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#### **University of Otago Magazine**

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By the time you read this magazine, my term as Vice-Chancellor will have come to an end. On April 8, I will leave the University of Otago to take up the position of Vice-Chancellor at Curtin University in Perth, Australia.

> My departure will be bittersweet. Otago has given me a life and a career that has been second to none. At the same time, I am also looking forward to a new challenge at a new university in a new country. I know that I will never love another university the way that I love Otago, but I am beginning to understand that I will learn to love Curtin in an equally fierce, albeit very different, way.

> A few years after I became Vice-Chancellor, an article was published in Forbes Magazine in which the author argued that being a University President or Vice-Chancellor was the single biggest leadership challenge of them all. The basis of the argument was that Vice-Chancellors must balance the competing demands of a wide range of stakeholders both inside and outside the organisation while also leading a workforce and a student body that walks around with a metaphorical thought bubble over their head that reads, "you are not the boss of me". As such, Vice-Chancellors must lead through collaboration and cajoling, not control.

"The staff, students and alumni of the University of Otago are quite simply some of the most talented, most dedicated, bravest, smartest and most considerate people I have ever had the pleasure to know. My life has been enriched by the opportunity to meet you, teach you, or work with you over the years."



These things are definitely true, but there were also some leadership challenges that the author failed to mention. The first is that a Vice-Chancellor, particularly the Vice-Chancellor at the University of Otago, is also responsible for shepherding legions of young people as they take their final steps to adulthood. This task is often loud, messy, painful and very public - but it is possibly the most important thing that we do at our University. Many people have asked me what I would like to see in the next Vice-Chancellor at the University of Otago. I know that he or she will bring their own skills and expertise to the role, but I am hopeful that whoever is lucky enough to become Otago's next Vice-Chancellor will continue to spend time with our students, enthusiastically embracing both the joy and the sorrow of standing beside them, not only when they succeed but, more importantly perhaps, when they stumble or fall.

The second leadership challenge that was not covered in the article in *Forbes* is that life, including its pain and uncertainty, often impacts a university directly. Cracks in the earth open up and our cities shake, someone breaks into a building and steals exams, people get sick and die or take their own life, a crazy maniac opens fire on a mosque full of worshipers, a terrible

accident happens at a flat party and a student is injured or killed, a pandemic spreads across the world, or some disgruntled person makes a terror threat against a graduation ceremony. These are not hypothetical leadership challenges: these challenges and many others have been our reality over the last 10 years.

But the good news is that the Vice-Chancellor never faces these challenges alone. I would like to express my heartfelt gratitude for all of the wonderful people who have helped this University thrive no matter what life has thrown at us. The staff, students and alumni of the University of Otago are quite simply some of the most talented, most dedicated, bravest, smartest and most considerate people I have ever had the pleasure to know. My life has been enriched by the opportunity to meet you, teach you, or work with you over the years.

The other thing that the author of the *Forbes* article failed to mention was that, in addition to the challenges of leading a university, there are also periods of immense pride and joy. Universities are remarkable places and they are full of remarkable people. The University of Otago remains a powerful force for good. Both our teaching and our research are world class. Our campus in Dunedin remains one

of the most beautiful in the world and we have built a number of world-class, prize-winning facilities over the last 10 years, with more on the horizon. We have not only survived the challenges of the COVID-19 pandemic, we have thrived and we are poised for an amazing future.

I have served as the Vice-Chancellor at the University of Otago for almost 10 years and I have been an employee here for almost 30. I have literally spent half of my life at Otago. Otago is my home. I have no idea what it will feel like to walk out of the Clocktower for the final time, but what I do know is that as I embark on my new journey, I will take with me all of the important lessons that I have learned at this fine University and I am hopeful that, like our alumni, I will always have the opportunity to come home.

I wish you all the very best for the future. Please stay safe and stay in touch.

Harlene Hagne

**Vice-Chancellor**Professor Harlene Hayne

#### **PROFESSOR CRAIG RODGER:**

"What we're worried about is if we have a one-in-a-thousand-year storm, one of these rare events like a big earthquake that causes a lot of damage to the electricity network." **WITH THE WORLD** increasingly reliant on electrical networks – be they power or data – scientists are keeping a wary weather eye on threats posed by "space weather".

Professor Craig Rodger (Physics) is one of a growing number of researchers working in the field and has recently been awarded a \$15 million MBIE Endeavour Fund grant.

"It's a relatively new field and comes down to the impact of processes occurring in space – usually triggered by happenings on the Sun – and how those processes influence our local environment, normally with a focus on technology."

Rodger uses the example of radio blackouts caused by the Sun blowing radio waves into space, which are stronger than those being produced by radio transmitted on Earth.

"A good example of that would be GPS, that has satellites with quite weak transmitters. a whole lot of material – think of it as a big pillow of plasma coming from the Sun: a solar tsunami."

While it takes about eight minutes for light from the Sun to reach Earth, the sort of material Rodger is talking about would take about a day and a half to get here.

Earth is surrounded by a magnetic field, but the solar tsunami would kick off a magnetic storm, compressing that field and changing the magnetic field on the ground. The resulting current would be a danger to electricity networks around the world.

"A big event might only amount to 10 volts per kilometre, but that will produce currents flowing in electricity networks.

"If you have a line that is a hundred kilometres long you could suddenly be getting hundreds of amps that aren't meant to be there. It's enough to cause transformers to be overloaded and burnt out."

The downstream impacts would be

the protective relays flipped in, but it caused a blackout, taking out Quebec's power system for half a day.

There have been experiences closer to home, too. During a geomagnetic storm in 2001 a transformer at Dunedin's Halfway Bush was burnt out. Consumers never noticed because Transpower was able to absorb it thanks to redundancy in their system.

"What we're worried about is if we have a one-in-a-thousand-year storm, one of these rare events like a big earthquake that causes a lot of damage to the electricity network," says Rodger.

American studies, for example, suggest an event like that could take out 20 per cent of their power grid and force them to replace potentially thousands of transformers.

"The trouble is the transformers are built to order. It could cost anywhere from half-atrillion to \$5 trillion a year."

A rough calculation for New Zealand suggests the loss of about 15 per cent of the country's transformers.

"Of course, it's unlikely only New Zealand would be affected. Large fractions of the world would be impacted. They would be going to transformer manufacturers for replacements – and is New Zealand going to be in the front of the queue or the back of the queue?"

Rodger says the research will assess how likely this is to happen.

"Can we come up with a mitigation approach? Can we come up with a clever way of avoiding the impact? Can we come up with a prediction technique?

"Something's happened on the Sun – we have half a day. What should we do and what could we do?"

The researchers are talking a lot with Transpower, which Rodger describes as being very advanced in this. They are also working with the US power industry, which is also taking a long hard look at it.

They are even working with First Gas, which own most of the natural gas pipelines in the North Island, to see what impact

Professor Craig Rodger has received \$15 million from the Ministry of Business, Innovation and Employment to investigate the threats posed by space weather, particularly on electricity networks. How significant would the impacts be and how can we mitigate against this?

"Occasionally the Sun goes bang, overwhelms the GPS transmitters and all you'll hear is the Sun. So that's an example of space weather."

But the big threat occupying Rodger's focus is the one posed to electricity networks.

"So, if the Sun goes bang and throws out

enormous, affecting hospitals, food storage, ATMs, computer networks and the many other things that rely on a functioning power grid.

To understand the risks better, Rodger and his colleagues have been studying a big magnetic storm in Canada in 1989, that didn't cause any physical damage because "Something's happened on the Sun – we have half a day. What should we do and what could we do?"

current flows could have there, particularly on corrosion protection systems that artificially change the voltage of pipes to make normal chemical oxidation less likely.

Rodger says New Zealand's size, plus the fact that electricity distribution is essentially a monopoly, means Transpower has been able to provide a lot of data – initially encompassing 15 years of measurements – to work with.

"So we went from nowhere to the most knowledgeable group in the world who could go away and publish."

What they found was that even in such a small country there was great variation. For example, the risks in Dunedin are different from Cromwell.

"Even with quite small distances inside





New Zealand you get really different numbers. Even within a substation one transformer could be more likely to burn out than another," says Rodger.

Dunedin and New Plymouth are known hotspots. In fact, it was a 2017 event that left some transformers in the Taranaki area mildly distressed, which piqued Transpower's interest in getting this research done.

Just why these areas appear to be hotspots is not so clear.

"It may have something to do with the way the network fits together, but it also seems to have something to do with the ground conductivity," Rodger explains.

"It's all a bit like doing research on the Southern Alpine Fault. We know it's going to happen one day and we want to do some research to think about it.

"The difference is that at the moment we think the probability of a Carrington Scale geomagnetic storm – the biggest we've ever seen – is higher than the probability of Southern Alpine Fault going off and it would be a global disturbance, not just a New Zealand disturbance."

Scientists are working hard to develop real-time predictive models they hope will eventually tell them how a particular solar event is likely to impact on Earth.

"They have offered to give us highresolution output from that model for New Zealand and I want to take that for a few years, then compare their predictions to reality. If it works well we can say to the New Zealand energy industry, here is a prediction technique you can trust."

Australia already has a space weather prediction system and Rodger thinks they should be able to work in with them as well.

When it comes to mitigation, Transpower can reconfigure the network in tens of minutes, because New Zealand's network is relatively small. Other countries don't have that luxury, although networks in the US are already adept at steps such as re-routing power around thunderstorms.

Rodger says if a massive solar tsunami

was threatening, power distributors could even consider turning off their network, but that is not a trivial move and poses some big questions such as how do you bring back a whole network when it has been shut down?

"What you can think about doing is using redundancy in the network. Take spare lines and transformers out of operation for the length of the storm. We can also harden the gear – if we know where the hotspots are."

They are working closely with network control room engineers who have already begun improving their mitigation protocols.

It is a collaborative project that stretches well beyond Otago, with New Zealand partners such as GNS, Canterbury and Victoria Universities and even the Otago Museum which is going to lead an outreach effort to other museums, schools and marae.

