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# SCOPE 88

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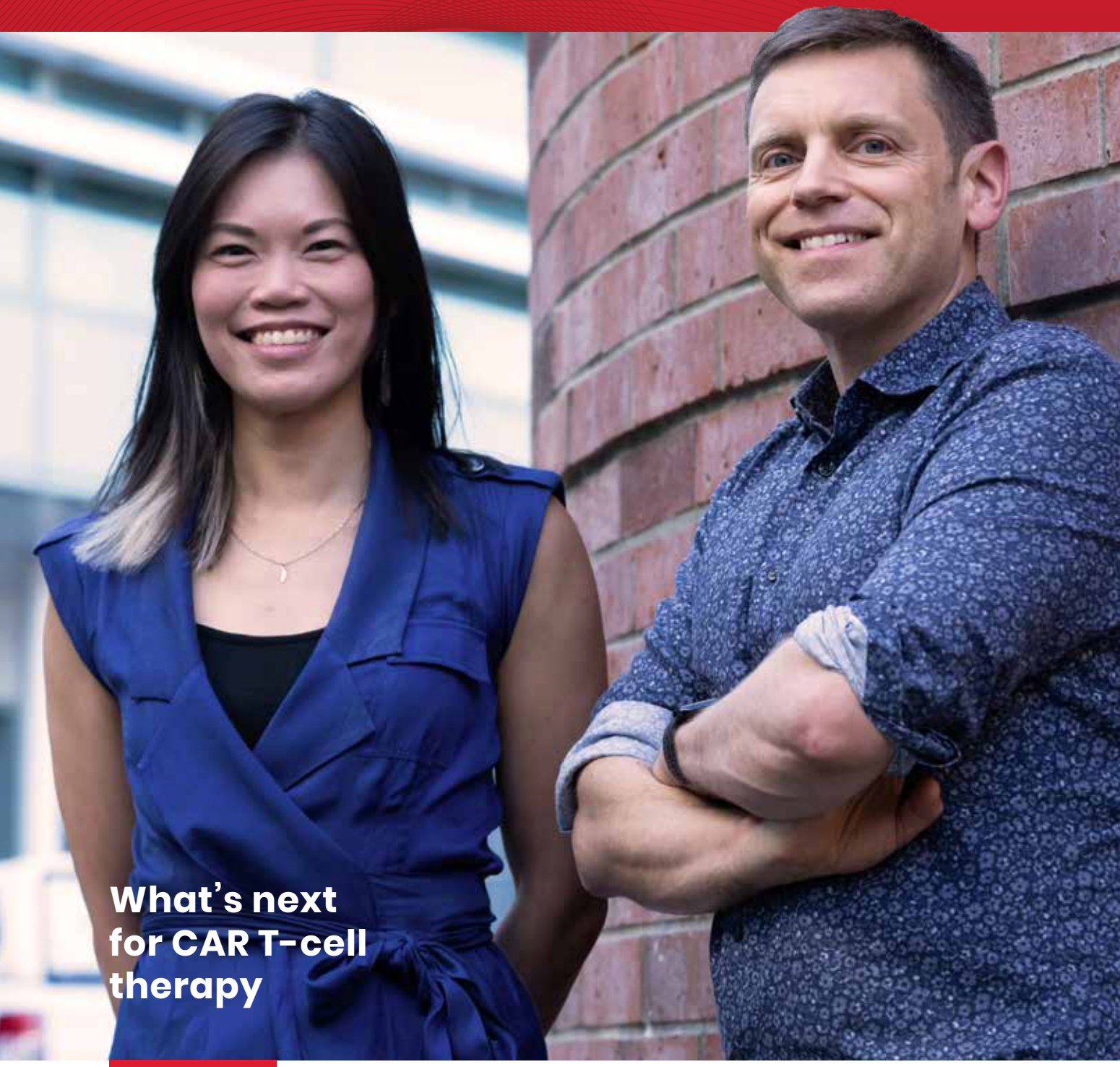
MALAGHAN INSTITUTE OF MEDICAL RESEARCH



## What's next for CAR T-cell therapy

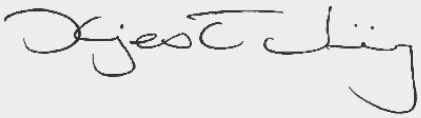
**WHAT'S INSIDE**

## From the Director

Nearly eighteen months into my role as director, I find myself even more passionate about what we are working towards and more aware than ever that our progress is only possible because people like you choose to stand behind us. Following our recent public fundraising campaign for the ENABLE-2 trial, I want to sincerely thank you for the remarkable support that has helped us move one step closer to CAR T-cell therapy being available here in New Zealand.

In this issue of Scope, you can read more about what comes next for our CAR T-cell research, and the vital work our scientists are doing across cancer, allergic and inflammatory conditions, and infectious diseases. While breakthroughs like CAR T-cell therapy often capture the spotlight, they are only possible because of decades of fundamental research happening quietly behind the scenes – the steady, long-term science that builds knowledge piece by piece and creates the foundation for every future breakthrough.

Thank you for believing in the long game and helping fuel the research behind tomorrow's breakthroughs.



**Professor Kjesten Wiig | Director**
BA (Hons), PhD (Otago)

# What's next for CAR T-cell therapy?

When New Zealanders were asked to support the Malaghan's ENABLE-2 CAR T-cell trial, the response was extraordinary. Supporters from across the country have helped close a critical funding gap and got in behind our efforts to bring CAR T-cell therapy to New Zealand. But what does this generous backing mean for our trial, and what's next?

