

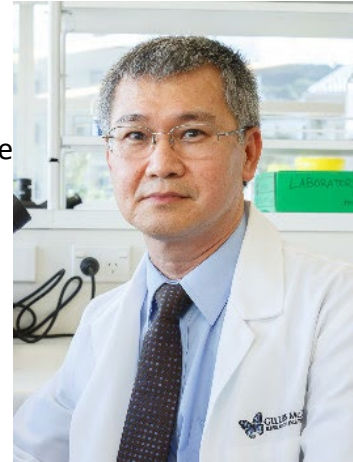


GILLIES McINDOE
RESEARCH INSTITUTE
Pioneering future treatment of cancer

New opportunities and big challenges

Already we've seen some wonderful things this year. We're so much closer to starting our phase II glioblastoma clinical trial thanks to the fundraising efforts of our supporters and some generous donations. We're very grateful for their work, and for the generous \$1 million donation from the Hugo Charitable Trust. These donations bring the start of our glioblastoma clinical trial one big step closer.

Our researchers continue their ground-breaking work. We look forward to seeing what Erin Paterson achieves in her new role as Laboratory Manager/Senior Laboratory Technician, and what Freya Weth discovers in her PhD with us. Dr Matt Munro is developing organoids, which promises to be more efficient and effective for testing treatments for colon cancer.



It's hard to believe that the GMRI is approaching its 10-year anniversary next year. Our key people got together last month to discuss strategy and focus on the GMRI's short-term and long-term goals.

A handwritten signature in black ink, appearing to read 'S. Tan', written in a cursive style.

Dr Swee Tan ONZM, MBBS FRACS PhD
Executive Director

We are making changes to our database to enable better digital communication and to keep our costs down.

If you would like to continue receiving communication from us please provide an email address to Cindy Naresh, ea@gmri.org.nz or phone 04 282 0366.

If you DO NOT have an email address and would like to continue receiving communication from us, please ring Cindy Naresh 04 282 0366 to confirm your address details.

A \$1 million gift brings our glioblastoma clinical trial closer



Members of Living Options and the Hugo Charitable Trust visiting the GMRI. From left to right: Alison Wildey, Lorenzo Chambers, Maryanne Green, Aioibheann Monaghan, Dr Swee Tan, and Mark Owens.

We're very grateful to the Hugo Charitable Trust for their generous donation of \$1 million towards our phase II clinical trial on our new treatment for glioblastoma. Glioblastoma is a severe, usually fatal, brain cancer. The Trust's donation brings us significantly closer to starting the trial.

Our phase I glioblastoma clinical trial shows promising results

Our phase I glioblastoma clinical trial shows that our new treatment is safe, with few minor side effects, and that patients maintain their quality of life during treatment. The trial included a small number of participants who had relapsed following conventional treatment and had no other treatment options available.

The results show a median increase in survival of 5.3 months. These results are encouraging, but not statistically significant because of the relatively small number of participants. We need to investigate further to confirm how effective the treatment is.

[Results of our phase I glioblastoma clinical trial](#)

We'll treat more patients at an earlier stage in our phase II clinical trial

In our phase II clinical trial, we'll treat 75 patients with glioblastoma soon after their diagnosis. Patients will also continue to receive conventional treatment, which involves surgery, radiotherapy, and chemotherapy. We plan to start the phase II trial in a staggered manner once we reach \$1.5 million in secured funds.

Hugo's Chief Executive Aoibheann Monaghan says they believe in our work and the impact our research is making.

'Swee is leading a team of researchers at the GMRI trialling a novel treatment approach to improve the life outcomes of cancer sufferers, and we back him all the way,' she says.

This is the second donation that the Hugo Charitable Trust has made to our research. In 2018, they gave us \$300,000 which we put towards our cancer research programme.

[Hugo Charitable Trust's first donation to us](#)

We're very grateful to have Hugo's ongoing support and we hope other philanthropists, trusts and donors will help us get the phase II glioblastoma clinical trial off the ground.

This timely donation coincides with Brain Tumour Awareness Month

The month of May was Brain Tumour Awareness Month. Thanks to organisations like Brain Tumour Support NZ, patients and their families have someone they can go to for free guidance and support.

[Brain Tumour Support NZ website](#)

Find out more about the Hugo Charitable Trust donation and the GMRI's clinical trial

Check these links to find information on this generous donation.

