



**M** MALAGHAN  
INSTITUTE  
OF MEDICAL RESEARCH

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**Annual Report 2019**

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**| FRONT COVER IMAGE**

*'A song of fire and ice.'*  
Bone-derived cells with mitochondrial networks glowing in red sit on a backdrop of blue astrocyte rho zero cells that contain neither mitochondrial DNA nor mitochondrial networks.

**Credit:** Rebecca Dawson



**29**  
SCIENTIFIC  
PUBLICATIONS



40% OF FUNDING  
CAME FROM  
PHILANTHROPIC  
GIVING

**\$5.91m**



**\$6.98m**  
FROM CONTESTABLE  
GOVERNMENT FUNDING



ACTIVE INTERNATIONAL  
COLLABORATIONS



BURNET  
ORATION

**Our year  
at a glance**



**10** PHD & MASTER'S  
STUDENTS



**100**  
STAFF



**70+**  
MEDIA ARTICLES



**24**  
INTERNATIONAL  
VISITORS

# About us

The Malaghan Institute is New Zealand's world-leading independent biomedical research institute with a focus on breakthrough discoveries in immunology and immunotherapy.

Our journey started more than 50 years ago with a vision to improve the lives of all New Zealanders. In 1966, a group of far-sighted New Zealanders set a course for world-class independent medical research to be carried out in Wellington. In 1986 the organisation was renamed as the Malaghan Institute of Medical Research in recognition of the generosity of Tip Top founder Len Malaghan and his wife Ann, whose donation of shares from the company seeded the Institute.

Today, our cutting-edge research and clinical trials are advancing understanding of the immune system and its relationship to human health. With a world-class technology platform to deeply interrogate these relationships, leading scientists and worldwide collaborations, we are leveraging new knowledge to find better treatments and cures for disease and create economic opportunities for New Zealand.

## Independent charity

Our value to New Zealand lies in being an independent research organisation backed by the community. As a registered charity, we are owned by New Zealand, for the benefit of all.

Through a range of funding sources, including philanthropic, government and corporate, the Malaghan Institute has developed the capability and expertise to deliver significant health and economic benefits to New Zealand, while retaining the freedom, flexibility and spirit to make breakthrough discoveries.

## Key areas of research and discovery



**CANCER** – including blood, skin, breast, brain, colon and prostate cancers



**ASTHMA AND ALLERGY** – including eczema, allergic sensitisation and food allergy



**INFECTIOUS DISEASES** – including parasitic disease, influenza and hepatitis B



**GUT HEALTH** – including microbiome research, gut inflammation and nutrition



**BRAIN HEALTH** – including multiple sclerosis and degenerative brain disease



## From benchtop to bedside

World-class immunological research and clinical trials come together on a single site at the Malaghan Institute. This pioneering approach enables scientists and doctors to work side by side, making new discoveries in the laboratory, translating them into new treatments and testing them in clinical trials.



### EXPLORATION

Understanding immunology and the immune system



### TRANSLATION

Developing new treatments and diagnostic tests



### APPLICATION

Working with New Zealand patients to develop new therapies

# Chairman's report



Each year, the momentum of the Institute grows. This past year is no exception. The scientific team, led by Professor Graham Le Gros, has made good progress on multiple fronts and continues to evaluate opportunities to expand the scientific research underway at the Institute. He will report more fully on these.

Our researchers require world-class facilities and tools if they are to make the discoveries necessary to improve the human condition. Professor Paul Wallace, President of International Society for Advancement of Cytometry, spent a sabbatical at the Institute this year and described our facilities as amongst the very best in the world. Therefore, the commitment of the Hugh Green Foundation to provide significant funding over the next five years for our Flow Cytometry Centre is wonderful and will ensure we maintain and build on this vital strength.

The support of the Health Research Council of New Zealand continues to be a cornerstone of our financial planning. Its CEO Professor Kath MacPherson's recent departure is a suitable time to reflect on the great progress she – and the organisation – has made in developing New Zealand's research capacity and focus. The Government's commitment to the 10-year Health Research Strategy gives confidence to our team.

Throughout the year, our Friends groups around the country have held charity golf tournaments and supported research updates to raise awareness of our work and the need for financial support from the community. In this, we continue to be aided by many corporates and especially our performance partner, Lexus NZ. David Downs has also led a strong campaign based around his personal survivor story against cancer and the need for our CAR T-cell therapy to be trialled here in New Zealand.

Sadly, we lost several strong advocates this year, including trustee Ian Paterson, who played a passionate and major role in supporting the Institute. We also lost Jill Kinloch, whose membership of the Wellington Friends group spanned two decades. Their contributions were and continue to be significant to our journey.

Joining the Board this year is Tim Bennett, who currently chairs our commercial joint venture, Avalia Immunotherapies, and Professor Parry Guilford. We also lose the services of Trustee Matthew Malaghan, but he will remain a close supporter.

During the year we had visits from the Minister of Research, Science and Innovation Hon Dr Megan Woods, Associate Finance Minister and Minister for the Environment Hon David Parker, and Leader of the Opposition Hon Simon Bridges. Members of the National Party's health caucus were among the many other visitors.

The challenges biomedical research faces are known, and we are focused on generating real contributions to New Zealand's health landscape. We can do so knowing we have the support of so many in the community.

Mr Graham Malaghan | CHAIRMAN  
ONZM Hon DSc FCILT

# Director's report



Firstly, I want to acknowledge the amazing effort of our Clinical Director, Dr Rob Weinkove, in assembling a truly world-class team to deliver CAR T-cell technology in New Zealand. A multi-year endeavour, the amount of work involved in establishing the manufacturing capability, including the quality and safety controls for this kind of programme, is staggering. His value in bringing us this far is not to be underestimated.

We have received such significant and generous support this year from our community. Backing from organisations such as the Thompson Family Foundation and Freemasons New Zealand, and the Hugh Green Foundation as mentioned in the Chairman's report, continues to inspire and drive us to do more with the tools they have given us. We are also tremendously heartened to receive continued backing from the Health Research Council – from Dr Weinkove's Clinical Practitioner Research Fellowship, to the support of our dendritic cell research – as they charge us to find better ways to treat some of the most devastating diseases that affect our families, friends and colleagues.

A critical feature of our cutting-edge science is that it is not done in isolation. I would like to acknowledge and thank our collaborators at Harvard University, the University of Oxford, James Cook University, the Czech Academy of Science and many others around the world who have shared their technology, knowledge and research experience.

Our organisation now has around one hundred staff, all talented individuals, highly committed to improving human health through translating biomedical discoveries. Of course, this translation is fully dependent on these discoveries becoming commercially viable and attracting investment as the Institute strives to make a positive impact on patient outcomes.

We have had several high profile papers published this year, highlighting the calibre of our biomedical research. This has included the immune cell biology group identifying the many different cell types that can contribute to onset of allergic disease, the cancer cell biology group discovering how the metabolism of cancer cells can be controlled by mitochondria, and my own group's research on the beneficial effects of some parasitic worms on the immune system.

We are also exploring a brave new world, led by our Head of Laboratories Mali Camberis, in whether human hookworm can be used as a viable therapy for the myriad of tragic allergic and inflammatory diseases affecting humans in the developed world.

I would like to end my report with a simple, heartfelt thanks to all our supporters, who trust us to remain a relevant and important organisation for the future of New Zealand's health.

A handwritten signature in black ink, reading 'G. Le Gros'.

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



# Cancer

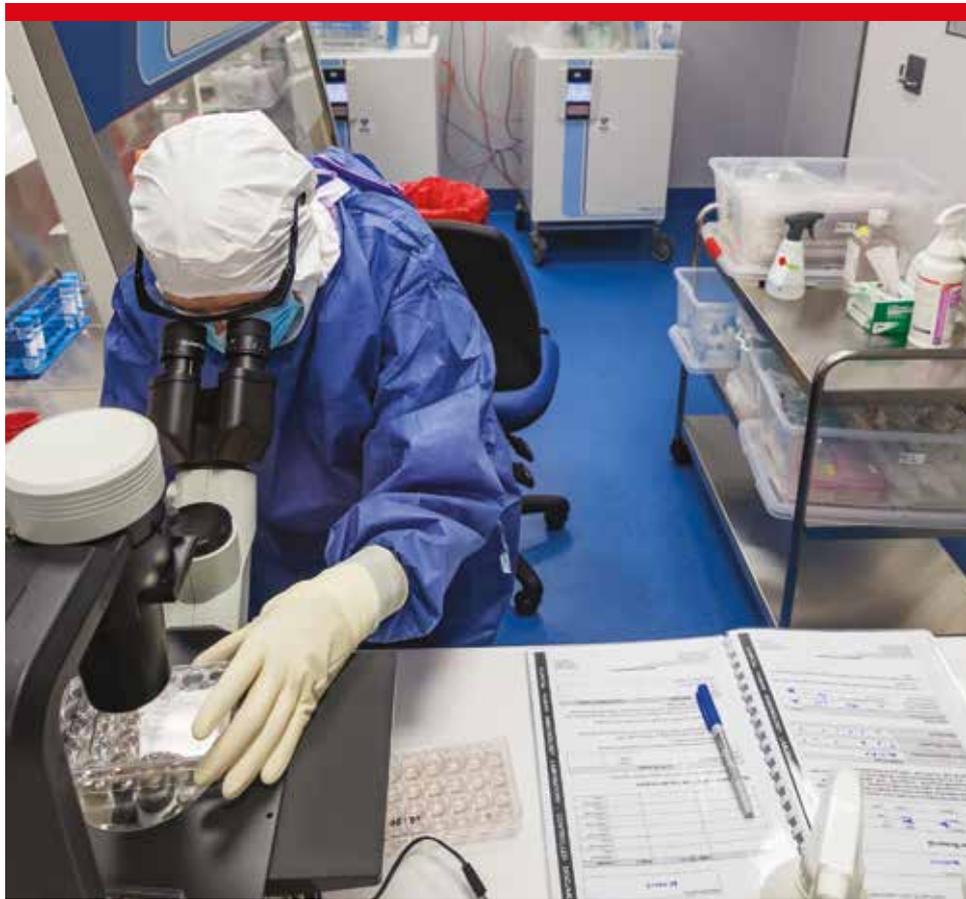
**Immunotherapy is fundamentally changing cancer treatment.**

Our cancer research focuses on finding ways to assist or train our immune system to better recognise and target cancerous cells in a wide range of settings, including brain, blood, breast, colon, prostate and skin cancers. We also research the underlying biology of cancer to find better treatment options.