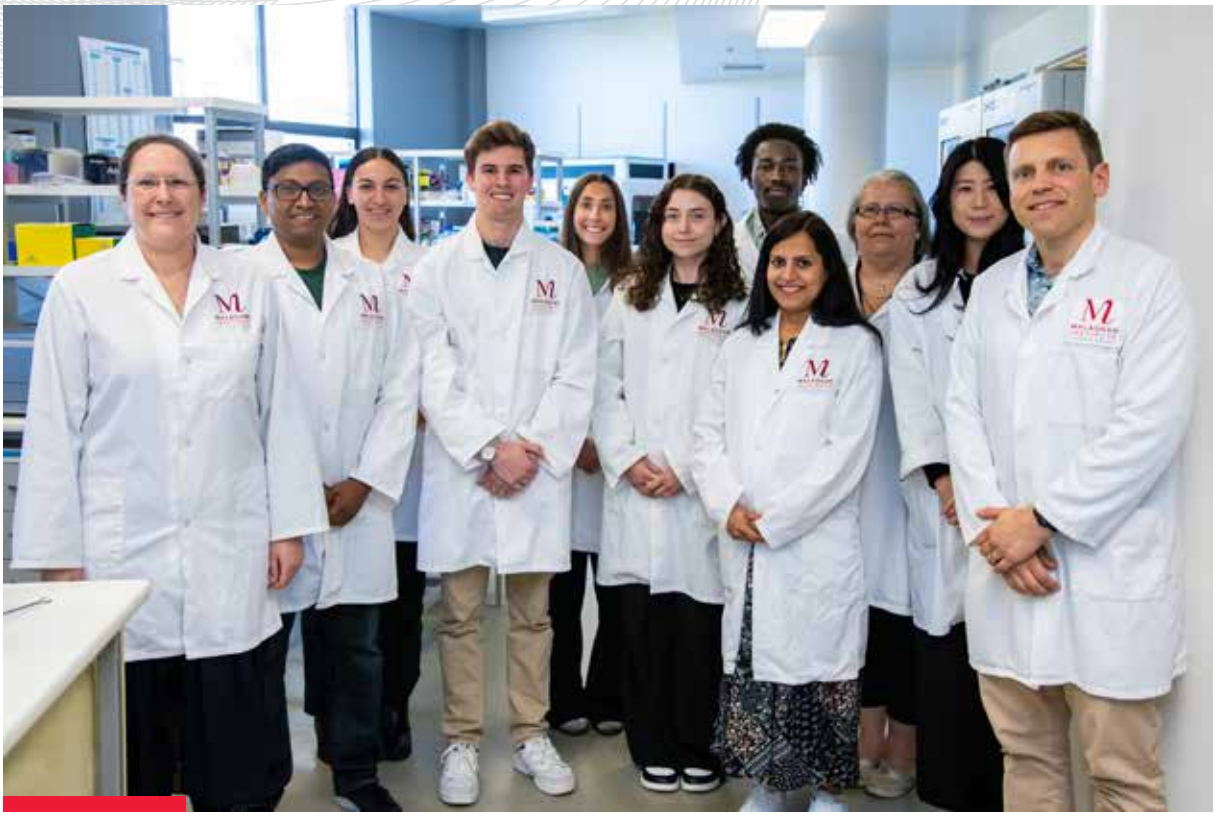
With more than $1.4M raised through our CAR-T vs Cancer campaign and Go the Distance community fundraiser, supporters across New Zealand have helped fund our phase 2 clinical trial designed to confirm the effectiveness and safety of our CAR T-cell therapy and prepare the health system for routine delivery.

"As an independent medical research charity, our donors are critical to enabling us to run clinical trials and demonstrate new ways to bring advanced treatments into the New Zealand healthcare system," says Clinical Director Professor Robert Weinkove.

"While significant philanthropic funding over the last two years made ENABLE-2 possible, the donations and collective support of everyday New Zealanders have made this truly a national endeavour. We are so grateful."

### The value of ENABLE-2

Now past its midway point, ENABLE-2 will cost more than $17 million to deliver – a cost that reflects the substantial overheads, such as



▲ The Malaghan's CAR T-cell research team

clinical management and trial monitoring, that are no longer incurred when a treatment is delivered as standard care.

"When you consider that a single course of CAR T-cell therapy can cost as much as a million dollars overseas, the cost of treating 60 patients through ENABLE-2 starts to look very different. This investment not only treats 60 New Zealanders, but builds the capability to treat many more," says Prof Weinkove.

> "While significant philanthropic funding over the last two years made ENABLE-2 possible, the donations and collective support of everyday New Zealanders have made this truly a national endeavour. We are so grateful."

"This trial is about breaking ground – building the systems, pathways and clinical expertise required to deliver CAR T-cell therapies in New Zealand."

There is still work to be done. We expect to complete patient treatment by early 2027, with results then requiring analysis and peer-reviewed publication – a process that runs in parallel with regulatory review. These results will be critical in determining whether this specific CAR T-cell therapy moves beyond a clinical study. But we are now in a position where CAR T-cell therapy can be delivered in New Zealand, and where the experience gained is shaping how it can be used more widely.

Meanwhile, thanks to its safety profile, our CAR T-cell product is being prepared for investigation in paediatric leukaemia through a partnership between BioOra, our start-up company and manufacturing partner, and Cincinnati Children's Hospital. This reflects growing international interest in this New Zealand-developed CAR T-cell therapy and its possible application beyond adult blood cancers.

