth on child health.

"In the meantime, we need to educate those at risk about the importance of some sun exposure, test high risk pregnant women for Vitamin D deficiency, and have a readily available Vitamin D preparation that is acceptable to people of all faiths," she said.



# Born to be depressed?

**Researchers have found prematurity and low birth weight may increase the likelihood of depression in adolescence.**

A Victorian study conducted between 1992 and 1995 has showed the risk of becoming depressed is seven times more likely among adolescents who were born prematurely or who had a low birth-weight.

For females born prematurely or with a low birth-weight, the rate of adolescent depression was 15 per cent. Those born at term had a less than two per cent rate of adolescent depression.

Researchers commented that genes, maternal physiology and the function of the placenta may affect brain development through nutritional and hormonal mechanisms. For those born prematurely, stress at birth and poor nutrition in the early weeks of life may also play a role.

Scientists have already established that early physiological adaptation to nutritional deficiencies in the womb may explain the link between low birth weight and later risk of heart disease and diabetes. This adaptation particularly relates to the hypothalamus - pituitary - adrenal hormone pathway, which is also affected by low birth weight and implicated in early depression.

The study showed that childhood maternal bonding didn't appear to be a factor in the link between prematurity and depressive disorder. However, when pre-existing depressive symptoms and recent negative life events were taken into account, it appeared a high sensitivity to social adversity accounted for part of the risk for depression in those who were born premature.



## Genetic screening for haemochromatosis

**A study of nearly 12,000 adults has found clear benefits in DNA testing for haemochromatosis and provides new evidence that genetic population screening for a preventable disease is practical. Haemochromatosis is a common genetic disease, which results in abnormally high levels of iron in the body, causing damage to major organs including the liver and the heart.**

The study adds valuable evidence to the emotive debate surrounding genetic testing. Speaking at Australian Gastroenterology Week, Dr Katie Allen a gastroenterologist at MCRI said that by identifying the people who are genetically predisposed to developing haemochromatosis, measures could be taken to monitor and if necessary, reduce iron levels before any permanent damage was caused

“There is no ethical reason against screening for a common, life-threatening disease that can be easily prevented” she said.

MCRI and the Department of Human Services jointly funded ‘HaemScreen’ a project that has visited Victorian workplaces to educate and offer genetic testing for the disease to employees.

HaemScreen was developed by a collaborative committee based at MCRI. Of the 11,900 adults tested, HaemScreen identified more than 50 people who would otherwise not have known they were at risk for haemochromatosis. Those who were tested did not exhibit any undue anxiety that is normally associated with genetic testing.

According to Dr Allen, the only remaining hurdle to haemochromatosis testing is purely financial, and not associated with the ethical debate surrounding genetic testing.

While she believes the overall benefits are clearly in favour of screening, the actual costs of the tests are yet to be determined from the study.



*Amy Nisselle from MCRI enters BlueScope Steel to screen employees for haemochromatosis.*

### PUBLIC HEALTH RESEARCH NEWS

## Newborn hearing screening expansion

**The Victorian Infant Hearing Screening Program has welcomed additional state funding for a significant expansion of the program.**

Universal pre-discharge hearing screening will be offered to all newborns in four hospitals, including the Royal Women’s Hospital, the Mercy Hospital for Women and the Monash Medical Centre, from February 2005.

The Royal Children’s Hospital is the host agency for the program and MCRI researchers Dr Zeffie Poulakis, Dr Melinda Barker, Associate Professor Melissa Wake and Alexandra Jordan from the Centre for Community Child Health are key members of the team.

Professor Wake and her collaborators have just published a research paper relevant to newborn hearing screening.

In the first study to measure the health-related quality of life for children with congenital hearing loss, they found that parents reported children with more severe hearing loss had a better quality of life than children with less severe hearing loss.

“A condition may appear to doctors to be relatively mild, but it can still pose significant threats to the well being of the child and family” said Professor Wake.

The children involved at the study were born at a time when universal hearing screening wasn’t offered. “This study is important in providing a baseline against which the introduction of VHSIP can be later judged”, she said.