## CAR T-CELL THERAPY: A NEW ZEALAND FIRST

A revolutionary approach to fighting cancer, CAR T-cell therapy involves genetically reprogramming a patient's own immune cells to identify a tumour and mark it for destruction. Our Freemasons CAR T-cell Research Programme is building on this ground-breaking technology as we prepare for New Zealand's first CAR T-cell clinical trial.

- The ENABLE CAR T-cell clinical trial and GMP (good manufacturing practice) laboratories achieved several significant approvals and licences this year, including from Medsafe, the Research Advisory Group – Māori, Gene Technology Advisory Committee and the Health and Disability Ethics Committee.
- Our clinical trials team developed our CAR T-cell manufacturing capability, conducting four full-scale runs using healthy volunteer cells. The team also prepared hospital training and safety guidelines for clinicians and nurses at Wellington Regional Hospital.
- Our CAR T-cell research received significant support from a number of sources including from Freemasons New Zealand. The programme also received government backing via the Health Research Council and Ministry of Business, Innovation and Employment to further develop CAR T-cell technology in New Zealand.
- CAR T-cell therapy recipient and cancer survivor David Downs launched his Down with Cancer campaign, to raise money towards our clinical trial, so that other New Zealanders may have access to the same life-saving treatment that he had.



## PREVENTING LATE RELAPSES IN BREAST CANCER

One of the major areas for improvement of existing breast cancer treatments is preventing relapses, which can happen many years after a patient's initial treatment. The Institute received funding from the Health Research Council, Breast Cancer Cure and Breast Cancer Foundation NZ to investigate vaccines that induce a powerful immune response in the tissues where cancer is at risk of recurring later in life.

## MELVAC TRIAL: ANALYSING THE RESULTS

Using patented vaccine technology developed by the Malaghan Institute and the Ferrier Research Institute, the cancer immunotherapy team has been investigating its application in relation to melanoma. After finishing the Phase II clinical trial, recent focus has been on analysing the data generated, including working with biostatisticians from Clinical Trials NZ, to determine whether this product can stimulate a strong anti-tumour response in melanoma patients.

## INJECTING TUMOURS WITH CANCER VACCINES

In a unique approach to targeted treatments, the cancer immunotherapy team has been investigating patents around intratumoral injections, offering potential new ways to treat several forms of cancer.



### MITOCHONDRIAL DYSFUNCTION: TARGETING VULNERABILITIES IN CANCER

Uncovering vulnerabilities in metastatic breast cancer and melanoma, and aggressive brain cancers such as glioblastoma, remains a core focus for the cancer cell biology group. Having established that mitochondria have the potential to be exchanged between healthy and cancerous cells, the team is now investigating how and why this happens, including how to block this phenomenon to prevent tumours regaining this essential cellular component following treatments that damage mitochondrial DNA.

- A major collaborative research publication in *Cell Metabolism* in March 2019 shone light on why mitochondrial respiration is essential for tumour formation, but not essential for energy production.
- Current research has shown that in our breast cancer model, mitochondrial DNA is necessary for expressing a set of nuclear genes that modulate anti-tumour immune responses.

### PROSTATE CANCER UNDER INVESTIGATION

Better understanding the genetic and environmental factors that contribute to prostate cancer – one of the most commonly diagnosed cancers in men – is vital for increasing prevention and survival rates. Expanding the scope of cancer research underway at the Institute, Professor Antony Braithwaite, who heads the University of Otago's Cell Transformation Laboratory, joined the Institute in March 2019 to leverage our world-class technology platform to research the underlying mechanisms and pathology of prostate cancer.

# Asthma & allergy

**New Zealand's  
asthma and  
allergy rates  
are among the  
highest in the  
world.**

Allergic diseases like asthma, eczema and food allergy are the result of an overreactive and oversensitive immune system. We are using advanced genetic and analytical techniques to investigate the fundamental processes and developmental triggers of immune disorders like asthma, and ultimately find safe and effective treatments.

## ALLERGY RESEARCH HONOURS IN BURNET ORATION

Recognising her long and distinguished career in the field of immunology, Professor Franca Ronchese presented the prestigious Burnet Oration at the annual meeting of the Australasian Society for Immunology in Perth in late 2018, the highest honour awarded by the society.



## DENDRITIC CELLS: THE KEY TO IMMUNE RESPONSES

As much of the regulatory and stimulatory changes that drive allergies have no outward physical tell, studying them poses a significant challenge. The Malaghan Institute is using advanced transcriptomics and bioinformatics to explore the internal changes in gene expression of dendritic cells in order to interrogate the 'invisible' steps that lead to the development of allergies and allergic responses.

During the year, the immune cell biology team identified several key genes that lead to a bias in dendritic cells stimulating allergic immune responses. The confirmation of these genes and their function in models of allergic disease is now being investigated for further research.

## ATOPIC DERMATITIS UNDER INVESTIGATION

The Malaghan Institute has spent several years building reliable and accurate models of atopic dermatitis in order to study the core drivers of this disease. The cutting-edge MC903 Model of Atopic Dermatitis and House Dust Mite Challenge Model are now uncovering a wealth of information.

- Using these models, the asthma, allergy and parasitic disease team have discovered novel cell types that are responsible for exacerbating and regulating allergic responses in the skin, with the results of this work being prepared for publications.
- The translational immunology team presented on the MC903 model in relation to the mechanisms behind phototherapy at conferences in the United States, the United Kingdom and Germany. This new approach to phototherapy is being explored in a clinical study in collaboration with dermatologist Dr Scott Barker at the New Zealand Dermatology and Skin Cancer Centre.
- The translational immunology team is also continuing an ongoing investigation into how exposure to food allergens on the skin can prime internal organs (such as the gut or lung) to allergic disease.

## COLLABORATION DISCOVERS NEW SUBTYPES OF TH2 CELLS

Th2 cells are a key immune cell type involved in driving allergic responses. In a collaboration with the Benoist-Mathis Laboratory at the Harvard Medical School in Boston, the asthma, allergy and parasitic disease team has discovered three novel Th2 cell subtypes that reside in the skin, which they are preparing for publication.



## THE HIDDEN BENEFITS OF BASOPHILS

Basophils are a rare class of immune cells associated with allergic disease, yet their beneficial role in the body remains largely a mystery. A new basophil model developed during the year will help characterise their function and role in allergic disease.



# Brain health

## The immune system's relationship with brain health is a relatively new frontier for immunology.

Understanding the immune system's role in multiple sclerosis and degenerative brain diseases like Alzheimer's and Parkinson's is an emerging focus of our research to find ways to halt these progressive diseases and ultimately promote recovery.

### MULTIPLE SCLEROSIS RESEARCH

Led by Professor Anne La Flamme, the multiple sclerosis team is focused on investigating new ways to both halt the progression of MS in patients, and to induce repair and recovery of neural cells damaged by this chronic inflammatory condition.

- The Great New Zealand Trek completed its final leg in March, wrapping up 14 years of support for MS research in its journey from Cape Reinga to Bluff. The MS team has been supported by funds raised by the Trek for the last ten years.
- The MS team's paper 'Glatiramer acetate treatment normalised the monocyte activation profile in MS patients to that of healthy control' was named runner up for publication of the year in the journal *Immunology and Cell Biology*.
- Investigations continued into why some MS patients respond to certain treatments – in this case the microparticle MIS416 developed by Innate Immunotherapeutics – better than others, helping shape future work in tailoring treatments to patients.
- A number of new collaborative projects got underway, including with the Ferrier Research Institute, and a joint project with Victoria University of Wellington Associate Professor Bronwyn Kivell and Professor Thomas Prisinzano from the University of Kentucky, supported by the Ministry of Business, Innovation and Employment, the Neurological Foundation and the Health Research Council.

### EARLY DETECTION IN NEURODEGENERATIVE DISORDERS

A collaborative study with Victoria University of Wellington behavioural neurobiologist Professor Bart Ellenbroek is underway, indicating parallels between tumour models lacking mitochondrial DNA and bioenergetic defects in depressive disorders. The team is now exploring the possibility of applying these findings in early detection for Parkinson's and Alzheimer's.

# Infectious disease



**Investigating how the immune system copes with infectious diseases like parasites, influenza and hepatitis B is helping us develop new targets for vaccines against them.**

Understanding this relationship can also teach us how these infections modify the immune system, to help us apply this knowledge to areas like allergic disease.

## **CROSS-PROTECTION BETWEEN PARASITIC WORMS**

Research published in *Mucosal Immunology* found the presence of intestinal parasites provides long-lasting protection against infection from other species of parasites in distant organs. As well as suppressing immune responses, certain beneficial species of gut hookworm can selectively stimulate strong immune responses to a competitive worm

species in the lung, both protecting the body and priming the immune system from subsequent infections from its competitors.