## Beyond ENABLE-2

If supported by results from ENABLE-2, we aim to move this form of CAR T-cell therapy beyond a clinical trial and into the New Zealand health system. That transition is already underway. Clinical and manufacturing data are being prepared to support regulatory review, while engagement with Medsafe, Pharmac and Health New Zealand is helping define how CAR T-cell therapies in general could be assessed, funded and delivered within our healthcare system – informed by what has been required to deliver it in practice.

"One of the key objectives of the ENABLE-2 trial is to support potential registration of this CAR T-cell therapy in New Zealand," says Prof Weinkove. "Subject to results and regulatory approvals and funding, our ambition is to see this therapy available through the public health system in 2027 – to limit gaps in treatment availability for those who need it."

BioOra is leading this next phase, carrying forward the manufacturing capability developed through the trial and working with regulators and funders with the goal of delivering this therapy through the public health system affordably, at scale.

> "Our vision is to establish a world-leading centre for rapid early clinical development of CAR T-cell therapies, supporting both Malaghan-developed treatments and those of national and global collaborators."

While our immediate priority is completing ENABLE-2 and the work required to take this therapy beyond the clinical trial setting, we are also laying the foundations for what comes next.

## Agili-T: a new way of working

The ENABLE clinical trial programme has established something that few centres worldwide can claim: the ability to take a new CAR T-cell therapy from early research through to GMP manufacture, clinical trial delivery, and potentially beyond. Building on this foundation, Prof Weinkove is developing a new platform to accelerate the development of new CAR T-cell therapies in New Zealand: Agili-T.

"Completing ENABLE-2 and successfully delivering our current CAR T-cell product for New Zealand would be a huge achievement," says Prof Weinkove. "But current CAR T-cell therapies may only be the beginning of what immune cell engineering can achieve."

Agili-T will combine a structured approach to developing new CAR T-cell therapies, streamlined manufacturing and safety testing, adaptable phase 1 clinical trials, and real-time data integration to guide ongoing refinement.

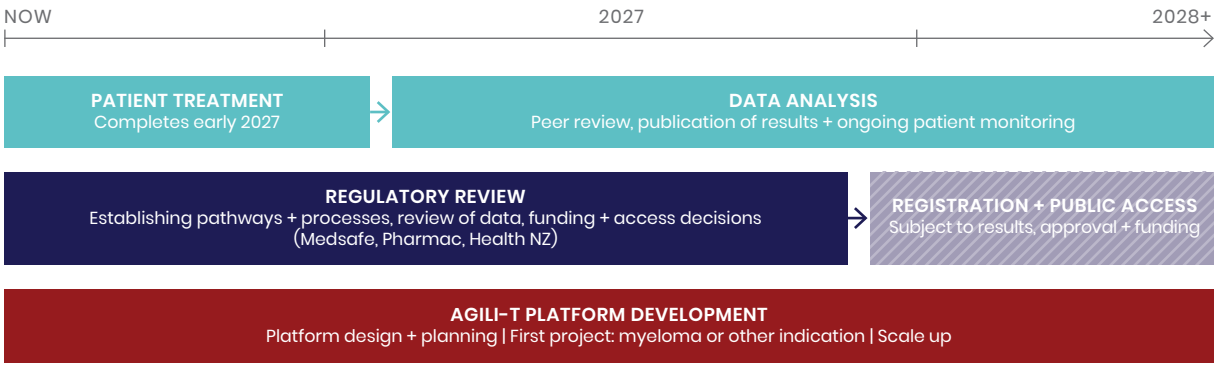
Programme Manager Dr Janice Cheng says Agili-T represents a shift from delivering a single CAR T-cell clinical trial to establishing an ongoing, scalable model for developing multiple therapies, improving the speed at which advances are made.

"Our vision is to establish a world-leading centre for rapid early clinical development of CAR T-cell therapies, supporting both Malaghan-developed treatments and those of national and global collaborators."

The first project for Agili-T will be determined by where the science is most ready to progress. This could include a potential new dual CAR T-cell therapy for myeloma currently in development at Malaghan, alongside opportunities to apply our existing CAR T-cell product to new disease settings or progress new collaborator-led candidates. Over time, the aim will be to scale up to test more therapies sequentially or simultaneously.

"With Agili-T, we're designing the platform that could allow us to develop, assess and refine new CAR T-cell therapies within New Zealand more rapidly. This will be critical to expanding CAR T-cell therapies to new indications, such as other blood cancers, autoimmune disorders or solid cancers," says Prof Weinkove.

"We've demonstrated that world-class CAR T-cell therapy can be developed and delivered here in New Zealand – now we want to build on that, so New Zealanders can be among the first in the world to benefit from the latest advances in the field."




Timeframes are indicative only

▲ Dr Rachel Perret and Professor Robert Weinkove

# Researchers explore 'RENTAL CAR' approach to CAR T-cell therapy

The Malaghan Institute and New Zealand's RNA Development Platform are combining their strengths to explore a new approach to CAR T-cell therapy that harnesses RNA's natural properties to temporarily reprogramme a patient's immune cells to target disease.

The collaboration, led by the Malaghan Institute's Professor Robert Weinkove and Dr Rachel Perret, is being supported by an RNA Development Platform Tactical Research Grant, designed to offer short, focused investment to generate proof-of-concept data.

"RNA technologies offer the potential to produce CAR T-cells quicker with fewer long-term risks than current therapies," says Dr Perret. "These approaches may also extend CAR T-cell therapies beyond cancer to autoimmune diseases such as lupus – conditions where you want to eliminate a specific harmful immune response, not permanently alter the immune system."