"Ngāi Tahu have been seeing aurora for hundreds of years and they have their stories about what it is.

"Otago Museum is going to take some of that, connect it to the modern science and take it to New Zealand so we can talk about the stories about aurora and how we can understand it now."

Internationally they are working with the British Geological Survey and the Canadian and American space weather bureaus, as well as the University of Texas at Arlington, where a researcher is running the US Space Weather Modelling Framework to work out what would happen if there was a solar event.

"I'm really pleased MBIE has chosen to invest some money in thinking about this," says Rodger.

"We will learn things that will be useful to the world by doing this research, but we will be doing it in a New Zealand context to learn about the hazards of this country."

#### **MARK WRIGHT**



Associate Professors Anne-Marie Jackson and Chris Hepburn draw on the analogy of a double-hulled waka guided by Te Pae Māhutonga (the Southern Cross) to explain the vision of the new Coastal People: Southern Skies Centre of Research Excellence.



WHILE THERE HAS BEEN a lot of discussion at the global level about the effects of climate change and the threats of ocean warming, sea-level rise and ocean acidification, not so much is known about its local effects and what is happening in the coastal sea.

These issues will now be addressed by the new University of Otago-based national Centre of Research Excellence (CoRE), Coastal People: Southern Skies (CPSS), which sets out to examine the connections between human well-being and the health of marine ecosystems.

Directors, Associate Professors Anne-Marie Jackson (Physical Education, Sport and Exercise Sciences) and Chris Hepburn (Marine Science), say the CoRE's vision is flourishing wellness – or mauri ora – of coastal communities.

"Our mission is to connect, understand and restore coastal ecosystems through transformative research, local action and by unlocking potential by utilising new pathways to learning," says Jackson.

Hepburn is a marine ecophysiologist with a particular interest in kelp forests and their role in the coastal ocean, while Jackson has a Māori physical education, health and well-being background.

Their team of researchers, partners and community leaders have based their vision on the double-hulled voyaging waka (canoe) for their research programme, with Te Pae Māhutonga (Southern Cross) as their navigational aid for governance and management, including a focus on eminent Otago alumnus Tā Mason Durie's model of well-being.

Jackson says both hulls of the waka – one examining things marine and the other focusing on well-being – need to float.

"They are the two things that underpin it and then we have a platform to connect the two hulls. That's our research: three programmes of research that cut across both hulls – connecting, understanding and restoring," she says.

"With Te Pae Māhutonga and our waka, these map out what Coastal People: Southern Skies is all about. We know that's always present, so we know where we're going and where we're going to in the future."

CPSS's focus is strongly Rakiura Stewart Island north, leaving other research programmes to focus on the Southern Ocean.

"Positive, forward-facing research on climate change is at the heart of what we are doing," says Hepburn.

"It's not so much about predicting or trying to force action from governments: there are lots of people already doing that. It's more about, what do we know from research that's been completed and what is the future – starting with the communities we are working with in New Zealand and then out into the Pacific – and what can be done?"

The CPSS waka also has two sails – one is voyaging and the other is innovation – meaning new ideas can be put forward.

Hepburn says the work will include some epic voyages across the Pacific in high-tech sailing waka, to undertake scientific work such as looking at the migration of sperm whales.

The CoRE will be guided by what Jackson describes as the four main stars of their Southern Cross – their governance group

chaired by Tā Mark Solomon, their youth advisory board, a research advisory board, and their management group. The two pointers of the Southern Cross represent their values that are contained in the acronym MANA – meaningful, authentic, natural, action.

"We are values led," Jackson says. "Those values of mana and kaitiakitanga – we're not going to stray from those. When you're working with communities you have to understand your kaupapa, the thing that's right at the heart of what you're doing.

"Our mission is to connect, understand and restore coastal ecosystems through transformative research, local action and by unlocking potential by utilising new pathways to learning."

"When you work with communities they expect a life-long relationship and this funding can support longer-term relationships," adds Hepburn.

Both researchers point to the work that has been done with a local Kāi Tahu iwi, Kāti Huirapa ki Puketeraki, whose marae is located at Karitāne, as an example of how researchers can build a strong relationship with coastal communities.

"We've worked with them for 15-plus years, so we have already begun supporting local coastal communities," says Jackson.

There are also lessons to be learned from the prior experiences of Pacific peoples who came to New Zealand.

"We are working alongside Pacific academics and community leaders in Aotearoa and the Pacific to support the realisation of their aspirations. This includes the leadership of Pacific peoples throughout all levels of CPSS, and targeted research projects and capability development to ensure our approach is grounded and authentic."

Hepburn says they have more than 80 researchers currently involved, effectively providing that platform between the two hulls of the waka. There is a strong emphasis on diversity with about 54 per cent female researchers, and 30 per cent Māori and Pasifica.

"But diversity to me is also diversity in backgrounds – socio-economic status and the way people think."

The lead investigators are predominantly early-career researchers and, given most CoREs have a seven-and-a-half-year lifespan, most researchers are on the upswing in their careers.

To bring through the next generation of researchers, they also have plenty of honours and masters' scholarships and they will be looking for well-rounded candidates to receive those.

Developing this research talent is an important component and, drawing again on the waka concept, Jackson says they have two moorings – training and monitoring. She firmly believes they were funded not just because of their diversity, but also their training.

"It's research excellence, but you also need to be training the next crop of excellent researchers as well as providing opportunities into the job market."

They have already seen former students

go into regional council environmental roles where their understanding of that community connection, Treaty of Waitangi and rights around fisheries, for example, has been hugely valuable for people applying for jobs because it is something employers are looking for.

They also have community members involved in CPSS who are paid for what they do in consulting with the communities.

"Our goal is to support community leaders. There is no point going to communities and telling them what to do," Hepburn says. "There has never been a period in world history where we didn't know more about what is going to happen in respect to the environment."

"It's working out what the community is interested in and what their needs are – and who are the best people to go alongside and understand that? It's important to recognise that there is stuff we don't know and we might need to bring more people in," Jackson adds.

Hepburn and Jackson acknowledge the level of fear there is about climate change and the uncertainty it creates.

"There are things we can do. We know, for example, if we can fix catchments there's less sediment coming down the rivers and our reef systems will become more resilient to heat waves," says Hepburn.

"Research shows that if the water is dark and there is a heat wave, the seaweeds in there respire more, burn up all their energy and then collapse. If there's light around they are able to be more resilient."

Research also shows kelp forests can buffer against ocean acidification and there is scope to actually do something about our kelp forests.

Jackson says people underestimate the loss that occurs when a species of ocean flora or fauna disappears.

"What happens to that traditional knowledge that sits behind it? You lose that, you lose your identity – and we all know what happens when you lose your identity."

#### **MARK WRIGHT**



#### **PROFESSOR DAVID HUTCHINSON**

(Physics) well remembers the euphoria he felt in 2014 when he first heard they had secured funding for the Dodd-Walls Centre for Photonic and Quantum Technologies Centre of Research Excellence (CoRE) to be established.

This initial six-year funding has now been extended for another eight, through until the end of 2028.

Having built so much over the past six years, Hutchinson said the feeling on hearing the centre was refunded was more relief than euphoria, knowing how many people relied upon it.

"One of the things we've done well is nurture our younger staff. That's been reflected in the number of Marsden Fast-Start and MBIE Smart Ideas grants we get, which tend to be for early-career researchers," he says.

"Some of our principal investigators now were postdocs when we started, so we have supported people through that transition into their careers. We've also got a bunch of really talented research fellows we support who, we think, will probably end up in academic positions."

Hutchinson says the extended funding gives longer-term stability and allows people to pursue the research they really want to do, rather than something that fits within a three-year project.

"Once funding is too constrained the whole system becomes too conservative. The

centre funding allows us to be a little less risk averse."

This has already led to some impressive papers in high calibre journals, including ground-breaking work on quantum jumps, on electro-optic frequency combs in *Nature* and on vortex dynamics in superfluids in *Science*, he says.

"We're recognised internationally as a worldwide contributor in the quantum physics space and the photonics space."

Security of funding has also helped cement collaboration across groups of researchers who wouldn't necessarily have worked together. For example, Professor Keith Gordon (Chemistry) has been working with University of Auckland biomedical optics researcher Dr Frédérique Vanholsbeeck and start-up entrepreneur Professor Cather Simpson, who are all members of the Dodd-Walls Centre.

"It has allowed us to build this 'Best Team in New Zealand' approach to things."

Hutchinson says it also allows them greater scope for industry engagement, as well as education outreach initiatives through Otago Museum and MOTAT, Auckland's Museum of Transport and Technology.

A report by the Australian and New Zealand Optical Society last year put a \$1.2 billion raw value on the photonic industry in New Zealand.

"I'm not saying we are responsible for that, but we are in some way responsible for providing the skilled people who will service and grow that industry."

A range of research is coming down the pipeline. For example, the centre has strength in biomedical applications, including recent Marsden success to look at optical imaging of blood flow in bone, as well as numerous other applications.

Several research groups under the Dodd-Walls umbrella are working on novel ideas around quantum computing and quantum information, such as exploring how they can use quantum and optical communication technology developed through the Dodd-Walls Centre for secure information transfer via satellite.

"We have some advantages in what we do that might give us an edge there. These are things for which we are seeking additional funding," says Hutchinson.

"We're not going to revolutionise, necessarily, how we do optical communications for the internet directly, but we will certainly contribute to niche areas.

"It's a Kiwi thing: find the thing you do well – your advantage – and build your niche. Create your business, your potentially multi-billion dollar industry. You're not the global player with the trillion-dollar game, but you're part of it and can make a big difference in the context of the New Zealand economy."

#### **MARK WRIGHT**

After 30 years at Otago, almost 10 of them as Vice-Chancellor, Professor Harlene Hayne is moving on. She reflects on the challenges and rewards, a few crises and many great joys.

