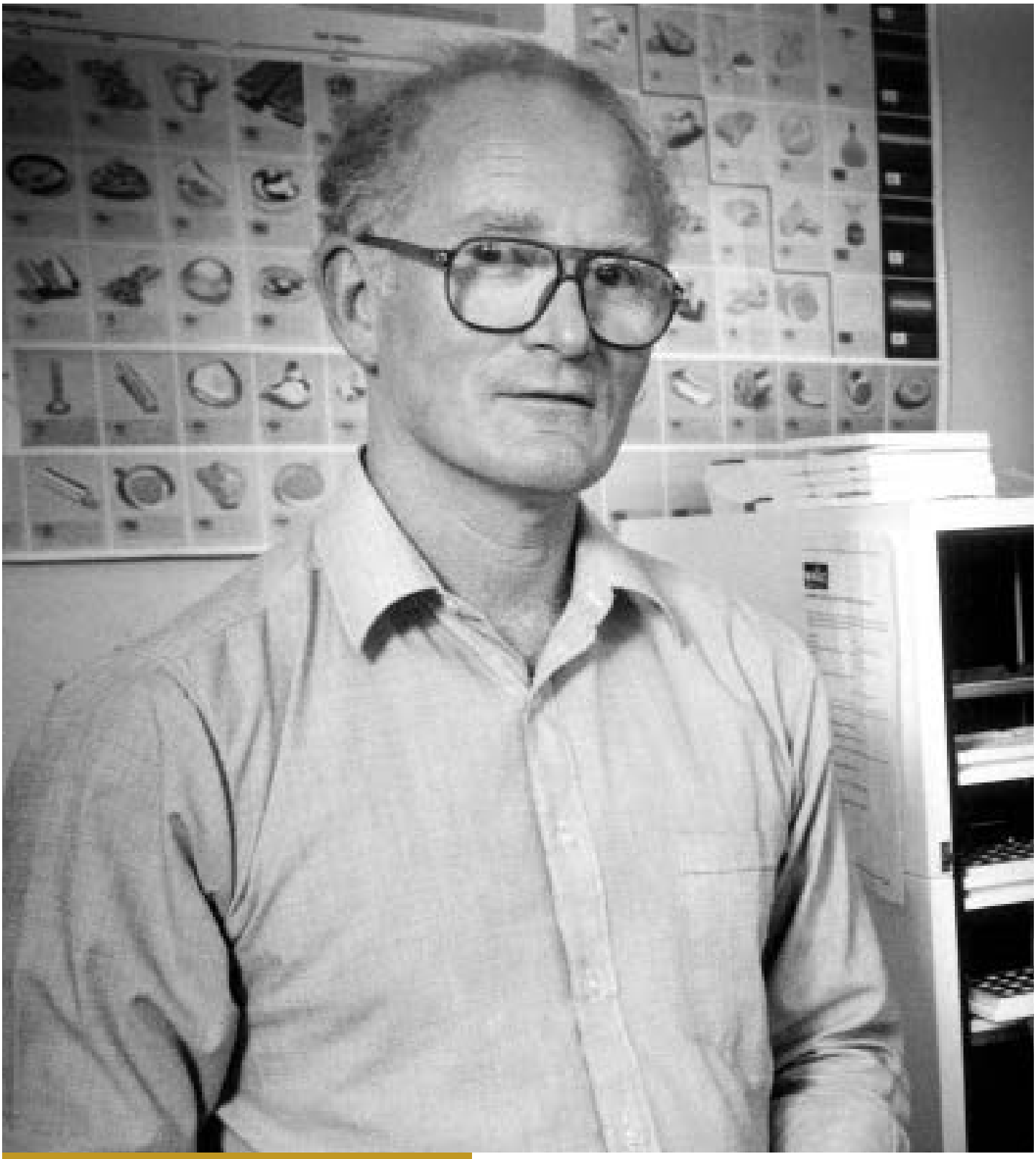


Annual Report

2016

MALAGHAN INSTITUTE OF MEDICAL RESEARCH

50 YEARS 1966 – 2016

Contents

The Malaghan Institute is New Zealand's leading independent medical research institute. We are proud to be celebrating our 50 year anniversary in 2016.

We believe the key to fighting illness lies in harnessing the immune system, the body's own natural defence against disease. Our pioneering research programmes focus on immunology, gut immunology and cell biology to seek better treatments and cures for diseases affecting New Zealanders – including cancer, asthma and allergy, multiple sclerosis and infectious diseases.

Our reputation as a cutting-edge medical research and training facility sees us house New Zealand's brightest and most creative scientists, doctoral students and post-doctoral fellows. This drive to make a difference to New Zealand's health and wealth means we attract and train the best, which strengths the educational and career pathways for future New Zealand scientists and clinicians.

Our purpose-built facility on Victoria University of Wellington's Kelburn campus is home to more than 85 researchers and support staff. We work closely with tertiary institutions, Crown Research Institutes, hospitals and clinics throughout New Zealand and overseas.

Our work is recognised internationally and ongoing collaborations ensure our scientists keep abreast of the latest developments, and maintain our research at a world-class level.

We are a registered charity and to ensure the vital research at the Institute continues, we rely on contestable grants, corporate sponsorship, trusts, bequests and donations. All funding contributes to the world-changing potential we strive for, and the belief that we will find, and make available, cures for the diseases that affect us most in the 21st century.

Malaghan Institute staff 2016

This Annual Report covers the period 1 August 2015 – 31 July 2016.

Front cover image: Professor Mike Berridge, Distinguished Research Fellow, is the Institute's longest-serving staff member, having begun work as a Malaghan Research Fellow in 1976. In 2016 he was awarded the Liley Medal by the Health Research Council of New Zealand to recognise the significance of research describing a previously unreported biological phenomenon – the transfer of mitochondrial DNA between cells.

Chairman's Report

Throughout 2016 the Institute has been celebrating 50 years since the first moves were made to create an independent medical research institute in Wellington in 1966. Many words have been said and written, but we have always come back to commending the resilience of the researchers, donors and trustees who have made possible the journey to date.

The celebrations culminated in a reception at Parliament in October, attended by some 200 people and hosted by Hon Dr Jonathan Coleman, Minister of Health. We were also pleased to welcome Prime Minister John Key to the evening.

Now our focus is very much on the future and the next 50 years. Our research activities have never been as exciting and as challenging as they are today. The Board recently sought assurance that the management team were able to manage and nurture the many opportunities that had been identified. We received very positive responses, so we look forward to good news as progress is made on numerous fronts.

The Board has agreed with management that another programme leader should be added to the team. We advertised internationally and 26 respondents were narrowed down to a few high calibre individuals who are going through the last stages of the selection process. We intend to complete this process in 2016, but the challenge will be ensuring we can appropriately fund this new programme leader, the attendant staff and the intended new research.

The introduction by the Government of funding for independent research institutes has been a very productive way of ensuring our core programmes of research have ongoing funding. This stability allows researchers to focus on their programmes and is already showing results in the output of new intellectual property and publications.

I must make special mention of the grant funding sourced from the Health Research Council. The council is celebrating 25 years since their establishment, during which time the Institute has sourced some $60 million in highly contested funding rounds. This has been vital to our success.

Since 1986 our loyal Friends have been at the sharp end of ensuring the work of the Institute is well known. They host research update meetings, run four charity golf tournaments each year and raise funds to make the work of the Institute possible. All Friends past and present deserve special mention as they give freely of their time, in many cases for many years. Thank you.

The donors who give so willingly to support our research activities ensure we retain our independence and thereby our ability to engage our staff as fulltime researchers. It also enables us to focus our efforts if unforeseen challenges are identified, without waiting for the outcome of longwinded approval processes. Our Capital Endowment Fund continues to attract strong support from bequests and gifts where people see the benefits of a 'forever giving' opportunity, as all of its income is directed to research.

Without the strongly performing management team led by the Director, the Trustees would have a much more challenging role than they do. Though the work of the Trustees has not diminished with time, we enjoy rising to the challenge of funding and resourcing the exciting new opportunities our researchers create. Again, my thanks to all the Trustees for everything they do.

Mr Graham Malaghan
ONZM Hon DSc FCILT

CHAIRMAN

Director's Report

The opportunity to create a healthier world has never been closer. We are in exciting times, with many discoveries and innovative steps revealing new ways for immunology to be applied to a whole range of human diseases. Recent discoveries in immunology are raising the hope that some of the most difficult and intractable human diseases will eventually be prevented, cured or treated.

Thanks to a more focussed approach, our research programmes and groups are developing rapidly. We are delivering scientific findings that are at the forefront of immunobiology – every team has had at least one paper published in a high impact journal this year. In this age of globalisation, we are also working ever more closely with collaborators in New Zealand and internationally to share our capability and benefit from their complementary expertise.

Research investigating the role of mitochondria in human health and disease has come to the fore around the world. Professor Mike Berridge has been successful in securing a Health Research Council (HRC) and a Cancer Society grant to fund our research in this area, building on previous Marsden funding. The Government's recent announcement of an increased funding commitment to health research was also exciting news and we have now submitted applications for HRC grants to support our research.