[New trial to give valuable extra months to hundreds of brain cancer patients | Stuff.co.nz](#)

[Annual Reports & Stats | Hugo Charitable Trust](#)

The Hugo Charitable Trust

Maryanne Green founded the Hugo Charitable Trust five years ago to remember and continue the generous giving of her father, the late pioneering businessman Hugh Green.

[Hugo Charitable Trust website](#)



Organoids provide a promising way for testing cancer treatments



Dr Matt Munro is creating colon organoids from colon tissue samples to test how effective different cancer treatments are.

Dr Matt Munro is developing colon organoids to test the effectiveness of possible treatments for colon cancers. The human organoids are miniature ‘organs in a dish’, created from human tissue samples. Organoids could one day be used routinely to test new treatments and customise treatment for individual patients to improve their outcomes.

Each organoid is grown from a tissue sample, so it has very similar cellular and genetic characteristics as the organ or tumour it replicates. If a treatment works on an organoid derived from a patient’s own tissue, it has a higher chance of working on the patient themselves.

The GMRI Post-doctoral Fellow believes colon organoid models give the GMRI a new way to test a greater range of treatments more efficiently.

‘The colon organoids will allow me to perform more in-depth experiments using renin-angiotensin system inhibitors on colon cancer, and analysing how the treatments affect the colon cancer cells in the organoids,’ says Matt.

Matt is excited about what this research can do for patients, as using organoids is one of the go-to techniques for biomedical research.

In the future, organoid models could be a way to decide specific treatments for individual patients, by treating the models with a range of drugs to see which one works best.

‘This should lead to an overall improvement in how patients respond to treatment and the success of treatment,’ says Matt.

Matt's research continues on from his PhD

This research continues on from Matt's PhD project, in which he investigated the role of cancer stem cells and the renin-angiotensin system in colon cancer.

Once the research and testing for this project is done, Matt and Dr Lifeng Peng at Victoria University of Wellington will do a mass spectrometry analysis on the organoids. The analysis is a way of measuring the functional impact of the treatments on cancer cells.

'There are not many studies using this method to analyse treated organoids yet, so it will be an interesting avenue of research for us,' he says.

The next phase of research uses organoids to test the safety of effective treatments

Once we've identified effective new treatments from Matt's current research, we'll be able to test the safety of these treatments.

Matt will start growing pairs of organoids from each patient: one organoid from normal colon tissue and one from colon cancer tissue. Then he'll test the treatments to make sure they only affect the colon tumours and don't harm the normal colon.

We're aiming to develop colon organoids from 12 patients for this project, and are very grateful for the support of surgeons at the hospitals across the Wellington region.

Matt's research continues to be recognised worldwide

Matt's research into colon cancer has so far resulted in five published papers in internationally renowned journals, with a sixth on the way. Here are a few:

- [Colon adenocarcinoma-derived cells possessing stem cell function can be modulated using renin-angiotensin system inhibitors](#) (2021)
- [Colon adenocarcinoma-derived cells that express induced-pluripotent stem cell markers possess stem cell function](#) (2020)
- [Cancer stem cell subpopulations in primary colon adenocarcinoma](#) (2019)

Matt also recently featured in Te Herenga Waka — Victoria University of Wellington's alumni magazine. He discussed his PhD project which investigated whether existing medications could be used to target colon cancer stem cells.

[Read the article in the alumni magazine](#)

Iron women, a mountain challenge, and butterflies — three of our amazing supporters' stories



Sarah Hogan (right) and Emma Treadwell (left) finishing the 2022 Ironman in Port Macquarie, Australia, raising funds for our glioblastoma clinical trial.

Our ambassadors go up mountains, around countries, and push themselves really hard — for our cause, and for New Zealanders who may face brain cancer. These three stories show how wonderful people selflessly raise awareness of our research and the funding it needs. We cherish these three supporters, their amazing stories, and the many other special people who support and inspire us.

Sarah Hogan couldn't see her father, so she ran the Ironman

Sarah Hogan and her father Pat Hogan are dedicated supporters of the GMRI. Last year, Pat was diagnosed with glioblastoma — the most common and most aggressive form of brain cancer. Sarah was stuck in Australia and couldn't get home to New Zealand to see him when she heard the news.

So, she decided to run the 2022 Ironman in Port Macquarie with her fellow Iron Women, Emma and Renee. The trio aimed to raise \$10,000 for our phase II glioblastoma clinical trial, but netted over \$15,000. We're so grateful for all three of them, their iron will, and for the generosity of those who donated.