#### WHEN PROFESSOR HARLENE

**HAYNE BECAME** Vice-Chancellor of the University of Otago she was surprised how much was made of the fact that she was the first woman at the helm.

She had expected more to be made of the fact that she was the first American, not only to lead Otago, but also to take the helm of any of the country's eight universities.

But looking back over her two terms in office, neither gender nor nationality has had as much influence as her academic background – the first psychologist in the role.

"My leadership style has been guided most by my psychology background – understanding how behaviours are shaped and a deep interest in staff and students," says Hayne.

That understanding has been tested over a decade bookended by the crises created by the Christchurch earthquakes and the COVID-19 pandemic, and touched by controversy and criticism over restructuring.

But the University has come through strongly and is now in much better shape than most, both nationally and internationally, which Hayne considers is a good way to farewell it after almost 30 years of service.

In 1992 she left a postdoctoral fellowship at Princeton – basically on a whim – to take up a lectureship in the Department of Psychology at Otago.

"It was a big decision to step out of the

Ivy League track I was on in the US to move to the other side of the world just after my first daughter was born. Moving from one of the best universities in the world to come to Dunedin may have sounded like a risky idea, but in hindsight it was inspired.

"The career I have had here has been second to none in every respect: from my teaching and research to my leadership at Otago and my opportunity to work closely with government, all while living in one of the most beautiful places on the planet. I feel like I have won the lottery.

"Originally I thought I might stay for three to five years at the most, but almost 30 years later I'm still here. It's a story that's repeated time and again at Otago. Academic and professional staff come from overseas for a bit of an adventure and then they stay."

Hayne was a reluctant leader at first. When she was asked to become Head of Department in Psychology she initially said no. "What I really wanted to do was to teach and to conduct research that made a difference. I found real joy in my academic appointment in Psychology – so why would I want to change that?

"In order to step up as Head of Department, I had to do some cognitive restructuring, expanding my academic ambition to include an ambition for my wider department. Once I accepted the role, I found that I loved every minute of it."

At the end of her three-year term as Head of Department, Hayne was asked to take on the role of Deputy Vice-Chancellor (Research and Enterprise). Again, she was initially reluctant. "I was ready to go back to my lab full-time. Once again, I had to restructure my thinking, expanding the ambition that I had for my department to include the wider University's research and commercialisation efforts. And again, when I took the role I relished it."

When Vice-Chancellor Professor Sir David Skegg stepped down he suggested that Hayne might want to apply. This time she was not reluctant and entered into a protracted selection process that she likens to picking a Pope. "The more I learned about the University the more I fell in love with it. I really did want this job and I thank God they picked me. It's been an amazing ride."

Hayne says her two predecessors' leadership styles were perfect for the University's needs at the time.

"Graeme Fogelberg brought the University into the 20th century in terms of systems and buildings, and focused on sustainable growth and fiscal responsibility. The fiscal side of the University makes many academics cringe, but the reality is that none of us gets to do our jobs unless the finances are in order.

"David Skegg worked hard to strengthen Otago's research culture, which continues to this day. We are rare as a University in that every senior academic leader is still research active. David also took the first brave steps in improving student safety and behaviour

in North Dunedin through the development of the Code of Student Conduct and the introduction of Campus Watch."

Since arriving at Otago, Hayne's own research has had uninterrupted funding, including seven successive Marsden grants – two during her terms as Vice-Chancellor. "Research is an intellectual respite for me where the skills I have mastered give me complete control over what happens next. That doesn't describe some of the other challenges I face as Vice-Chancellor."

As Vice-Chancellor, Hayne aimed to build on the legacies of Fogelberg and Skegg. "In addition to fostering continued capital development, fiscal responsibility and an emphasis on research, I have particularly tried to elevate the standard of our world-class teaching. None of us should ever forget that the University is a school and that our students are the lifeblood of this institution."

Hayne devoted considerable time to students. Her active support of the Code of Student Conduct helped to reduce antisocial behaviour, especially around alcohol, but – as she points out – only so much can be done without support from government. "Many of the problems we currently face regarding alcohol will only be solved by changes to legislation and culture."

She also moved more broadly to address issues of student behaviour that are either partly attributable to, or are exacerbated by, excess drinking. For example, in 2018, following extensive research into best practice, Te Whare Tāwharau, Otago's sexual violence support and prevention centre, was opened on the Dunedin campus. Internationally unique in its integration of research with education, prevention and support, it is tackling an issue that is common to universities around the world, but which few – if any – have yet to successfully address.

In 2020, following the tragic 2019 death of Otago student Sophia Crestani, the University, together with the Crestani family, launched The Sophia Charter. This is a shared commitment from key stakeholders to enhance the safety and well-being of the student community in North Dunedin.

"I will always be grateful for the amazing grace and courage that Sophia's parents have shown in the wake of any parents' worst nightmare. They have been the catalyst for the charter and we can already see that it is making a difference in our student community."

"Research is an intellectual respite for me where the skills I have mastered give me complete control over what happens next. That doesn't describe some of the other challenges I face as Vice-Chancellor."

Throughout Hayne's term as Vice-Chancellor, many students who found themselves in trouble were summoned to her office for a chat – more pastoral care than punishment (though perhaps not always seen that way by those students at the time).

"The psychologist in me understands that most of the students who do bad things here at Otago are not bad people. They are good people who have made a bad mistake.

Sometimes all they need is a kind, caring and firm adult to set a boundary and explain that their behaviour is not appropriate. They also need someone to listen to them and to understand the challenges they are facing.

"I'm proud that every troubled student I have met in my office has eventually graduated. That might not have been the case had we not had those conversations. And I'm incredibly proud of the overall positive change in the way the students treat each other and our community here at Otago."

Hayne promoted good citizenship and altruism among students, establishing the University's Volunteer Centre, now the Social Impact Studio, which fosters student-driven change through leadership and volunteer work.

"I was the only person in my family who went to university and I was able to do so only because of a scholarship. I benefited from the kindness of strangers and I am a firm believer that there is a great obligation that comes with that privilege. New Zealand taxpayers pay a large portion of the cost of our students' education. In my view, students have an obligation to give back.

"Volunteering is now part of the DNA of Otago students and long may that continue. Young people are receptive to the message of obligation and we often see students at their best when they are working together to give back to the community."

Hayne also championed the interests of Māori and Pacific students. On her watch Otago has seen year-on-year increases in their numbers and their successes, particularly in the Health Sciences, with considerable long-term positives for them, for whānau, for communities and for the country as a whole.

Otago also became New Zealand's first university to secure Fair Trade status and became a signatory of the United Nations' Sustainable Development Goals. The University also received the rainbow tick and became a signatory to the Say-No-To-Racism campaign.



These initiatives were driven by "a great passionate partnership between students and staff who are in very strong agreement about working towards sustainable actions, abiding by consumer responsibility and creating a campus environment where everyone feels welcome".

Hayne is proud of the work-hard-playhard ethos of the average Otago student. "Students who participate in sports like rowing and rugby and netball and soccer, or take part in business case competitions or debate teams bring huge mana to the University through their hard work, all while maintaining good academic progress."

Hayne's legacy includes her oversight of some \$400 million worth of major capital development on campus, which is regarded internationally as one of the most beautiful in the world. Improvements include a stateof-the art dental school and dental hospital, new research facilities, a new performing arts building, and renovation of the Commerce atrium.

"We have to invest in facilities to accommodate our people, allow them to conduct world-class research, and make our campuses attractive to both staff and students. Although there are always valid questions about spending on buildings rather than people, in my view this is a false dichotomy. Our great people need great buildings.

"The University currently has an assets base worth more than \$2 billion. These assets require constant upgrading to meet health and safety regulations and the growing needs of staff and students."

Hayne has also overseen considerable growth in Otago's scholarship support for students at postgraduate and, particularly, undergraduate levels.

"The purpose of these awards has been three-fold: firstly to help ensure we attract the number of students we desire; secondly to secure a good share of New Zealand's high-calibre students; and thirdly to secure an increasingly diverse student cohort for Otago, including many more students from backgrounds that are traditionally under-represented in University study in this country."

Otago's status maintained its standing in a number of influential world rankings. The University has received constantly mounting accolades for both research and teaching excellence and is now attracting the highest level of research income in its history.

During 2019, the 150th anniversary celebrations attracted some 100,000 people, with the Clocktower picnic so successful that it has been added to the annual calendar. The bell that was originally housed in Otago's first premises in the Exchange was relocated to the historic precinct behind the Clocktower, where students ring it to celebrate submitting their PhDs.

As Hayne leaves, the University is developing its new strategic direction, Vision 2040. "We all recognise the unbelievable contribution that the Scots made to the University of Otago, but as we go forward we also recognise the huge contribution that Māori and Pasifica will make to our future. I am proud that Otago is now in a position where we no longer need to look to models in Europe or the United States. We are now strong enough to celebrate and speak about our particular place in the Pacific."

The positives mount up, but Hayne has had a lot of negatives to deal with.

"My time has been bookended by crises. First, the Christchurch earthquakes rendered our campus there uninhabitable for two years. But our staff and students in Christchurch rose to the challenge.

"My watch at Otago demanded being courageous enough to make decisions that were difficult. I don't need to be beloved, but I do hope people think I led the University with integrity and courage. That's how I'd like to be remembered."

We taught students wherever we could and they actually performed better than their counterparts in Dunedin or Wellington.

"Very early in my first term, the earthquakes taught me how resilient the University can be and how kind and generous people can be under very difficult conditions.

"Now, at the end of my time as Vice-Chancellor, we are experiencing COVID-19, but again everyone has just got on with the job.

"At the beginning of the pandemic we set our moral compass with two poles: to provide the best education we could under unprecedented conditions and to save as many jobs as possible. In the end, we achieved both of those things. Overall, our students performed better in 2020 than in 2019 and we have not suffered the job losses that have become common across the globe. We will emerge from this international pandemic much stronger than many other universities."

Hayne believes that the University was well-prepared for the pandemic because of difficult decisions made over previous years.