Celebrating our 50th anniversary this year, it is rewarding to see that our efforts to restructure the Institute's research groups into larger programmes has led to high levels of scientific productivity.

Forming a new research group will require new staff, along with laboratory and office space. The need to develop our existing laboratory, office and seminar space is critical for next year and we are working closely with Victoria University to ensure this can be achieved.

Some of the scientific discoveries from Associate Professor Ian Herman's group have the potential to become practical therapies for patients. As a consequence, Avalia Immunotherapies, a company formed in partnership with the Ferrier Research Institute, is building a vaccine adjuvant technology platform that could be applicable to cancer, infectious disease and possibly chronic inflammatory conditions such as asthma. Although many technical challenges remain, there is great promise that the therapeutics in development may one day bring significant returns to the Institute and to New Zealand.

I believe the Malaghan Institute will be a focal point for health research for many years to come because of three essential attributes: we have professional staff who are committed to the goals of the Institute; our research programmes are world class in innovation and in their potential to become clinical therapies; and our supporters, stakeholders and advocates are actively engaged in helping us build a world class centre of biomedical research in Wellington.

I would like to acknowledge and thank everyone who has contributed to the Institute since 1966 – our Trust Board, our staff, our funders and our loyal Friends and supporters. You make our work possible! I am confident in making a promise that a very exciting year awaits us.

Professor Graham Le Gros
CNZM, FRSNZ, FRCPA(Hon)
BSc, Dip Immunol, MPhil, PhD

DIRECTOR

Trust Board Profiles

MR GRAHAM MALAGHAN

ONZM, Hon. DSc (VUW), FCILT (Chairman)

Appointed Chairman of the Malaghan Institute Trust Board in 1990. Commenced employment at General Foods Corp in 1967, and was appointed General Manager of Refrigerated Freight lines in 1970, acquiring the company in 1987. Was founding Chairman of Tasman Express Line and a member of the LTSA for six years. In 2009 was awarded an Honorary Doctor of Science from Victoria University of Wellington for his key role in rebuilding the Malaghan Institute into the largest independent medical research organisation in New Zealand. Received the Sir Bob Owens award in 2010 for contributions to the transport, logistics industries and the community. Made an Officer of the Order of Merit for his services to medical research and philanthropy in 2012. Current directorships include several private companies.

MR JOHN BEATTIE

LLB

Obtained a law degree from Victoria University (1975) and was a Fulbright Scholar to Cornell University (1979). Has been a Trustee of the Malaghan Institute since 1991 and is the Chairman of Malcorp Biodiscoveries Limited, a subsidiary of the Malaghan Institute. He is also Chairman the NZ Sports Hall of Fame, Fit for Work Ltd, CropLogic Ltd, and Fluent Scientific Ltd. Trustee of the Wanaka Festival of Colour, has been a partner in national law firm Kensington Swan, General Manager of Brierley Investments Limited and was the co-founder of Genesis Research & Development Limited with Professor Jim Watson, a former Trustee of the Malaghan Institute.

ASSOCIATE PROFESSOR JOHN CARTER

BMedSc, MBChB, FRACP, FRCPA

Joined the Malaghan Board of Trustees in 2003. Did postgraduate work at the Fred Hutchinson Cancer Research Centre and the University of Washington. Clinically practices as a haematologist with a focus on stem cell transplantation. Is the immediate past Chair of both the New Zealand Blood Service and Scots College, and is currently Medical Leader of the Wellington Blood and Cancer Centre and an Associate Professor of the University of Otago.

MR BRYAN JOHNSON

ONZM, BCA

Appointed to the Malaghan Institute Trust Board in 1998. Obtained a commerce degree from Victoria University of Wellington in 1963. Was a senior partner in the stockbroking company Jarden & Co for 25 years and became Chairman after the sale of the business to Credit Suisse First Boston in 1991. Retired from CSFB in December 2000 to further develop his Marlborough winery and vineyard, Spy Valley. Has been a director of various corporations, such as Brierley Investments, Royal Sun Alliance and as Chairman of the Duke of Edinburgh's Award and was a Trustee of the Wellington Stadium Trust. Bryan is also the Founder President of First NZ Capital. In 2015 was made Officer of the New Zealand Order of Merit (ONZM) for his services to business and philanthropy.

PROFESSOR GRAHAM LE GROS

CNZM, FRSNZ, FRCPA(Hon), BSc, Dip Immunol, MPhil, PhD

Appointed to the Malaghan Institute Trust Board in 1995. Was awarded a Fogarty Fellowship at the NIH, Washington DC in 1987–1989, then took a scientist position with Ciba-Geigy in Basel Switzerland for five years before returning to New Zealand to take up the appointment as Research Director of the Malaghan Institute in 1994. Is a Professor of the School of Biological Sciences, Victoria University of Wellington and Fellow of the Royal Society of New Zealand. In 2014 made a Companion of the New Zealand Order of Merit (CNZM) for services to medical research.

DR DIANNE MCCARTHY

CNZM, CRSNZ, PhD, MSc(Hons), BA, BSc

Appointed to the Malaghan Institute Trust Board in 2015. Was Chief Executive of the Royal Society of New Zealand (2007–2014) and has over 20 years' experience in various management and governance roles in the tertiary education, science and health sectors. Is a Director of Powerhouse Ventures Ltd, the Cawthron Institute, and a member of the governance groups of the Dodd-Walls Centre for Photonic and Quantum Technologies, and two National Science Challenges, Ageing Well and Healthier Lives. Is a Trustee of the Deafness Research Foundation (NZ). Made an Officer of the New Zealand Order of Merit for services to education in 2008, a Companion of the Royal Society of New Zealand for services to science in 2015 and a Companion of the New Zealand Order of Merit for services to science, business and women in 2016.

MR MATTHEW MALAGHAN

BCom, MBA

Appointed to the Malaghan Institute Trust Board in 2008. Graduated from Otago University in 1994 with a Commerce degree. Subsequent employment with Refrigerated Freight Lines in Auckland and Melbourne, and Sea Containers Group in London, Madrid and Buenos Aires. Managing Director of the AUSPERL Group with quarrying, processing, sales and engineering operations in Australia, New Zealand. President of the Perlite Institute (USA). Member of the Institute of Directors in New Zealand.

DR DAVID MOSSMAN

QSM, BVSc, MRCVS, MNZIF

Appointed to the Malaghan Institute Trust Board in 2005. Attended Lincoln College and then graduated from the University of Queensland in 1965 with a Veterinary Degree. Awarded the Australian College of Veterinary Scientists college prize in 1978 and in 1984 the Coopers NZ Farm Management Award for significant innovative farm management in New Zealand. Keynote speaker at World Angus and Hereford Conferences. A member of the Lindisfarne College Board 1981–85. Managing Director of private farming, forestry, finance and property companies. President of the Hawke's Bay Friends of the Malaghan Institute and retired rural veterinarian since 2001. Awarded Queen's Service Medal for services to veterinary science in 2012.

MR IAN PATERSON

QSM, DipAg

Appointed to the Malaghan Institute Trust Board in 2016 and is Chairman of the Advocacy Group. Ian and his late wife Sally established Just Paterson Real Estate in 1990. Ian donates a considerable amount of his time to charity. He is also an award winning REINZ Auctioneer, which proves to be a very useful skill when supporting charities across New Zealand. Awarded Queen's Service Medal for services to philanthropy in 2016.

MS NICOLA SLADDEN

LLB, MPH

Appointed to the Malaghan Institute Trust Board in 2014. Appointed Banking Ombudsman at the Office of the Banking Ombudsman in August 2015 after four and a half years as Deputy Banking Ombudsman. Has at least 15 years' experience in dispute resolution, a law degree from Victoria University and a Masters of Public Health from Boston University. Was previously the Chief Legal Advisor at the Office of the Health and Disability Commissioner and has worked in private practice. Has published and presented on dispute resolution in New Zealand and abroad.

PROFESSOR PETER CRAMPTON

MBChB, PhD, FAFPHM, MRNZCGP

Appointed to the Malaghan Institute Trust Board in 2008. Is Pro-Vice-Chancellor of the Division of Health Sciences and Dean of the University of Otago Medical School. Is a specialist in public health medicine, with his research focused on social indicators and social epidemiology, health care policy and health care organisation and funding.

MR C DAN WILLIAMS

CA

Appointed to the Malaghan Institute Trust Board in 2005. Joined an antecedent firm of Deloitte in 1958 and following four years with the firm in London was admitted as a Partner in 1972, initially as the partner responsible for establishing the tax division and following that as a Business Advisory Partner. Retired in 2001 and is now a consultant to the firm. Has a number of private company directorships with emphasis on financial management.

