



A MESSAGE FROM THE DIRECTOR, PROF GRAHAM LE GROS

## 2011: a year of challenge

*Every year brings its own set of challenges. Few of us could have imagined back in January how significant these would be.*

Recent events in Christchurch and Japan have really brought home the vulnerability of human health and wellbeing to environmental forces. Our thoughts are very much with those who have been directly affected, especially our friends at AMI Insurance who have been such strong supporters over the years. We wish everyone in the Garden City our best regards as they start to rebuild their lives.

It is clear that we, along with other New Zealanders, will face economic challenges in the year ahead with increasing pressure on businesses and families to balance budgets. For the Malaghan Institute, we also face greater competi-

tion for both research funding and the philanthropic dollar, as so many worthy causes demand government intervention and public attention.

In this issue of Scope, we report on this challenge with the sad news that our Breast Cancer Vaccine project has been temporarily suspended due to the reduction of funding for reasons beyond anyone's control. Although staff accept it is a privilege to do medical research, the inherent risks and insecurity of the funding has been brought home to us and the staff involved.

However, the pursuit of medical knowledge and our ability to combat disease must be able to stand the test of these turbulent times. This is the particular challenge that we at the Malaghan Institute are confronting this year: to deliver on the promise of our research programmes and ensure that short-term fluctuations in the world around us do not affect our ability to improve the health and lives of New Zealanders over time. (CONTINUES OVER PAGE)

OUR RESEARCH

**Hooked on worms**

GLOBAL VACCINE

AMI ROUND THE BAYS

**Running for research**

SHEDDING LAB COATS FOR SNEAKERS

OUR TEAM

**Bright young stars**

# Introducing the new Scope

*Over the past 20 years, the Malaghan Institute's "Scope" newsletter has been a vitally important way to update everyone on the Institute's research, our staff and our supporters.*

Its articles have been wide ranging and informative, from publications in international journals of the latest research findings to the remarkable fundraising efforts of those keen to get behind the cutting-edge work of the Malaghan scientists. As the old saying goes "if it ain't broke, don't fix it" and in fact not a lot has changed over time – a tweaking of the "Scope" design, a change from two to three editions a year to accommodate the number of stories needing to be told and – as expected with the electronic world we now live in

– an 'e' version for readers preferring to receive their Scope by email. The new Malaghan brand provides the opportunity to refresh Scope once again. However, while the look of the newsletter has changed to reflect the new colours and design, there is still a lot of the familiar content. We will be continuing to bring you updates on the Institute's research programmes and the latest news, as well as including new features such as our scientist profiles. We are sure that you will enjoy your new-look Scope and look forward to staying in touch for another 20 years.



The evolution of the Malaghan Institute's Scope newsletter over the past 20 years.

## A MESSAGE FROM THE DIRECTOR

# 2011: a year of challenge (CONTINUED FROM FRONT PAGE)

Good science that can deliver significant results requires a steady ship. I, and all my staff, are absolutely determined to meet these challenges. I know that, no matter what issues are assailing us at any time, New Zealanders recognise and value the critical importance of medical research. I will do all I can to make the message of the Malaghan Institute clear and known, so that those who wish to can identify us and support our efforts.

As part of improving our communication to you our supporters we have refreshed the colours and brand we use to identify the Institute in Scope newsletters and correspondence. These changes aim to make us stand out from the crowd, express how we seek to bring together old and new values, but still reflect our commitment to research leadership, passion and our sincerity in everything that we do.

Although it is trite to say that every challenge represents an opportunity, this must be our philosophy. What is research if it is not ambitious? Regardless of the changes in the world around us, our mission remains constant and our determination to succeed undiminished.

  
Prof Graham Le Gros

# Hooked on worms

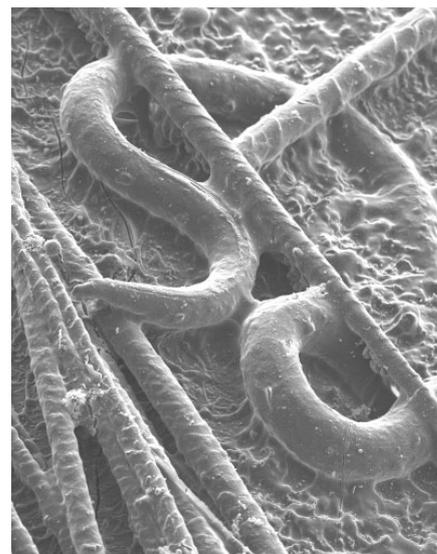
*Prof Graham Le Gros says that his scientific interests have been influenced by having lived in the tropics as a child, where he experienced first hand the debilitating effects of worm infection.*

In addition to its higher profile research activities, the Malaghan Institute also has an innovative parasitology research programme headed by Prof Graham Le Gros and run in parallel to his asthma and allergy research. The Health Research Council funded parasitology research is dedicated to the development of a vaccine against human hookworm infection, one of the great neglected tropical diseases that keeps over a billion people in a state of poor health. Parasitology has a natural link with asthma and allergy because they both use the same Th2 immune response pathways.