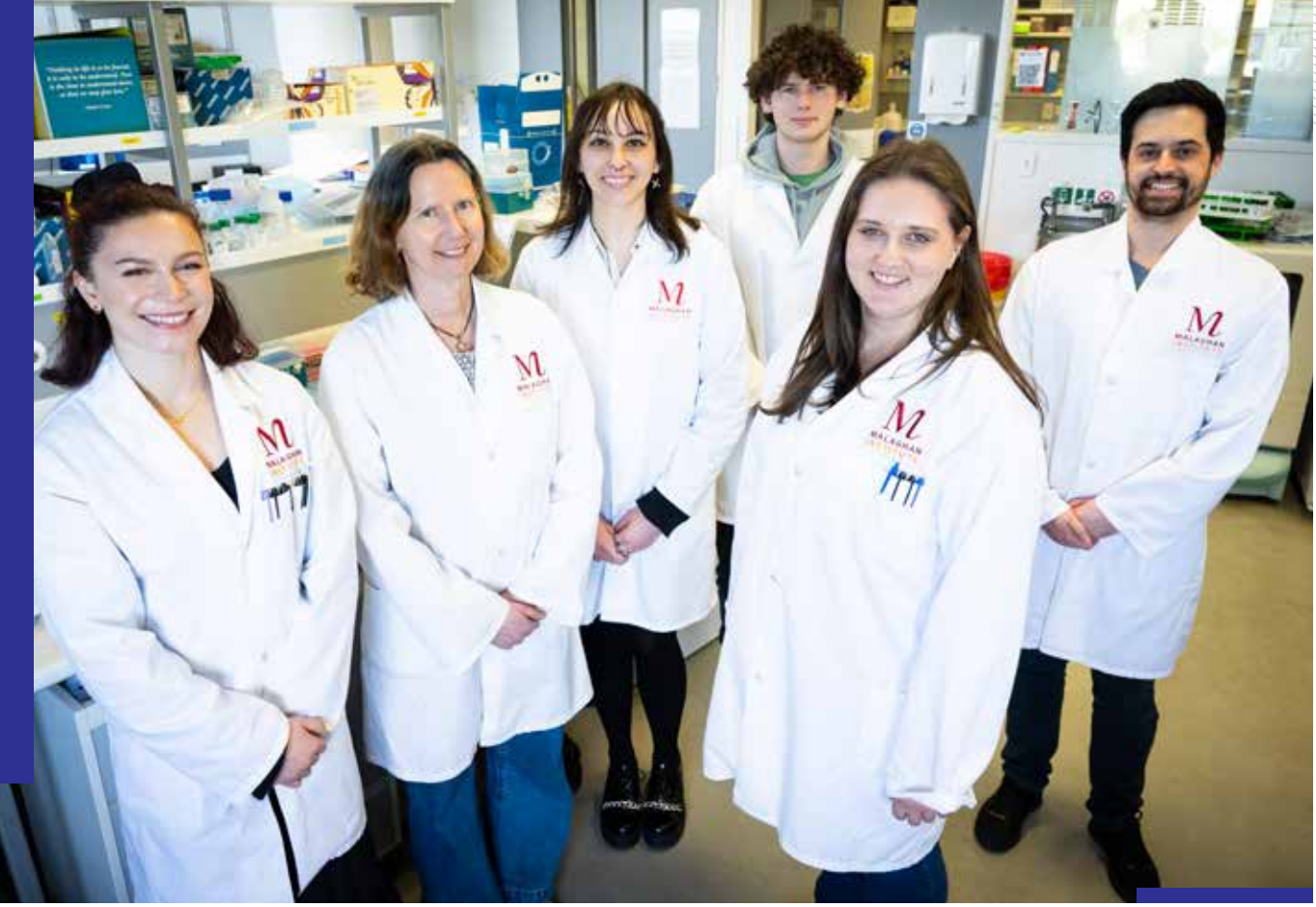
Nicknamed 'RENTAL CARS', these engineered cells are designed to disappear naturally from the body once their mission is complete. Rather than permanently rewriting a cell's instructions, RNA acts as a temporary message – like a Post-It note instead of a tattoo. The cell carries out its task, the message degrades, and the modification disappears.

Over the next year, the team will optimise RNA design and delivery systems to lay the groundwork for future development.

"For some conditions, temporary immune cell programming with RNA might be preferable to long-term modification," says Prof Weinkove. "This laboratory project combines new chemistry, new immune cell targeting methods, and new RNA designs. It could open up genuinely new clinical possibilities."

Future applications of this technology could include severe autoimmune diseases such as lupus, where precisely targeted and reversible immune reprogramming could offer significant advantages over current treatments. Longer term, the team aim to develop 'off-the-shelf' RENTAL CAR therapies that could be delivered like a vaccine, removing the need for each treatment to be individually manufactured from a patient's own cells, dramatically expanding access to the treatment.

"This study is intended to act as a catalyst for a larger research programme and future funding," says Dr Perret. "Growing our ability to design and use RNA CAR T technologies will allow us to develop new immunotherapies for a range of diseases – therapies that could be safer, more accessible, and more affordable than those available today."



▲ The Hilligan Lab, clockwise from left, Rebecca Palmer, Melanie Prout, Caitlin Dorset, Casper Rifkov, Kit Moloney-Geany and Dr Kerry Hilligan

# Fungal interactions in the lung and their impact on health and disease

Every day we breathe in thousands of fungal spores – microscopic particles smaller even than pollen. Because of their diminutive size, these spores can penetrate deeply into the furthest reaches of our lungs where they settle until our immune system can deal with them.