PROFESSOR MIKE WILSON

MA, PhD

Appointed to the Malaghan Institute Trust Board in 2013. Is Pro Vice-Chancellor for the Faculties of Science, Engineering, Architecture and Design at Victoria University of Wellington. Obtained a 1st class degree in Natural Science from Cambridge University (1980), then a PhD in Physics (1984) after carrying out research with the Radio Astronomy Group at the Cavendish Laboratory. Was appointed Lecturer in Applied Mathematics, promoted to Senior Lecturer, Reader and Professor of Applied Mathematics (1986) and appointed Head of the School of Mathematics at the University of Leeds (2001). In 2005, appointed Dean for the Faculty of Mathematics and Physical Sciences at the University of Leeds before joining Victoria University in 2013.

50 YEARS
1966 – 2016

1966-1975 A BOLD VISION

1976-1985 OUR FIRST HOME

EARLY 1960s

The idea of an independent medical research institute is conceived by Wellington surgeon Mr Tom Collins and epidemiologist Dr Ian Prior.

1966

The Len and Ann Malaghan Medical Research Trust is formed.

1967

A foundation gift of shares in General Foods worth $200,000 is made by Len and Ann Malaghan for research into diseases of the blood.

On Christmas Day Len Malaghan passes away.

1968

The Wellington Cancer and Medical Research Institute Trust is created jointly by the Wellington Division of the Cancer Society and the Wellington Medical Research Foundation to foster medical research in the capital. Its purpose is to raise funds for the erection, equipping and maintaining of an appropriate building in Wellington.

1969

Dr Gerald Green begins his appointment as the first Malaghan Fellow.

1974

Professor Stehbens takes up the post as director of the Institute, conjoint with the Chair of Pathology in the Wellington Clinical School of Medicine. He advocates strongly for the value of medical research.

> The aim of the Institute must be to foster medical research of high quality for to do otherwise would betray the faith and generosity of all those benefactors who contributed generously to the establishment of the Institute.
>
> - FIRST ANNUAL REPORT, WELLINGTON CANCER AND MEDICAL RESEARCH INSTITUTE

1976

Dr Michael Berridge begins work as the second Malaghan Research Fellow.

SCIENCE IN 1985

PUBLICATIONS: 11

NUMBER OF STAFF: 15

RESEARCH:
Atherosclerosis, blood vessels and cancer.

1979

Official opening of the Wellington Cancer and Medical Research Institute (housed in the Wellington Clinical School of Medicine) by Sir Charles Burns. At the opening ceremony, Burns asked guests to join with him "in a Blessing on this Institute" and offered congratulations "on this magnificent beginning to what... we will one day, I believe, see as the Capital City's most treasured possession."

1980s

Significant new knowledge about the causes of plaques (that harden and narrow arteries) is generated.

Left image: Len and Ann Malaghan.

Right image: Mr George Gair, Minister for Health, inspects "New Zealand's most modern medical research institute". With him is the Institute director, Professor Bill Stehbens (right).

1986-1995 RENAMED TO HONOUR

1986

Name changes to the Malaghan Institute of Medical Research. This honours the generosity of the Malaghan family, recognises the Institute's national presence and avoids confusion with the Cancer Society.

1987

Friends of the Malaghan Institute founded to provide a support network for the Institute.

1989

A breakthrough discovery that the hormone erythropoietin promotes the production of platelets in blood is made.

1990

Graham Malaghan becomes Chairman of the Trust Board.

1991

Ann Malaghan passes away.

Changes to the Trust Deed are made to widen the scope of research and the basis for trustee appointments, and indicate the Institute's independence from its original sponsors (Wellington Medical Research Institute and Cancer Society).

1993

Landmark paper published showing how a well used cell proliferation assay works.

> The Institute over the years was greatly assisted by gifts made by Mrs Malaghan. Throughout her life she shunned publicity and sought no acknowledgement of her generosity.
>
> - SCOPE OCTOBER 1991

1994

Drs Franca Ronchese and Graham Le Gros appointed, bringing a new focus on immunology. These appointments are supported by the Wellington Medical Research Foundation and Brierley Investments Limited.

SCIENCE IN 1995

PUBLICATIONS: 16

NUMBER OF STAFF: 22

POSTGRADUATE STUDENTS: 6

RESEARCH: Cancer immunotherapy, cancer cell and molecular biology, asthma, tuberculosis and immunology.

Left image: The inaugural Friends group established in Wellington in 1987.

Centre image: FACS cell sorter and operators Jocelyn Street (left) and Karen Armitage, 1986.

Right image: Asthma, allergy immunology researchers, 1996. From left Franca Ronchese, Graham Le Gros, Penny Fitzharris, Rod Dunbar, Katherine Garrigan, Ian Hermans. Front Michael McDonald.

50 YEARS
1966 – 2016

1996-2005 A NEW DIRECTION

1998

First cancer vaccine trial begins, using dendritic cell based immune therapy to treat non-Hodgkin's lymphoma.

Preclinical evidence supporting the hygiene hypothesis (that dirt is good for immune development) is published.

2000

Certain types of bacterial lung infections (such as TB) are found to alleviate the symptoms of allergic asthma in experimental models.

2002

MalCorp Biodiscoveries is established.

2004

The Institute moves to Victoria University of Wellington to address critical issues of adequate space and facilities but retains links with the University of Otago. The refurbished building is opened by the Governor-General Dame Sylvia Cartwright.

First patient from the Wellington region is enrolled in a Phase III melanoma vaccine clinical trial.

Top left image: Princess Anne, pictured here with Mike Berridge, visits the Institute in 1999.

Bottom left image: The purchase of a vapour phase liquid nitrogen cell storage system was made possible through the proceeds of the 1997 Ambassadors' Benefit Ball and other community support. From left: Graham Le Gros, Annelies van Thessen, Judy Blair, Jen McCaw.

Right image: 'Let's lick cancer' Lollypop Appeal raises more than $70,000 in 2003.

SCIENCE IN 2005

PUBLICATIONS: 28

NUMBER OF STAFF: 55

POSTGRADUATE STUDENTS: 12

RESEARCH: Cancer immunotherapy, vaccine research, cancer cell and molecular biology, asthma, parasitic and infectious diseases, multiple sclerosis, arthritis, inflammation and biodiscovery.

2006-2016 FORGING AHEAD

2006

The Institute is the first good manufacturing practice laboratory in New Zealand to gain approval from Medsafe to manufacture cancer vaccines using human cells.

2009

Victoria University awards an Honorary Doctorate in Science to Graham Malaghan in recognition of his contribution to medical research.

2010

Opening of the Keith and Faith Taylor Cancer Research Laboratories, designed for vaccine development, by Hon Tony Ryall, Minister of Health.

Pivotal discovery is made that could lead to a vaccine for human hookworm.

2011

The Hugh Green Cytometry Core is established through the support of the Hugh Green Charitable Trust.

2014

The Health Research Council of New Zealand provides funding to the Institute from the Capability in Independent Research Organisations Fund.

Concept for a new type of asthma vaccine is found to be effective.

2015

Avalia Immunotherapies is formed with the Ferrier Research Institute to progress patented cancer vaccine technology.

Seminal discovery showing gene transfer between cells is published.

Top left image: More than 200 supporters, past and present trust board members, friends, collaborators and Prime Minister John Key gather at Parliament on 11 October 2016 for a reception hosted by Health Minister Jonathan Coleman to recognise our 50th year.

Top right image: Mr Graham Malaghan, Hon Dr Jonathan Coleman, Rt Hon John Key, Prof Graham Le Gros.

SCIENCE IN 2016

PUBLICATIONS: 25

NUMBER OF STAFF: 75

POSTGRADUATE STUDENTS: 11

RESEARCH: Cancer, asthma, allergy, parasitic diseases, gut immunology and multiple sclerosis.

Bottom left image: Kylie Price, flow cytometry suite manager, receives the Cyber Gold Award from Mayor Celia Wade-Brown at the Wellington Gold Awards, 2014. The Institute also wins the Supreme Dominion Post Wellington Gold Award.

Bottom right image: Evelyn Bauer, Clinical Trials Manager, working in the GMP laboratory.

Vaccine Therapy

The Vaccine Therapy group is focussed on finding ways to induce strong immune responses by 'programming' the formation of large populations of T cells to fight disease. The new immunotherapy cancer drugs (Opdivo and Keytruda), which were approved for use in New Zealand this year, work using a different mechanism – they prevent cancer cells from turning any anti-cancer T cells off. Both approaches promise gentler, more effective treatments, although more research is needed to make them better.

While our vaccine development programme started by creating therapies for cancer, they are now being assessed in infectious diseases, and even allergies. (Patent protection for these discoveries is in progress.) This work with the Ferrier Research Institute at Victoria University of Wellington has been running since 2006, and combines their expertise in chemistry with our immunology capability.

A research grant from the MBIE Contestable Research Fund, valued at $9 million over five years, was announced in September to support the vaccine therapy programme. The funding will enable continued collaboration between the Malaghan and Ferrier Research Institutes, and also involves the Universities of Auckland and Otago to progress new therapies to market.

Associate Professor Ian Hermans, leader of the Malaghan Institute's vaccine therapy programme, welcomed the news.

