



Immune response gives devil researchers hope

Research performed over a number of years at Menzies and published recently has shown that, under the right conditions, healthy Tasmanian devils immunised against the Devil Facial Tumour Disease (DFTD) can produce an immune response against the cancer.

The research has been published in the international journal *Vaccine*. Menzies' Professor Greg Woods said it provided encouraging evidence for potential development of a vaccine.

Working in the laboratory at Menzies, Professor Woods' team used dead DFTD cells to trigger an immune response.



Dr Alex Kreiss, lead author of the paper published in *Vaccine*, prepares to check a devil for signs of DFTD.

"We were able to induce this immune response by growing a large number of cells in the laboratory. The cells were shattered into pieces and mixed with a substance to induce inflammation when injected. This activated the devil's immune system to produce antibodies against the cancer cells," he said.

Dr Alex Kreiss, first author on the paper, acknowledged that a vaccine was still a long way off.

"Developing and testing a vaccine is a long and painstaking process. One step can take years to test so we still have a long way to go."

The work has helped to lay the foundations for the Wild Devil Recovery Project, a collaboration between Menzies and the Tasmanian Government's Save the Devil Program. Under this project 14 healthy devils will be injected before being released into the wild. They will be monitored for two years after their release.

One of the greatest hurdles scientists faced in finding a vaccine against DFTD was access to enough healthy captive devils. The Wild Devil Recovery Project aims, first and foremost, to build up the population of healthy devils in the wild. It provides a perfect opportunity to test more devils and determine their response.

We walk the talk

At Menzies we are dedicated to living a healthy lifestyle ourselves, as well as promoting it to the community. On February 15, over 40 Menzies students, staff and family members joined Run the Bridge, with participants in the 2km, 5km and 10km divisions.

We also had 12 hardy competitors who, undeterred by a bit of mud, dived boots and all into the Raw Challenge on February 21. Menzies staff are also active in Ride to Work Day and the Dragons Abreast Corporate Race Day. Watch out at lunchtime in the Hobart CBD – you might see the Menzies' walking, running or cycling group in action. Some of the Run the Bridge contestants are pictured here.



Director's message



Professor Tom Marwick.

Welcome to the autumn edition of the Bulletin.

We start each year at Menzies by immersing ourselves in the writing of research grant applications. These require a significant amount of research in themselves – they are long and meticulous, with every stage of the proposed project explained and justified and every cost foreshadowed.

The reality for medical researchers is that each year it becomes harder to win competitive funding. Australia-wide, only about 14% of all medical research grant applications are approved. At Menzies we are holding our own in this – 2014 was one of our most successful years yet in terms of grant income – but this is no easy ride. This is why you, our supporters, are so invaluable. We will continue to throw everything we have at winning the competitive funding that means we can make a difference locally and globally, but your incredible contribution outside that process helps to keep the wheels turning when the going gets tough.

Quite simply, we couldn't do it without you.

Regards,



Professor Tom Marwick
Director

Foundation to raise money for Parkinson's



The Governor of Tasmania, Her Excellency Professor the Honourable Kate Warner AM, has launched a new foundation to raise money for research into Parkinson's disease.

Menzies hosted the launch of the Fred Binns Parkinson's Foundation, with 70 guests, at the University of Tasmania's Medical Science Precinct on March 4.

The foundation is named after a Hobart orthopaedic surgeon who died in 2013. Mr Binns (pictured) was diagnosed with Parkinson's in 2006. The foundation was set up by his widow, Mrs Di Binns, with Dr Cliff Kelland, Simon Kelland and Dr Frank Nicklason.

Simon Kelland said the aim of the foundation was to raise and manage a capital fund, the earnings from which will be directed towards funding research into the causes and treatment of Parkinson's disease in Australia.

The leader of the Menzies Neurodegenerative Diseases/Brain Injury research theme, Associate Professor Tracey Dickson, said funding from philanthropic sources was crucial if progress was to be made towards understanding the causes of Parkinson's disease.

It's an honour

The 2015 Honours Scholarship Program is supporting 13 students who are beginning their Honours research project at Menzies. The Morrell Family Trust Scholarship in Medical Research 2015 is one such scholarship.

Leon and Susan Morrell (pictured) have been supporters of the Menzies Institute for Medical Research for many years, each year offering a student the opportunity to undertake an honours research project in any area of research undertaken at Menzies. When asked why they donate to Menzies, Leon said, "Susan and I have always taken an interest in medical research and thought we would like to put something back in for what we have taken out over the years."

This year Loic Auderset was the successful recipient. Loic's honours project is being carried out in the Glial Research Group under the supervision of Dr Kaylene Young. Glia is a broad



category of cells that includes neural stem cells, oligodendrocyte progenitor cells (OPCs), oligodendrocytes, astrocytes and microglia. The research team studies each of these cell types, as they aim to understand the processes that regulate cell generation and regeneration in the adult central nervous system.