[New trial to give valuable extra months to hundreds of brain cancer patients | Stuff.co.nz](#)

Nick White climbed a mountain once, and now his team's climbing the mountain for him

When Nick White had cancer the first time, he spent a year relearning how to speak. Five years after his surgery he ran the Fuji Mountain Race to commemorate his recovery. In the gruelling challenge he covered 21km and climbed 3,776m to the summit. And he raised \$6,000 for our research.

When he was diagnosed with cancer a second time, his friends and colleagues at Xero decided to replicate his Fuji Mountain Race in New Zealand and raise funds for our work. They hoped to motivate Nick in his treatment and recovery, and have raised over \$7,000 so far.

[Visit the team's donation page | JustGiving.com](#)

Peter Besseling, the 'Butterfly Man', travels Aotearoa New Zealand

Peter has been one of our ambassadors for some time now. He lost his wife Lyn to glioblastoma. Since her passing, he's travelled the country in a campervan covered in the GMRI's paua butterfly logo, raising awareness of our research.

[The 76-year-old helping a medical researcher pioneer low-cost cancer treatment | Stuff.co.nz](#)

Glioblastoma can be devastating, but our goal is to change this with further research and your support

Our treatment for glioblastoma merits further research, and we hope to start a phase II clinical trial when funding is secured. We're focused on making cancer treatment less intrusive, more accessible and more affordable.

We continue seeking ways to secure funding to extend our research. The recent donation from the Hugo Charitable Trust of \$1 million provides a significant foundation for our phase II glioblastoma clinical trial. We hope others will be encouraged to stand beside them in support.

The impact of your support

Most of our funding comes from philanthropy. The support we receive from you and our donors has a huge impact on all that happens at the GMRI. Donations to support the day-to-day running of the GMRI allow us to:

- conduct further research both in the laboratory and on clinical trials
- support the academic study of our post-doctoral researchers, and PhD and summer students
- write papers for international publications and presenting at conferences
- manage a tissue bank of patient samples for our research and the research of others.

Want to join our ambassadors or support research into cancer?

We'd love to hear from you whether you'd like to talk about becoming an ambassador, make a donation, or to help us in some other way. You can email Margie Beattie at: margie.beattie@gmri.org.nz

You can also [make a donation on our website](#)

Erin Paterson promoted to Laboratory Manager/Senior Laboratory Technician



Erin Paterson cuts tissue sections using a microtome.

We congratulate Erin Paterson, who has been promoted to her new role as Laboratory Manager/Senior Laboratory Technician. Erin's been at the GMRI since 2017. Over the years she's been responsible for coordinating the cell culture programme for the GMRI tissue bank, which is vital to our research.

[Learn about Erin's previous work for the GMRI tissue bank](#)

