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# bulletin



*Mr Mark Bennett, Ms Kathy Thomson and Prof Simon Foote examine plans to accommodate the growing Institute*

## A new Menzies on the horizon

The Menzies Research Institute is set to undergo an unprecedented transformation into Tasmania's premier health and medical research facility, with a revolutionary new growth strategy to be announced this month.

Director of the Institute, Professor Simon Foote, will reveal the 'new Menzies' at the launch of Medical Research Week on Monday 5 June.

Professor Foote says that the transformation of the Institute will build critical mass, resulting in a more central and significant institute in Tasmania focusing on biomedical research.

"We are restructuring and expanding the Institute's areas of research to focus on both clinical and basic science. This is essential to ensure that the depth and the quality of the research at the Institute is enhanced and strengthened," Professor Foote said.

Some of the major developments in the 'new Menzies' include:

- an organisational structure based on a membership model;
- an increase in the number of research groups at the Institute;
- an expansion of the breadth of science conducted;
- research to be loosely organised around themes; and
- integration of population health research into basic genetics, clinical, cellular and biochemistry research.

The expanded Menzies Research Institute will continue to exploit one of its important advantages, that of Tasmania's unique population resource, which has been a key factor in the Institute's success over the past 18 years.

Professor Foote said: "Tasmania's stable population, excellent genealogical records and the generosity of the community make this state a unique and ideal place to conduct ground-breaking research on common and chronic health problems.

"With its enhanced capacity and the continued support of the community, the Institute will be able to break through on key health issues and influence clinical medicine and public health guidelines here in Tasmania, as well as nationally and globally," he said.

The Institute's expanded resources and new research themes have attracted interest from other researchers around the world.

Menzies Research Institute Chairman, Dr Dan Norton, revealed that the University of Tasmania (UTAS) has provided a \$5 million injection of funding, giving the Institute the opportunity to employ five new senior research fellows.

"We are very pleased that the University has recognised the Institute's potential to attract high quality researchers through

...continued over page

this significant investment. Our new research fellows will bring diverse skills and biomedical knowledge to Tasmania, and enable us to establish new links with the national and international research community," Dr Norton said.

The matter of how health science research is organised at UTAS has been a subject of consideration for several years. Since the appointment of the Menzies Research Institute's new Board and Director in 2005, the Faculty of Health Science (FHS) and the Menzies Research Institute have been working together to progress the new strategy.

Dr Norton said: "In addition to the five new research fellows, researchers from other parts of the University have been invited to express interest in becoming members of the Institute. Selection of these groups will take place in June."

"Furthermore, interviews for the new senior research fellows are complete, with formal announcements to be made in the coming months," he said.

Professor Foote says that he expects that the Institute will double in size in the next six to 12 months.

"The coming year will be an exciting time for the Menzies Research Institute, and all Tasmanians should be excited about what will emerge from this process," he said.

Complimenting the expansion of the Menzies Research Institute will be a new \$47.3 million building, with state of the art laboratories on a shared site with the FHS. Sharing with the FHS will enhance the Institute's links with the Faculty and help in delivering high quality undergraduate and postgraduate research education in Tasmania.

The new building will be located on the site of the current Menzies building, along with an adjacent parcel of land acquired by the University. Construction will begin in the near future and the new building is scheduled to be completed by mid 2008.



Construction of the new building will begin soon on the site of the current Menzies Building and the adjacent parcel of land

## New findings offer insight into prevention of osteoarthritis

A team from the Menzies Research Institute has discovered that knee cartilage defects, a common precursor to osteoarthritis, are associated with a decrease in the amount of cartilage which cushions the bones in a person's knee.

This relationship, reported for the first time in the scientific literature, is an exciting development, implying that it may be possible to reverse knee cartilage loss and delay the onset of Australia's most common chronic health problem.

Investigator Dr Changhai Ding said that defects in the knee cartilage are very common, and can be regarded as early markers of osteoarthritis risk.

Changes in cartilage defect scores were found to be associated with sex, age and body weight.

Dr Ding said: "During the two years this study took place, about one third of the subjects experienced a worsening of their cartilage defect score. In another third we saw an improvement in their score.