"We're a big part of this. Although we have all been working together for a number of years, this new funding is crucial for the next steps. Our research will look at different ways to make the vaccines programme T cells, which include new methods to get more of the vaccine into the appropriate cells, and new chemical structures that enhance the right sort of cellular interactions," he says.

The programme will take a three-pronged approach to creating a stronger T cell response and therefore a more effective vaccine: increase the uptake of vaccine into the dendritic cells (these are the 'generals' of the immune army), ensure that the dendritic cells are stimulated to function properly and activate cells around the dendritic cells to create the right environment to encourage programming of T cells.

This combined approach is focussed on getting the T cells to recognise small fragments (called peptides) of tumour associated proteins that are displayed on the surface of the cancer cells.

"We look for a protein that's been over-expressed or is mutated in cancer, find out what peptides are displayed on the cell surface, and then make these peptides synthetically to include in the vaccine. It's the job of dendritic cells to programme T cells to recognise these peptides."

Expertise in peptide chemistry is crucial and is being provided by Professors Margaret Brimble (University of Auckland) and Gavin Painter (Ferrier Research Institute) and their teams. The concept of getting more antigen into the cells is being addressed in work by Professors Brimble and Rod Dunbar (also University of Auckland).

"They have shown that if the vaccine is decorated with the right carbohydrate molecules, you can selectively target the receptors on dendritic cells that will recognise, bind to the peptide and take it into the cell, drawing it in and soaking up more peptide – it's very clever."

CLINICAL TRIAL PROGRESS

Results from the Phase I safety and dosage clinical trial of our cellular melanoma vaccine are now in the final stages of statistical analysis and a manuscript for publication is being prepared. This vaccine involves modifying dendritic cells from a patient's blood so they trigger an immune response to a protein found only in tumour tissue. The cells are grown and processed in the lab then returned to the patient.

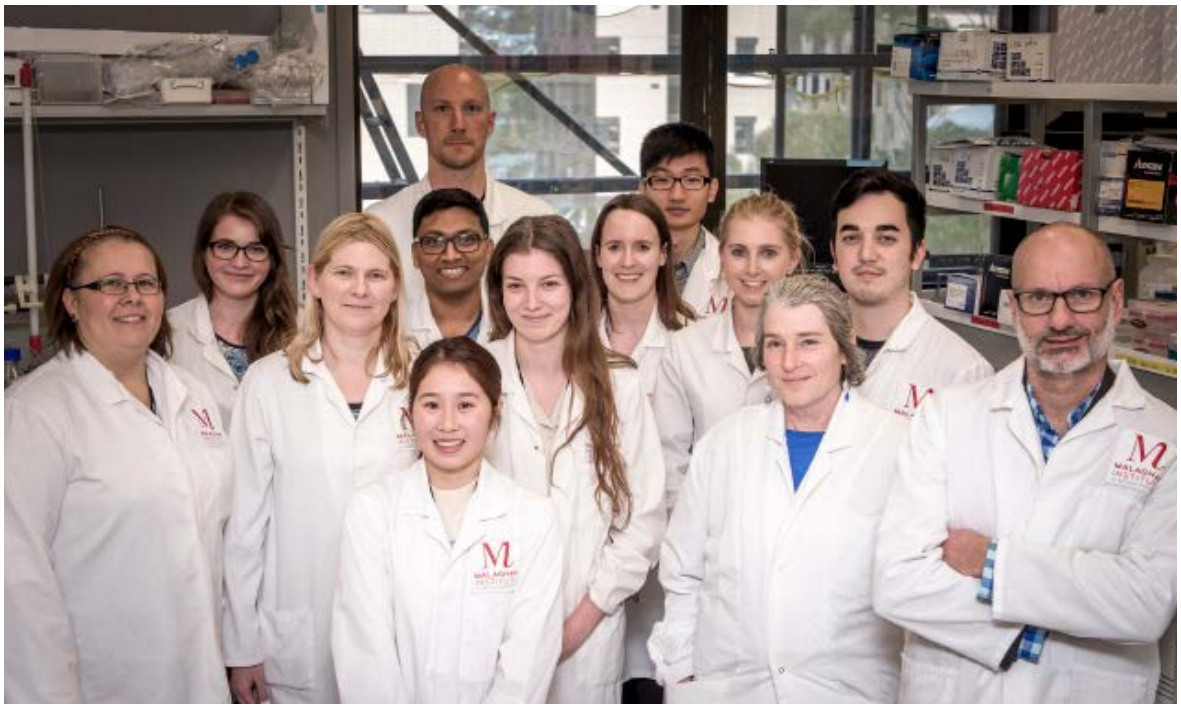
Recruitment for a larger Phase II trial to examine the size and the quality of generated immune responses is also underway.

"We are well into the Phase II trial but are being held up by slow patient accrual and unplanned stops, but we recently employed Dr Alice Maxwell, another clinician at Wellington Hospital, to help recruit patients onto the trial."

MAURICE WILKINS CENTRE PROJECTS

A project targeting hypoxic or oxygen-deprived regions of tissue is combining immunotherapy and chemotherapy for cancer treatment. Prodrugs are chemotherapeutic agents that are inactive until they reach a hypoxic region, where a trigger releases an active component that kills the hypoxic region and leaches out into the surrounding area.

"Hypoxia is thought to be a bad thing in cancer because it drives a lot of the immunosuppressive mechanisms that tumours use as they get bigger. For example, hypoxia brings in macrophages that swamp the T cell responses and stops them from functioning. Our hypothesis is that if you have a drug that focuses on eradicating the hypoxic regions, then it should help the immuno-therapy work better."



In another project, a novel chemo-therapeutic agent developed by the Maurice Wilkins Centre is being trialled in our cancer models. The agent, a colony-stimulating factor (CSF-1) receptor inhibitor, has shown very promising results in vitro and attracted significant commercial interest.

"The first step is to make sure it works in vivo, then combine it with our vaccine therapy. The drug works by blocking macrophages, so it should be an anti-cancer agent on its own but it should also improve the activity of our immunotherapy."

Assoc Prof Hermans would like to acknowledge the generous support of the Thompson Family Foundation for chemistry development at the Ferrier Research Institute and clinical trial support at Wellington Hospital.

RESEARCH ASSOCIATES

Professor Gavin Painter (Ferrier Research Institute), Professor Franca Ronchese, Dr Robert Weinkove.

RESEARCH TEAM

Pictured from left: Dr Brigitta Mester, Ellie-May Jarvis, Kathryn Farrand, Ching-Wen Tang, Dr Nathaniel Dasyam, Dr Olivier Gasser, Emma Petley, Dr Mary Speir, Regan Fu, Olivia Burn, Evelyn Bauer, Joshua Lange, Associate Professor Ian Hermans.
Absent: Dr Lindsay Ancelet, Astrid Authier-Hall, Dr Taryn Osmond.

Immune Cell Biology

Professor Franca Ronchese and her research group have studied dendritic cells, a rare type of immune cell, for many years. Dendritic cells are found all around the body and are known to be essential in all immune responses, controlling whether an immune response is initiated as well as the type of response. Many interesting discoveries have been made already and much of the team's research is concerned with these cells.

DENDRITIC CELLS AND TUMOURS

Dendritic cells are found in tumours. The number of cells that are present can predict whether tumours are detected by the immune system and the rate at which the tumour will progress. We have observed only a small number of dendritic cells in tumours and found that the function of the cells was affected.

"Our recent work has been focussed on finding out what these tumour-associated dendritic cells do. Taking an immunotherapy approach, we used stimuli that mimic infection, because these cells are particularly sensitive to infective agents. We saw higher numbers and a wider variety of dendritic cells in the tumour. We also found that the function of the cells was enhanced, and that even if one specific type of dendritic cell was missing, the immune system could still respond to the tumour," says Professor Ronchese.

This result suggests that treatment with an infective agent leaves a tumour with fewer opportunities to escape from the immune system. Further research is examining how metabolic factors can affect the success of this sort of immunotherapy.

VACCINES

Although dendritic cells are rare, they are also very powerful, causing the immune system to be activated inappropriately and resulting in inflammatory diseases such as allergic inflammation.

Our previous research found that the immune system is able to control or suppress the function of dendritic cells. We are now working to develop vaccines that can activate this 'control' arm of the immune response so we harness it to help treat inflammatory diseases.

Professor Ronchese says the vaccines can be very effective in some cases and less so in others, so the next step is to refine them to produce more consistent activity.

ALLERGIC SENSITISATION

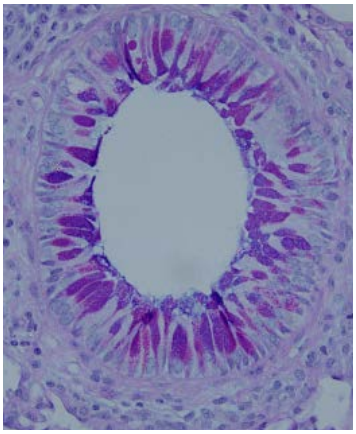
Dendritic cells are also involved in allergic sensitisation – the immune system's first exposure to an allergen such as dust mites, pollen or a chemical. To better understand the sensitisation process, Professor Ronchese and her team are studying the genetic changes in the transcriptome (all the molecules of RNA rather than DNA) of dendritic cells, using bioinformatics, a powerful computing technology.