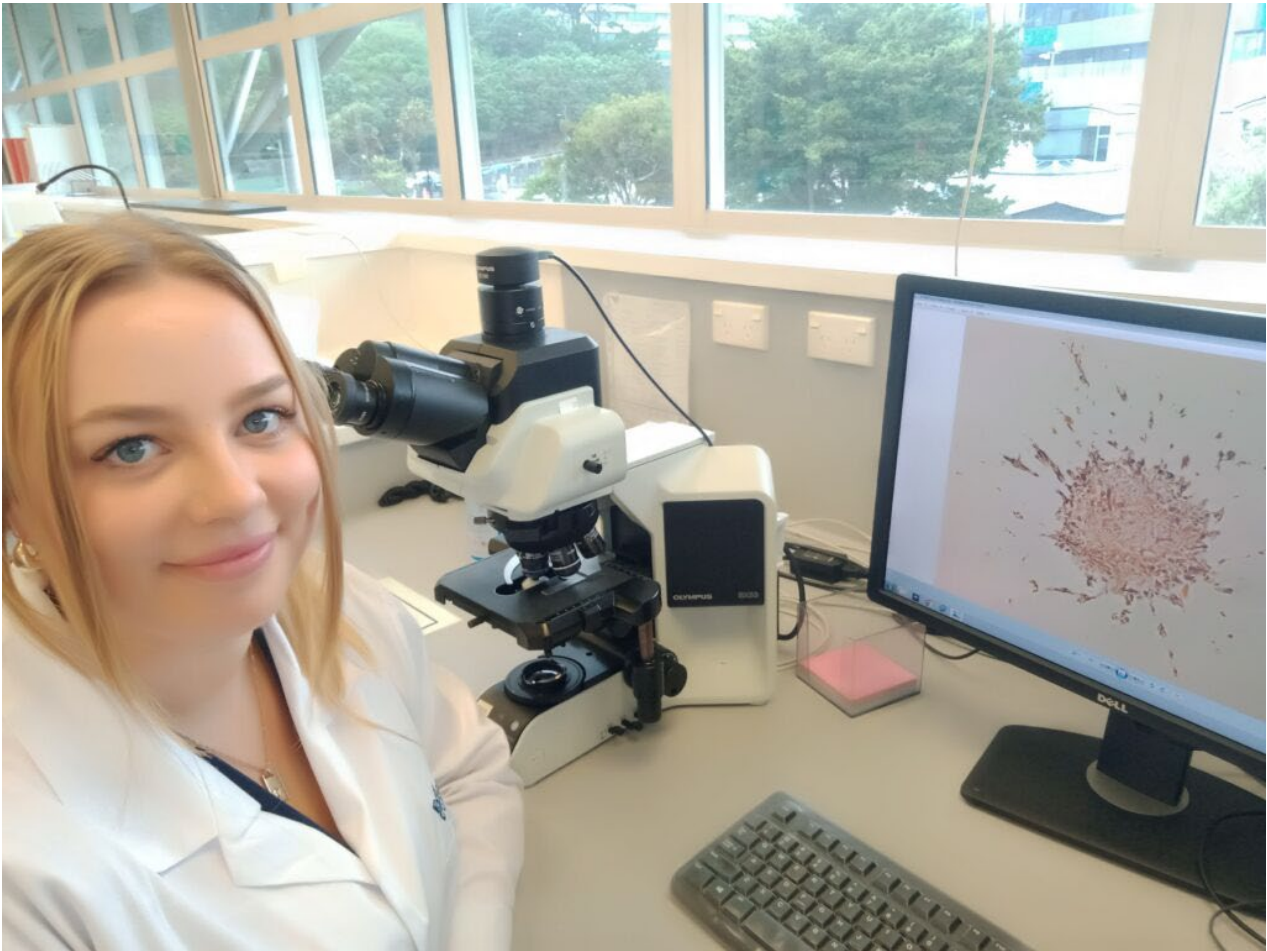
Erin's new role is an opportunity to continue building on the work she's been doing.

'Every day is different. We could have tissues donated by patients coming in that day, or I could be checking how my experiments are performing or doing regulatory paperwork.'

She's currently upskilling in the process of histology (studying tissues), and training the new PhD student Freya Weth to take over a project she's worked on. She's also getting familiar with the Lab Manager's tasks, including regulatory requirements and management responsibilities.

Erin has taken over from Liz Jones, who recently retired. We're very grateful to Liz for her valuable contribution over the last nine years.

Meet Freya Weth, our new PhD student



Freya Weth, looking at a glioblastoma organoid grown in the GMRI lab.

We welcome Freya Weth, who's joining us for the next three years to complete her PhD in biomedical science. She's received the Graham Langridge Scholarship and was 'in complete disbelief' when she heard the news.

'I feel grateful because it's allowed me to pursue what I've been wanting to do — so thank you to Judith Langridge and the family,' she says.

Freya's PhD is titled 'Utilising glioblastoma organoids to investigate novel mechanisms involved in repurposed (off-patent) drug treatments.' This means she'll grow organoids, or 'mini brains', from patients' tumour tissues, and test them with existing medications to see how the tumours respond.

She's most looking forward to performing proteomics, which examines how cells express different proteins.

Freya is excited to continue her passion and research at the GMRI, with her ultimate motivation to make cancer treatment more affordable and accessible.

'The team are not only leading scientists, but warm and friendly individuals. Everyone has their own areas of research and I am excited to learn everything I can.'

Freya is enrolled with Te Herenga Waka — Victoria University of Wellington, and will be supervised by Dr Lifeng Peng (Victoria University), Dr Clint Gray (GMRI Chief Scientist) and Erin Paterson (GMRI Laboratory Manager/Senior Laboratory Technician).

[Learn more about the Graham Langridge Scholarship](#)

The 22-year-old growing mini-brains in petri dishes to fight brain cancer | Stuff.co.nz