Dr Changhai Ding

"A worsening of cartilage defects was associated with female sex, increasing age and body mass index (BMI), and tibial bone size. An improvement in cartilage defect score had similar but reversed associations with these factors, including a decrease in body mass index," he said.

This result means that lifestyle changes

that may decrease knee cartilage defects, such as weight loss, have the potential to reverse knee cartilage damage in mid life.

"Healthy lifestyles such as not smoking, physical activity and normal body weight have a protective effect on knee structural change, and are likely to reduce the risk of knee osteoarthritis," Dr Ding said.

These results have recently been published in a prominent internal medicine journal *Archives of Internal Medicine* and the premier arthritis journal *Arthritis & Rheumatism*.

The study was funded by the Masonic Centenary Medical Research Foundation and the National Health and Medical Research Council.

Osteoarthritis is a common and costly disease, affecting more than 3.4 million Australians. It has been designated a National Health Priority due to its extent and its socioeconomic impacts.

Cost-effective interventions and continued research and development to

# Education the key for women at risk of osteoporosis



Dr Tania Winzenberg

**G**round-breaking research into osteoporosis at the Menzies Research Institute has provided encouraging news for those at risk of developing the debilitating bone condition.

Over the past three years Dr Tania Winzenberg has shown that improving education and feedback for target groups can lead directly to increased bone density and better preventative behaviour.

delay the onset of osteoarthritis offer potential for substantial reductions in the future projected costs and burden of the disease.



Magnetic resonance imaging allows researchers to identify knee cartilage defects

Dr Winzenberg's work was supported by the Dick Butfield Memorial Fellowship, funded by the Tasmanian Government and administered by the University of Tasmania.

Dr Winzenberg says that her research looked at ways of improving public health strategies and boosting the calcium intake of those at risk of developing osteoporosis.

"I measured the bone density of pre-menopausal Tasmanian women over a two year period. Women who were given information about osteoporosis and feedback about their low bone density showed a measurable increase in bone density over the course of the study," she said.

"What this shows is that educating people about the risks and giving them ongoing information about their own bone density clearly makes a difference," Dr Winzenberg added.

Women can help to prevent osteoporosis by increasing their dietary calcium intake or taking calcium supplements,

increasing physical activity and not smoking. Many women are surprised to learn that those who drink less than 300ml of milk per day may not meet the recommended dietary intake of calcium.

Health and Human Services Minister Lara Giddings said that Dr Winzenberg's work was good news for both Australian women and Tasmania's growing medical research sector.

"Almost two million Australians suffer from osteoporosis, with indirect costs to the community of an estimated \$5.5 billion," Ms Giddings said.

"The late Dr Dick Butfield was one of the State's best known health officials, and it is a fitting tribute that his name is associated with Tasmania's burgeoning medical research capacity," she said.

Five papers on Dr Winzenberg's research findings have already been published in international publications with two others on the way, and she has presented at 10 national and international conferences.

## Researcher wins prestigious NHMRC Fellowship

**D**r Tania Winzenberg has now been awarded a prestigious National Health and Medical Research Council (NHMRC) General Practice Training Fellowship. This funding, which is highly competitive, will allow her to remain in Tasmania and continue to develop her research career in primary health care.

Dr Winzenberg, a general practitioner, has been pursuing a career in medical research since completing her Fellowship of the Royal College of General Practitioners in 1995.

She completed a Master of Medical Science in Clinical Epidemiology by distance education in 2002, and commenced work at the Menzies Research Institute. She recently completed her PhD at the Institute, while also working as a Senior Research Fellow with the University's Department of Rural Health and the Discipline of General Practice.

In the medium term, Dr Winzenberg is looking forward to using the fellowship to build on her current skills and experience.

"My long-term goal is to have a career involving research relevant to and maybe set in general practice, with a particular emphasis on promoting lifestyle change and chronic disease prevention at all stages of life.

"I also aim to be able to support and lead an independent program of research in this area," she said.

The award of \$299,000 over four years will allow Dr Winzenberg to continue to develop expertise and a track record in research relevant to primary health care. The projects on which she will be working are in the important areas of osteoporosis and fracture prevention across all life stages, and childhood obesity.