But how does our immune system cope with such a constant presence of foreign particles? And how do these spores affect our wider health? These are some of the questions driving the Hilligan Lab's research.

"We work with a fungus called *Aspergillus*, one of the most ubiquitous classes of fungi present in almost every environment," says Dr Kerry Hilligan. "The interaction of these microscopic spores and the cells that line the lungs has huge implications for both health and disease."

Dr Hilligan and her team want to better understand how these interactions shape immunity – where it is maintained or strengthened, or where this relationship causes disease – and what this could mean for future treatments.

## Immune protection

One of the Hilligan Lab's projects is looking at how the presence of *Aspergillus* spores may protect us from life-threatening infections like the flu.

"Early exposure to common microbes like fungi can be important to train the immune system to respond more effectively when it encounters serious infections like flu or COVID-19," says Dr Hilligan.

In preclinical studies, the lab found that prior exposure to fungi resulted in increased survival when challenged with a flu infection.

"We want to know what's causing this broader protection."

PhD student Caitlin Dorset is following this interaction closely in her research, looking at what happens in the first few hours after flu infection, and how the immune system eventually restores balance – in the presence or absence of prior fungal exposure.

"We'd obviously like to get to a point where we're not relying on one infection to protect us from another," says Dr Hilligan. "But by understanding how fungal exposure promotes this journey from viral infection to recovery and tissue repair, Caitlin's work is revealing the kinds of molecules that might act as natural regulators of the immune system.

"These could form the basis of new therapies that protect our lungs against damage during viral infection. While we haven't yet found a smoking gun, we're getting close."

## Driving asthma

For most people, *Aspergillus* spores enter the lungs and are eventually cleared without fanfare. But for some people, the presence of these fungi can be a persistent irritant and a driving force for fungi-derived allergic asthma – one of the more severe forms of the disease and poorly understood.

This is another line of investigation for the Hilligan Lab, who are looking into the cellular steps that drive the allergic response, and whether the process can be stopped.

"In cases where the immune system is responding inappropriately to something in the lung, we see asthma. We believe this is particularly relevant for fungi because they penetrate so deeply into the lung that when the immune system overreacts, it causes extensive irritation and damage, exacerbating symptoms."

> Dr Hilligan and her team want to better understand how these interactions shape immunity – where it is maintained or strengthened, or where this relationship causes disease – and what this could mean for future treatments.

Like all inappropriate immune reactions, asthma and allergies are caused by the wrong parts of the immune system being stimulated.

"For fungal clearance, the immune system uses what's called the Th17 response. However, in the case of asthma, we're seeing a different arm stimulated as well, the Th2 response. This is what's driving those allergic symptoms."

Melanie Prout, a senior research officer in Dr Hilligan's team, has been studying Th2 responses in the skin and lung for over 20 years. She is now lending her expertise to fungal-induced asthma to pinpoint the specific cell types in the lung that trigger the allergic cascade.

Alongside Melanie, PhD student Rebecca Palmer is working to understand why and how the wrong part of the immune system is being recruited to fight off these fungi and identify strategies to get the immune response back in balance.

"As an immunologist, getting to look at the fundamental building blocks of the immune system is really fascinating. We have all these different cell types lined up like dominoes and we're trying to understand which cell's involved in which order. If we can find that first domino and stop it from falling we have a real shot at preventing these kinds of diseases from occurring," says Rebecca.

## When *Aspergillus* takes hold

In rare cases, instead of lying dormant in the lung, *Aspergillus* finds the right conditions to germinate and start growing filaments. If these filaments can't be cleared in time, it can spell disaster.

"For people who are immune-compromised or with certain pre-existing conditions, it's a life-threatening infection, with about a 40 percent mortality rate," says Dr Hilligan. "The fungi are too deep in the lung to easily clear and antifungal drugs are not only toxic to the body, but they're also not very effective in the absence of a well-functioning immune system."

Dr Hilligan has been working with Dr Johanne Jacobsen from the University of Oslo's Institute of Immunology, who has been designing novel therapeutic antibodies to more effectively clear *Aspergillus* infection.

"It's a project we're excited to dive into," says Dr Hilligan. "With environmental fungal loads increasing due to climate change, and more people than ever susceptible to fungal infections, it's vital that the scientific community respond to the WHO's call for new strategies to combat fungal disease."

▲ From left: Dr Lisa Connor, Dr Michelle Linterman and Professor Ian Hermans

# The evolution of one of humanity's oldest immunotherapies

Long before immunotherapy became one of the biggest frontiers in modern medicine, vaccines were already doing something extraordinary. They were teaching the immune system how to recognise danger, remember it and respond faster the next time it appeared. Vaccines are the original immunotherapy.

That idea has shaped decades of research at the Malaghan Institute. Today, scientists at the Malaghan are exploring RNA technologies, programmable vaccine platforms and human immune models that would have seemed impossible a generation ago. But the work is still built on the same central question researchers have been asking for years: how can we train the immune system more effectively?

For Professor Ian Hermans, the story stretches back to some of the institute's earliest cancer immunotherapy research.

"When I started at the Malaghan, we were developing dendritic cell vaccines designed to train the immune system to recognise cancer," says Prof Hermans. "Those early studies were really about understanding how you could direct immune responses in a very deliberate way."

The work progressed into clinical trials for patients with many different types of cancer and helped establish some of the Malaghan Institute's earliest translational research capability.

"That was really the beginning of building vaccine capability here," he says. "We were developing the expertise, the facilities and the systems as we went."

