Menzies Research Institute Director, Professor Simon Foote, has been awarded US$350,000 over five years as a Howard Hughes Medical Institute (HHMI) International Research Scholar to fight the debilitating parasitic disease, malaria.

Professor Foote says it is a great honour to be awarded this international scholarship, with the award providing the Institute the opportunity to further expand its medical research in Tasmania. “This funding will allow the Menzies Research Institute to expand its genetic research program to include malaria, which is the third most lethal disease in the world. Malaria infects 250 million people and kills more than two million worldwide each year. With the parasite’s increasing resistance to anti-malarial drugs, and mosquito resistance to insecticides, there is a worldwide need for innovative research into malaria,” Professor Foote said.

The HHMI International Research Scholar funding will assist Professor Foote to better understand how a person’s immune system fights malaria. He will do this by infecting laboratory mice that have rare genetic mutations with malaria, and studying the mutations that allow the animals to survive infection.

“This research will contribute to the global understanding of host response to malaria and lead to the development of new, more effective anti-malarial therapies,” he said.

Professor Foote has extensive experience in infectious diseases and parasitology through his work at the Walter and Eliza Hall Institute of Medical Research in Melbourne, where he has a continuing appointment for fifty percent of his time as Joint-Head of the Genetics and Bioinformatics Division until the end of 2005.

The HHMI has awarded US $17.5 million to 42 outstanding scientists in 20 countries to tackle the mysteries of infectious and parasitic disease.
CDAH study is tracking health around the country

The Childhood Determinants of Adult Health (CDAH) study recently travelled to the Northern Territory and Queensland to run follow-up clinics for participants 20 years after they were studied as school children.

CDAH is run by the Menzies Research Institute in collaboration with the International Diabetes Institute and the Centre for Adolescent Health in Melbourne. It involves more than 5,000 participants across Australia who in 1985 were part of the Australian Schools Health and Fitness Survey.

This study’s principal aim is to determine how much physical and lifestyle factors in childhood contribute to the risk of developing heart disease and type 2 diabetes in later life. Much of what we know about the importance of lifestyle factors, such as diet and physical activity, and the role of blood pressure and cholesterol levels, comes from research in adults, but some studies have shown that the same factors are associated with early stages of disease even in childhood.

Fieldwork has already been conducted in Tasmania (May 2004), Victoria (July-Sept 2004) and South Australia (November 2004).

CDAH hit northern Australia in mid-April, with three days of clinics at the Charles Darwin University in Darwin. Participants from the Northern Territory were pleased to be included in the national study.

Clinics began in Queensland in late April. They were well attended by participants living both locally and in remote areas. One participant travelled 11 hours from the outback to attend his appointment in Townsville. Another made the trip to Rockhampton from Wellington, New Zealand, so that he could take part. Many others travelled up to four hours each way from areas such as Mackay, Cairns and Gladstone. Almost 1,000 participants have now attended CDAH clinics.

In order to conduct clinics, nine cubic metres of equipment and supplies are transported between venues by a removalist company. Blood samples collected during fieldwork are rushed back to the MedVet laboratory in Adelaide within hours of their collection.

Many old school friendships have been rekindled at the CDAH clinics, with participants often coming face-to-face with classmates from 20 years ago. Participants who are unable to attend a clinic are still able to contribute by having a blood sample collected off-site, completing questionnaires, or even doing a short questionnaire over the phone.

The next stops are New South Wales and the Australian Capital Territory. The CDAH team is travelling throughout these regions in September and October stopping in Armidale, Hurstville, Newcastle, Sydney, Parramatta, Orange and Canberra.

Researchers at the Institute have already begun looking at preliminary data collected over the past year. Associate Professor Alison Venn presented early findings to the Australian Institute of Food Science and Technology Convention in Sydney in July on childhood determinants of obesity in young adults.

“Obesity is a major public health problem in Australia. While there is evidence from international studies showing that obesity often persists...”
The Menzies Research Institute’s Tasmanian Older Adult Cohort Study, or TASOAC, is believed to be the world’s largest magnetic resonance imaging (MRI) research project focusing on osteoarthritis. Osteoarthritis is a major cause of disability in elderly Australians. Knee osteoarthritis affects approximately 30 per cent of Australians over 65. Available treatment is very costly and there are no preventative strategies currently available.