The genes that were activated and then expressed RNA after being exposed to two allergens (the chemical dibutyl phthalate and a parasitic worm) were tracked in a model of allergy.

"We assumed that because both sensitisation methods cause allergy, we would see similar things going on in the transcriptome, but in fact there is very little in common. We found RNA coding for molecules we did not suspect were involved in allergies, as well as a lot of differences between the two sensitised groups," she says.

Only a handful of genes from many hundreds of possibilities appeared in both cases. Interestingly this package of genes is also found in other cells (like T and B cells) that mediate allergies, but their role in dendritic cells is not yet understood. The genetic changes in response to the chemical allergen were relatively simple but much more complexity was observed for the parasitic worm.

Prof Ronchese would like to acknowledge the support of the Hugh Green Foundation for the cell sorting technology, which she says has been absolutely critical for this work.



Bronchiole from an asthmatic lung showing a large number of mucus-producing cells around the airway.

RESEARCH TEAM

Professor Franca Ronchese, Dr Camille Baey, Dr Emmanuelle Cognard, Dr Lisa Connor, Dr David Eccles, Connie Gilfillan, Kerry Hilligan, Evelyn Hyde, Dr Olivier Lamiable, Dr Sotaro Ochiai, Sam Old, Dr Deepa Patel, Dinindu Senanayake, Shiau Choot Tang, Kirsty Wakelin, Ruby White, Dr Mark Yang.

Asthma, Allergy and Parasitic Diseases

Parasitic worms have evolved complex mechanisms to subdue the immune system of their host, to enable them to survive and reproduce. The mechanisms they use to dampen harmful inflammatory immune responses are studied to find new treatments for asthma and allergic diseases.

The Asthma, Allergy and Parasitic Diseases group uses studies of allergens and parasites (*Heligmosomoides polygyrus*, a gut worm and *Nippostrongylus brasiliensis*), to understand the basic mechanisms that cause asthma and allergic diseases. As a spin-off, the group is also developing insight in how to make effective vaccines against parasites.

Mali Camberis, Research Manager of the Allergic and Parasitic Diseases Programme says understanding the basic mechanisms used by the host to kill parasitic larvae underpins all their allergy research.

"We're working on constructing the genome for *N. brasiliensis*, so we can look at the activation of different genes during the lifecycle of the worms – through their four larval to the adult stage. We see a large number of changes when the larvae enter the host and start feeding on blood, through the L3 to L4 stage. By understanding which genes are activated and deactivated, we may be able to design potential new drug targets to target this phase and prevent the harmful parasites entering the lung, where they cause damage," she says.

The Sabin Vaccine Institute and the Center for Vaccine Awareness and Research at Texas Children's Hospital in the United States have invited the Malaghan Institute to test new human hookworm vaccine candidates in the Institute's mouse model. The vaccine development work is funded by the Bill and Melinda Gates Foundation.

Hookworm is a huge problem in the developing world, so we are pleased to be able to contribute to research that is close to clinical trial stage. It's also beneficial for us as it will validate our in-house assay as a model of human hookworm.

Another project is studying the effect of infection with more than one parasite on the immune system, modelling real life scenarios for many people in the developing world. Early results have shown that infection with the gut parasite, *H. polygyrus* causes protection (even in the lung) from infection with the second parasite *N. brasiliensis*. Research to unravel the mechanisms behind this observation is continuing.

Infection with *H. polygyrus* has also been shown to suppress several autoimmune diseases, such as allergic airway inflammation and colitis. Several models of skin allergy are being used to see if there are improvements to these conditions when the parasite is present.

A cross-over allergy research project is investigating the cellular and molecular events that occur in the first 24–48 hours after infection with *N. brasiliensis*. "We are using the parasite to sensitise the skin as the first step in an allergic reaction and observing the changes with our confocal microscope. This work will add to our understanding of how the parasites interact with the immune system and could also help identify new molecular therapeutic targets."

RESEARCH TEAM

Professor Graham Le Gros, Mali Camberis, Jodie Chandler, Dr David Eccles, Dr Kara Filbey.

Dr Kara Filbey visited our collaborators in Texas in July 2016, then travelled on to Ecuador to meet researchers and participants in a longitudinal study of children with parasitic infections. She says, "Seeing the conditions in which human parasite infection is endemic and getting first-hand experience of what it's like to research in such a challenging environment has given me a wider perspective of the work we're doing here in Wellington".

Cell and Molecular Biology

Discoveries made by the Cell and Molecular Biology group, led by Professor Mike Berridge, are uncovering the importance of mitochondria in disease.

The transfer of mitochondrial DNA between cells in tumour models was first shown by Professors Mike Berridge (Malaghan Institute) and Jiri Neuzil, (Griffith University, Queensland and Institute of Biotechnology, Prague) and their research teams. The groundbreaking discovery was published in Cell Metabolism in 2015 and highlighted in Nature Reviews Cancer, both leading scientific journals.

This previously unreported phenomenon is being investigated further thanks to New Zealand research grants from the Cancer Society, the Health Research Council and the Marsden Fund totalling $2.4 million. Other collaborative research funding through Dr Melanie McConnell at Victoria University of Wellington and Prof Neuzil in Prague is also supporting a wider range of projects concerned with intercellular mitochondrial transfer.

BONE MARROW TRANSPLANTATION STUDIES

One area of research is investigating mitochondrial DNA transfer following bone marrow transplantation in humans and in a mouse model. Recipients are given therapies to suppress the growth of their bone marrow or abnormally proliferating bone marrow cells, before receiving replacement bone marrow containing stem cells from a matched donor. After the transplant, recipients have a mixture of donor cells and their bone marrow cells, a small proportion of which may have imported mitochondrial DNA.

Dr Robert Weinkove (left) a Clinical Research Fellow, who supports the human bone marrow transplantation studies, with Prof Mike Berridge.

"We will sequence the mitochondrial DNA before and after transplantation to find out whether any donor DNA ends up in the patient's own cells. We are also looking at erythroblasts (redcell precursors) in culture to see if they form the tiny tubular membrane connecting structures

that were first observed more than 20 years ago, but are still not understood. These connections could provide a physical link for mitochondrial movement between cells," says Professor Berridge.

Mitochondrial DNA transfer is thought to happen more readily in damaged cells. In mouse studies, most of the recipient bone marrow will be damaged by irradiation before the donor marrow is given.

"We are using every tool we have available to explore transplantation in mice, the result of which will shine light on what's going on in humans. It's more powerful than just using genetic tools because we are able to use fluorescent markers built into the mouse genome to see how the process occurs and how quickly it happens. Our experimental model system is highly relevant to human bone marrow transplantation."

To date mouse chimeras (with mitochondrial DNA from donor and recipient) have been made and tagged with markers, so the movement from donor to recipient can be tracked. This is first time that mitochondrial transfer between cells has been investigated in mouse bone marrow.

GLIOBLASTOMA RESEARCH

Following on from our research with breast cancer and melanoma cells lacking mitochondrial DNA, mitochondrial transfer is now being investigated in a highly treatment-resistant type of brain cancer, glioblastoma. The cancer cells' mitochondrial DNA is removed chemically so their ability to import mitochondrial DNA from a host can be explored.

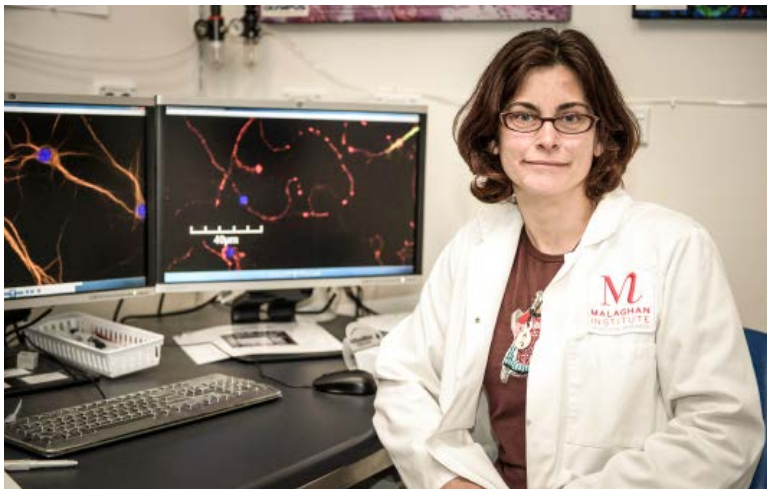
"We know that without mitochondrial DNA the tumour cells won't grow, but when it's been picked up, they begin to grow as tumours. Our sequencing work shows that the growing tumours definitely contain the signature of the mitochondrial DNA of the mouse the cells were injected into. This confirms that mitochondrial DNA has been transferred from the host mouse. In collaborative experiments carried out in Prague, we have shown that whole mitochondria are transferred in this process.