The immune cell biology team have investigated how the various branches of the immune system launches appropriate immune responses to different pathogen agents (including viruses, bacteria and parasites). Currently under review, this research could help with designing vaccines that target these varied infectious agents.

#### TARGETING CHRONIC HEP B INFECTION, INFLUENZA AND MALARIA

The breakthrough application of novel natural killer T-cell activating agents to drive targeted vaccines has moved into the next phase of development, investigating when it might prove useful in contributing to a cure for chronic hepatitis B. Further studies and collaborations are being identified to determine whether these agents can also be applied to malaria and influenza.

# Gut health



## We are only beginning to understand the depth of influence the billions of microorganisms in our gut – our gut microbiome – has on our wider health.

Our researchers are unravelling the relationship between our gut, diet and our immune system to help improve health outcomes in the areas of allergic and infectious disease.



### EXPLORING THE UPSIDE OF PARASITIC WORMS

The correlation between improvements in hygiene – including the loss of gut parasites such as hookworm – and the sharp increase in allergic and autoimmune disorders in western countries is widely recognised. Exploring this relationship, the Malaghan Institute has initiated a benchmark clinical study investigating how human hookworm (*Necator americanus*) alter the human immune system and whether this has potential therapeutic benefit.

- The research team has been investigating optimisation techniques for sorting, harvesting and storing hookworm, to ultimately establish a safe, reliable and consistent hookworm product.
- In June 2019, the Institute put out a call for 15 healthy volunteers to participate in the study, to establish a baseline model for further clinical research. The call was met with an overwhelmingly positive response, with recruitment closing within 48 hours.

### IMMUNE HEALTH A FOCUS FOR NATIONAL SCIENCE CHALLENGE

The Malaghan Institute's translational immunology programme received a \$5 million funding boost over the next five years to investigate how certain health foods can protect us from urban air pollution. Having already completed a phase I clinical study, the goal of the High-Value Nutrition National Science Challenge Immune Health Programme is to address urban air pollution by finding ways to leverage diet to improve lung health and function, and apply it in an economic setting.

A planned phase II clinical study will assess the ability of selected New Zealand produced foods to protect Chinese customers from the harmful effects of air pollution.



# Technology

**Cutting-edge technology lies at the heart of research at the Malaghan Institute.**

Thanks to the support from organisations such as the Hugh Green Foundation, the Lion Foundation and the Infinity Foundation, our Hugh Green Cytometry Centre and other technology platforms at the Malaghan Institute are at the centre of global cutting-edge research.

## THE HUGH GREEN CYTOMETRY CENTRE

In January 2019, the Hugh Green Foundation deepened its investment in biomedical research technology at the Malaghan Institute, pledging \$7.1 million over five years to expand on the Institute's world-class technology platform. The renamed Hugh Green Cytometry Centre uses state-of-the-art cytometry, microscopy and histology technology platforms to investigate the inner workings of the cells and tissues of our body in health and disease settings.

- This year our new spectral cytometers (Auroras) have come fully online. Because of the quantum leap spectral cytometry has enabled, a dedicated specialist technician has been recruited to assist scientists with the design and analysis of their highly technical flow panels. We have also introduced a new High-Dimensional Spectral Cytometry Specialist role.
- The centre hosted a number of important guests and visitors to the institute, including President of the International Society for the Advancement of Cytometry Dr Paul Wallace, who spent a sabbatical with the team, and researchers from St Jude Children's Research Hospital in Tennessee investigating patient responses to influenza.
- The centre is currently investigating new advanced analytical technologies and equipment to acquire over the coming year, to further add to the capabilities of the platform. Included in this are technologies to expand into the molecular biology space, including multiphoton microscopy, high-dimensional data analysis and a large particle cell sorter.



## BUILDING ON BIOINFORMATICS

As analytical technologies such as genetic sequencing improve, the amount of data that can be gained from an experiment increases exponentially. This creates a unique challenge for researchers who not only have to find ways to store this vast quantity of information, but also to process it so scientific conclusions can be drawn.

This year the Malaghan Institute recruited a dedicated Bioinformatics Research Officer, whose expertise will help uncover meaningful insights and conclusions from the vast amounts of data generated by the various research groups.

## INVESTMENT IN BIOMEDICAL RESEARCH UNIT

Fundamental research is the bedrock from which biomedical advancements are made. The Malaghan Institute's world-class Biomedical Research Unit (BRU) has hit a number of important milestones this year, underpinning some important discoveries.

- The Lion Foundation made a significant investment in our preclinical programme securing several vital pieces of equipment.
- The BRU won Victoria University of Wellington's 3R award, an annual award which promotes the 3R principles of animal care; Replacement, Reduction and Refinement.

# Commercial development

**In order to translate research discoveries into therapeutic outcomes, the Malaghan Institute has a number of strategic commercial collaborations and partnerships to positively contribute to the health and economic wealth of New Zealand.**

## **PATENTS AND INTELLECTUAL PROPERTY**

The Malaghan Institute secured several IP filings this year in the cancer and skin allergy space and with our collaborators at the Ferrier Institute around stimulating strong anti-tumour responses.

## **WELLINGTON ZHAOTAI THERAPIES**

The joint New Zealand-China initiative continues to gain momentum in ensuring future development and research of CAR T-cell technology, helping to secure its place in New Zealand's growing pharmaceutical sector.

- Wellington Zhaotai Therapies received significant government backing from both the Ministry of Business, Innovation and Employment and the Health Research Council to further establish CAR T-cell manufacturing in New Zealand and develop new CAR T-cell therapies for clinical use.
- The IP around the novel third-generation CAR T-cell technology developed between the Malaghan Institute and the Hunan Zhaotai Medical Group was also granted in the USA.

## **AVALIA IMMUNOTHERAPIES**

Avalia Immunotherapies continues its development of a hepatitis B vaccine, working through preclinical tests with the aim of establishing a clinical trial as early as 2022.

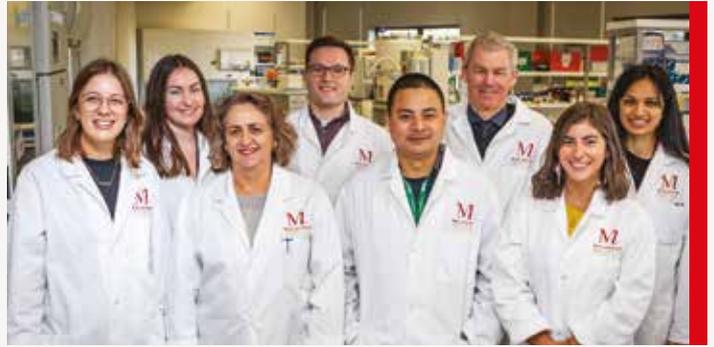
The image shows a low-angle shot of a modern building's facade. The facade is covered in a white, perforated metal mesh. On this mesh, the Malaghan Institute of Medical Research logo is prominently displayed. The logo consists of a large, stylized pink 'M' at the top. Below it, the words 'MALAGHAN' and 'INSTITUTE' are written in a bold, sans-serif font. 'MALAGHAN' is in pink, and 'INSTITUTE' is in yellow. Below these, the words 'OF MEDICAL RESEARCH' are written in a smaller, black, sans-serif font. The building's structure, including dark window frames and architectural lines, is visible in the background and foreground. The sky is a clear, bright blue.

M  
MALAGHAN  
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# Research teams

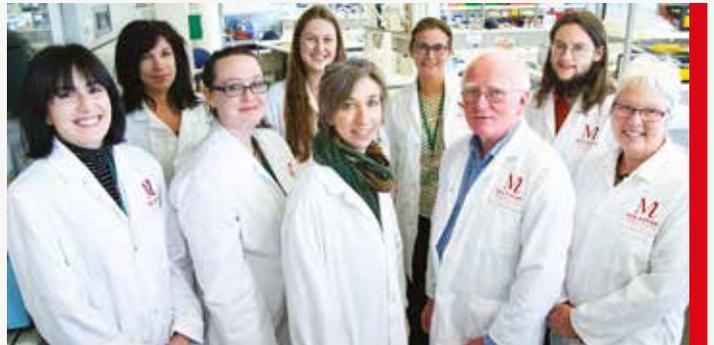
## ASTHMA, ALLERGY AND PARASITIC DISEASE

Led by Director of the Malaghan Institute, Director Professor Graham Le Gros, the asthma, allergy and parasitic disease team is investigating the fundamental nature of immune responses to find ways to control them, and how parasites regulate the immune system to apply this knowledge in suppressing allergic and inflammatory diseases.



## CANCER CELL BIOLOGY

The cancer cell biology team, led by Distinguished Research Fellow Professor Mike Berridge, is researching the fundamental principles and pathways that govern cancer cell function and growth, to discover new weaknesses and targets for cancerous cells.



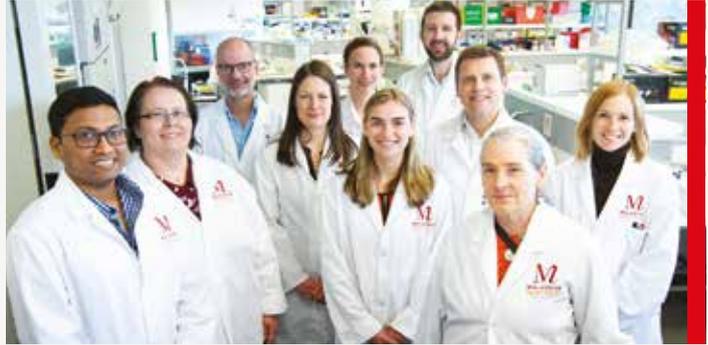
## CANCER IMMUNOTHERAPY

The cancer immunotherapy team, led by Hugh Dudley Morgans Fellow Professor Ian Hermans, uses fundamental research into the immune system to explore novel mechanisms and vaccine targets to investigate methods of stimulating strong, sustained anti-tumour activity for a number of different cancers and translate them to relevant clinical settings.