# Finding genes that harm children

**Each year more than 50 Australian children develop mitochondrial diseases, and most will die before adulthood. The most common form of mitochondrial disease is known as complex I deficiency. Affected babies often die within the first few weeks of life.**

In each cell of the body, mini powerhouses or mitochondria convert the food we eat into the energy our bodies need to grow and function. When these powerhouses don't function normally, the body develops an energy deficit, which is particularly serious in the cells of the nervous system and muscles.

Led by Dr David Thorburn, researchers at MCRI have used modern DNA chip technology to identify mutations in a new gene called NDUFS6, which codes for one of the hundreds of proteins needed for mitochondria to perform normally.

The study will improve diagnosis of mitochondria diseases in the future. Correct diagnosis is particularly important as symptoms in affected children are similar to those seen in some babies with severe infections or lack of oxygen.

The study is unique in that it has highlighted a new method for identifying disease-causing gene mutations. Many researchers now use gene chips, or microarrays, however this appears to be the first time the method has been used to screen thousands of genes and actually identify a novel cause of human disease.

"Importantly, our combined approach of using cell fusion, genetic studies and microarray expression studies offers a new and powerful way to identify other genes causing genetic diseases and some forms of cancer," said Dr Thorburn.

Dr Thorburn's team has diagnosed a total of 300 children. Families of these children have subsequently been offered genetic counselling, prenatal testing, and testing of other family members.

## Awards

Congratulations to Duangporn Jamsai who was awarded the National Research Council of Thailand Thesis Award. Duangporn conducted her Ph D research into thalassemia here at MCRI with Professor Panos Ioannou.

*Dr David Thorburn*

## Grants

We congratulate the following researchers who recently received funding:

The Juvenile Diabetes Foundation (USA), awarded **Professor George Werther** \$440,000 over three years for his research on IGF – 1 neuroprotection in hypoglycaemic brain damage

Cystic Fibrosis Australia awarded **Dr Phil Robinson** \$150,000 over two years for his use of computed tomographic airway morphometry, a tool used to assess airway disease in Cystic Fibrosis patients.

The National Stem Cell Centre awarded **Dr Diana Lepore** \$2,500 in travel support, so that she may attend the International Society for Stem Cell Research Conference in Boston, USA.

The Telstra Foundation has awarded **Professor Frank Oberklaid** from the Centre of Community Child Health, \$100,000 to implement the "Lets Read Program."



## Development Board News

The Development Board welcomes two new members, Angus Reynolds and Susannah Calvert-Jones.

Angus Reynolds is a Partner in the transaction services division of KPMG. Angus has extensive experience in both audit and transaction services roles, across a range of industries with an emphasis on information, communication and entertainment sectors. He worked for KPMG in Sydney and London, before moving to Melbourne last year with his wife Lara. Angus was inspired to join the development board after attending a tour.

Susannah Calvert-Jones has a background in marketing and PR and brings to the board vast experience in fundraising and event management. She and her husband James Calvert-Jones (who is Dame Elisabeth Murdoch's grandson) experienced the Royal Children's Hospital personally, as their son was very ill when he was born. Susannah wants to support MCRI because the institute conducts research into the condition that affected her family.

David and Karina Calvert-Jones have moved to Los Angeles with their two young children. We thank them for their hard work on the development board – friend raising and fundraising for MCRI – and we wish them all the best in LA.

## The team @ MCRI

### Viren Abeyasinghe – Finance Manager

**Viren manages the day to day financial operations at MCRI. He has an MBA, and is a fellow of the Chartered Institute of Management Accountants UK & Member of the CPA's Australia**



Viren Abeyasinhe

**Did genes, environment, destiny or accident get you here?**

The biggest factor that led me to MCRI was my relocation from Sri Lanka to Australia. My family and I moved to Australia in 1996 seeking a safer country in which to live.

**Most satisfying part of the job?**

To have a healthy & stable financial environment within the operating entity.

**Toughest part of the job?**

Having to say 'no'.

**Career highlight?**

Being on the Sri Lankan Economic Advisory Committee in a past life.