MOLECULAR TOOLS

Dr Melanie McConnell, Malaghan Institute Research Associate and Senior Lecturer at Victoria University, works closely with Prof Berridge and leads a team of researchers.

"We had observed the transfer of whole mitochondria and mitochondrial DNA, but to study how often it was happening required us to develop better molecular tools," she says.

"These include quantitative mitochondrial genotyping techniques and the development of new cell lines, which enable us to see how often mitochondrial transfer occurs, and how big a contribution it makes to the host cell. The new techniques are sensitive enough to spot mitochondrial DNA from another cell at 1 in 5000–10,000 events."



Dr Melanie McConnell.

BRAIN CELL RESEARCH

Dr McConnell's research team has carried out parallel studies with brain cancer cells and healthy brain cells that have been injured, then determined whether the exposure to other cells improves their recovery after injury – and whether mitochondrial transfer is implicated in the recovery.

"The damaged cells have no choice – they either take what is available to them or they die. We've observed that about 20 percent of damaged normal brain cells take up mitochondria from another cell."

One puzzling observation is being investigated using tagged cells, confocal microscopy and clever computing.

"We routinely see foreign mitochondria on the surface of a cell, but only very infrequently inside a cell. We developed a neural network that enables us process hundreds of images automatically and pull out the ones where the cells have foreign mitochondria inside. It may be that mitochondrial DNA transfer actually happens from the cell surface – we just don't know."

This research has important implications for finding new treatments cancer and neuro-degenerative diseases.

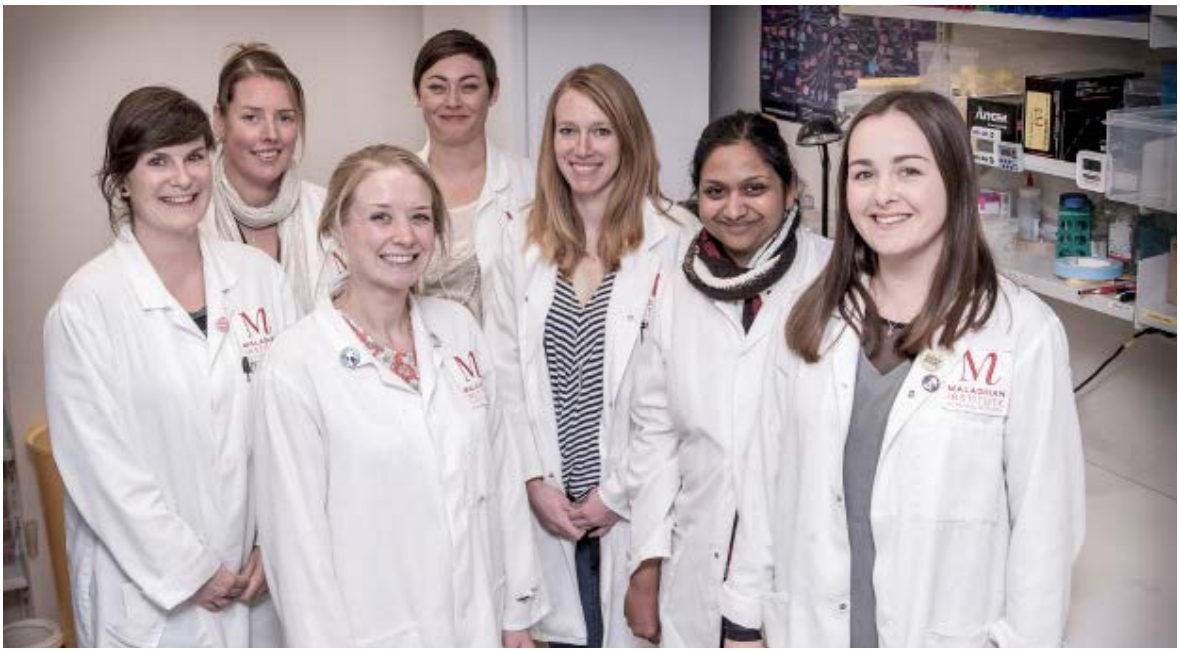
"In one case, injury is desirable to cause cell death and in the other, the goal is to prevent it. Understanding these complex processes can only be helpful in developing new therapies for both kinds of brain disease."

RESEARCH TEAM

Professor Mike Berridge,
Dr James Baty, Dr David Eccles,
Carole Grasso, Dr Patries Herst,
Dr Robert Weinkove, Kate White.

Dr Melanie McConnell,
Georgia Carson, Leticia Castro,
Daniel Hudson, Matthew Rowe,
Remy Schneider, Dinindu
Senanayake, Marie-Sophie Fabre.

Gut Immunology



Our gut microbiota – the trillions of microbes that colonise our gastrointestinal tract – is being increasingly recognised for its important role in our health and well-being. Dr Elizabeth Forbes-Blom, who leads the Gut Immunology group, is studying the connections between gut microbiota and the immune system.

One area of research is examining the effects of different gut bacteria on the immune system by studying response to a vaccine, in this case the seasonal influenza vaccine.

"Flu is one of the top health issues worldwide, with influenza epidemics occurring virtually every year. When you are vaccinated, your body makes antibodies to protect itself against flu infection, should it be encountered in the future, but some people respond better (and make more antibodies) than others"

"From previous work with animal models we know that altering gut microbiota can influence protective antibodies following flu vaccination. As part of the High-Value Nutrition National Science Challenge, we next wanted to find out if one type of microbiota was associated with a reduced response to the flu vaccine in humans, or conversely if a particular gut microbiota signature was associated with a highly protective antibody response."

To date, 123 people who received the 2016 vaccine have provided blood and faecal samples for the study. These participants are now returning for a follow-up visit six months after their vaccination to assess how well the flu antibodies have been maintained over time. The participants also kept food diaries during the study.

"We know that what we eat is essential for health, but we are now seeking to understand the potentially beneficial effects of foods and beverages made by New Zealand companies, which improve the interactions of the gut microbiota with the immune system to support protective immunity against flu infection. The current investigations will address our knowledge gaps to enable the development of scientifically validated, value-added immune health products by food and beverage manufacturers, particularly for export."

The High-Value Nutrition National Science Challenge brings Malaghan Institute researchers together with collaborators at the Medical Research Institute of New Zealand, the University of Otago Wellington, the University of Auckland, FoodSavvy, Plant & Food Research and AgResearch.

RESEARCH TEAM

Pictured: Dr Lieke van den Elsen, Angela Jones, Dr Hazel Poyntz, Dr Elizabeth Forbes-Blom, Aurélie Gestin, Karmella Naidoo, Anna Mooney.

Multiple Sclerosis

Professor Anne La Flamme from Victoria University's School of Biological Sciences leads the Malaghan Institute's multiple sclerosis (MS) research programme. This research is investigating the underlying mechanisms of the chronic autoimmune disease as well as developing treatments for its progressive forms.

A Phase Ib/IIa suitability and acceptability trial of two antipsychotic medicines, clozapine and risperidone, repurposed to treat MS, has now begun. The trial received funding from the Ministry of Business, Innovation and Employment's High Value Manufacturing and Services Research Fund and support from the Great New Zealand Trek. Recent research has shown that the drugs act on the immune system and reduce inflammation associated with MS, at much lower doses than are required for treating schizophrenia and bipolar disorder.

The 36-person trial compares clozapine and risperidone and assesses their clinical effects in treating progressive MS. The most suitable medicine of the two will then be selected to progress. Another aspect of the research is identifying the mode of action and pathway by which the drugs reduce the disease.

"We don't know which drug will be better, but the primary objective is to make sure that it does not have any negative consequences. People on the trial have significant long term disability and we don't want to add to that. It may be that treating this population with the drugs is no different to any other population, but until you do it you can't be sure," says Professor La Flamme.

Preliminary studies of the drugs' mode of action reveal that they are reaching and acting on the brain as intended. In an animal model of the disease, MALDI imaging mass spectrometry is being used to track clozapine to different parts of the brain, as well as other tissues, to identify the sites of action.

"We've found no dramatic effects on the immune system outside the brain, which is very heartening. We're seeing most of the effects in the central nervous system, which is what we want – and what we would expect of the drugs. The research is helping us understand the immune response and how we've altered the immune system."

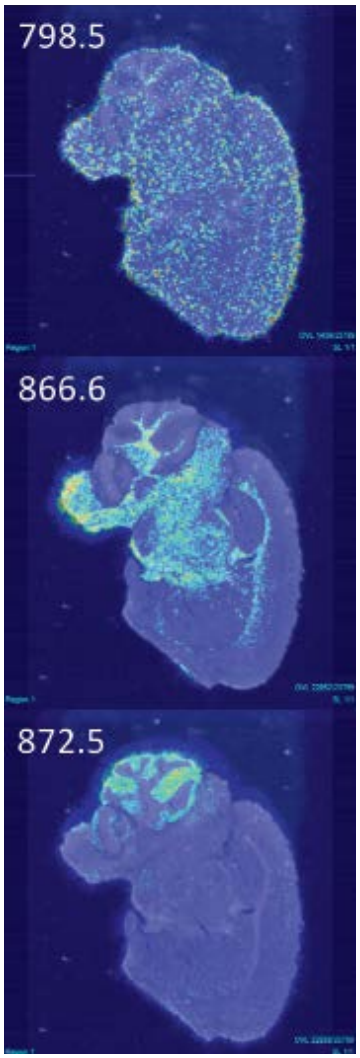
Professor La Flamme would like to acknowledge and thank the Great New Zealand Trek for their support of MS research, including the patient-related costs of the trial.