She is well aware that decisions involving restructuring through the Support Services Review and in the academic divisions attracted considerable criticism of senior management.

"As Vice-Chancellor you sometimes have to make really difficult decisions. Every day you have to consider the needs of one group over the needs of another. As is the case in most universities around the world, we operate in a constrained funding environment, which means that one group will be the winner and one group will be the loser.

"It's the Vice-Chancellor's job to make the tough calls to put the University and its staff and students in a stronger position for the long term. If you are not willing to make those decisions you should not sign up for the role. But it's not easy, especially when you are leading people you have worked alongside for so many years.

"There were some people here at Otago who were unhappy with my decisions – some of them loudly so – but there were also many who understood what we were trying to do. In the wake of the pandemic, I am hopeful that more people are beginning to see the value in the changes we made.

"Leadership cannot be solely about making everybody happy. It's about making the best decisions you can with the information that you have in front of you and that is what I have tried to do.

"It's impossible to describe the level of responsibility that is inherent in leading a university. At any one time there are only seven other people in New Zealand who know what it's like to be a Vice-Chancellor.

"My term was marked by natural disasters, a global financial crisis, demographic decline, expensive changes to legislation, decades of deferred maintenance of our buildings and facilities, and some very, very painful human tragedy.

"Every day for almost 10 years it has been my responsibility to sail this ship through these rocky waters. We are currently entering a safe harbour. Looking back, I really hope that reaching that harbour will be one of my legacies.

"Given the roles I have held at Otago, I appreciate the University as a business and the University as an academy. I am confident that I will leave both these aspects of the University even better than I found them."

Hayne says the challenges she has faced at Otago have prepared her well for her new role as Vice-Chancellor of Perth's Curtin University, the largest in Western Australia. "They have strengthened my skills and my confidence in my leadership. I feel blessed that this amazing opportunity for a new leadership role has come along just as my time at Otago comes to an end."

Although the future at Curtin looks bright, leaving Otago will be heart-breaking, says Hayne.

"I have lived in Dunedin and loved this University for half of my life. I'm proud of it as an academic and as a leader and it will never be far from my thoughts.

"Otago is bolder and braver than I ever thought possible. It's full of people from all walks of life who are kind, generous, resilient, creative and helpful, and who want absolutely the best for the University and for our students.

"My watch at Otago demanded being courageous enough to make decisions that were difficult. I don't need to be beloved, but I do hope people think I led the University with integrity and courage. That's how I'd like to be remembered."

That seems fitting for the outgoing leader of a University whose motto, *Sapere Aude*, demands integrity and courage to *Dare to be Wise*.

#### **NIGEL ZEGA**

# Chasing dreams

A 'crazy idea' and hard work set Otago alumnus Jack Bauer on the road to becoming a professional cyclist. And, in spite of the obstacles of a global pandemic, he's not finished yet.

Giordi

#### **JACK BAUER:**

"I'm still dreaming in terms of a major victory, a major race in cycling... let's hope I'll bag one soon."

**EVEN THOUGH COVID-19** means he's been confined to his home in Spain for weeks on end, top road cyclist Jack Bauer isn't fazed by the upheaval to his normal schedule.

It's early evening at his home in Girona, 100km up the coast from Barcelona, which he shares with his Australian wife Sarah and their one-year-old daughter Eve. He's not long finished a "very strange" pro-cycling season, including the Tour Down Under, the Tour de France and the one-day Northern Classics, and is back home hibernating in the Spanish winter.

During the Zoom interview, his calm approach to the chaos of the past year suggests an easy-going nature – but he says this is only half the story.

"I probably have two personalities. I have a racing personality when I'm on the road, and then I have a side to me where I completely pull away from that when I'm home, and I'm quite happy out in the middle of nowhere stacking wood, just doing simple things like I did as a youngster."

That youngster grew up in Golden Bay, Tasman, dreaming of an Olympic future in mountain biking.

"I think I'm a bit of a dreamer when it comes to what my potential might be. I set my sights on things way in the distance and most of them definitely do not come true, but the bike is one that has."

Jack's parents encouraged him in his sport and he and his brother and sisters were raised as "pretty no-nonsense kids", which he says has helped him keep a balance between his personal and professional lives, and to cope with the pressures of the sport.

He left Golden Bay for university in 2003, spending four years at Otago and graduating with a BPhEd.

"It was a truly eye-opening experience. I'd moved there as a 17-year-old kid who'd been home-schooled in Golden Bay my entire life. I definitely saw it as jumping in the deep end, which I did. It was a life-changing experience, but obviously it set me on the right path."

While at Otago, he especially enjoyed

exercise physiology, taught by Professor James Cotter. "That was really where my passion lay, studying how the body worked and what high performance sport was all about: what the body could do when it was pushed to its limits."

At the time, master's student Nicholas Flyger was looking into the sport of cycling and Jack became "a bit of a lab rat" for him.

"He took me under his wing and said, 'look, the performances you're turning out in the lab on the ergometer are pretty impressive and maybe you need to back yourself as a cyclist'."

Nick helped him gain some local sponsorship, developed training programmes and set up a mountain-biking team of students. Jack competed nationally during his time at Otago.

"That was really the beginning for me. To have that guidance and belief from Nick set me on the right path and kept me focused on this crazy idea that I had. He made it seem not quite so crazy, because this guy who knew a lot about physiology and sports performance thought I might have an engine under the hood."

After Otago, Jack spent a couple of years working in the gym industry, but decided he'd rather be the athlete being trained than the trainer, and began to focus on road cycling.

"I'd always struggled to train on a fulltime basis and pay my rent and pay off my student loan. I'd moved to Wellington to play bass with a band we had formed at Otago and saw an opportunity to be a cycle courier. I thought if I can be a bike messenger, that would allow me to pedal full-time and that if I could handle being on my bike all day, seven days a week, then maybe I could handle being a professional one day too.

"So I did that for a year. It seems strange to a lot of people: I was leaving my university studies behind and I had this wild dream that I'd go over to Europe and somehow become a cyclist who is being paid to do what he loved."

In the middle of 2009 he moved to

Ghent, in Belgium, and turned up to local amateur races. After a successful six months he picked up a single-year contract for 2010 with Scottish 3rd division team Endura Racing and moved to Manchester. In early January of that year, he won the 2010 New Zealand National Road Race Championship.

In 2011 he moved to Spain because he had heard the sun shone a lot more there compared to Manchester, and he knew one or two other professional Kiwi cyclists who were living in the region.

"I made friends, met my wife and I haven't left since; it was 10 years in February."

His wife Sarah represented Australia in track cycling, with Senior and Junior World Champion titles in the team pursuit and two World Cup gold medals. She retired in 2012 and has since gained a degree in sustainable development and international aid and is currently a self-employed artist.

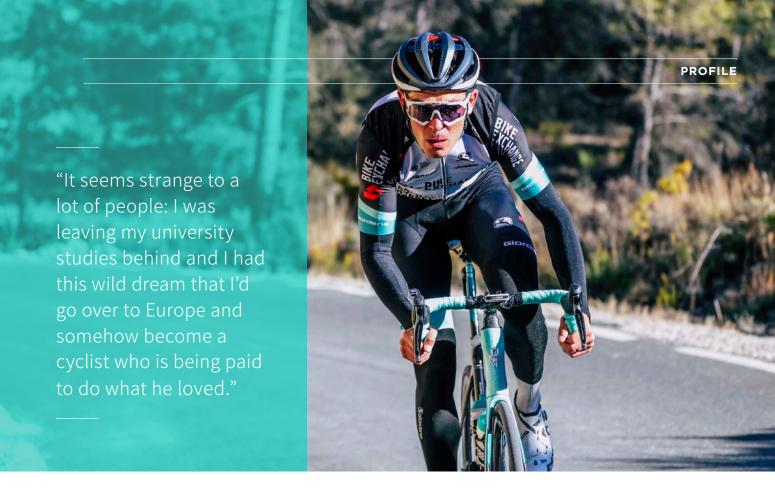
"I think having someone else in the house who understands sport, but isn't a full-time sports person helps to bring you back down to earth."

In 2012 Jack signed his first contract into the pro-tour with team Garmin-Cervelo, which he stayed with until 2016. A standout performance on the 15th stage of 2014 Tour de France saw him come within metres of delivering New Zealand's first individual stage win in the race.

Since 2018 he has raced with Australian World Tour outfit GreenEDGE. The team's head sports director Matt White recently described Jack as a great part of their engine room and a big cog in the success of the team. Seems like Nick Flyger was onto something all those years ago at Otago.

Jack has an impressive CV of stage wins and placings in European racing, including a 4th in the Tour de France Stage 3 (TTT) in 2018 and a 1st in the Tour de Czech Stage 1 2020 (TTT). He also won the New Zealand National Championships Road Race (TT) in 2017.

His favourite race is definitely the Tour de France – "it's something that's incomparable to other events".



Other highlights include coming back after a year off with a broken leg and winning a stage in the Tour of Britain in 2016, and representing New Zealand in road racing. He won a silver medal in the road race at the Glasgow Commonwealth Games in 2014 and was 10th in the road race at the London Olympics in 2012.

Typically, his cycling season runs from January to September or October, but in 2020 they had the rug pulled out from under them in March. He made it home from racing and proceeded to train inside on the home trainer during lockdown.

When it's racing season, he would usually train five days out of seven. He uploads all his training data to his coach, who creates the programmes. Nutritionwise he just likes to eat healthily.

"At a race and when I'm on tour with the squad I'll work with the nutritionist, but at home it's just me and my bathroom scales, because cycling's all about weight – how much you weigh and how much power you can produce."

He finds the most challenging part of being a professional cyclist is trying to be the best alongside others who are also trying to be the best. "You're always on that tightrope of mental and physical pressure... I really thrive off that and I have a natural desire to push to the absolute limit."

To prepare for that level of competition, he says you just have to do the training, whatever sport you do.