Since vaccination is currently viewed as the only long-term solution to preventing human hookworm infection, Prof Le Gros' research team has

been working hard to identify putative targets both for vaccine design and for testing the vaccine's effectiveness in the field. To do this they are studying immune responses to a harmless rodent model of human hookworm called *Nippostrongylus brasiliensis* (see picture) and have recently had some of their groundbreaking work published in the prestigious international scientific Journal of Immunology. Their discovery, that specialised immune cells called basophils are the major producers of a protein that regulates the Th2 immune responses to parasitic worms, is an important development that will ultimately aid in vaccine design.

This work represents a significant contribution to the global vaccine initiative against human hookworm that New Zealanders can be proud of.



A high magnification image of the *Nippostrongylus brasiliensis* worm as it crawls through the hairs on skin. This image is courtesy of Dr Peter Ferguson from the Malaghan Institute and David Flynn from the Electron Microscopy Unit at Victoria University of Wellington.

## THE SCIENTIST BEHIND THE RESEARCH



Director of the Malaghan Institute since 1994 and Head of the Institute's Asthma & Allergic Diseases research group, Prof Graham Le Gros is one of New Zealand's most well known and respected research scientists. His scientific career and specific interest in immunology began while earning his PhD at Auckland University. "As a PhD student I was encouraged by my supervisor Dr Jim Watson to think big, to make my own hypotheses and to work very hard" says Prof Le Gros. "Allied with the scientific resources available at that time I was able to gain tremendous insight into how basic immunological processes worked." Prof Le Gros has been able to apply

these insights to his later career roles in the pharmaceutical industry, academia and research.

He is a member of several national science advisory committees and is a Professor of the Department of Biological Sciences at Victoria University of Wellington. His highly successful career has been acknowledged with numerous accolades, most recently a medal from the Wellington Medical Research Foundation. This award was in recognition of his outstanding work within the field of immunology and also of the pioneering research that has been conducted at the Malaghan Institute under his leadership over the last 17 years.

# Three bright young stars

*For New Zealand to remain a world leader in biomedical research we require a continuous flow of new, well-trained scientists. Students who complete their postgraduate study at the Malaghan Institute are sought after globally because of the extensive and comprehensive immunology training they receive. Recently we welcomed three talented young scientists.*

## Ryan Kyle

Ryan grew up in Napier before moving to Wellington in 2007 to complete a Bachelor of Biomedical Science in Molecular Pathology at Victoria University. He became interested in immunology research after working with Dr Anne La Flamme on his Honours project and felt that the Malaghan was the perfect place to continue his interest. Ryan's PhD research will examine "Th2 cell function and fate during immune responses", under Prof Graham Le Gros' supervision. In his spare time Ryan makes the most of the Wellington music scene and is looking forward to getting back into kayaking, previously being an avid canoe-polo player.

## Naomi Baker

Originally from Hamilton, Naomi Baker worked as a Medical Laboratory Scientist at Wellington Hospital before starting her PhD research at the Malaghan Institute. To support Naomi in her PhD studies, she has been awarded a scholarship from the Rotary Club of Wellington. A snowboarding and indoor soccer enthusiast, Naomi said she chose the Malaghan for her studies because of its "reputation for high calibre research and commitment to the community." For the next three years Naomi will work with Prof Franca Ronchese on the development of a targeted immunotherapy for the treatment of allergic airway disease.

## Alanna Cameron

Masters student Alanna Cameron's first contact with the Malaghan Institute was in 2006 when she collected for the annual Lollipop Appeal with fellow students from Queen Margaret's College. Alanna says she has always been interested in disease research and came to the Malaghan after completing her Bachelor of Biomedical Science in Molecular Pathology at Victoria University. When not in the lab studying the "immunological effects of highly targeted anticancer drugs" with Prof Mike Berridge, Alanna says she enjoys "spending time with friends and family, reading, shopping and doing anything that involves the great outdoors!"