Researchers at the Institute are using MRI to record changes in the joints of participants, who are aged between 50 and 79 years. MRI scans provide images of the bone, cartilage and other tissue of a joint, allowing researchers to observe changes over time and detect early changes that are not discernable by the more traditional X-ray.

One thousand and seventy-four Tasmanians have been through the doors of the TASOAC clinics since they began in 2002. The research team is currently about half way through seeing participants for the second time.

Bone marrow lesions (BML) in the knee are strongly related to pain. From 500 participants aged 50 years and over, 239 participants reported knee pain, of which 41% were found to have BML in the knee, and 261 participants reported no knee pain with 28% found to have BML. It was found that BML were significantly associated with knee pain independently of other factors including defects in the cartilage and radiographic knee osteoarthritis. This finding provides new insight into prevention and management of osteoarthritis.

TASOAC is currently seeking funding to enable additional biochemical testing of blood samples. This additional testing will analyse various bone cartilage markers, inflammation and vitamin D levels, and will provide further insight into the complexities of osteoarthritis and pain.

New project – Literacy Pathways

Five to ten percent of primary school children fail to learn to read at the standard expected of their intelligence and educational and cultural background. Past research has shown that some children with normal intelligence have reading problems because of problems coordinating both eyes to read visual images.

A new project at the Menzies Research Institute called “Literacy Pathways” will screen for vision coordination problems among children with low literacy. Students at Summerdale Primary School in northern Tasmania recently participated in a pilot of this project where they underwent a variety of exercises to test their vision coordination and visual acuity, or sharpness.

Children who were found to have problems with their binocular vision have been invited to participate in an educational trial designed to improve their reading. The project will evaluate the relative success of techniques such as traditional reading recovery, phonics programs and eye training exercises. The project is funded by a grant from the Australian Research Council.
A celebration of the Art of Christmas

The true spirit of Christmas shone through early this year to support medical research in Tasmania. Twelve Tasmanian artists donated original pieces of artwork to the Menzies Research Institute depicting their interpretation of Christmas and the celebration of life.

The artwork was showcased to the Tasmanian business community, set amongst a forest of Christmas trees, at the Art of Christmas cocktail function on Thursday 28 July. The Institute, with the support of local businesses, has reproduced the artwork into high quality Christmas cards for businesses and the community.

Renowned Tasmanian artist Michael Weitnauer said he was delighted to be able to help the Institute raise funds for medical research. “I was honoured to be asked to participate in this worthwhile fundraising effort. The Menzies Research Institute conducts vital studies into diseases which affect all Tasmanians in some way or another,” he said.

Other featured artists included Tom Samek, Thomas Andersen and Leigh Oates. Both established and emerging artists were invited to donate an art piece; two remarkable pieces were donated by students from the Tasmanian School of Art.

The Art of Christmas cocktail function raised more than $8,000 for medical research at the Institute. The evening was organised with generous assistance from Tasmanian businesses Direction by Design, Beyond PR, Wrest Point and Display Works. A host of other businesses, listed overleaf, also helped to make the event possible.

Businesses and Institute supporters now have the opportunity to order personalised corporate Christmas cards printed with their logo and greeting of choice. Orders for personalised cards close on 14 October.

The unique cards will also be available for sale to the general public from reception at the Menzies Research Institute and at the Combined Charities Christmas Card and Gift Shop in Hobart from mid October. The 3 art pieces shown above are still available for purchase. For more information, see the Institute’s website or phone Julia Garry, Development Officer, on 6226 7750.

New freezer - Thanks to you!

In June this year we asked our committed supporters to financially contribute to the purchase of an ultra low temperature freezer. In late July, thanks to the generosity of many both locally and interstate, we were able to purchase a new freezer which has now been installed in the Liverpool St building.

Researchers at the Menzies Research Institute collect specimens daily for a range of research projects, including research into prostate cancer, osteoarthritis, multiple sclerosis, heart disease, diabetes and epilepsy.

New research projects in the areas of Parkinson’s disease, colorectal cancer, non-melanoma skin cancer and dementia also require the collection of various samples. There was insufficient storage capacity to accommodate samples for this new research in our current freezer facilities – it has been estimated in the coming year researchers will require storage and freezer space for more than 12,000 specimens.