"I am forever grateful to Leon and Susan for this opportunity," he said.

Ten of the Best

Menzies had a record year for research published in scholarly journals in 2014, and in February the Institute awarded the Ten of the Best to recognise outstanding achievement.

The Vice Chancellor of the University of Tasmania, Professor Peter Rathjen, came to Menzies on February 19 to announce the Ten of the Best winners and present the awards, which recognise outstanding research achievement evidenced through publication in a scholarly journal across the categories of laboratory research, clinical research and population health research.

He said the theme of excellence was very important to the University and it was important to celebrate that excellence. Universities were about creating opportunities to go anywhere in the world, and it was research excellence that underpinned those opportunities.

One of the 10 awards is also named as the Best of the Best. For 2014 that award went to Associate Professor Kathryn Burdon, for a paper in the prestigious *Nature Genetics* journal. The paper, written in collaboration with colleagues at Flinders University in Adelaide, identified the genes that are associated with Primary Open Angle Glaucoma.

The Professional Staff award for 2014 went to Larissa Bartlett for her outstanding contribution to Menzies in the role of Community Engagement Coordinator.



The University of Tasmania Vice Chancellor, Professor Peter Rathjen, congratulates Associate Professor Kathryn Burdon on her "Best of the Best" award for academic papers published by Menzies researchers in 2014.

The Ten of the Best research papers for 2014 are:

- Associate Professor Kathryn Burdon: "Common variants near ABCA1, AFAP1 and GMDS confer risk of primary open-angle glaucoma" published in *Nature Genetics*
- Dr Claire Dickson: "Structure of the Hemoglobin-IsoD Complex Reveals the Molecular Basis of Iron Capture by *Staphylococcus aureus*" published in *The Journal of Biological Chemistry* (this paper has also been named as one of the 21 best papers from the 3000 papers published in this journal in 2014)
- Dr Terry Pinfold: "Mouse Model of Devil Facial Tumour Disease Establishes That an Effective Immune Response Can be Generated Against the Cancer Cells" published in *Frontiers in Immunology*
- Professor Wojciech Kosmala: "Exercise Limitation Associated with Asymptomatic Left Ventricular Impairment. Analogy With Stage B Heart Failure" published in *Journal of the American College of Cardiology*
- Xia Wang: "Association between MRI-detected knee joint regional effusion-synovitis and structural changes in older adults: a cohort study" published in *Annals of the Rheumatic Diseases*
- Pan Feng: "The offspring of people with a total knee replacement for severe primary knee osteoarthritis have a higher risk of worsening knee pain over 8 years" published in *Annals of the Rheumatic Diseases*
- Dr Seana Gall: "Exposure to parental smoking in childhood or adolescence is associated with increased carotid intima-media thickness in young adults: Evidence from the Cardiovascular Risk in Young Finns Study and the Childhood Determinants of Adult Health Study" published in the *European Heart Journal*
- Professor Faming Pan and Dr Weiyu Han: "A longitudinal study of the association between infrapatellar fat pad maximal area and changes in knee symptoms and structure in older adults" published in *Annals of the Rheumatic Diseases*
- Siyan Baxter: "The relationship between return on investment and quality of study methodology in workplace health promotion programs" published in *American Journal of Health Promotion*
- Dr Kylie Smith: "Longitudinal associations between fish consumption and depression in young adults" published in the *American Journal of Epidemiology*

125 years for the University of Tasmania

This year the University of Tasmania is celebrating its 125th year. As part of the celebrations, the University is looking for 125 stories about its community and life, its academic and research achievements and its roles and achievements within the state, the nation and around the world. The stories will be included in a dedicated website, which will also include photos, video and memorabilia about the University.

If you have stories about the University's development and achievements, its connections with local communities, Tasmania and the world, or about its people and their experiences, please contact the 125 Project team on +61 3 6226 2842 or email 125@utas.edu.au.

As part of its 125 Anniversary celebrations, the University of Tasmania is inviting alumni family globally to come back home as part of our inaugural Welcome Home Week.

Welcome Home Week.

Save the Date! 29 August – 5 September

Over this week a series of special events, networking opportunities, sporting and cultural activities and reunions will be held for our alumni to showcase and celebrate the extraordinary achievements of our graduates and the University of Tasmania.

Menzies Advancement Team

With 2015 well under way, we would like to take this opportunity to introduce the Advancement Team to those of you who have not yet had the chance to meet them at an event or community talk.

The Advancement Team is responsible for community engagement and fundraising activities at Menzies. The Tasmanian community is very important to Menzies and we are most grateful for the support and engagement we receive. In 2014, over \$1 million was received in donations towards our research and a further \$1.67 million through bequests.