"You just get conditioned and hardened to that suffering. When it comes to doing a grand tour, a race of three weeks in duration, you definitely live on that knife edge – you're at the peak of your physical capacity."

He says the hardest thing to cope with is injury, because this means down-time on the couch, surgery and rehab. He had a bad break to his left leg in a crash on a wet road in the Tour de France in 2015. He still feels the effects from that and also has a "decent injury" to his other leg, which gives him trouble most days.

"The actual surgeries I went through with those injuries, they'd be the low points of my career; being laid up and getting drilled in and bashed about and stapled back together."

In Europe, cyclists come through the junior rider programmes and onto national federation development teams, then early competition.

"Whereas I came through Otago Uni," he says with a laugh. "I'm 35 now and in my 10th year as a professional, but I don't feel like I've been around that long. I'm not losing that drive or motivation. Most people who've been doing it since 19 wouldn't still be doing it at my age. But the majority of my life I've lived outside the cycling world."

This means he has no qualms or fears about life outside sport, which a lot of athletes do.

"When that lifestyle is taken away from them – the support structure around them of coaching and the professional team environment, having everything laid out for you – a lot of athletes struggle. Relationships struggle. I don't have any worries."

Until then, however, there are still dreams to chase. "I'm still dreaming in terms of a major victory, a major race in cycling, I've had some small victories here and there – some nice wins – but nothing really standout. I'm looking at my final years on the bike and getting a bit long in the tooth, so let's hope I'll bag one soon."

#### **MARGIE CLARK**



WHEN PEARL MATAHIKI reflects on her last Te Heika Pounamu, the Māori pregraduation ceremony, as the manager of the University of Otago's Māori Centre, it doesn't take long for the emotions to flow.

Matahiki, who has been at the heart of Te Huka Mātauraka for almost 20 years, has lost count of how many students she has supported through their academic pursuits at Otago.

"When I do think back, I get quite emotional in knowing that not only I, but a lot of others, have been part of a journey for countless tauira Māori."

Matahiki has had a considerable journey of her own at Otago, one that started as a fixed-term co-ordinator in 1998. Like many tauira, she took on the job with little of her Ngāti Porou whānau around her. When she arrived, she pinned a piece of paper onto her wall with two karakia, including one shaped by her whānau.

"The karakia is one I use quite often, and I've changed the wording to reflect Te Huka Mātauraka and to make it more relatable to the centre and the iwi."

She started as one of two fixed-term staff members, while the Māori Centre itself had just one full-time position.

"The number of Māori students was so minimal I laughed," she recalls. "We now have more than 40 Māori medical graduates every year, but when I first started we would have been lucky to have had 40 tauira enrolled for the compulsory health sciences papers in total."

She set about working on two significant goals for the centre. The first was to bolster and strengthen relationships with Ngãi Tahu, which has resulted in the annual pōwhiri for first-year students at one of the papatipu marae in partnership with mana whenua.

Matahiki is full of praise for mana whenua and says their ability to support events has allowed tauira Māori to feel at home in a different rohe.

"What better way to showcase tikanga to Māori students who have come a long way for their first event on campus than a powhiri where they are welcomed to this land, not only by the University, but by iwi and mana whenua," she adds.

Trying to find adequate resources and tutors for the Māori Centre's classes initially proved difficult, but slowly – thanks to her ability to connect with different departments – the number of teachers increased.

Tauira Māori were Matahiki's main focus and her main drivers. As the years ticked by and the number of students she saw in her office grew, the karakia that was pinned to her wall became surrounded by pictures not only of her whānau and mokopuna, but of tauira who had gone overseas with their classes, of graduates achieving on the global stage, of her whānau tuarua, her second family filled with students that would all call her the same name, Aunty Pearl.

This fusion of her two worlds is down to a philosophy that she has adhered to throughout her life: Piri Sciascia's "whariki" concept, a weaving of different worlds to create a whariki or a woven mat.

"Te Huka Mātauraka weaves students together with departments and divisions and, when you graduate, that whariki is complete because the Māori Centre weaves whānau in there too."

The fruits of the combined labours of the Māori Centre have been bountiful, particularly in the last 15 years. When Matahiki started as centre manager in 2003, there were between 600 and 800 tauira. In 2021, more than 2,300 Māori students call the University home.

The sheer number of first-year tauira Māori saw the annual pōwhiri for first-year Māori students increase from one to two in 2020, to allow all students and their whānau to attend. As the number of Māori students crossing the graduation stage to receive their academic prize also increases, Matahiki is mindful of another journey so many Māori are taking at University.

"We had tauira who were proud to be

Māori, but at high school were denied that by their teachers and their peers. People had their own picture of what a Māori looked like and, for 18-year-old students who received a lot of racist comments about what being Māori is, that's a hard world to navigate.

"I think if anything is a success, it's that Māori come here and are proud to be Māori, and are proud of their iwi. Graduates, whether they're blonde or blue-eyed or whatever, they stand proud at Te Heika Pounamu and tell the parents about the unconditional aroha they received from uncovering who they are."

While having to advocate frequently for the Māori Centre, Matahiki has often had to face personal battles. The sudden loss of her sister, in particular, came as an absolute shock. In those and other tough personal times, she returned to something that was present throughout her time at Otago. The karakia she received from her whānau.

"Karakia, whānau and friends have been my safety component," she says. "When something difficult happens, I say the karakia and then ring a member of my whānau."

This has guided Matahiki into the force she is. Not even breast cancer stood a chance against her newfound attitude to finding the positives in trying circumstances.

After more than 18 years of weaving student success, Aunty Pearl's Otago whariki, intertwined with the beautiful threads of manaakitanga, aroha and whanaungatanga, is complete. She knows the Māori Centre has a brilliant future ahead of it, and is proud of its position as a leading force when it comes to institutions centred in indigeneity. Now, she says, is the time to return to her whānau in the North Island.

"I've been fortunate to have had brilliant staff with the same passion as me to support Māori students. It has been amazing to be part of the tauira journey.

"He taonga, he koha, he pounamu."

#### **MATIU WORKMAN**

After more than a year of New Zealand's border being closed a lot has changed, possibly forever. Otago
Business School academics offer expert opinions about how we might work, meet and communicate in the future; about how we might do business in more innovative and sustainable ways, and how – post-COVID – we might resurrect our devastated tourism industry.



#### **SUSTAINING TOURISM**

As crippling as COVID-19 has been for the tourism industry, it has provided an opportunity to completely reset tourism post-pandemic.

That's the view of Professor James Higham (Tourism), who says that we need to establish a visionary future for tourism that is sustainable, resilient to future bio-shocks, and climate safe.

"We need to move away from 20th century, depletive, mass tourism to 21st century, sustainable tourism," Higham says. "We

need to find ways of earning tourism GDP with a scaled-down carbon footprint. We need to foster the sort of tourism that brings us the greatest end benefits."

He suggests that New Zealand should be looking at the net benefit of different tourists in terms of their positive and negative social, economic and environmental impacts.

"Our research critically profiles key tourism sectors and discrete markets, so that we can start to target the markets that most benefit us. Equally, there are markets that we may want to strategically reduce in importance, because they have relatively low economic benefits, and high social or environmental costs," Higham says.

He cites the example of tourists flying here from the other side of the world having a much higher carbon footprint than domestic tourists and those from the eastern seaboard of Australia.

Similarly, weighing into the debate over well-heeled versus shoe-string-budget tourists, he says that backpackers, for example, have a much lower carbon footprint, greater economic benefit over a longer period, support regional economies because they are more geographically dispersed, and are an important source of seasonal labour. "The complete opposite of cruise-ship passengers in every respect."

Specific changes, he suggests, include transitioning tourists away from fossil-fuelled transport modes, requiring tourists to offset their unavoidable carbon emissions, encouraging them onto walking and cycle trails, and supporting regenerative tourism businesses that incorporate conservation projects into their visitor activities.





Employers and employees are being encouraged to learn from the accidental social experiment of the COVID-19 lockdown.

Associate Professor Sara Walton, Dr Paula O'Kane and Dr Diane Ruwhiu (Management) say that work and workplaces could look very different in a post COVID-19 world.

"We are interested in how we can encourage organisations to make work more flexible for everybody so they are not tied down to a nine-to-five Monday-to-Friday traditional organisation of work and can better manage their home life," O'Kane says.

The researchers say that suddenly working from home during the lockdown showed that people can be trusted to keep working without close supervision; and remote working, properly managed, can increase productivity and creativity as the emphasis shifts from how long people spend working to what they achieve.

"The clear message is that you don't need to be in the workplace to be productive," Walton says.

"I think the psyche of our workforce is changed too in that, as people had more time to reflect during the lockdown, they wanted to be more in control of their work environment," Ruwhiu says.

The trio, who lead the Work Futures Otago project, say that the lockdown also helped normalise remote working as people came to terms with technology from Zoom to Slack and even to Houseparty.

They stress that working remotely – which most people they have surveyed were keen to keep doing at least one day a week post-lockdown – needs to be balanced with social interaction to maintain worker well-being.



#### **BUSINESS BRIGHT SIDE**

The business negativity put forward last year during the pandemic lockdown was exaggerated in many cases, according to Dr Tadhg Ryan-Charleton (Management).

Ryan-Charleton spoke at the time against what he called "a chorus of economic gloom", with many business commentators "rushing to make doomsday predictions".

He offered a more optimistic counterpoint, suggesting that, although established businesses in certain industries would struggle, COVID-19 would also offer considerable new business creation opportunities.

"With some obvious exceptions, initial data for the second half of 2020 suggest that many of the worst COVID-19 impacts for businesses were temporary," Ryan-Charleton says.

"That is not to say that massive challenges don't exist. In certain sectors, businesses are on life-support and might not survive 2021."

He cites as examples the negative effects of border closures on tourism, on talent recruitment for specialist businesses, and on access to private capital from international investors.

He says, however, that many positives are apparent. "When compared to 18 months ago, I'm certainly speaking with more people working to build their own businesses. We are still waiting for concrete data, but it appears that, in particular, more founders are focusing on outsourceable tasks for business clients.