The new freezer is central to the Institute’s plans to deepen our research programs to investigate more disease areas affecting the health of people in Tasmania and beyond. It has enhanced our capacity for sample storage and will save valuable funds which were previously spent on outsourcing freezer services. Thank you to all donors who contributed to the purchase of this essential piece of equipment.
**Publications**

The following papers from the Menzies Research Institute have been published since the last issue of the Bulletin.


We examined the role of fish intake in the development of atopic disease with particular reference to the possibility of differential effects on allergen-specific subgroups of sensitisation. We have demonstrated a differential effect of fish intake for sensitisation to different aeroallergens. This may be due to the different timing of allergen exposure during early life. Fish consumption significantly decreased the risk for ryegrass-pure sensitisation in comparison with HDM-pure sensitisation.


The relationship between parental physical activity and children’s physical activity and cardiorespiratory fitness has not been well studied in the Australian context. Given the increasing focus on physical activity and childhood obesity, it is important to understand correlates of children’s physical activity. The study concluded that parental exercise may influence their children’s participation in extracurricular sports and their cardiorespiratory fitness levels.

Understanding the correlates of children’s extracurricular sport participation is important for the targeting of health promotion and public health interventions, and may influence children’s future health status.


Multiple genetic causes of congenital cataract have been identified, both as a component of syndromes and in families that present with isolated congenital cataract. Linkage analysis was used to map the genetic locus in a six generation Australian family presenting with total congenital cataract. Significant linkage was detected at the telomere of the p arm of chromosome 1. This is the third report of congenital cataract linkage to 1p tel. The critical region as defined by the shared haplotype in this family is clearly centromeric from the Volkmann cataract locus identified through study of a Danish family, indicating that two genes causing autosomal dominant congenital cataract map to the telomeric region of chromosome 1p.


We hypothesized that cord blood erythropoietin (EPO), a marker of fetal hypoxia, relates to gestational factors and not solely those associated with delivery. We investigated the association between birth weight SD score and cord blood EPO in 290 twins (145 pairs), assessing the influence of gestational versus perinatal factors by comparing the association in those who were delivered by elective caesarean (CS) with that in other delivery modes. Geometric mean EPO was higher in boys versus girls and increased with gestational age but was similar after elective CS versus other delivery modes. Because the association was seen after elective CS delivery, cord blood EPO must relate to factors during gestation, not just perinatal factors.


There is significant evidence supporting the use of mitozantrone in the treatment of multiple sclerosis (MS) but few data on the subtypes of MS that respond or which measures of disease status are most useful. Thirty-one patients with active MS were commenced on mitozantrone 5 mg/ m every 3 months. Low-dose mitozantrone was well tolerated and useful in active relapsing remitting MS in the short term; however, mitozantrone did not display any useful activity in secondary progressive MS patients over this time interval or at the mitozantrone dose used.


We have developed a likelihood method to identify moderately distant genealogical relationships from genomewide scan data. The aim is to compare the genotypes of many pairs of people and identify those pairs most likely to be related to one another. Except in populations where there is a searchable electronic database containing virtually all genealogical links in the past six generations, the algorithm should be a useful aid for genealogists working on gene-mapping projects, both linkage studies and association studies.

**Grants**

The following grants have been awarded to the Menzies Research Institute since the last issue of the Bulletin.

Perpetual Trustees Australia
Dickinson J*, McKay J*
Tasmanian Prostate Cancer Study.
$60,000

Howard Hughes Medical Institute
– International Research Scholars Program.
Foote S*
Infectious diseases and parasitology.
SUS 350,000

*Menzies researchers.

**Diary Date: 3 March 2006**

2006 Menzies Research Institute

Golf Classic, Tasmania Golf Club

The Institute is pleased to announce that Corporate Express Office Equipment is once again presenting the Golf Classic in 2006. Collex is proud to be a major sponsor of the event.

It is anticipated this unique and worthwhile event will again attract record numbers! Corporate teams and individuals are invited to participate. Please join us for a day of fun, sun, excitement and (hopefully!) low scores.

Register your interest today, as places are limited. For more information, consult the Institute’s website, or contact Community Relations Officer, Bill Avery on 6226 7707.
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