We have many ways in which our community can support Menzies. You can make a donation, become an Everyday Angel making monthly donations, pledge a bequest in your Will, support a student through a scholarship, support a researcher through a fellowship, volunteer or organise a community fundraiser. The Advancement Team is a great first point of contact, however you would like to be involved!

Teisha Archer, the **Institute Advancement Manager**, leads the team and is the primary public contact for questions about leaving a bequest or making a major gift to Menzies.

Samantha Jackson, the **Advancement Coordinator**, is a new face for 2015. Sam is your primary contact for community talks and tours as well as for information about supporting scholarships at Menzies.



Helping you to support medical research at Menzies. From left: Laura Thompson, Larissa Bartlett, Teisha Archer and Samantha Jackson.

Larissa Bartlett, the **Community Engagement Coordinator**, has returned to study and is undertaking an Honours project at Menzies. Larissa remains part of the team, albeit only a few hours per week, supporting our community engagement activities.

Laura Thompson continues as our **Community Engagement Officer**. Laura is the primary contact for our Everyday Angels, event information and general enquiries.

We also work closely with **Miranda Harman**, who you will see at Menzies public talks. Miranda supports the Advancement Team in numerous ways in her role as Menzies Marketing and Communications Manager.

If you would like to know more about how you can support Menzies, make contact today!

Thank you to our valued supporters

Thank you to all of our donors for your ongoing financial support and commitment to Menzies.

Listed below are new individual and community supporters since our last Bulletin.

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Listed below are our Everyday Angels – our supporters who make regular gifts to Menzies.

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Researcher profile: Associate Professor Alex Hewitt

You have recently arrived at Menzies ... Where have you come from?

I have returned home from a 10-year stint on the mainland. After finishing Ophthalmology training in Melbourne, I undertook subspecialty training in genetic eye diseases at the Lions Eye Institute in Perth and then established a genetics research team at the Centre for Eye Research Australia, University of Melbourne.

What is the current focus of your research?

My research is directed at understanding the molecular mechanisms of blinding eye diseases. By understanding how these diseases develop we will be able to establish new therapies and screening programs. Most of our effort is currently directed at using patient-specific "induced pluripotent stem cells" and gene editing to achieve these aims. Using this new technology it is now possible to take an adult cell (such as a skin cell), turn it into an "induced pluripotent stem cell" and then from that stem cell generate different tissue

- such as the nerve or retinal tissues at the back of the eye. This breakthrough is revolutionary as it is now possible to study the cells at the back of your eye without actually needing to take a sample from your eye. Using cells from people who have known disease-causing genetic changes, we have begun correcting these mutations.

What are some of the recent findings from your work?

We have identified a number of genetic regions that are important in determining variation in the optic nerve and also confer risk for developing glaucoma. Ongoing work to understand how these genetic variations actually cause disease is now required.

What is the biggest challenge in your area of research?

The tools for medical research have never been sharper, however, the research coffers have never been so empty. The biggest challenge for our work is to ensure that we pair the best, cutting-edge



technology to understand the most appropriate disease.

What is the most interesting aspect of your work?

Reviewing a patient in my clinic, who has a currently untreatable blinding condition, remains one of the most humbling aspects of my work. I am most interested in the prospect of developing a way to halt or prevent inherited blinding diseases.

What do you enjoy doing in your spare time?

I enjoy exploring the bush surrounding our house with my kids, who always manage to find a new blackberry bush to get stuck in.

Participating in Menzies research

The scope of Menzies research is broad, and not all of our work requires participation from volunteers. However the studies listed below are looking for participants now. Studies are carefully designed and therefore research participants need to meet specific criteria to be eligible. Check our website or contact the study coordinator if you are interested in finding out more about the studies below.

Vitamin D for correcting deficiency in adolescents: a general practice-based RCT (GP VitD)

More information: menzies.utas.edu.au/GP_VitD
Contact: Trish Lewis on 6226 7776 or email lewis@utas.edu.au

TWINK Study: Tasmanian Women Iodine Nutrition Knowledge Study

More information: menzies.utas.edu.au/TWINK_Study
Contact: Therese Koning on 6226 4706 or email therese.koning@utas.edu.au

Plantar Heel Pain Study (PHEEPS)

This is a study into persistent heel pain to try to better understand the causes and course of this often frustrating condition. Contact: Jason Rogers on 0418 382 906

Coronary Artery calcium score: Use guide management of Hereditary Coronary Artery Disease (CAUGHT-CAD)

This study is looking at prevention of coronary artery disease in people who have a family history of this illness.
www.menzies.utas.edu.au/CAUGHT-CAD
Contact: Kristyn Whitmore on 6226-4235 or email Kristyn.whitmore@utas.edu.au