Years later, when Covid-19 emerged, that capability suddenly became critically important. In 2020, Vaccine Alliance Aotearoa New Zealand – Ohu Kaupare Huaketo (VAANZ) was established as part of the Government's Covid-19 vaccine strategy to rapidly strengthen New Zealand's vaccine development and manufacturing capability.

One of the most important aspects of VAANZ was the way it united researchers and manufacturers from the very beginning.

"One of the real strengths of the Vaccine Alliance was bringing commercial manufacturing and academic research together early," says Prof Hermans. "It created a genuine development pipeline within New Zealand."

VAANZ built the foundations for future RNA vaccine capability in New Zealand, but the science underpinning it had been building for decades.

"To the public, mRNA vaccines can feel like a completely new technology," Prof Hermans says. "But researchers have been working with RNA-based therapies and vaccines in cancer for many years. Covid accelerated the field enormously, but the groundwork had already been developing for a long time."

That momentum has continued beyond the pandemic. Today, the national RNA Development Platform is building directly on capability and investment established through VAANZ, producing RNA products for projects spanning cancer research, infectious disease, animal health and plant science.

For Malaghan Institute Director and Co-Director of the RNA Development Platform Professor Kjesten Wiig, the platform represents a major step forward for New Zealand science.

"The Covid-19 pandemic showed the world what RNA technology can do," she says. "This platform is about making sure New Zealand does not get left behind. It is about building national capability and creating opportunities for new therapies and vaccines that can have real impact."

The rapid growth of RNA technology has transformed what researchers can now ask of the immune system. One of the most exciting aspects is the ability to design vaccines with far greater precision than ever before.

"We can now use RNA technology almost like a design tool," says Dr Lisa Connor. "It allows us to ask much more precise questions about how immune responses are formed and then build vaccines that shape those responses in very specific ways."

Rather than vaccines being static interventions, they are becoming programmable tools for guiding the immune system with increasing precision. Researchers can now rapidly test how the immune system responds to different designs.

"With mRNA vaccines, we are no longer restricted to using a whole pathogen exactly as it exists in nature," says Dr Connor. "We can identify the parts we think the immune system should target and then refine them further to make them even more effective at generating an immune response."

Once encoded into the RNA sequence, the body's own cells temporarily produce the target protein and present it to the immune system, allowing researchers to closely study the resulting immune response. The speed and adaptability of the platform means scientists can rapidly test new ideas and iterate designs much faster than with traditional vaccine technologies.

That flexibility is also opening new opportunities for collaboration across the Malaghan Institute. While Dr Connor's team focuses on designing and refining vaccine technologies, Dr Michelle Linterman's research explores how the immune system responds to vaccination at a cellular level. Together, the teams are investigating whether specific immune enhancing signals could be built directly into vaccines themselves, helping generate more targeted immune responses.

"When different groups bring complementary expertise together, you can move much more quickly from an idea through to testing," says Dr Linterman. "That is really the vision for our next generation vaccines research."

One example is the use of human organoid systems, laboratory grown models of human tissue that allow researchers to study immune responses in ways that are more directly relevant to human biology. These systems are now being integrated alongside traditional preclinical models to strengthen the connection between laboratory discovery and real world health outcomes.

"We want to make sure that what we are learning in the lab is as relevant to human biology as possible," says Dr Linterman. "It is about having a strong bridge between discovery science and real world applications."

And while RNA technology may represent the newest chapter in that story, it is still part of a much longer journey that began with some of immunology's earliest ideas.

The next generation of vaccines is not a departure from traditional immunology, but a continuation of it, built on the same fundamental principles that have guided the field for centuries.

## VACCINES
### NOT JUST PREVENTION

Not all vaccines are designed to prevent disease.

**PREVENTIVE VACCINES** prepare the immune system before it encounters a threat – think measles, influenza or Covid-19.

**THERAPEUTIC VACCINES** are designed to treat people who are already ill, training the immune system to fight an existing disease, like cancer.

# IN FOCUS

## THE SCIENCE BEHIND TOMORROW'S TREATMENTS

▲ Professor Franca Ronchese

For decades, Professor Franca Ronchese has been asking some of the biggest questions in immunology: how the immune system recognises and remembers threats, why cancers can evade it, and why it sometimes turns against harmless substances like pollen or food. From early research in Italy, to building the foundations of immunology research in New Zealand, her career has helped shape understanding of how the immune system works, paving the way for current and future treatments.

Today, immune-based treatments are transforming how we target cancer, allergies and inflammatory disease. But every one of these advances traces back to a more fundamental question: how does the immune system decide what to fight?

It's a question that has guided Franca's career for decades.

"My former boss at NIH once told me, 'If you don't understand how it works, you cannot make it better,'" Franca recalls. That lesson that has inspired decades of fundamental immunology research that is ultimately leading to better treatments.

Originally from Italy, Franca studied at the University of Padova before beginning an international research career. She spent four years as a postdoctoral researcher at the National Institutes of Health (NIH) in the United

States, before becoming an independent scientific member at the Basel Institute for Immunology in Switzerland.

In 1994, Franca brought that global expertise to New Zealand, joining her Kiwi husband and fellow immunologist, Professor Graham Le Gros. As Graham took on the role as director, Franca established her own research programme and helped lay the scientific foundations that would shape the institute's future, focused on immunology.

At the time, the institute's research infrastructure was far smaller than the major research organisations she had worked in, but Franca was committed to showing that world-class science could be done in New Zealand.

"I was always told that nobody who goes to New Zealand ever does anything useful," says Franca. "I think it depends on the kind of person you are. You can either listen to that, or you can say, 'I'll show you."