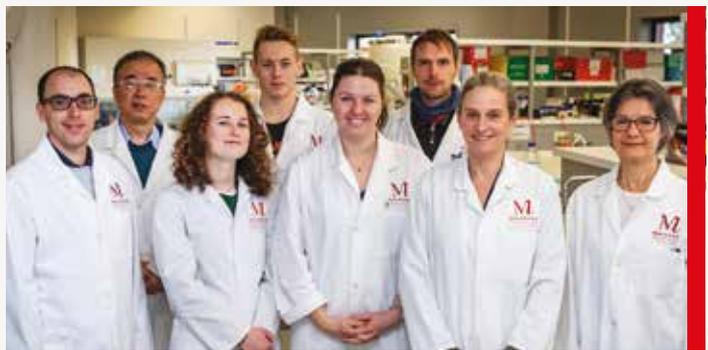
## CAR T-CELL CLINICAL TRIALS

Clinical Director and Wade Thompson Clinical Research Fellow Dr Robert Weinkove and his clinical team developing and manufacturing CAR T-cell technology at the Malaghan Institute, conduct New Zealand's first CAR T-cell clinical trial. The team is also investigating further development and refinement of this ground-breaking technology for future clinical use.



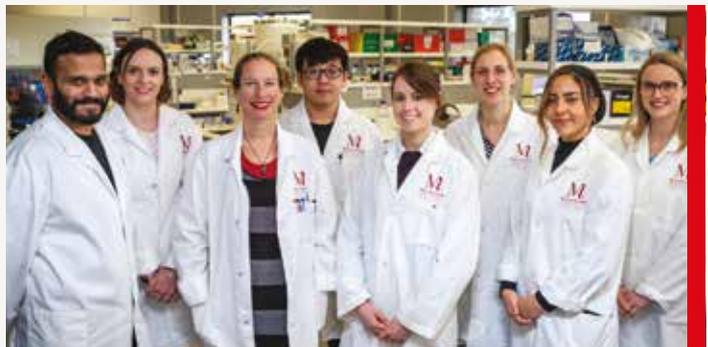
## IMMUNE CELL BIOLOGY

Led by Professor Franca Ronchese, the immune cell biology team is working to identify the unique signals that drive the initiation of allergic immune responses. With a focus on dendritic cells, immune cells that specialise in the initiation of immune responses, the team uses genetic sequencing technologies to characterise how dendritic cell gene expression changes upon exposure to various allergens.



## MULTIPLE SCLEROSIS

Professor Anne La Flamme's multiple sclerosis research programme is focused on investigating immune-mediated damage to the central nervous system to not only help repair the neurons damaged through this autoimmune disease, but to also promote recovery in patients suffering from multiple sclerosis.



## TRANSLATIONAL IMMUNOLOGY

Dr Olivier Gasser and his translational immunology team are investigating the origins of allergic diseases (such as atopic dermatitis, asthma and food allergy) and metabolic disease. In particular, the team is interested in the role of the environment in the development of these diseases, including microbial colonisation and air pollution, focusing on specific immune cell subsets which integrate environmental cues and either drive or prevent disease.



# Publications

Naidoo K, Jagot F, van den Elsen L, Pellefigues C, Jones A, Luo H, Johnston K, Painter G, Roediger B, Lee J, Weninger W, Le Gros G, Forbes-Blom E. (2018) Eosinophils Determine Dermal Thickening and Water Loss in an MC903 Model of Atopic Dermatitis. **J Invest Dermatol** 138(12):2606-2616

Schalamun M, Nagar R, Kainer D, Beavan E, Rathjen J, Eccles D, Lanfear R, Schwessinger B (2018) Harnessing the MinION: An example of how to establish long-read sequencing in a laboratory using challenging plant tissue from *Eucalyptus pauciflora*. **Mol Ecol Resources** 19(1):77-89

Poyntz HC, Jones A, Jauregui R, Young W, Gestin A, Mooney A, Lamiable O, Altermann E, Schmidt A, Gasser O, Weyrich L, Jolly CJ, Linterman MA, Le Gros G, Hawkins ED, Forbes-Blom E (2018) Genetic regulation of antibody responsiveness to immunization in substrains or BALB/c mice. **Immunol & Cell Biol** 97(1):39-53

Herst PM, Dawson RH, Berridge MV (2018) Intercellular communication in Tumour Biology: A Role for Mitochondrial Transfer. **Frontiers in Oncol** 8:344

Michelini S, Balakrishnan B, Parolo S, Matone A, Mullaney J, Young W, Gasser O, Priami C, Lombardo R, Kussmann M (2018) A reverse metabolic approach to weaning: In silico identification of immune-beneficial infant gut bacteria, mining their metabolism for prebiotic feeds and sourcing these feeds in the natural product space. **Microbiome** 6(1):171

B Wheeler M, White G, Brockie S, Dickson M, Weinkove R (2018) Flow Cytometric Analysis of Mechanically Disaggregated Bone Marrow Trepchine Biopsies. **Cytometry B Clin Cytom** 94(6):935-940

Baey C, Yang J, Ronchese F, Harper JL (2018) Hyperuricaemic UrahPlt2/Plt2 mice show altered T-cell proliferation and defective tumor immunity after local immunotherapy with Poly I:C. **PLOS One** 13(11):e0206827

Berridge MV, Herst PM, Rowe MR, Schneider R, McConnell MJ (2018) Mitochondrial transfer between cells: methodological constraints in cell culture and animal models. **Analytical Biochem** 552: 75-80

Bezawork-Geleta A, Wen H, Dong L, Yan B, Vider J, Boukalova S, Krobava L, Vanova K, Zobalova R, Sobol M, Hozak P, Novais SM, Caisova V, Abaffy P, Naraine R, Pang Y, Zaw T, Zhang P, Sindelka R, Kubista M, Zuryn S, Molloy MP Berridge MV, Pacak K, Rohlena J, Park S, Neuzil J (2018) Alternate assembly of SDHA connects energy stress to metabolic checkpoint and DNA synthesis. **Nature Communications** 9:2221

Herst PM, Grasso C, Berridge MV (2018) Metabolic reprogramming of mitochondrial respiration in metastatic cancer. **Cancer and Metastasis Reviews** 37(4):643-653

Filbey K, Camberis M, Chandler J, Turner R, Kettle A, Eichenberger R, Giacomini P, Le Gros G (2019) Intestinal helminth infection promotes IL-5- and CD4+ T cell-dependent immunity in the lung against migrating parasites. **Mucosal Immunology** 12(2):352-362

Bajzikova M, Kovarova J, Coelho AR, Boukalova S, Oh S, Rohlenova K, Svec D, Hubackova S, Endaya B, Judasova K, Bezawork-Geleta A, Kluckova K, Chatre L, Zobalova R, Novakova A, Vanova K, Ezrova Z, Maghzal GJ, Magalhaes Novais S, Olsinova M, Krobava L, An YJ, Davidova E, Nahacka Z, Sobol M, Cunha-Oliveira T, Sandoval-Acuña C, Strnad H, Zhang T, Huynh T, Serafim TL, Hozak P, Sardao VA, Koopman WJH, Ricchetti M, Oliveira PJ, Kolar F, Kubista M, Truksa J, Dvorakova-Hortova K, Pacak K, Gurlich R, Stocker R, Zhou Y, Berridge MV, Park S, Dong L, Rohlena J, Neuzil J (2019) Reactivation of Dihydroorotate Dehydrogenase-Driven Pyrimidine Biosynthesis Restores Tumor Growth of Respiration-Deficient Cancer Cells. **Cell Metab** 29(2):399-416.e10

Greish K, Nehoff H, Bahman F, Pritchard T, Taurin S (2019) Raloxifene nanomicelles effect on triple-negative breast cancer is mediated through estrogen receptor- $\beta$  and epidermal growth factor receptor. **J Drug Target** 27(8):903-916

Weinkove R, Bowden E, Wood C, Champion V, Carter J, Hall R, Weatherall M, Beasley R, Young P (2019) A randomized controlled feasibility trial of paracetamol during febrile neutropenia in hemato-oncology patients. **Leukemia & Lymphoma** 1-8 60(6):1540-1547

La Flamme AC (2019) Immunology & Cell Biology's top 10 original research articles 2017-2018. **Immunol Cell Biol** 97(2):119-120

Blecher-Gonen R, Bost P, Hilligan KL, David E, Salame TM, Roussel E, Connor LM, Mayer JU, Bahar Halpern K, Tóth B, Itzkovitz S, Schwikowski B, Ronchese F, Amit I (2019) Single-Cell Analysis of Diverse Pathogen Responses Defines a Molecular Roadmap for Generating Antigen-Specific Immunity. **Cell Systems** 8(2):109-121.e6

Van den Elsen LWJ, Tims S, Jones AM, Stewart A, Stahl B, Garssen J, Knol J, Forbes-Blom EE, Van't Land B (2019) Prebiotic oligosaccharides in early life alter gut microbiome development in male mice while supporting influenza vaccination responses. **Beneficial Microbes** 10(3):279-291

Lester PJ, Buick KH, Baty JW, Felden A, Haywood J (2019) Different bacterial and viral pathogens trigger distinct immune responses in a globally invasive ant. **Sci Rep** 9(1):5780