TAS-ELF (TASmanian Study of Echocardiographic detection of Left ventricular dysfunction) study

This study is examining the preconditions for heart disease in people aged between 65 and 80.
More information: www.menzies.utas.edu.au/TAS-ELF
Contact: Hannah Robert-Tissot on 6226 4268 or email Hannah.RobertTissot@utas.edu.au

Cognition and type 2 Diabetes in Older Tasmanians – a study of vascular mechanisms (CDOT-BP)

This study is recruiting anyone 55 years or older with type 2 diabetes.
More information: www.menzies.utas.edu.au/CDOT
Contact: Kate Butorac or Kate Probert.
Email Diabetes.BP@utas.edu.au

Modic trial: Do osteoporosis therapies work for back pain?

More information: www.menzies.utas.edu.au/Modic_trial
Contact: Kathy Buttigieg on 6226 6909 or email Kathy.Buttigieg@utas.edu.au

Tasmania can lead the world to create a Tobacco-Free Generation



Tobacco is a product that is causing immense damage to the economic, physical and social wellbeing of Tasmania.

Despite consistent health warnings over a number of decades, smoking remains the second greatest cause of death and disability worldwide, and in Tasmania 21% of adults are daily smokers, compared to a national average of 16%. In some groups in Tasmania smoking levels are much higher – 37% of Tasmanian males aged 25 to 44 years smoke daily, for example.

For this reason the Menzies Institute for Medical Research has asked all State Members of Parliament to support the Tobacco-Free Generation Amendment Bill.

The amendment, a world-first if passed, will see the gradual phasing out of the sale of tobacco in Tasmania, as the age at which it can be purchased will rise.

Smokers die, on average, 10 years earlier than non-smokers and up to one half of smokers will die due to their habit. The consequences are not only mortality but also morbidity and impaired quality of life.

Current strategies have been unsuccessful in preventing the exposure of vulnerable youngsters to tobacco. This amendment will not only prevent young people from easily obtaining cigarettes but, perhaps more importantly, it will continue to 'denormalise' smoking. The age of 18 will no longer provide a "rite of passage" to smoking, and no longer provide a source of tacit advertising by tobacco retailers.

The amendment will not make it illegal to smoke but will make it harder for young people to obtain cigarettes. It will send a clear message that smoking is unacceptable. Menzies is strongly urging all State MPs to support this amendment.

Menzies and Rotary working together

Menzies is delighted to have signed a Memorandum of Understanding (MoU) with Rotary District 9830 (Tasmania) that will see the two organisations working together for medical research.

The relationship dates back to Rotary's support of Menzies' landmark study into the contribution of babies' sleeping position to Sudden Infant Death Syndrome (SIDS). After the recommendation that babies be laid on their backs to sleep, the death rate from SIDS in Australia fell from 507 in 1990 to 139 in 1998, and similarly in a number of other countries.

Last year, Menzies research benefited from Rotary's assistance with the rollout of a significant community health study, the Tasmanian Study of Echocardiographic detection of Left ventricular dysfunction (TAS-ELF), which looks at heart health and disease progression.

The Menzies Director, Professor Tom Marwick, said Rotary had been incredibly helpful in practical ways, such as participant recruitment, fostering understanding in the community and helping to find venues for clinics in regional areas.

Rotary will continue to help roll out TAS-ELF in regional centres until the study's conclusion in 2016. It will also assist with fundraising for the landmark Childhood Determinants of Adult Health (CDAH) study, which is led by Professor Alison Venn.

CDAH is a unique nationwide longitudinal study looking at the links between childhood lifestyle, health and physical characteristics and adult disease risk. In 2014, the CDAH team began a 30-year follow-up of study participants who were first measured as children aged between seven and 15 years old.

Rotary will also assist in the SUCCOUR study (Strain surveillance during Chemotherapy for improving Cardiovascular outcomes). With cardiac disease becoming the main cause of death and disability in cancer survivors, this study is investigating adding cardiac protection medication to selected patients undergoing chemotherapy.

Professor Marwick said practical community partnerships could yield wonderful results for research.

"This MoU is a great example of the support we have from the Tasmanian community. This support assists greater research output and then translation into clinical practice."



Teisha Archer, who is the Menzies Advancement Manager, with Rotary District Governor Ken Moore, Menzies Director Professor Tom Marwick and CDAH leader and Menzies Deputy Director Professor Alison Venn, at the signing of the Memorandum of Understanding between Menzies and Rotary.

Menzies Institute for Medical Research
University of Tasmania

17 Liverpool Street, Hobart,
Tasmania 7000
Phone: 03 6226 7700
menzies.utas.edu.au

More than Flowers



In Memoriam

December 2014-
February 2015

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If you would like more information please
contact Teisha Archer on 03 6226 4236
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