Much of Franca's work has focused on understanding how the immune system interprets danger.

Central to this work are dendritic cells, often described as the immune system's sentinels. These are among the first cells to encounter anything entering the body - whether it's an infection, a tumour, or something harmless like pollen. Their role is to interpret what they find and guide how the immune system should respond.

Franca's research has helped show that these early decisions are critical. Rather than simply reacting, the immune system is instructed from the very beginning. Those initial signals help determine whether the body mounts a protective response, attacks cancer cells, or develops an allergic reaction.

This shifted how scientists viewed immunity, showing that immune responses are shaped at the very first point of contact.

That insight has been instrumental in cancer research. By understanding how immune responses are initiated, scientists can better harness them to recognise and destroy tumour cells. This knowledge now underpins many modern immunotherapies, which aim to train the immune system to do what it is naturally capable of doing, but more effectively.

Modern cancer immunotherapies such as CAR-T cell therapy rely on decades of research into how immune cells are activated, regulated and directed. Research into dendritic cells and T-cell activation has helped define the biological 'rules' that engineered immune cells must follow, shaping how these therapies are translated into clinical trials.

"It goes to show that you have to learn the basic things to do the extraordinary things," Franca says. "If you never start small, you will never finish."

Although Franca's work spans cancer, allergy and inflammatory disease, she sees the immune system as a connected network rather than isolated pathways. The same pathways that help fight cancer can also contribute to allergic disease or inflammation. Understanding these shared mechanisms allows discoveries in one area to inform another.

But the immune system does not always get it right.

"In many diseases, it's not something wrong with the immune system itself, but rather it reacting to the wrong thing, or not reacting when it should," she explains. "If the immune system reacted correctly, then we wouldn't have disease. So, as an immunologist, I think I can do something about it."

Alongside cancer, Franca has spent decades investigating allergic disease, asking why the immune system sometimes reacts to things that are harmless. Her research explores the earliest stages of the allergic response, particularly in tissues such as the skin and airways, where many allergies begin. By understanding these early signals, her team is working towards a new goal: preventing disease before it develops, rather than simply treating symptoms.

From uncovering how immune cells first interpret danger to understanding how those same processes can be misdirected in disease, Franca's work consistently returns to one principle: fundamental understanding comes first.

For Franca, the value of science lies not only in the therapies it eventually produces, but in the foundation it creates for future discovery.

"Everything depends on our understanding of science," she says. "If you don't understand science, you don't understand nutrition, you don't understand how to look after your health. Science is not just for the lab – science is for life."

In Focus is a monthly e-update taking a close up look at our research and the scientists behind it. If you're not already subscribed, you can sign up on our website **malaghan.org.nz**




# Going the Distance for CAR-T

This April, hundreds of incredible Kiwis from across the country came together to Go the Distance in support of bringing CAR T-cell therapy to New Zealand.

From walks and runs to bike rides, rock climbs, tramps and community meet-ups, every kilometre completed and every dollar raised helped support the Malaghan Institute's ENABLE-2 clinical trial – a critical step towards making CAR T-cell therapy available through the public health system.

Together, our Go the Distance community travelled an incredible 32,378 kilometres and raised more than $206,000.

For many participants, the challenge became about more than just moving their body. It was a chance to honour loved ones, challenge themselves, connect with others, and contribute to better outcomes for people facing cancer.

The challenge may be over, but the impact of this community continues. Thank you to everyone who walked, ran, cycled, fundraised, donated and went the distance.

GO THE DISTANCE

# One dollar a day

## In memory of George Wall, 1942–2025

For George Wall, supporting medical research was about hope. Hope for better treatments, for future generations, and for the possibility that New Zealand scientists could change lives through discovery. He believed in the power of science to make a difference and understood that meaningful progress is built through many people each playing a part.

After visiting the Malaghan Institute in 2018, George and his wife Lenna made a commitment: to donate one dollar a day in support of life-saving research. Grounded in George's belief that every contribution matters, their support was never about the size of the gift, but about being part of something bigger.

"George was always interested in all things scientific," Lenna recalls. During his visit, George met some of the Malaghan team, toured the facilities, and learned more about the research underway. The experience left a lasting impression. Lenna remembers his enthusiasm. "He was extremely impressed with the warm welcome – you were all very kind to him, the facilities he was shown, and the scope of the research."

When he returned home to New Plymouth, they decided to contribute regularly to support the Malaghan's work.

"He figured the old adage was true, every little bit helps!"

▲ George Wall with scientist Sophia Noble when he visited the Malaghan in 2018

George had deep faith in the future of medical research in New Zealand and in the work being carried out at the Malaghan Institute. That belief continues through Lenna, who has chosen to continue supporting the Malaghan in George's memory.

"He had great faith in the future of the Malaghan Institute, as I have, and we are happy to continue donating in his name. It is a small legacy he would have wanted."

George's story is a reminder that lasting impact is built not only through major breakthroughs, but also through the steady generosity of people who believe in a better future. Through supporters like George and Lenna, research can continue to move forward, one day at a time.

My name is Georgia, and I'm the Legacy Giving Specialist at the Malaghan Institute. As a non-profit, purpose driven organisation, a significant portion of our funding comes from philanthropy, particularly gifts left in wills to the Malaghan Institute. Whether you're just beginning to think about your will or already have plans in place, I'm here to support you. If you'd like to confirm your intentions for a gift, or simply explore how your legacy – no matter the size – can help empower Malaghan researchers with their work, I'd be honoured to assist.