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*The following donation of a family tree to assist research at the Institute is greatly appreciated:*

Mr J Archer

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Leaving a gift in your Will is a significant way you can support research at the



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It also provides us with an opportunity to discuss with you the area of research you would like to support. We would like to acknowledge your generosity in some way, but understand and respect any wish for anonymity.

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# Researchers looking for answers in the blood

In Australia, more than 6,000 cases of haematopoietic malignancies (HMs) or blood cancers, including leukaemia, lymphoma and myeloma, are diagnosed each year. Leukaemia is the most common form of cancer in children and the second largest cause of death in young people under 15 years.

Therapies for HMs have improved over the years and survival rates have steadily increased. However, treatments such as radiotherapy, chemotherapy and bone marrow transplantation are sometimes associated with serious side effects and are not always successful.

The Menzies Research Institute is working to improve our understanding of the causes of these cancers, with the view to significantly improving available tools for diagnosis, treatment and prevention of disease.

The Tasmanian Genetics Study of Haematopoietic Malignancies aims to identify genes that predispose individuals to developing leukaemia and



other HMs. Researchers will examine the genetic profiles of affected and unaffected individuals from families where there are multiple family members affected with HMs. This approach gives us a good opportunity to discover genes that influence the development of blood cancers.

Whilst the outcomes of this project will most likely be of long term benefit rather than short term, the knowledge gained from discovering the genes underlying blood cancers has the potential to benefit people worldwide who may develop these diseases in the future.

This research will assist in understanding the process of development of disease, reveal new strategies for treatment and the development of treatment regimes. The pilot study has been funded by a grant from the Perpetual Trustees.

## Quality and quantity of grants a first for Menzies

The bulk of the Menzies Research Institute's research funding comes from competitive grants awarded by government and philanthropic organisations. Researchers at the Institute have spent many long hours over the past five months writing submissions for the 2007 round of National Health and Medical Research Council (NHMRC) funding.

The NHMRC awards annual grants to support Australia's world class health and medical research. This year the Menzies Research Institute has submitted eight grant applications, which is a significant achievement and a record number of submissions for the Institute.

An emphasis this year has been on improving the quality of grant applications submitted to the NHMRC, with each grant undergoing a rigorous internal quality assurance process.

Three of the grant applications are concerned with musculoskeletal research, in the areas of bone density

and fracture risk during the pubertal years and the effects of bone density feedback to mothers on children's calcium intake and physical activity.

Another project application complements the Institute's Childhood Determinants of Adult Health study, proposing to examine effects of fatness and fitness on heart disease, diabetes and respiratory disease risk from childhood to adulthood.

Researchers submitting a grant application titled "Bilateral movement therapy in post-stroke hemiparesis" aim to study movement-based therapies which are currently used to promote recovery from stroke in order to aid in their development and refinement. The Institute's geneticists have submitted proposals which would expand their research into familial prostate cancer and haematological cancers in Tasmania.

The Director of the Menzies Research Institute, Professor Simon Foote, in partnership with researchers from the

Walter and Eliza Hall Institute and the University's Faculty of Law, has overseen the submission of a program grant which would see a significant expansion of genetic research capability in Tasmania.

The program aims to examine the Australian, in particular the Tasmanian population, to discover genes for complex genetic diseases including MS, leukaemia and lymphomas, other autoimmune and degenerative musculoskeletal diseases. A group of statisticians, molecular geneticists, clinicians and legal and ethical experts will collaborate in a unique Australian program to collect and analyse large Australian and Tasmanian pedigrees.

Grant applications will now undergo a process of evaluation and ranking by expert committees. Competition for NHMRC grant funding is strong - in the funding round for 2006, only two grants were awarded to Tasmanian research groups, both at the Menzies Research Institute. The Institute expects to be notified of the outcome of applications in November this year.

## Publications

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

*\*Ding C. Does diclofenac induce accelerated progression of hip and knee radiographic osteoarthritis?* Comment on the article by Reijman et al. *Arthritis and Rheumatism*. 2006;54(3):1027.