Ryan

Naomi

Alanna

# Shedding lab coats for sneakers

*Over 60 runners, joggers and walkers joined up to be part of the Malaghan Institute's inaugural RUN FOR RESEARCH team at this year's AMI Round the Bays in Wellington.*

It was an eye-catching sight at the start of the event with everyone proudly wearing their specially made T-shirts (thanks to AMI Insurance's support) with the very appropriate words "Every Step Brings us Closer to a Cure". Our thanks to everyone who took part and all the wonderful donors, both here in New Zealand and overseas, who gave to support our research. What a lot of people did not realise was how many in that group were actually scientists working at the Malaghan Institute. Not only were they prepared to "lace up" and take part in the event to complete the 7.4kms

around Oriental Bay but they also raised funds towards their own research. From Prof Graham Le Gros, the Institute's Director to relative "newbies" on the staff, they were all prepared to make a commitment in addition to the long hours that they already spend in the labs. Everyone on the team had a story to share at the finishing line – for some it was about how fast they could get there, while others had more of a

survival experience. But all are to be congratulated on their superb efforts which raised over \$20,000 for the Institute. The Malaghan scientists have set the bar high and challenge everyone interested in their work to get behind the event next year – either joining the RUN FOR RESEARCH team or supporting others with a donation.

Malaghan staff training for the big day



UPDATE

# Breast Cancer Vaccine on hold

*Christchurch earthquakes have had unexpected consequences for research into a potential breast cancer vaccine.*

This significant project is being supported by funds from the Breast Cancer Research Trust. Headed by Prof Mike Berridge, the first phase of the work took place over the past 18 months. However, due to the economic down-

turn resulting from factors such as the quakes, the Trust has had to make financial adjustments resulting in the need to temporarily suspend the second stage.

The Malaghan Institute's breast cancer project aims to develop vaccination strategies that stimulate a patient's immune cells to seek and destroy cells responsible for tumour initiation and spread. A preclinical model of metastatic breast cancer has been established

that shows a targeted vaccine approach can successfully block the cancer spread. However, the highly complex research cannot be undertaken without the necessary funding in place. It remains a priority for both the Institute and the Trust to continue as soon as possible, although no date is currently set. With funds available, the plan is to explore anti-cancer immune responses in breast cancer patients and initiate a therapeutic vaccination trial.

# News under the microscope



## Kylie is our new Hugh Green Trust Fellow

Thanks to the support of the Hugh Green Charitable Trust, Kylie Price is now our new Hugh Green Flow Cytometry Fellow. In recognition of the pivotal importance of our state-of-the-art Flow Cytometry Suite, the Trust has generously donated \$100,000 towards this work. Kylie and Prof Graham Le Gros travelled to Auckland in February to meet members of the Hugh Green family, including Hugh himself (pictured above with Kylie).

## Wakefield Health steps up at Round the Bays

We were thrilled to receive a cheque from Wakefield Health Group representing an amount donated for every participant that they had in their own corporate team for the Wellington AMI Round the Bays this year. Our thanks as well go to staff from Just Paterson and PowerhousePeople who joined in with our own RUN FOR RESEARCH team.



## Generous donation received from the NZ LAM Trust

Our research into LAM, a rare and invariably fatal lung disease continues thanks to a further \$40,000 donation from the NZ LAM Trust. Prof Mike Berridge and Dr James Baty are exploring the feasibility of treating LAM using the immunological therapies currently being developed for treating cancer. Pictured: NZ LAM Trust Director, Bronwyn Gray, presents the cheque to Prof Mike Berridge.



## 'Lollipop Appeal' Farewell

After many years of co-ordinating a street appeal in Wellington – affectionately known by many as the “Lollipop Appeal” - the decision was made that 2010 was the last one. Our sincere thanks go to the Wellington Friends and the many terrific volunteers that took part over the years.

## The Great NZ Trek goes trekking for MS Research

A group of intrepid trekkers went off the kiwi beaten track once again in February on a week long adventure with The Great NZ Trek. Funds raised will be donated to the Malaghan Institute to support MS Research.

## Recent Grants (OCT 10-MAR 11)

Our sincere thanks to the following Trusts and Foundations for their recent support:

- Springhill Charitable Trust & Frimley Foundation
- Margaret Neave Charitable Trust
- Cuesports Foundation Ltd
- James Russell Lewis Trust

## Five ways to support our research:

As New Zealand's leading independent medical research centre, the Malaghan Institute is reliant on grants and public support for its valuable work. We are registered with the Charities Commission and all donations over NZ\$5 are tax deductible. There are several ways for you to get more involved.

To find out more, contact Vicky Hale on 04 499 6914 x 821 or email [vhale@malaghan.org.nz](mailto:vhale@malaghan.org.nz) or visit our website [www.malaghan.org.nz](http://www.malaghan.org.nz)

1. GIVE A ONE-OFF DONATION
2. SET UP AN AUTOMATIC PAYMENT
3. LEAVE A BEQUEST IN YOUR WILL
4. BE A SPONSOR (Corporate or individual)
5. JOIN A VOLUNTEER FRIENDS GROUP