Please feel free to get in touch with me directly at gardillwalker@malaghan.org.nz, or visit **donate.malaghan.org.nz/giftinyourwill** to learn more.

# FROM SUMMER STUDENT TO MASTER'S RESEARCHER

When Jaycee Kohrt joined the Malaghan Institute as a summer student at the end of 2025, she wanted insight into life as a researcher. Now she's completing her Master's project here, and looking forward to a career in science.

### 1. What first drew you to science?

It was a combination of enjoying year 10 science, loving animals and completing the Seek careers quiz. While the quiz told me my top match was 'dog walker', I kept looking through the list and saw *scientist*.

I saw a lot of myself in that word. I've always been curious, always asked why, and have been fascinated by the microscopic world that exists beyond what we can physically see. That felt like a real lightbulb moment.

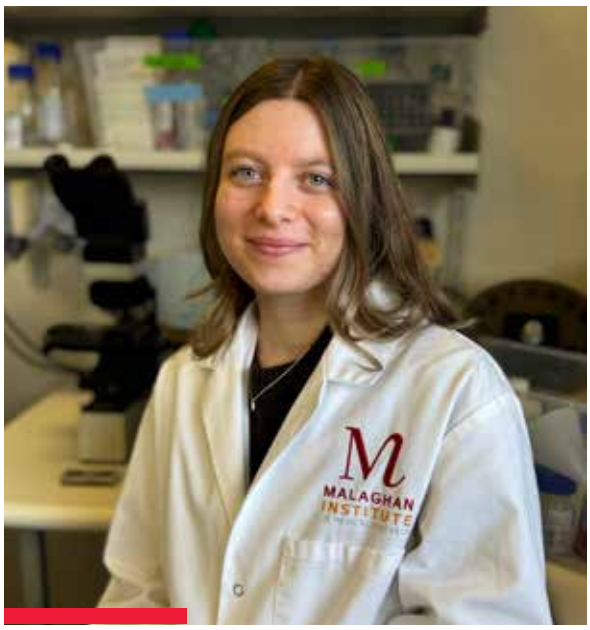
### 2. Why did you apply to the Malaghan Institute for a summer internship and how did that lead to your Master's?

I attended a workshop at the Hugh Green Technology Centre as a Victoria University biomedical science student earlier in 2025 and loved how supportive and passionate everyone was. It was the first time I really got to experience what being a researcher looked like day-to-day.

Immunology was already my favourite subject, so when I learned the Malaghan was an immunology institute, I knew I wanted to apply for the summer internship and was lucky enough to be offered one. The more time I spent here, the more passionate I became about the research and collaborative environment. During my internship I started working on a project with the Hilligan Lab, and was excited when there was an opportunity to continue that research through a Master's degree.

### 3. What is the focus of your Master's research?

I'm researching small immune hubs in the lungs called tertiary lymphoid structures, which develop after viral or fungal infections. These structures help immune cells communicate effectively and produce strong antibodies close to the site of infection.




▲ Jaycee Kohrt

My project focuses on developing three-dimensional imaging techniques to better understand how these structures are organised. We hope this research could eventually provide insight into how tertiary lymphoid structures might be used as future vaccine targets.

### 4. Where do you see yourself in five or ten years?

I'd love to continue working in a space where every day looks different and where I can experience different sides of science, like I do now through both research and imaging support work.

Whether that's through a PhD, science communication, or both, I know I want to stay connected to research and help bring the incredible work scientists do out into the world.

### 5. What's something being at the Malaghan Institute has taught you?

The Malaghan has taught me the power of collaboration. You never achieve greatness alone. It is always with the support of one another that challenges can be overcome, new questions asked and – most of all – we gain the confidence to excel.

## Back the research behind the breakthroughs

Every breakthrough we make begins with you. Your belief in the power of science transforms possibility into progress and turns bold ideas into real, life-changing impact.

Across the Malaghan Institute, our scientists are working to better understand the immune system and its relationship to human health – laying the foundations for future breakthroughs in cancer, allergies, inflammation and infectious disease.

Research like this takes time. It relies on curiosity, persistence and the support of people who believe in a healthier future for all New Zealanders.

Thank you for being part of this journey. Your support helps empower our scientists to turn discovery into impact and bring life-changing treatments closer to the people who need them.

TO DONATE, SIMPLY SCAN THE QR CODE, OR VISIT

**donate.malaghan.org.nz**

You can also give our friendly fundraising team a call on 04 499 6914

If you would prefer, you can also donate via direct deposit into our bank account.

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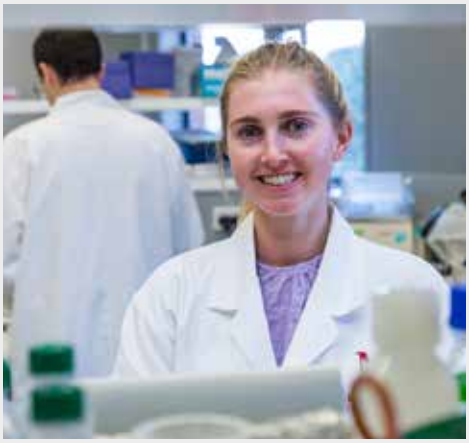

> **"Our goal at the institute is to ensure that our research is relevant to all New Zealand patients, and that we are developing treatments that are accessible for all. We're so lucky at the Malaghan to have been supported by so many philanthropic donors. This really starts our projects, helps our projects to continue and then gets it over the finish line."**
>
> – Dr Olivia Burn

THANK YOU TO OUR PARTNERS

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