"Often, this involves activities that are not core to a firm's activities. For example, administrative support, content development and employee development. In some cases, these entrepreneurs have been forced into a career change by COVID-19 and are now taking advantage of opportunities to work while spending more time at home."



#### **DIGITAL KÖRERO**

Travel restrictions induced by the COVID-19 pandemic have intensified the need to develop and manage research projects online rather than face-to-face.

It's a development that the Otago Business School's Associate Dean – Māori, Dr Katharina Ruckstuhl, is closely involved in understanding from a Māori perspective.

Ruckstuhl is leading one project within the Science for Technological Innovation National Science Challenge that is looking at the veracity of digital information.

"Because it was difficult to know whether we were going to be able to meet people in person, we decided to run an experiment around developing the whole veracity project online," she says.

"One question was whether this approach would support embedding a Māori point of view, particularly as developing a project around whether you can trust data has implications for Māori sovereignty."

Ruckstuhl is also working on a related project through the IEEE (formerly the Institute of Electrical and Electronics Engineers), the world's largest professional organisation for the advancement of technology.

"I am working with the organisation's Indigenous Data Working Group, which is looking to standardise how indigenous data are recognised within and across computer systems," Ruckstuhl explains.

"If computer systems recognise indigenous data provenance, then researchers and institutions might start to acknowledge the real-world responsibilities that come with using such data.

"Identifying that a particular set of satellite data has an indigenous provenance, for example, might support a local tribal community with water or species management." she says.

"The technical challenge is enormous, but so is the opportunity."



#### TRADE AGREEMENTS FOR POST-COVID GROWTH

New Zealand should expand its trade agreements in the wake of COVID-19, according to international trade expert Dr Murat Üngör (Economics).

"This is no time to be protectionist. It is very important that we have bilateral and multilateral relations with other countries."

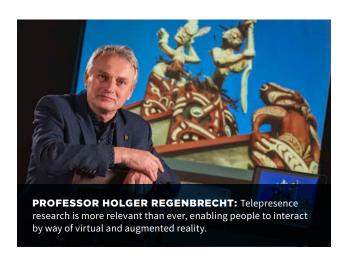
Üngör cites as an example of the latter the recent signing of the Regional Comprehensive Economic Partnership under which New Zealand and 14 other countries agreed to form one of the world's largest trade blocs.

Free trade agreements have contributed significantly to New Zealand's export growth, Üngör explains. The 2008 free trade agreement with China, for example, resulted in exports to China in the next few years being 200 per cent higher than they would have been had the agreement not been signed.

And, while China will continue to be a major trading partner, Üngör says it is important for New Zealand to diversify its exports into high-value products such as industrial robots and electronic gaming, improve its current trade agreements with other countries, and develop new bilateral and multilateral agreements.

One option would be a bilateral free trade agreement with Bangladesh, which he describes as one of the newest emerging Asian economic tigers, along with Vietnam, which is a member of the Regional Comprehensive Economic Partnership.

He adds that New Zealand's response to the pandemic – family members in Turkey and the United States can't believe that he has never worn a face mask – is increasing its popularity with multinational investors.



#### **VIRTUALLY THERE**

Pandemic-induced restrictions on travel and face-to-face contact have increased the impetus and importance of research by the Human-Computer Interaction Group within the Department of Information Science.

Professor Holger Regenbrecht, who heads the department and jointly leads the group with Associate Professor Tobias Langlotz, cites as one example the group's research in communication and collaboration, particularly in what's called "telepresence".

This is like three-dimensional video-conferencing: it gives people in different locations wearing virtual reality goggles the appearance and perception that they are all interacting with one another in the same place, using computers and the internet.

"This is one big area we have been researching for years," Regenbrecht says, "and now, with COVID-19, there is even more relevance."

For instance, they are intensifying one long-term project in partnership with the Māori community in Bluff to create virtual marae experiences.

"We are now looking at how we allow people living away from the marae to virtually visit the marae, to hear stories from the elders and to interact with other people without the need to travel."

A telepresence project that the group has started in response to the coronavirus outbreak is in virtual tourism in collaboration with the Department of Tourism.

"It is about giving people who can't travel to New Zealand an interactive experience of being in New Zealand by way of virtual and augmented reality."

Regenbrecht says that other substantial fields of research are in ethical considerations, especially around privacy, and changes to education and teaching online, post-COVID-19.



#### **INVESTED INTEREST**

The coronavirus pandemic has accelerated the trend towards more sustainable investing, according to Dr Sebastian Gehricke (Accountancy and Finance).

Gehricke specialises in Environmental, Social and Governance (ESG) investing, which takes into account more than just the financial return to investors.

"It considers the environmental risks and opportunities, social impacts and how a company is managed," Gehricke explains.

"There is now enough evidence to say fairly confidently that companies with a higher ESG rating have more long-term resilience and, therefore, lower risk to investors, especially in crisis periods."

Gehricke says that individual investors, investment managers and financial institutions were already starting to take note of this before COVID-19, but the pandemic has increased the pace of transition to a more sustainable finance system.

He cites, as one example, the increasing popularity during the COVID-19 pandemic of "social bonds", through which investors fund projects with measurable, positive social impacts, such as reducing child poverty.

"These social bonds are really taking off and I think that is likely related to the awareness of the massive societal impacts of COVID-19."

Gehricke, who is the deputy director of the Otago Business School's Climate and Energy Finance Group, says that governments, in providing stimulus to the economy in response to the crisis, also have a massive opportunity to transition to a more sustainable society.

Last year, Gehricke organised a conference on ESG investing for COVID recovery and this year is introducing, at the University of Otago, the first sustainable investments course in New Zealand.

## 'Ground-breaking' work recognised

The Christchurch Heart Institute has changed the way heart failure is treated here in New Zealand and internationally. It is a world leader in the development of diagnostic tests, treatments and the understanding of risk factors for heart disease. This work has been acknowledged with the presentation of the University's Research Group Award.

A PATIENT IS RUSHED to the emergency department with an alarming shortness of breath. At most hospitals around the globe they will likely get the same simple blood test. The test determines if they are experiencing heart failure and is the result of a ground-breaking discovery by a Christchurch research group.

In the 1990s the Christchurch Cardioendocrine Research Group was the first to discover that hormones in the blood can diagnose heart failure. Specifically, after years of research with emergency department patients they proved the hormones B-type natriuretic peptide (BNP) and pro B-type natriuretic peptide (NT-proBNP) are highly sensitive and specific tests for heart failure. Tests for both hormones are now used widely and are endorsed by all authoritative international bodies as guidelines for heart-failure diagnosis, prognosis and management. NT-proBNP is now the single-most widely-used blood test for heart-failure diagnostics globally.

Since these early breakthroughs the group has discovered and patented scores of other hormones for use in medical tests and has established a commercial company to market them. Renamed the Christchurch Heart Institute (CHI), the group now numbers around 50 staff and students, including cardiologists, geneticists, biochemists and physiologists, and has become a world leader in all aspects of cardiac research, including developing new treatments and understanding genetics to explain why heart disease runs in families.

In 2020 the Christchurch Heart Institute was awarded the University of Otago Research Group Award. It is the highest honour given by the University to a research group and recognises their success at improving patient outcomes and clinical practice globally. CHI director Professor Mark Richards says, "our international leadership in this field for more than a quarter of a century reflects high quality research – translated from basic through to clinically-applied research – conducted on the boundary between the disciplines of cardiology and endocrinology."

He attributes the foundation of this success to three Canterbury-based clinicians back in the 1980s – cardiologist [Professor] Hamid Ikram, endocrinologist [Emeritus Professor] Eric Espiner and cardiovascular endocrinologist [Emeritus Professor] Gary Nicholls. Working at Princess Margaret Hospital, they debated how the body regulated salt and water levels – crucial to heart health – and hypothesised a peptide hormone was likely involved.

"Fortune favours the well-prepared and because of Hamid, Gary and Eric we were well-placed when ANP (a peptide hormone) was discovered and tested in rats. Gary got hold of some ANP and we injected it into ourselves," says Richards. "Lo and behold, we had a big spike in sodium in our urine, showing it seemed to work in humans as it had done in rats. We didn't know how to measure ANP at that stage and later realised we had given ourselves what was a sledgehammer blow of peptides to completely non-physiological levels. But we were fine – and pleased with our results."

The team began a concerted programme of research focused on ANP's – and then BNP's (another peptide hormone in the same family) – potential as a blood test. During the 1990s they studied emergency department patients and discovered NT-proBNP, a hormone in the same family, and subsequent clinical research studies provided its usefulness as a fast and accurate test for heart failure. The group's compelling evidence on

NT-proBNP's clinical usefulness led to the development of the blood test now used in emergency departments worldwide.

"Before the discovery of NT-proBNP there was no blood test for heart failure. It was entirely clinical and the error rate was roughly 50 per cent – thankfully in over-diagnosis mostly, as people erred on the side of caution. Our test made a big difference globally."

Richards says the next step was to investigate the cardiac hormone's usefulness in ongoing treatment. "We found that if your NT-proBNP levels were over a certain threshold your risks over the next 130 days were considerably worse than if you had a lower level."

CHI Research Professor Vicky Cameron says the group's ground-breaking work in the 1980s and '90s gave them an international platform to build on.

"The BNP story had a major impact and changed how people diagnose and treat heart failure – and, to some extent, heart attack – in New Zealand and internationally. It put New Zealand and the Christchurch Heart Institute on the global research map."

In the past two decades the group has widened its focus from test development to understanding risks, developing new treatments and understanding what predisposes certain people to develop heart problems or suffer worse outcomes. Richards says this ongoing success is a result of the interdisciplinary co-operation between the sub-groups in the CHI. It is typified by good clinical recruitment and patient characterisation, expert cardiac imaging by cardiologists, accurate follow-up by research co-ordinators, the development and reliable conduct of immunoassays for blood biomarkers by peptide biochemists, and genotyping by genetics investigators.