"We would not have been able to even start the trial without the Trek – they have been with us for the long run. Since the beginning, they have supported our research programme with more than $200,000."

Another organisation, Trekking Events, is supporting research into how clozapine and risperidone are altering the immune response in trial participants. "By looking at changes in their blood samples over time, we can understand how people are responding to the drugs and perhaps find a marker for a good response to them."

RESEARCH TEAM

Professor Anne La Flamme, Carl Beyers, Faith Leonard, Dr Katharina Robichon, Nikki Templeton, Dr Jenni Williams, Pirooz Zareie.



MALDI imaging mass spectrometry scans show the broad distribution of clozapine (top image) compared to other molecules that show brain-region localisation (lower images).

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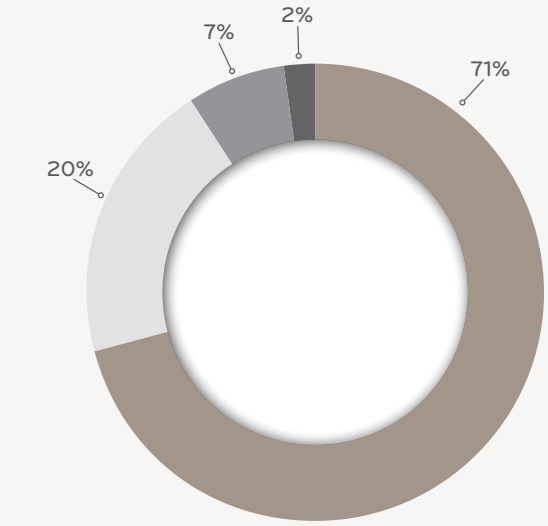
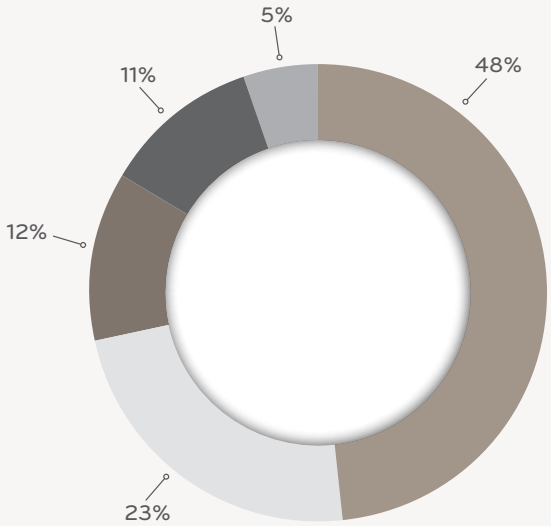
Financial Overview



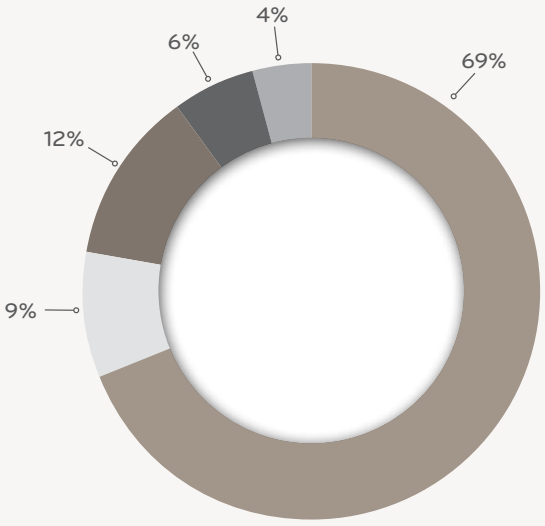
INCOME

- Grants revenue
- Philanthropic revenue
- Investment revenue
- Other revenue



EXPENDITURE

- People costs
- Lab costs
- Other operating costs
- Facilities costs
- Depreciation



STAFF

- Science
- Science students
- Science support
- Communications and Development
- Administration

FINANCIAL PERFORMANCE

For the year ended 31 July 2016

	2016 Consolidated	2015 Consolidated
INCOME		
Grants revenue	7,973,588	7,245,495
Philanthropic revenue	2,287,264	995,478
Investment revenue	784,856	1,234,793
Other revenue	176,598	184,514
	11,222,307	9,660,281
EXPENDITURE		
People costs	4,971,418	4,566,835
Lab costs	2,356,726	2,146,300
Other operating costs	1,257,100	267,652
Facilities costs	1,142,930	997,117
Depreciation	529,389	460,002
	10,257,564	8,437,907
SURPLUS/(DEFICIT)	964,742	1,222,373

FINANCIAL POSITION

As at 31 July 2016

	2016 Consolidated	2015 Consolidated
ASSETS		
Current Assets	10,457,447	6,763,964
Non-Current Assets	4,533,403	6,842,944
	14,990,851	13,606,908
LIABILITIES		
Current Liabilities	1,830,552	1,411,352
	1,830,552	1,411,352
NET ASSETS	13,160,298	12,195,556

Supporters

The generous support of individuals, our Friends groups, businesses, community groups, trusts and government has enabled us to reach the significant milestone of a Golden Anniversary this year. Without that sustained support through the good times and the hard times we simply would not be here. We extend a heartfelt thank you to everyone who has made a contribution. It is thanks to you all that the Institute is what it is today.

For the past 50 years, our scientists have been at the forefront of medical research into the causes and treatments of cancer, inflammation, asthma and allergy. Achieving medical breakthroughs is a vision that requires the investment of time, expertise and money – and is not getting any less expensive. To ensure we continue as leaders in the discovery of new treatments, we will rely on the foresight and kindness of people like you.

The Malaghan Institute of Medical Research has enjoyed more visibility than ever during the last year. Our enthusiasm to share research developments is more than reciprocated by the interest from our supporters, our Friends, our donors and our volunteers. This network of individuals, clubs and corporate partners gains more energy and more momentum each year. We are extremely grateful.

FRIENDS OF THE MALAGHAN INSTITUTE

Our incredible Friends groups in Auckland, Hawke's Bay, Taupō and Wellington are a powerhouse of support. Their support is not just financial, but also advocating and raising the profile of the Institute in their local communities. There is always a need for friend-raising and networking, to share the work of the Institute, and the best advertising is word of mouth. Our Friends love the feeling of giving something back to their community and we appreciate their unstinting support.

Some Friends are able to give a couple of hours to help with fundraising and event planning, or suggesting local groups who may be interested in hearing about our research. Others have more time available to promote our work, and our need for support, in the community. They are a godsend.

Please consider becoming a Friend if you are not already – it is a very positive way to support our research and help make a difference for future generations. Whatever your skills and interests, and no matter how much time you have to spare, we would love to hear from you.

CHARITY GOLF TOURNAMENTS

Our annual golf tournaments continued in 2016. These events have drawn many positive and committed people and businesses together. Friends in Wellington, Auckland, Hawke's Bay (and in 2016 Taupō) have held charity tournaments since 1987 and raised more than $1.8 million.

Participants in the Hawke's Bay golf tournament, 2016.

RESEARCH UPDATES

Keeping our community of supporters up to date with our research is important to us. In 2015/16 our scientists gave updates to the guests and supporters of ANZ Private and First NZ Capital in Wellington. We also held community updates in Auckland, Hawke's Bay and Kāpiti.

Professor Graham Le Gros addresses guests at a community research update.

LAB PARTNERS

We have enjoyed strong relationships with many New Zealand businesses since our earliest days. Our Lab Partner programme, which was established in 2015, connects small to medium- sized businesses directly with our scientists through sponsorship of a lab group for three to seven years. We also welcome the businesses to visit us and get to know our scientists. This direct sustained support for our day to day research activities is highly valued.

Staff from CQ Hotels Wellington outside the Cell Survival Laboratory.

We were delighted to welcome Thermo Fisher Scientific, Nichecom, Kinetics and CQ Hotels Wellington as our first Lab Partners. Their logos are displayed outside our Cell Survival Laboratory, (along with Just Paterson and Dave Clark Design) and they have a Malaghan Institute Lab Partner logo to use on their stationery, email signature, website and invoices.

LEXUS NEW ZEALAND

In October 2015 we were pleased to begin a partnership with Lexus. Andrew Davis, Toyota New Zealand's Assistant General Manager says the idea began when the company became aware that some of its customers were Malaghan Institute supporters.