**How do other people see you?**

Reasonable, responsive and willing.

**What do you aspire to?**

To be successful at everything I do in life.

**In another lifetime, what would you be?**

A politician, I think it is a great thing to serve one's country.

**Role model?**

Former Sri Lankan president JR Jayawardena. He was a great leader with brilliant foresight.

**Personal interests?**

Movies, current affairs, reading and sports, especially cricket, football and rugby league. I used to play all of these sports, but I've found in the last 15 years I've had to slow down!

### Vince Russo - Neuroendocrine Research

**Vince Russo was born and educated in Italy. He worked at the National Cancer Institute in Italy, and as a Senior Research Officer at GENE-GO Biotechnology Centre, before moving to Melbourne with his Australian wife in 1990. Vince's work focuses on the complications of type I diabetes and its effects on brain development.**



Vince Russo

**What do you do?**

We aim to better understand the mechanisms involved in nerve cell degeneration following metabolic stress. We're also exploring the use of neuroprotective agents as potential therapeutic molecules. We hope to use these in the prevention and rescue of damaged brain cells in babies and children.

**Toughest part of the job?**

The continuous challenge is to obtain sufficient funds to develop and expand key research areas as well as supporting research staff.

**Most satisfying part of the job?**

A successful investigation or new discovery is always exciting, but for me the recognition of my achievements by colleagues is the most satisfying.

**What are you proudest of?**

My two daughters and my wife.

**Role model?**

Two Italian Nobel laureates inspire my profession and my life. Rita Levi-Montalcini for her amazing work in neuroscience and Dario Fo, for his philosophy and social commitment which have changed the thinking of many young Italians in my generation.

**Personal interests?**

I'm interested in ancient civilisations and medieval history, classical music, bushwalking and rock-climbing. I like good food and wine and enjoying the company of my friends and family.

# Petanque Day

On a beautiful sunny Sunday in October, Dominique Portet Winery in the Yarra Valley played host to some 120 keen players of Petanque, the French bowls game, to raise money for the Murdoch Childrens Research Institute.

The Becton team ultimately triumphed over the other Petanque teams sponsored by AXA, Crown, Renault, Tiffany & Co, United Airlines, Aitken Hill and Chanel.

Guests sipped Ricard, an apertif from the South of France traditionally drunk when playing Petanque, then enjoyed Dominique Portet wine and stunning Provençal-inspired food generously donated and served by Crown.

Dr Christian Brizard, who is originally from Paris, spoke on behalf of MCRI and the Childrens Heart

Research Centre. Christian is director of cardiac surgery at the Royal Childrens Hospital.

The event was organised by Helene Canavan, after she attended a development board tour and drinks evening at MCRI. We thank Helene for her hard work and enthusiasm and we thank all the generous sponsors and guests who supported this event.

\$27,000 was raised for the Murdoch Childrens Research Institute on the day.

## A strengthened relationship for MCRI

VicHealth and MCRI share a common interest in the health of our community and the relationship is further strengthened following the appointment of MCRI board members to the board of VicHealth.

Jane Fenton was appointed as Chair of VicHealth earlier this year, and more recently Glenn Bowes has joined her as a board member.

VicHealth is a health promotion organisation established by the Tobacco Act 1987, which invests in activities to improve the health of all Victorians. VicHealth has built strong partnerships in the sports, arts, community and health sections and across all levels of Government.

It adds value to these organisations by supporting research, changes in organisational policies and programs, and health promotion knowledge and skills. It aims to contribute to individual change and public policies that will ultimately improve population health.



*Clockwise from top:  
The Dominique Portet Winery,  
Sue Michelmore and Stephen Nalls,  
the Michelmore and Middleton families,  
Mike Brady*

## Dates for your diary

Young Australians  
Fighting Freidreich's  
Ataxia present –  
A Spring Sunday  
21 November 2004  
Xavier College, Kew  
<http://www.yaffa.org.au>

Portsea Polo  
15 January, 2005  
Point Nepean

## MCRI Newsletter

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# Thankyou

The Petanque Day organisers, sponsors  
and guests for raising \$27,000

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