The genetics of heart disease are one area of strength, says Cameron. "We are exploring how genetics alter people's risk of developing heart disease and may influence their outcomes once they have developed it."

By fostering international collaborations

"We are exploring how genetics alter people's risk of developing heart disease and may influence their outcomes once they have developed it."

the CHI now has access to the biological samples and patient records of almost three-quarters-of-a-million heart disease patients from New Zealand, the United States and the United Kingdom.

"Our understanding of an individual's risk of developing heart disease over their lifetime and the role genetics play requires 'big data' to see changes in large groups. For example, we showed in a relatively small group of around 2,000 New Zealand patients that the genetic marker most strongly linked with risk of having a heart attack did not affect the patient's subsequent lifespan. This finding led to an invitation for us to join a large international consortium where we were able to convincingly show the same effect in around 250,000 patients."

Cameron says the CHI has established a number of large community studies in New Zealand that track the progress of different groups at higher risk of developing the disease. One of these is the Hauora Manawa study which compares the heart health of Māori from rural and urban centres, and non-Māori.

Another, the Pasifika Heart Study, aims to understand how the risk profile of South Island-based Pacific Islanders differs from those living in Auckland. In the Canterbury District Health Board area, for example, Pacific people's rate of dying from heart disease is 1½ times greater than other population groups, highlighting the need to understand the impact of lifestyle changes and how the Pasifika genetic make-up contributes to poorer outcomes.

Cameron says the CHI has also developed a group of more than 3,300 "healthy volunteers". These are people recruited because they do not have heart disease and whose progress through life – and any development of heart disease – is



being tracked to understand differentiating factors such as lifestyle and genetics.

CHI clinicians have worked hard to develop and fine-tune treatments for different types of heart disease, says Cameron. Over the years their large clinical trials have shown the success of NT-proBNP in guiding the treatment of patients after they develop heart failure. The test and treatment strategy they have created has been proven to reduce death in heart-failure patients aged under 75 by 35 per cent, compared with the previously-used clinical treatment regime. This strategy, where treatment is guided by NT-proBNP levels, also reduces heart failure and cardiovascular hospitalisation by 20 per cent regardless of age.

The team's clinician researchers are exploring how to maximise the effects of medication for different forms of heart disease and new ways of detecting heart

disease, including through the use of CT which could broaden access to fast and accurate diagnosis to those in areas outside main centres and away from tertiary hospitals.

Developing new tests, or biomarkers, for different types of heart disease continues to be an important part of the research group's activities. A commercial company, Upstream Medical Technologies (which has the University of Otago as a key stakeholder), has been established to commercialise the CHI's discoveries in an international market worth billions of dollars. The tests are predominantly for different types of heart disease, including unstable angina for which there is currently no reliable test.

Other CHI members are investigating CNP, a hormone in the same family as BNP, and its potential to help those with congenital growth issues.

Cameron says one constant through the years has been the group's engagement with the community. In the past decade alone they have given hundreds of talks to groups, explaining what they found in their studies and how this impacts on people's health and disease. The group also hosts work-experience for high school students with an interest in health science and, where possible, shares stories of their success with media.

"CHI researchers feel incredibly privileged to have contributed to discoveries that have made a difference in clinical practice in Aotearoa and globally. That is why we feel it is important to share what we have learnt with the general public, who are those who fund our research, participate in it and, ultimately, can benefit from it."

#### **KIM THOMAS**

# Out Oxford

When Otago medical alumni Jonny Stevenson and Claire Munro began their year at Oxford University in September 2019, they had no idea they would find themselves at the coalface of an international response to a global pandemic. Six months after returning to New Zealand, they are taking the learnings from Oxford and embarking on the next stage of their careers in medicine.

#### **JONNY STEVENSON DESCRIBES**

his year-long stint at Oxford University studying for his MSc in one of the world's leading research institutions as being a year of two definite halves – the era pre-COVID-19 and the months that came after the global pandemic hit.

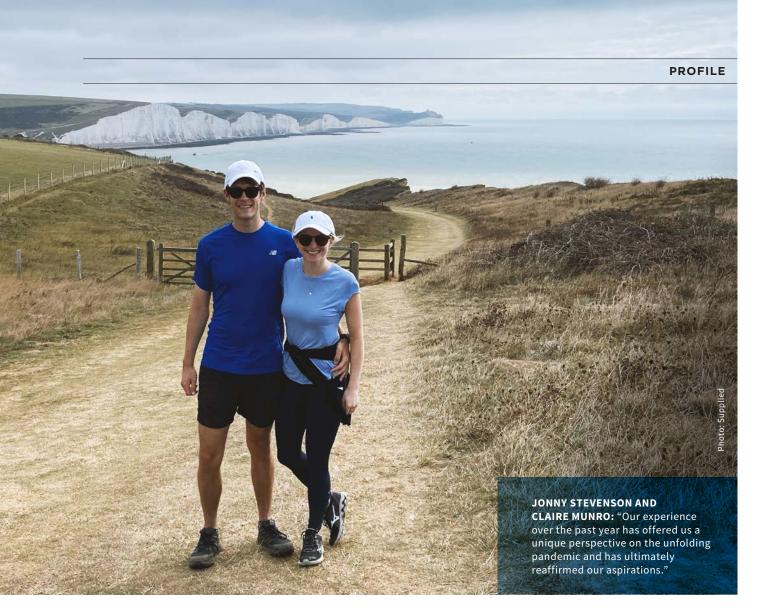
Awarded Otago University's Rita Gardner Scholarship, a travelling scholarship that enables postgraduate study in medicine, alongside additional funding from the William Georgetti Scholarship and the Nuffield Department of Population Health, Jonny arrived in Oxford in September 2019. Fellow Otago graduate – and now fiancée – Claire Munro was with him, having secured a role as a project manager in the Oxford Vaccine Group.

"The first six months of our time in

Oxford allowed us to immerse ourselves in the incredible opportunities on offer at the University," says Jonny. "During the MSc course I was privileged to learn from global leaders in health research such as Professor Sir Rory Collins, Professor Sir Richard Peto, Professor Dame Valerie Beral and Professor Adrian Hill as well as senior health policy advisors to major organisations including the World Health Organization, the World Bank, the UK Government, the US Centers for Disease Control and the Gates Foundation."

Born and raised in Christchurch, Jonny Stevenson was always interested in pursuing a career in health care – and studying at the University of Otago. Both parents (his mother is a teacher and his father a doctor) had studied at Otago and Jonny was attracted to medicine because of the "balance of science and working with people".

He began at Otago in 2009, studying at both the Dunedin and Christchurch campuses before graduating in 2014. In Christchurch he was heavily involved in the Christchurch Medical Students' Association, becoming president in 2014. He says his years at Otago delivered a strong academic foundation and he was empowered to pursue opportunities for study overseas after being awarded the Rita Gardner Scholarship and the Prince of Wales prize as the top undergraduate student at Otago. As both a medical student and junior doctor, he also benefited immensely from mentoring by senior academic clinicians working at



Otago, such as Professor Richard Gearry and Associate Professor Liz Dennett.

In 2011, while still in Dunedin, he met Claire Munro, who was studying neuroscience before beginning her medical school training. Like Jonny, she says Otago provided a strong clinical base, while also offering excellent research opportunities through its Health Sciences summer research scholarships programme.

"At medical school, you're exposed to the clinical side of medicine, but the summer studentships gave me an opportunity to engage in medical research. I participated in the summer studentship programme for three consecutive years and each studentship was a valuable learning experience. Because of this programme, I had a good understanding of clinical research which

proved very helpful in Oxford."

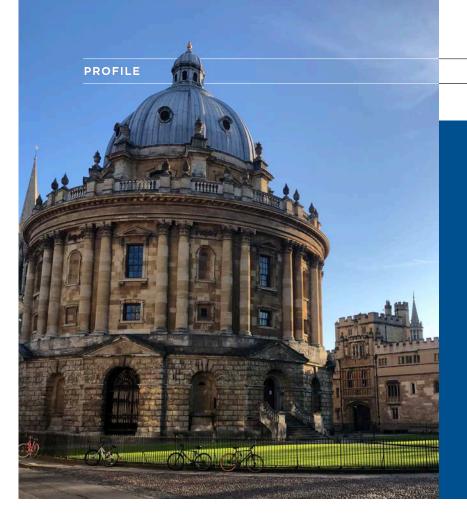
For Jonny, studying at one of the world's leading research universities alongside a cohort of 25 other students from around the globe was an incredible experience. Add to that the opportunity for Claire to work alongside leading infectious disease researchers and a stream of social events and public seminars from diverse speakers ranging from Nobel Laureates to Calvin Klein and the pair felt extremely lucky to be at Oxford.

One of the last public lectures the couple attended was a talk from the UK's Chief Medical Officer Professor Chris Whitty on the future of health care in the UK. Ironically, given what would unfold in the coming weeks, COVID-19 was only mentioned as a brief appendix to the main talk.

Just a few weeks later, the university was in lockdown.

"Everything changed very suddenly," Jonny says. "While in lockdown I was allowed out for one hour of exercise per day. I found myself walking around these incredible historical sites in the centre of Oxford and everywhere was deserted. The tourists had all left and the domestic students had been sent home."

Working remotely, Jonny completed his final assessments and moved on to his dissertation – evaluating the association between hearing impairment and dementia in the UK Biobank – a world-renowned longitudinal study. His findings, which are currently being submitted for publication, may have important implications for the treatment of age-related hearing impairment



"I found myself walking around these incredible historical sites in the centre of Oxford and everywhere was deserted. The tourists had all left and the domestic students had been sent home."

and the prevention of dementia. Despite the disruption, Jonny was awarded distinction for the MSc and named as the top student in the MSc cohort.

While Jonny's experience of COVID-19 can be defined by isolation, Claire's was demanding.