Loope KJ, Baty JW, Lester PJ, Wilson Rankin EE (2019) Pathogen shifts in a honeybee predator following the arrival of the Varroa mite. **Proc Biol Sci** 286(1894):20182499

Bouchery T, Le Gros G, Harris N (2019) ILC2s-Trailblazers in the Host Response Against Intestinal Helminths. **Front Immunol** 10:623

Templeton N, Kivell B, McCaughey-Chapman A, Connor B, La Flamme AC (2019) Clozapine administration enhanced functional recovery after cuprizone demyelination. **PLOS One** 14(5):e0216113

Weinkove R, George P, Dasyam N, McLellan AD (2019) Selecting costimulatory domains for chimeric antigen receptors: functional and clinical considerations. **Clin Transl Immunology** 8(5):e1049

Hyde EJ, Wakelin KA, Daniels NJ, Ghosh S, Ronchese F (2019) Similar immune mechanisms control experimental airway eosinophilia elicited by different allergens and treatment protocols. **BMC Immunol** 20(1):18

Fischer K, Al-Sawaf O, Bahlo J, Fink AM, Tandon M, Dixon M, Robrecht S, Warburton S, Humphrey K, Samoylova O, Liberati AM, Pinilla-Ibarz J, Opat S, Sivcheva L, Le Dû K, Fogliatto LM, Niemann CU, Weinkove R, Robinson S, Kipps TJ, Boettcher S, Tausch E, Humerickhouse R, Eichhorst B, Wendtner CM, Langerak AW, Kreuzer KA, Ritgen M, Goede V, Stilgenbauer S, Mobasher M, Hallek M (2019) Venetoclax and Obinutuzumab in Patients with CLL and Coexisting Conditions. **N Engl J Med** 380(23):2225-2236

Xiao AY, Maynard MR, Pieltz CG, Nagel ZD, Alexander JS, Kevil CG, Berridge MV, Pattillo CB, Rosen LR, Miriyala S, Harrison L (2019) Sodium sulfide selectively induces oxidative stress, DNA damage, and mitochondrial dysfunction and radiosensitizes glioblastoma (GBM) cells. **Redox Biol** 26:101220

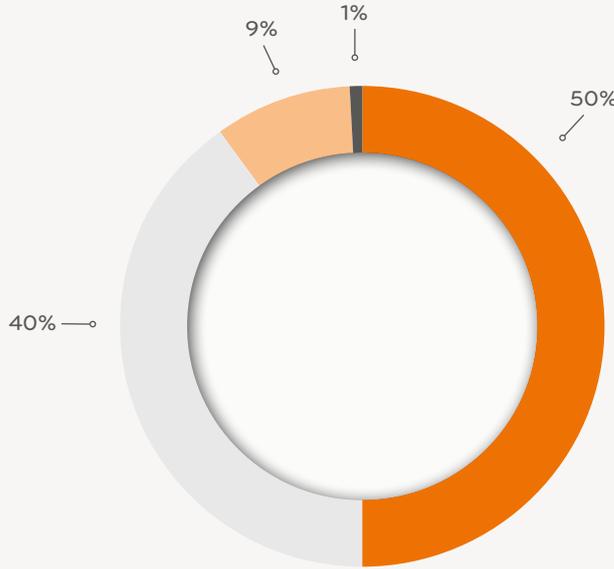
Neuzil J, Dong L, Berridge M (2019) Cancer's thieving ways. **Australasian Science** May/June, 38-39

Neuzil J, Berridge MV (2019) Mitochondria break through cellular boundaries. **Aging (Albany NY)** 11(13):4308-4309

Wong J, Wood EM, Crispin P, Weinkove R, McQuilten ZK; Australasian Leukaemia and Lymphoma Group (ALLG) Supportive Care Group (2019) Managing hypogammaglobulinaemia secondary to haematological malignancies in Australia and New Zealand: a clinician survey. **Intern Med J** 49(3):358-363

Compton BJ, Farrand KJ, Tang CW, Osmond TL, Speir M, Authier-Hall A, Wang J, Ferguson PM, Chan STS, Anderson RJ, Cooney TR, Hayman CM, Williams GM, Brimble MA, Brooks CR, Yong LK, Metelitsa LS, Zajonc DM, Godfrey DI, Gasser O, Weinkove R, Painter GF, Hermans IF (2019) Enhancing T-cell responses and tumour immunity by vaccination with peptides conjugated to a weak NKT cell agonist. **Org & Biomol Chem** 17(5):1225-1237

# Financial overview

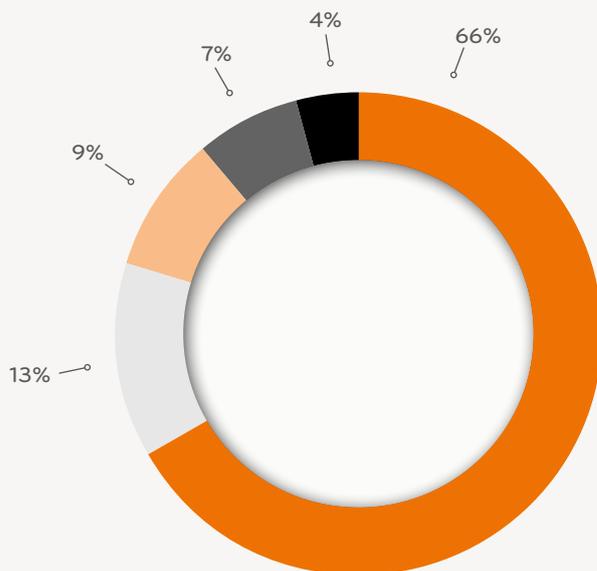
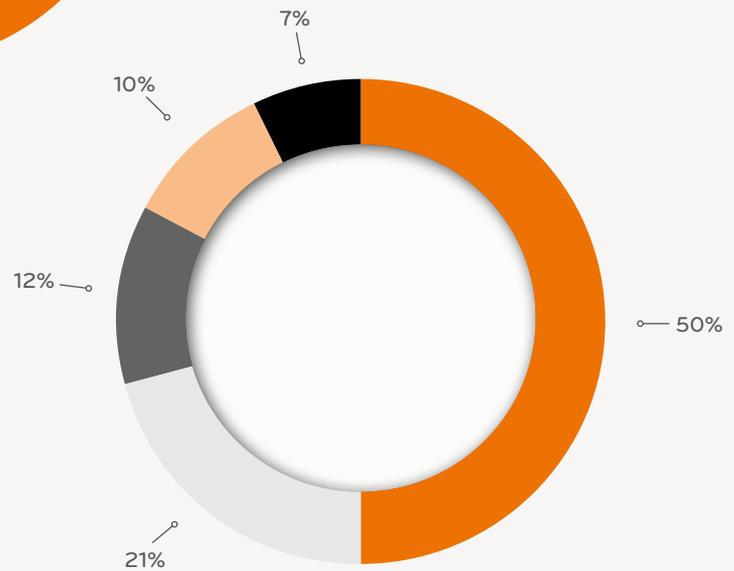


## REVENUE

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

## EXPENSES

- People costs
- Laboratory costs
- Other operating costs
- Facilities costs
- Depreciation



## STAFF

- Science
- Science support
- Science students
- Communications and development
- Administration

## FINANCIAL PERFORMANCE

For the year ended 31 July 2019

|  | 2019              | 2018              |
|--|-------------------|-------------------|
| <b>REVENUE</b>                           |                   |                   |
| Grants revenue                           | 7,366,157         | 7,836,393         |
| Philanthropic revenue                    | 5,912,129         | 3,706,812         |
| Investment revenue                       | 1,298,344         | 1,053,918         |
| Other revenue                            | 141,716           | 101,164           |
|  | <b>14,718,346</b> | <b>12,698,287</b> |
| <b>EXPENSES</b>                          |                   |                   |
| Depreciation expenses                    | 809,621           | 694,000           |
| Facilities expenses                      | 1,267,480         | 1,175,765         |
| Lab expenses                             | 2,598,875         | 2,724,901         |
| Other expenses                           | 1,514,547         | 1,206,830         |
| People expenses                          | 6,204,222         | 5,745,723         |
|  | <b>12,394,746</b> | <b>11,547,219</b> |
| <b>SURPLUS/(DEFICIT)</b>                 | 2,323,600         | 1,151,068         |
| Share of surplus/(deficit) of associates | (122,680)         | (252,397)         |
| Total comprehensive revenue and expense  | <b>2,200,920</b>  | <b>898,671</b>    |

## FINANCIAL POSITION

As at 31 July 2019

|                     | 2019              | 2018              |
|---------------------|-------------------|-------------------|
|                     | Consolidated      | Consolidated      |
| <b>ASSETS</b>       |                   |                   |
| Current Assets      | 14,906,181        | 12,469,016        |
| Non-Current Assets  | 8,301,909         | 8,567,984         |
|                     | <b>23,208,090</b> | <b>21,037,000</b> |
| <b>LIABILITIES</b>  |                   |                   |
| Current Liabilities | 2,010,825         | 2,040,656         |
|                     | <b>2,010,825</b>  | <b>2,040,656</b>  |
| <b>NET ASSETS</b>   | <b>21,197,265</b> | <b>18,996,344</b> |

The surplus (total comprehensive revenue and expense) of \$2.2M includes a \$0.9M increase in the Capital Endowment Fund and a \$0.6M increase in grants specifically committed towards future research projects. Accounting convention requires this revenue to be reported as income in the year received although the research expenditure will occur in a subsequent period.

# 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 research can continue to improve human health. Thank you. We also acknowledge and thank those supporters who wish to remain anonymous.