Nonsteroidal antiinflammatory drugs (NSAIDs) are widely used for pain relief in subjects with osteoarthritis (OA). The effect that these agents have on the progression of OA remains controversial. Recently, Reijman et al reported that in an observational study, subjects who were receiving a particular drug, diclofenac, for more than 180 days had a 2.4-fold increased risk of progression of hip radiographic OA and a 3.2-fold increased risk of knee radiographic OA, compared with subjects who were considered short-term users. While the associations between NSAID use and the progression of radiographic OA were adjusted for age, sex, body mass index, baseline radiographic OA, followup time, and defined daily dosage, they were not adjusted for baseline hip or knee pain, which is a very important confounder. Instead, the authors analyzed the associations only in subjects with prevalent hip and knee pain at baseline, which were also not adjusted for the severity of pain. This could lead to false-positive results because baseline joint pain is a predictor of joint space narrowing and cartilage loss, and it is possible that joint pain is more severe and more prevalent in subjects with long-time NSAID use; thus, the progression of radiographic OA is increased in this

group. The author argues that findings presented by Reijman and colleagues would be more convincing if those authors reported the results in subjects without baseline joint pain, rather than in all subjects or only in subjects with baseline joint pain.

*\*Ding C, Cicuttini F, Scott F, Cooley H, \*Boon C, \*Jones G. Natural history of knee cartilage defects and factors influencing progression and regression.* *Archives of Internal Medicine*. 2006;166(6):651-658.

Refer to article on page 2.

*Phan TG, \*Srikanth V, Reutens DC. Therapeutic implications of routine echocardiography in acute ischemic stroke.* Comment on the article by Abreu et al. *Stroke*. 2006;37(1):11.

The article by de Abreu et al on the topic of identifying the stroke mechanism in patients with sinus rhythm raised two important issues: the need to identify the mechanisms of stroke, and therapy of patients with abnormal cardiac echo findings. The authors agreed that echocardiography can assist in clarifying the mechanism of ischemic stroke. However, they disputed the claim that echocardiography is an essential test in all ischemic stroke patients including those in sinus rhythm. The need for routine echocardiography in ischemic stroke needs to be supported by strong evidence for a benefit from therapy, namely prophylactic anticoagulation. In summary, although de Abreu et al have contributed to highlighting potential mechanisms of stroke, the authors felt that their inferences regarding therapy in patients with abnormal echocardiographic findings are not justified at present. This is an important issue because the routine ordering of

tests can result in an astronomical rise in the cost of caring for stroke patients without perceived benefit.

*\*Winzenberg T, Oldenburg B, Riley M, Frendin S, \*Jones G. The effect on behaviour and bone mineral density of individualised bone mineral density feedback and educational interventions in premenopausal women.* *BMC Public Health*.

Refer to article on page 3.

## Grants

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

**National Health and Medical Research Council – Program Grant**

*\*Foote SJ, Speed T, Smyth G, Scott H. Genetic analysis of complex disease processes. \$1,620,000* (successful transfer from Walter and Eliza Hall Institute)

**National Heart Foundation Travel Grant**  
*\*Magnussen, C*

**Cardiovascular risk factors in childhood and carotid artery intima-media thickness in adulthood: The Childhood Determinants of Adult Health Study. \$1,000**

**National Health and Medical Research Council – Fellowship**

*\*Sanderson K. Public Health (Australia) Fellowship. \$117,688* (successful transfer from Queensland University of Technology)

**MS Society of Tasmania**

*\*van der Meij, I*  
**The AusImmune Study. \$25,000**

*\*Menzies researchers.*

## Volunteer appreciation

The Menzies Research Institute has an active volunteer program with more than 70 volunteers donating their time and skills in the last 12 months. Volunteers are highly valued members of the team at the Institute. We are lucky to have many longstanding volunteers who have been contributing their time for many years.

The contributions of volunteers were celebrated with a special gathering during National Volunteer Week in May. Board Chairman Dr Dan Norton and Lord Mayor of Hobart Alderman Rob Valentine were special guests at the function. Volunteers and staff were entertained by the talented Collegiate Singers and string quartet, and volunteers were presented with a Tasmanian native plant in acknowledgement of their contributions. Thanks to the Cascade Beverage Company, 4 Lunch and Plants of Tasmania for their support of this event.



*Volunteers Ian Crouch, Vicki Wagstaff and Anita Clarkson enjoy the entertainment at the Volunteer Thank You Function*