"The company's Hawke's Bay and Wellington dealers were already supporting local fund raising efforts, and that it seemed natural to extend the relationship nationwide," he says.

The support that Lexus is providing will help accelerate our research into kinder, more effective immunotherapy treatments. We hope the partnership will also introduce a wider group of supporters and customers to Lexus and to the Institute.

Representatives of Lexus of Hawke's Bay and Friends of the Malaghan Institute with Lexus Ambassador Greg Turner and Professor Graham Le Gros at the Hawke's Bay charity golf tournament, 2015.

RUN FOR RESEARCH

Our popular Run for Research programme has been extended from the Round the Bays runs to an opportunity to fundraise for the Institute during any competitive event. Supporters competing in cycling, walking and ultra-marathon events have already chosen to make us their charity of choice. Thank you.

For more information please see supportourresearch.co.nz.

Funding Sources

The Malaghan Institute is honoured to receive support from many individuals, organisations, businesses and trusts. Although we can only name a few here, your support is invaluable and ensures our medical research can continue. Thank you. We also acknowledge and thank those supporters who wish to remain anonymous.

We would also like to especially recognise and thank all our event supporters for their continued commitment to our research.

TRUSTS, FOUNDATIONS AND ORGANISATIONS

Grants and donations were received from:

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Arthur N Button Charitable Trust

BEA Trust

Beard 42 Charitable Trust

Beverley Romanes

Breast Cancer Research Trust

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The Marsden Fund

The Nick Lingard Foundation

The Paddy Brow Charitable Trust

The Pegasus Sports Foundation

The Rotary Club of Port Nicholson

The Rotary Club of Wellington

The Southern Trust

The Thompson Family Foundation

Wellington Medical Research Foundation

BEQUESTS

The following people generously left bequests to the Institute.

Marjorie Nancy Bird

John Laughton Bitchener

Maxine Anne Burrows

Ynys Alicia Blackburne

Colin Capper

Walter Arthur Clark

Percival Kenneth Deal

Ian William McKenzie

David Hyrum Mead

Marie P Pennell

Ernest Robert Robinson

Monica Jean Taylor

Hilary Ann Willberg

IN MEMORIAM

Gifts were received in memory of the people below.

John Bongiovanni

Vicki Bostock

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May Wynne

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Lexus of Auckland City

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Nichecom

SenateSHJ

Spy Valley Wines

Thermo Fisher Scientific

How You Can Help

The Malaghan Institute is an independent biomedical research organisation and receives no direct government funding. We rely on contestable research grants and contributions from corporate sponsors, trusts, bequests, individuals and fundraising initiatives.

Our work is at the forefront of international medical research, and our scientists believe that the key to fighting disease lies in the immune system. Our research programmes are focused on finding better treatments and cures for cancer, asthma, allergy, inflammation, multiple sclerosis and infectious diseases.

The Malaghan Institute is a registered charity. The funds we receive support our research programmes, enabling our scientists to bring new treatments and cures closer, for the benefit of all New Zealanders. Our supporters help us in many ways, as set out below.

CORPORATE SPONSORSHIP

Corporate sponsorship enables the Institute to focus financial resources on core medical research and offers an opportunity to the corporate sector to enjoy the promotional benefits of being associated with the Malaghan Institute. We have several options for sponsorship including local and national events, laboratory naming rights and the procurement of specialist pieces of scientific equipment.

DONATIONS

Donations from individuals and trusts form a large part of our funding. This income is used to support our research programmes. Donations over $5 may be eligible for a tax credit.

GIFTS IN CELEBRATION

Instead of receiving presents for your celebration, please consider asking people to donate to the Malaghan Institute in your name.

GIFTS IN MEMORY

Your gift is a way to express your sympathy and remembrance while at the same time making a real difference to medical research. Gifts can be small or large, in lieu of flowers at a funeral, or as a tribute to a life well lived.

BEQUESTS

Our research is very dependent on bequests. We have developed an endowment fund that will grow from major gifts and bequests and sustaining the Institute into the future.

A suggested format for the wording of a bequest is below.

"I give and bequeath to The Malaghan Institute of Medical Research,

- A percentage (%) of my estate or
- The following property and assets or
- The residue of my estate or
- The amount of $ (in words) for its general purposes (or for the purpose of....) and I declare that the receipt of the chief executive or other proper officer shall be full and sufficient discharge to my trustees."

We would be delighted to discuss options to acknowledge your bequest according to your wishes.

CONTACT US

If you would like any additional information about these options or have any queries, please visit our website (www.malaghan.org.nz) or contact:

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Directory

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INSTITUTE STAFF 2015/16

SCIENTIFIC

Director of Research Prof Graham Le Gros CNZM, FRSNZ, FRCPA (Hon), BSc(Massey), Dip Immunol(Otago), MPhil(Auckland), PhD(Auckland)

Deputy Director of Research Assoc Prof Ian Hermans BSc(Hons)(Otago), MSc(Distinc)(Otago), PhD(VUW)

GROUP LEADERS

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RESEARCH ASSOCIATES

Dr Jacquie Harper BSc(Hons), PhD(Otago)

Dr Anne La Flamme BS(MIT), MS, PhD(Washington)

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Dr Melanie McConnell BSc(Hons), PhD(Otago)

SCIENCE STAFF

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Evelyn Bauer NZCSc, Cert Animal Sci & Tech(Massey) – Clinical Trials Manager

Dr Collin Brooks BSc(Hons)(Leeds), PhD(Massey) – Research Fellow (to Aug 2015)

Olivia Burn BSc(Hons)(Otago) – PhD Student

Mali Camberis BSc(VUW) – Research Manager

Alanna Cameron BBmedSc(VUW) – PhD Student (to Feb 2016)

Jodie Chandler BBMedSc(Hons)(VUW) – Research Officer

Sally Chappell BSc(Hons)(LiverpoolJM) – Staff Scientist

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Dr Hazel Poyntz BSc(Hons)(Bristol), PhD(Oxford) – Research Fellow

Kylie Price BSc(Otago), MSc(Hons)(VUW) – Senior Staff Scientist and Hugh Green Cytometry Core Facilities Manager

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Jesse Reading BSc(VUW) – Technical Cleaner (to Feb 2016)

Ian Saldanha BSc, PGDipSci(Otago), DipVetNursing(Otago Polytech) – Biomedical Research Unit Manager

Alfonso Schmidt BSc(Chile) – Staff Scientist

Dinindu Sachindra Senanayake BBmedSc(VUW) – Research Officer (from Jan 2016)

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Dr Ji Xiao Wang DipMedTech, Dip Midwifery(Shanxi) – Senior Animal Technician

Dr Jianping Yang BM(Shanxi) – Senior Research Officer

Tingli (Tim) Yang BBmedSc(Auckland) – Animal Technician

Bibek Yumnan MSc(Tezpur) – Animal Technician Genetic Quality Specialist

SUPPORT AND ADMINISTRATION

Katherine Allen PhysEd(Otago) – Communications and Marketing Manager (to July 2016)

James Araci BA(Hons) – National Development Manager (to Dec 2015)

Marie Armstrong BAP – IT Systems Administrator

Elliott Caldwell – IT Support Technician (P/T)

Lee Chappell – Reception and Purchasing Coordinator (from May 2016)

Sally Culbert BBS(Massey) – Management Accountant (P/T)

Tim Dallas – Facilities Assistant

Gabrielle Dennis RSA(English), Pitmans – Human Resources and Administration Officer (P/T)

Janine Gray BCA(VUW) – Assistant Accountant (P/T) (to Aug 2015)

Carolyn Hallsmith – Purchasing Coordinator (P/T)

Charlie Holland BA(Hons)(Waikato), MA(VUW) – Community Fundraising Manager (from March 2016)

Brandon Jones – IT Support Technician (P/T) (to Oct 2015)

Shannon Larsen GDipBusStud(Massey) – Fundraising Administrator

David Lin CA(NZICA), MBA, MAF(VUW) – Finance Manager

Niall Mackay BSc(Hons), MFINZ – Giving Manager (to March 2016)

Yvonne Mackie – Fundraising Administrator (from October 2015)

Nicola Olson CA(NZICA), BCA, BA(VUW) – Financial Accountant (P/T)

Ilse Potes Morales BMA(San Martin) – Executive Assistant to the Director and General Manager

Tony Robinson BA(Cantab), MA(Hons) (Aberdeen), PGCE(Oxford) – Funding Manager (from April 2016)

Jenny Sim – Development Manager

Darrell Smith MSc(Hons)(VUW), BSA(Massey) – Facilities Manager

Nicholas Walshe – Human Resources and Contracts Advisor (from Oct 2015)

Michael Zablocki BA(Hons)(Bristol), PGDipBA(VUW) – General Manager

RESEARCH AND CLINICAL CONSULTANTS

Dr Scott Barker - New Zealand Dermatology & Skin Cancer Centre

Adjunct Prof Richard Beasley – Medical Research Institute of New Zealand

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Assoc Prof Andrew Harrison – Department of Medicine, University of Otago, Wellington

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