## GRANTS, TRUSTS AND FOUNDATIONS

Albert (Pat) Devine Charitable Trust  
 Australasian Society for Immunology  
 BEA Trust  
 Cancer Society of New Zealand Wellington Division Inc  
 Cancer Society  
 Carol Tse (No 2) Family Trust  
 The Chingford Trust  
 Colin Williamson Charitable Trust  
 Dairy Goat Co-Op (NZ) Ltd  
 David Levene Foundation  
 Dr Marjorie Barclay Charitable Trust  
 Edith Rose Isaacs Estate  
 EM Pharazyn Charitable Trust  
 FH Muter Charitable Trust  
 Florence Petersen Leukaemia Trust  
 Four Winds Foundation  
 Freemasons New Zealand  
 Frimley Foundation  
 The Giltrap Trust  
 Glenpark Foundation  
 The Great New Zealand Trek Charitable Trust  
 Health Research Council of New Zealand  
 Helen Graham Charitable Trust  
 The Herbert Teagle Masonic Perpetual Trust  
 Hugh Green Foundation  
 Infinity Foundation Limited  
 James Russell Lewis Trust  
 Jennifer Smith Family Trust  
 John and Margaret Hunn Education Trust  
 John Holt Memorial Trust  
 Keith Seagar Research Fund  
 The Lawrence and Stephanie Russell Charitable Trust

The Lion Foundation  
 The Margaret Ann Tibbles Charitable Trust  
 The Margaret Neave Charitable Trust  
 Marsden Fund  
 Maurice Capstick Medical Trust  
 Maurice Wilkins Centre  
 Ministry for Business, Innovation and Employment  
 New Zealand Community Trust  
 The Nick Lingard Foundation  
 New Zealand Society for Oncology  
 Nikau Foundation  
 The Paddy Brow Charitable Trust  
 Pelorus Trust  
 Prostate Cancer Foundation  
 Research For Life  
 Rex and Betty Coker Foundation  
 S J Shayle-George Charitable Trust  
 SE Leuchars Family Trust  
 Thanksgiving Foundation Limited  
 The Estates of Ellen, Sinclair, Barbara and Alison Wallace  
 The Southern Trust Inc  
 The Thompson Family Foundation Inc  
 Tonks Family Foundation Limited

## RESEARCH PARTNERS

Acurity Health Group Limited  
 Kinetics Group Ltd  
 Nichecom  
 Thermo Fisher Scientific  
 Trade Balers  
 Walker & Hall Fine Gifts Limited

## STRATEGIC PARTNERS

Freemasons New Zealand  
Hugh Green Foundation  
International Waste Limited (Interwaste)  
Jarden  
Just Paterson Real Estate  
Lexus New Zealand  
Lexus of Auckland City  
Lexus of Christchurch  
Lexus of Hamilton  
Lexus of Hawke's Bay  
Lexus of North Shore  
Lexus of Queenstown  
Lexus of Wellington  
SenateSHJ  
Spy Valley Wines  
System Consultancy Services Sdn Bhd

## CHARITY OF CHOICE PARTNERS

Combined Lions Club of Kapiti  
Crombie Lockwood Wellington  
GBL Personnel  
McKenzie Higham Architects  
Mt Cook Lakeside Retreat  
Morgo Conferences Ltd  
New Zealand Ship & Marine Society  
Nurture Change Ltd  
The PIF Foundation  
The Rotary Club of Port Nicholson  
Waikanae Lions  
YPO NZ

## IN MEMORIAM

John Bongiovanni  
Dot Brady  
Kurt Brunton  
Aaron Carey  
Vernon Clarke  
Ruth Cone  
Daniel D'Esposito  
Carole M Dillon  
Vin Duggan  
Stuart Ennor  
Edna Evans  
Karyn Godber  
Carole Gorst  
Sally Ann Hansen  
William Hewitt  
Ted Johnson  
Patricia Kirwan  
Gladys March  
Janet McMenamin  
Michael Morris  
Cate Murphy  
Gary Oldcorn  
Harvey O'Sullivan  
Ian Paterson  
Dorothy Pfeffer  
Don Radford  
Gordon Radford  
Ross Sparks  
Russell Watson  
Rosemary Westerman

## BEQUESTS

Estate of Denzil Brown  
Arthur N Button Charitable Trust  
Estate of Walter Arthur Clark  
Estate of Barbara Doreen Crowther  
Estate of Elizabeth Percival Finlayson  
Estate of Alexander Leslie Florence  
Estate of Keitha Jennifer Mary Holyoake  
Estate of Edward Malcolm Morgan  
Estate of David George Potter  
Estate of Helen Rusesco  
Estate of Noel Ernest Simpson  
Estate of Betty Stoker Charitable Trust  
Estate of Patricia D Symes  
Estate of Max Tuohy Wilkinson

## COMMUNITY SUPPORTERS

We would like to acknowledge and thank the many Friends of the Malaghan Institute including Chairs Linda Robert (Auckland), Rick Hart (Taupō), Denise Bull (Hawke's Bay), Kelly Sutton (Wellington), as well as all our event supporters and community groups. We gratefully appreciate their generosity with their time and fundraising efforts.

# Philanthropic highlights

**The Malaghan Institute relies on support from organisations and individuals across our community to help us find treatments and cures for disease. During 2018/19, philanthropic giving played a leading role in advancing some key areas of research and capability at the Institute.**

## TOOLS AND TECHNOLOGIES

Philanthropic support had a significant positive impact on our research this past year. The immensely generous investment from the Hugh Green Foundation in our technology platform positions the Hugh Green Cytometry Centre to be a world-leading technological hub enabling scientific discovery across all our areas of research and beyond. We also benefited from the ongoing generosity of the Lion Foundation with support for our biomedical research unit – the bedrock of all areas of research at the Malaghan Institute. The Infinity Foundation continued their long-term support, helping us secure fundamental laboratory equipment and research technology. The increased capacity all these investments allow helps ensure the Malaghan Institute remains as advanced and capable as any global centre of research excellence.

## CANCER RESEARCH

With support from the community the Institute's research and development efforts in CAR T-cell technology came to fruition in 2019. Investments from Freemasons New Zealand, the Thompson Family Foundation and David Downs' Down with Cancer campaign among many others have enabled us to progress this ground-breaking research programme and help give New Zealanders early access to this cutting-edge therapy.

## SUPPORTING SCIENTISTS

Many of our supporters have personalised their giving through supporting individual scientists at the Malaghan Institute. The support of our Clinical Research Fellow Dr Philip George by the Florence Peterson Leukaemia Trust has created a vital link between the Malaghan Institute and Wellington Regional Hospital for our upcoming CAR T-cell clinical trial. Support of our young scientists by a number of philanthropists has also been instrumental in helping shape the future of health research at the Malaghan Institute and for New Zealand.



# Trust Board profiles



## **GRAHAM MALAGHAN**

**CNZM, FCILT, HON DCS (WELL)  
(CHAIRMAN)**

Graham was appointed Chairman of the Trust Board in 1990. Appointed General Manager of Refrigerated Freight lines in 1970, he acquired the company in 1987. Graham was founding Chairman of Tasman Express Line and a member of the Land Transport Safety Authority for six years. Recipient of the Sir Bob Owens award in 2010, he was made Officer of the Order of Merit for services to medical research and philanthropy in 2012.



## **PROF GRAHAM LE GROS**

**CNZM, FRSNZ, FRCPA (HON), BSC  
(MASSEY), DIP IMMUNOL (OTAGO), MPHIL  
PHD (AUCKLAND)**

Graham was appointed to the Trust Board in 1995 after being made Research Director of the Malaghan Institute in 1994. A Fogarty Fellow at the National Institutes of Health, Washington DC between 1987-1989, Graham is a Professor of the School of Biological Sciences at Victoria University of Wellington and a fellow of the Royal Society of New Zealand. He was made a Companion of the New Zealand Order of Merit for his services to medical research in 2014.



## **MR JOHN BEATTIE**

**LLB (WELL), MAICD**

John was appointed to the Trust Board in 1991. He is Chairman of Malcorp Biodiscoveries and a trustee of Wellington Zhaotai Therapies Ltd. John is also Chairman of CropLogic Ltd, Fluent Scientific Ltd and the NZ Sports Hall of Fame, and a trustee of the Wanaka Festival of Colour and the NZ Diabetes Foundation. He was previously a partner at Kensington Swan, General Manager of Brierley Investments Ltd and co-founder of Genesis Research and Development Corp Ltd.



## **MR TIM BENNETT**

**BCOM, MBA**

Tim was appointed to the Trust Board in 2019. Tim is an experienced senior executive and strategic advisor with extensive experience in the capital, commodity and financial markets, in New Zealand, US, Australia, and Asia. His executive roles have included the CEO of NZX from (2012-2017), and a Partner of Oliver Wyman and the Boston Consulting Group. He is a director of Partners Life, AIX and Avalia Immunotherapies.



### ASSOCIATE PROFESSOR JOHN CARTER

BBIOMEDSC, MBCHB, PHD, FAFPHM, MRNZCGP

John was appointed to the Trust Board in 2003. He is an Associate Professor of the University of Otago and clinically practices as a haematologist. He is the past Chair of both the New Zealand Blood Service and Scots College, and has recently retired as Medical Leader of Wellington Blood and Cancer Centre. John undertook postgraduate work at the Fred Hutchinson Cancer Centre at the University of Washington.



### PROF PARRY GUILFORD

MSC (OTAGO), PHD (CU), FRSNZ

Parry was appointed to the Trust Board in 2019. He is Director of the Cancer Genetics Laboratory and the Centre for Translational Cancer Research (Te Aho Matatū) at the University of Otago. Parry is the co-founder of the publicly listed biotechnology company Pacific Edge Ltd and Deputy Director of the Healthier Lives National Science Challenge.



### PROFESSOR DAVE HARPER

MA PHD (CANT)

Dave was appointed to the Trust Board in 2019. He is the Head of the School of Psychology and, since February 2019, Dean of the Faculty of Science and acting Pro Vice Chancellor for the Faculties of Science, Engineering, and Architecture and Design at Victoria University of Wellington.



### MR BRYAN JOHNSON

ONZM, BCA (WELL)

Bryan was appointed to the Trust Board in 1998. He was a senior partner in the stockbroking company Jarden & Co for 25 years and is the Founder President of Jarden. Retiring in 2002 to further develop his Marlborough winery, Spy Valley, he has been a director of various corporations. Bryan was made Officer of the New Zealand Order of Merit for his services to business and philanthropy in 2015.



### MR MATTHEW MALAGHAN

BCOM (OTAGO), MBA

Matthew was appointed to the Trust Board in 2008. Managing Director of AUSPERL Group, he is President of the Perlite Institute (USA) and is a member of the New Zealand Institute of Directors. After graduating in 1994, Matthew worked with Refrigerated Freight Line in Auckland and Melbourne, and Sea Containers Group in London, Madrid and Buenos Aires.



### DR DIANNE MCCARTHY

CNZM, CRSNZ, BA MSC (HONS) PHD (AUCKLAND)

Dianne was appointed to the Trust Board in 2015. Chief Executive of the Royal Society of New Zealand from 2014–2017, she has 30 years' experience in senior management and governance roles in the tertiary education, science and health sectors. Dianne was made an Officer of the New Zealand Order of Merit for services to education in 2008, and a Companion of the same Order for services to science, business and women in 2016.



**DR DAVID MOSSMAN**

QSM, BVSC (UQ), MRCVS, MNZIF

David was appointed to the Trust Board in 2005. A retired rural veterinarian, David is managing director of private farming, forestry, finance and property companies. He won the Australian College Veterinary Science award in 1978, the Coopers NZ Farm Management Award in 1984 and was keynote speaker at the World Angus and Hereford Conference. In 2012 he was awarded a Queen's Service Medal for services to veterinary science.



**MS NICOLA SLADDEN**

LLB (WELL), MPH (BU)

Nicola was appointed to the Trust Board in July 2014. Appointed as Banking Ombudsman in 2015, she is a consultant for the World Bank and on the board of *FinCap*. Nicola has more than 20 years' experience in dispute resolution and was previously the Chief Legal Advisor at the Office of the Health and Disability Commissioner.



**MR DAN WILLIAMS**

CA

Dan was appointed to the Trust Board in 2005. He joined Deloitte in 1958 and retired in 2001 after serving as a partner responsible for tax and latterly business and advisory. Dan is now a consultant to Deloitte and has a number of private company directorships and trusteeships.

**MR IAN PATERSON**

A TIRELESS CHAMPION FOR THE MALAGHAN INSTITUTE

It is with great sadness that we farewelled Trustee and long-time and generous supporter of the Malaghan Institute of Medical Research, Ian Paterson in August this year.

Ian's decade-long relationship with the Malaghan Institute began following the sudden death of his wife Sally from glioblastoma multiforme, a form of brain cancer, during a family holiday in Thailand in August 2009.

The following year, Ian, with his daughters, donated \$56,000 towards the Institute's cancer research – a combination of agent fees, staff and community contributions from Just Paterson Real Estate, the company he and Sally co-founded in 1989.

The donation wasn't a one off. Over the ensuing years, Just Paterson Real Estate has donated more than \$300,000 to the Institute, and championed the Institute's cancer research across the Wellington region, and the importance of joining together in the fight against the disease.

In 2016, Ian was appointed to the Malaghan Institute's Trust Board. The same year he was awarded a Queen's Service Medal for services to philanthropy.

We miss him greatly and will work tirelessly to ensure his legacy will be a better future for all those affected by cancer.



# Staff directory

## BOARD OF TRUSTEES

**Mr Graham Malaghan** | ONZM, Hon DSc (Well), FCILT – Chairman

**Mr John Beattie** | LLB (Well), MAICD

**Assoc Prof John Carter** | BBiomedSc, MBChB, PhD, FAFPHM, MRNZCGP

**Prof Parry Guilford** | MSc (Otago), PhD (CU), FRSNZ

**Prof David Harper** | MA PhD (Cant)

**Mr Bryan Johnson** | ONZM, BCA (Well)

**Prof Graham Le Gros** | CNZM, FRSNZ, FRCPA (Hon), BSc (Massey), Dip Immunol (Otago), MPhil PhD (Auckland)

**Mr Matthew Malaghan** | BCom (Otago), MBA

**Dr Dianne McCarthy** | CNZM, CRSNZ, BA MSc (Hons) PhD (Auckland)

**Dr David Mossman** | QSM, BVSc, MRCVS, MNZIF

**Mr Ian Paterson** | QSM

**Ms Nicola Sladden** | LLB (Well), MPH (BU)

**Mr C Dan Williams** | CA

**Prof Mike Wilson** | MA PhD (Cant) (to Feb 2019)

**Mr Tim Bennett** | BCom, MBA

## RESEARCH AND CLINICAL CONSULTANTS

**Dr Scott Barker** | Capital & Coast District Health Board

**Adjunct Prof Richard Beasley** | Medical Research Institute of New Zealand

**Dr Lisa Connor** | BBiomedSc (Hons), PhD (Otago) – Senior Research Fellow (to Nov 2017), Research Associate

**Assoc Prof John Carter** | Wellington Blood & Cancer Centre, University of Otago

**Prof Chris Cunningham** | Research Centre for Māori Health and Development, Te Pūmanawa Hauroa, Massey University, Wellington

**Prof Brett Delahunt** | University of Otago

**Prof Jeroen Douwes** | Centre for Public Health Research

**Dr Peter Ferguson** | Wellington Regional Hospital

**Dr Michael Findlay** | Cancer Trials NZ, University of Auckland

**Dr Penny Fitzharris** | Auckland District Health Board

**Dr Elizabeth Forbes-Blom** | BSc (VUW), PhD(ANU) – Gut Immunology Team Leader (until Feb 2017)

**Assoc Prof Andrew Harrison** | Department of Medicine, University of Otago, Wellington

**Assoc Prof Rebecca Grainger** | Departments of Medicine and Pathology and Molecular Medicine, University of Otago, Wellington, Hutt Hospital

**Prof Anne La Flamme** | BSc (MIT), MS PhD (Washington) – Research Associate

**Dr Melanie McConnell** | BSc (Hons), PhD(Otago) – Research Associate

**Dr Li Peng** | Guangzhou Institutes of Biomedicine and Health

**Assoc Prof David Ritchie** | Peter MacCallum Cancer Centre, Melbourne

**Dr Richard Steele** | Capital and Coast District Health Board

## ADVISORS

**Auditors** | Deloitte

**Bankers** | ANZ Bank

**Investments** | Jarden

**Solicitors** | Simpson Grierson

## MĀORI ADVISORY GROUP

**Dr Clive Aspin** | Senior Specialist Advisor, Suicide Mortality Review Committee

**Dr Amohia Bolton** | Director of Whakauae Research for Māori Health Development

**Dr Maia Brewerton** | Clinical Immunologist, Allergist and Immunopathologist

**Dr Lis Ellison-Loschmann** | Researcher, Centre for Public Health Research

**Dr Willy-John Martin** | Capacity Development Advisor at Callaghan Innovation

**Leigh Potter** | Operations Manager Mātai Research

## STAFF OF THE INSTITUTE 2018/19

### SENIOR RESEARCH STAFF

#### DIRECTOR OF RESEARCH

**Prof Graham Le Gros** | CNZM, FRSNZ, FRCPA (Hon), BSc (Massey), Dip Immunol (Otago), MPhil PhD (Auckland) – Allergic and Parasitic Diseases Programme Leader

#### DEPUTY DIRECTOR OF RESEARCH

**Prof Ian Hermans** | MSc (Distinc) (Otago), PhD (Well) – Hugh Dudley Morgans Fellow, Cancer Immunotherapy Programme Leader

#### CLINICAL DIRECTOR

**Dr Robert Weinkove** | MA (Cantab), MBBS (Hons), PhD, FRACP FRCP – Wade Thompson Clinical Research Fellow

#### PROGRAMME AND GROUP LEADERS

**Prof Mike Berridge** | MSc (Hons) PhD(Auckland) – Distinguished Research Fellow, Cancer Cell Biology Programme Leader

**Dr Olivier Gasser** | MSc (Strasbourg), PhD (Basel) – Translational Immunology Group Leader

**Prof Franca Ronchese** | PhD (Padua), Dip Microbiology – Immune Cell Biology Programme Leader

### SCIENTIFIC STAFF

**Reigh Aguinardo** | MSc – Animal Technologist

**Bethany Andrews** | BMus (Hons) (Cardiff) – GMP Manager

**Astrid Authier-Hall** | BSc MSc (Massey) – Senior Research Officer (*part-time*)

**Evelyn Bauer** | NZCSc, Cert Animal Sci & Tech (Massey) – GMP Production Manager

**Stepana Boukalova** | MSc PhD (Charles) – Visiting Researcher (*to Dec 2018*)

**Prof Antony Braithwaite** | MSc (Hons) (Auck), PhD (ANU) FRSNZ – Visiting Researcher

**Kaitlin Buick** | BBiomedSc (Well) – Master's student (*to Feb 2019*)

**Olivia Burn** | BSc (Hons) (Otago) – PhD student

**Mali Camberis** | BSc PGCertMS (Well) – Head of Laboratories

**Jodie Chandler** | BBiomedSc (Hons) (Well) – PhD student

**Sally Chappell** | BSc (Hons) (Liverpool) – Staff Scientist

**Dr Nathaniel Dasyam** | PhD (Well) – Postdoctoral Research Fellow

**Rebecca Dawson** | BSc (Hons) (Otago) – PhD Student

**Regina Duffield** | BBiomedSc (Melb) – GMP Production Technician

**Brian Duffy** | BSc GDipSc PGCertSc (Well) – Technical Cleaner

**William Duynhoven** | BBiomedSc MDDD (Well) – visiting student

**Dr David Eccles** | BbmedSc (Hons) (Well), BSc (Well), PhD (Well) – Research Fellow (*part-time*)

**Cat Edwards** | BNeuroSc, PGDipSc – Research Assistant (*to Nov 2018*)

**Julia Eloff** | Biomedical Research Unit (*casual*)

**Marie-Sophie Fabre** | BASc (UPS), BSc (UPMC), MSc Biotech (UDS) – Research Officer (*part-time*)

**Kathryn Farrand** | MSc (Massey) – Senior Research Officer (*part-time*)

**Dr Laura Ferrer-Font** | MSc, PhD – Senior Scientist

**Dr Kara Filbey** | PhD (Edinburgh) – Postdoctoral Research Fellow (*to December 2018*)

**Regan Fu** | MSc (Auck) – PhD Student

**Katie Gell** | BBiomedSc (Well) – visiting student

**Dr Philip George** | BSc (Hons) (Bristol), MBChB (Warwick), MRCP (London), FRCPATH – Clinical Fellow

**Aurelie Gestin** | MSc (UPS Toulouse) – Research Officer (*to Mar 2019*)

**Dr Giulia Giunti** | PhD (King's College), MSc (Milano-Bicocca) – Quality Manager, CAR T-cell Programme (*part-time*)

**Carole Grasso** | BSc (Hons) (UWE) – Research Manager

**Phoebe Harnos** | MDDD (Well) – Research Officer

**Amber Harris** | BSc (Well) – Animal Technologist

**Assoc Prof Patries Herst** | MSc, PhD, MPhil – Senior Research Fellow (*part-time*)

**Dr Kerry Hilligan** | MBMedSc (Hons) (Well), PhD (Otago) – International Research Fellow

**Evelyn Hyde** | MSc (Otago) – Senior Research Officer

**Ellie-May Jarvis** | MB ChB (Hons) (Otago) – PhD student

**Angela Jones** | BSc (Hons) (Sunderland), MSc (KCL) – Senior Research Officer

**Jaskirat Kaur** | MSc (Punjabi) – Animal Technician: Surgical Techniques Specialist

**Dr Olivier Lamiable** | PhD (Orleans) – Senior Research Fellow

**Joshua Lange** | BSc (Hons) (Otago) – PhD student

**Brittany Lewer** | MBmedSc (Well) – Research Assistant (*part-time*)

**Yanyan Li** | MBMedSc (Immunol) (Well) PGDip Biomed Science BBIot (Shanghai Fisheries University) – Research Officer

**Tafeuni Mafile'o** | BBiomedSc (Well) – Animal Technician: Biosafety Specialist

**John Mamum** | BBiomedSc (Well) – Animal Technician: Animal Welfare Specialist

**Tom Marsland** | BSc (Hons) (Otago) – Research Officer

**Dr Johannes Mayer** | MRes PhD (Glasgow) – Postdoctoral Research Fellow

**Palak Mehta** | BBiomedSc (Well) – Research Officer

**Dr Brigitta Mester** | MSc (Hungary), PhD (Well) – Senior GMP Production Specialist

**Anna Mooney** | BBiomedSc, MBIomedSc (Well) – Research Officer

**Emma Morris** | BSc (Auck) – Biosecurity Specialist & H&S Coordinator

**Dr Karmella Naidoo** | BBiomedSc (UKZN), PGDipBBMedSc PhD (Well), Nikau Scholar – Postdoctoral Research Fellow (*to April 2019*)

**Sophia-Louise Noble** | BSc (Hons) (Well) – Research Officer

**Yasmin Nouri** | BBiomedSc (Well), MSc (Otago) – Research Officer

**Sam Old** | BSc (Otago), MSc (Melb) – Bioinformatics Research Officer

**Tess Ostapowicz** | Research Nurse

**Dr Christophe Pellefigues** | PhD (Paris) – Postdoctoral Research Fellow

**Lucas Pitt** | BBiomedSc (Well) – Technology Manager Biomedical Research Unit (*to Oct 2018*)

**Kef Prasit** | BA Psychology (University of British Columbia) – PhD student

**Kylie Price** | BSc (Otago), MSc (Hons) (Well) – Head of Research Technology, Hugh Green Cytometry Fellow

**Tara Pritchard** | MSc (Otago) – Research Officer

**Melanie Prout** | BSc (Hons) (Well) – Senior Research Officer

**Ian Saldanha** | PGDipSci (Otago), DipVetNursing (Otago Polytech) – Head of Animal Services

**Alfonso Schmidt** | BSc (Chile) – Staff Scientist: Bio-imaging Specialist

**Emily Schulpen** | summer student

**Katherine Scott** | summer student

**Rhiannon Sexton** | BBiomedSc (Well) – Master's student (*to Dec 2018*)

**Sonali Sharma** | BSc(Hons)(HPU), MSc(SUBMS) – Animal Technician: Reproductive Technologies Specialist

**Sam Small** | BBiomedSc, MCLinIm (Well) – Staff Scientist

**Melanie Steer** | Cert Vet Nursing – Technical Cleaner (*to Jul 2019*)

**Adam Stewart** | BSc (Well) – BRU Deputy Manager, Reproductive Technologies Specialist

**Ching Wen Tang** | MSc (Otago) – Senior Research Officer

**Shiau Choot Tang** | GDipSci (Well) – Senior Research Officer

**Eriuti Tanirau** | Technical Cleaner (Biomedical Research Unit)

**Kirsty Wakelin** | BBiomedSc (Hons) (Otago) – Research Officer

**Xiaodong Wang** | Dip Med Tech, Dip Midwifery (Shanxi) – Senior Animal Technician

**Prof Paul Wallace** | PhD – Visiting Researcher

**Greta Webb** | BBiomedSc (Hons) (Auck) – Research Officer

**Dr Charlotte Williams** | BCom, BVSc – Postdoctoral Research Fellow (*part-time*)

**Michael Wilson** | Honours student

**Dr Katherine Woods** | BA (Mod) Microbiol, PhD (Dublin) – Senior Research Fellow

**Dr Jianping (Mark) Yang** | BM (Shanxi) – Senior Research Officer, Regulatory Affairs Manager

**Brigitte Young** | BBiomedSc (Well) – Animal Technician: Genetic Quality Specialist

**Bibek Yumnam** | MSc (India) – Research Officer

## SUPPORT AND ADMINISTRATION

**Marie Armstrong** | BAP – Head of IT

**Elliott Caldwell** | Dip Comp Networking (CCNA) (CPIT) – IT Support Technician (*to Jul 2019*)

**Hamish Cameron** | BSc (Tech) Biotech (Waikato) – Science Communicator

**Robbie Carmichael** | BDI (Well), Dip Dig Film (SAE) – Research Office Administrator (*part-time*)

**Lee Chappell** | Office and Procurement Co-ordinator

**Sally Culbert** | BBS – Finance (Massey) – Management Accountant (*part-time*)

**Tim Dallas** | Deputy Facilities Manager

**Kira Garbe** | MSc (MolBiotech) (Heidelberg) – Business Development Officer

**Samantha Glanfield** | Translator (*casual*)

**Charlie Holland** | MA (Well) – Community and Māori Engagement Advisor (*to Mar 2019*)

**Hannah Johnstone** | BPsych (Hons) (JCU) – HR Administrator (*part-time*)

**Gay Keast** | Operations Manager, Development

**David Lin** | CA(NZICA), MBA MAF(Well) – Head of Finance

**Yvonne Mackie** | Funding Administrator

**Gail Marshall** | BA, GDipArts (Well) – Head of Communications (*part-time*)

**Heike Menne-Spohr** | BCom (Hons) (UNISA), MCom (Well) – Head of HR and Research Office

**Noriko Murakami** | BA (Tokyo) – Fundraising Administrator

**Maree O'Connor** | DipBusStuds, DipMgt (NZIML) – Assistant Accountant (*part-time, to Mar 2019*)

**Nicola Olson** | CA (NZICA), BA BCA (Well) – Financial Accountant (*part-time*)

**Pat Paiti** | BA BCA (Well) – IT Support Technician

**Isla Perry** | MSc (Hons) (Nottingham) – Fundraising Events and Engagement Advisor

**Lene Petersen** | Accounts Payable (*part-time*)

**Ilse Potes Morales** | BMktg & Advertising (San Martin) – EA to Director, General Manager and Clinical Director

**Raewyn Roberts** | Funding Manager Auckland (*part-time, to Nov 2018*)

**Jenny Sim** | Head of Development

**Darrell Smith** | MSc (Hons) (Well), BSA (Massey) – Head of Facilities (*part-time*)

**Gaia Smith** | General Duties (*casual*)

**Jo Timewell** | Facilities Assistant

**Aprii Ulberg** | Cleaner

**Maggie Weber** | MComm – Fundraising Administrator (*to Apr 2019*)

**Mike Zablocki** | BA (Hons) (Bristol), PGDipBA (Well) – General Manager

**Jesse Zhou** | BCS (China) – Systems Administrator





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