"Before COVID, my colleagues and I maintained a work-life balance. Afterwards, I think many would agree that was not always the case," says Claire.

The Oxford Vaccine Group pivoted to focus on a COVID-19 vaccine with Claire redeployed to a number of roles at the heart of the Oxford COVID-19 vaccine trial, including co-ordinating the Data and Safety Monitoring Board and the trial steering committee (of which Professor David Murdoch – the Dean of the University of Otago, Christchurch – is a member) and was involved in setting up trial sites around the UK.

"The team didn't have much time away from work. There was just so much to be done," says Claire. "Some weeks we were there most days, but it didn't feel onerous because there was an absolute goal in mind. I loved waking up every morning and going to work with this amazing group of people."

As the virus spread, the couple watched anxiously to see how New Zealand would fare.

"New Zealand's response has been exemplary," Jonny says. "We were watching the situation in New Zealand very carefully and would have considered coming back earlier if things had gotten any worse in New Zealand."

Claire agrees, saying the Oxford experience was a "once in a lifetime opportunity" but that they didn't consider staying longer in the UK.

"We had a great time away, but we were really excited to be coming home. We're both looking forward to returning to clinical work and getting on with the next phase of our careers."

For the couple, that means a new home for the year in Palmerston North, and a further three years of GP training for Claire and five years for Jonny in ear, nose and throat surgical training. They also recently got engaged.

Jonny says a key theme highlighted during the global pandemic response has been the immense importance of highquality medical research and well-informed health policy.

"Our experience over the past year has offered us a unique perspective on the unfolding pandemic and has ultimately reaffirmed our aspirations. Long term, I'd like to work at the interface of clinical practice, research and health policy – and work towards improving health outcomes for all New Zealanders."

Claire also hopes to combine clinical work with research or health policy, but for now she is focused on returning to clinical work, which she has missed during her time away.

"The past eighteen months have given me an insight into the world outside of clinical medicine. While I have loved this time, it is great to be back working clinically. Being a doctor is a rewarding career and we both feel fortunate to be doing what we do."

#### **AMIE RICHARDSON**

#### Wasp genome breakthrough

In a world first, researchers have sequenced the genome of three wasps, two of which are invasive wasps in New Zealand, paving the way for new methods of control for these pests.

Genomics Aotearoa researchers working at the University of Otago and Victoria University of Wellington, alongside colleagues from the UK, Australia and California, have completed a three-year project to sequence and interpret the genomes of the common wasp (Vespula vulgaris), German wasp (Vespula germanica) and the western yellowjacket (Vespula pensylvanica).

This is a milestone in understanding the biology of *Vespula* wasps, which have spread across much of the world and are significant pests, affecting human health, economies and biodiversity.

Genomics Aotearoa director, Otago's Professor Peter Dearden, says vespine wasp populations can reach up to 40 nests per hectare, are very efficient predators of New Zealand's native insect species and compete for food with native birds.

They have a major impact on New Zealand's ecosystems because of their large colony sizes, reproductive capacity and flexible predation. Suppressing the wasp population is challenging and control is currently limited to pesticides.

Dearden hopes researchers will now be able to use the wasp genome sequences to develop next-generation control strategies,

as well as informing future chemical control of the pests. The New Zealand team has already identified genes that may encode specific biology suitable for targeting.

"This is exciting science and presents us with real opportunity. We have the chance to use leading-edge technology for much more targeted and effective wasp control than has ever been possible."



### Medicinal equity

Professor Pauline Norris believes access to medicines is a fundamental human right: this has been a focus of her research for "decades".

Now she has received a \$1.3 million grant from the HRC's new Health Delivery Research portfolio to pursue a collaborative study with drug-funding agency Pharmac to help improve equity in medicine use and access.

Focusing on Māori, Pacific, refugee families and people living in poverty, the study will follow a number of households over a year to explore their interactions with the health-care system and the barriers to accessing and using medicines, so that changes can be made to reduce these problems.

She says common barriers include affordability, people feeling uncomfortable with their health-care provider, experiencing racism, or a lack of understanding about how the health system works, such as repeat prescriptions.

"The health system isn't always easy to use. Previous research shows that Māori and Pacific people have lower rates of use of many medicines. This can lead to health problems not being managed well and poorer health outcomes for some groups.

"So understanding how to improve access to medicines is really important to ensuring the health system is more equitable and that

everyone in New Zealand has the best chance for a healthy life."

Norris (Centre for Pacific Health) received a further \$30,000 from the HRC for a project measuring Turanga Health's impact on food security and food sovereignty, and she is also working on a project looking at what difference the \$5 co-payment makes to people.



#### Competition law

Consumers have largely benefited from legislation dealing with commercial competition introduced in the 1980s, although some changes since then have weakened the law.

That's the conclusion of Professor Rex Ahdar (Law) in his latest book, *The Evolution of Competition Law in New Zealand*, which he describes as less a text book and more an extended personal reflection on desirable and undesirable developments in competition law.

Ahdar says that the Commerce Act – introduced in 1986 as a check on anti-competitive behaviour in the deregulated economy under "Rogernomics" – has worked well in protecting consumer interests in many areas.

He cites as one example the Commerce Commission successfully blocking the country's two major supermarket chains from acquiring The Warehouse, after it started selling supermarket items.

Regional examples include the commission successfully prosecuting ophthalmologists for preventing Australian specialists from performing a backlog of cataract surgery in Invercargill.

Ahdar, a competition law expert, says that some amendments to the legislation, and key case-law decisions by the courts, have made the law a less robust and effective tool.

"One of the most famous cases went all the way to the Privy Council, which held that Telecom should be allowed to charge Clear Communications an excessively high price for Clear to connect up to Telecom's network."

Oxford University Press has published the 336-page book, which Ahdar says is primarily aimed at other academics in New Zealand and overseas, particularly in Australia because of the harmonisation of competition law on both sides of the Tasman.



#### Good child hoods

#### How do we make cities more child friendly?

This is something that Professor Claire Freeman (Geography) is keen to discover through her latest research project.

Freeman explains that the research focuses on three-generation families – children, parents, grandparents – in five Pacific rim countries: New Zealand, Samoa, Vietnam, China and Japan.

Family members who have lived in the same neighbourhood all their lives will be interviewed on what they think makes for a good childhood. They will also be provided with camera phones to capture images of childhood places that were positive for them.

Freeman says that the research team wants to identify how social and physical environments have changed and what differences these changes have made to children's well-being.

"We are trying to find what constant factors we need to prioritise for positive childhood experiences in urban locations, and what can be learned from different cultures and places.

"The ultimate aim is to inform and encourage urban planning and development that supports positive child-friendly futures."

Freeman is co-ordinating the research in New Zealand and Samoa, and working with Professor Sarah Turner from Canada's McGill University, and Dr Helen Woolley from the University of Sheffield in England, to co-ordinate the research in Vietnam, China

and Japan where they have previous research experience.

Freeman says that they will work with local researchers to recruit families and conduct interviews as much as possible. The findings will be reported in relevant languages for each country.

The three-year project is being supported by a Marsden Grant.



# The journey home

Dr Erica Newman (Te Tumu – School of Māori, Pacific and Indigenous Studies) describes her latest research project as an emotional and personal journey.

Newman has received a Marsden Fast-Start grant to research the journey taken by the descendants of Māori adopted by non-Māori and raised without knowledge of their Māori heritage, in discovering their whakapapa or genealogy.

Newman explains that her initial interest in the subject arose from her own circumstances: her Māori mother was adopted by a Pākehā couple and had no knowledge of her ancestry to pass on to Newman and her children. Newman currently describes herself as "of Māori descent, iwi unknown".

She says that, following the descendants on their journey home, the project will explore how they identify with their taha Māori or Māori side, and the steps they take to connect with their tūrangawaewae or place of belonging.

Newman says that she is relying on word of mouth to recruit descendants, rather than approaching people directly – such is the sensitive nature of the subject – and she has set up a Facebook page to provide ongoing support as descendants search for their taha Māori.

"The study will bring to light the effect of stranger adoption on the identity, health and well-being of descendants of Māori

adoptees," Newman says, "and will advance a new direction within the field of transracial adoption globally."

The three-year project will culminate in a book and in an international symposium at Otago on the effect on descendants of interracial adoption of indigenous people.



# Investigating epilepsy

Understanding the reasons behind the higher burden of epilepsy experienced by Māori children is the focus of new Health Research Council-funded research being undertaken in the Department of Paediatrics and Child Health at the University of Otago, Wellington by PhD student and paediatric registrar Dr Ngaire Keenan.

Keenan (Ngāti Te Whiti, Te Ātiawa ki Taranaki Whānui ) says epilepsy affects about 4,000 children in New Zealand.

"We don't know what causes epilepsy in Māori children, but some will be related to preventable conditions such as meningitis, traumatic brain injury or birth trauma," she says.

"Public health interventions may be able to decrease the burden of epilepsy in preventable cases and so understanding these pathways is my primary focus.

"We know that Māori are more likely to be admitted to hospital and seek help at emergency departments for treatment of their epilepsy. My PhD also focuses on equity of diagnosis and care. It may be that Māori need better access to investigations, specialists and treatment for their epilepsy.

"I am very interested in Hauora Māori and in paediatric neurology, so it is great that I can bring these strands together." Keenan hopes that the knowledge that comes from her PhD will enable culturally-appropriate strategies to be implemented and bring about positive change.



# Funding successes

Two Otago proposals have been awarded significant five-year funding in the Ministry of Business, Innovation and Employment's (MBIE) Endeavour Fund 2020 grants. Professor Craig Rodger (Physics) received over \$15 million – the largest grant ever awarded to an Otago Edeavour Fund project – for research into space-weather prediction and risk mitigation for New Zealand energy infrastructure (see pages 6-9). Sesquicentennial Distinguished Professor Philippa Howden-Chapman received more than \$12 million for research into



public housing and urban regeneration to maximise well-being.

University of Otago researchers also secured \$17.5 million from the Marsden Fund for 30 research projects across all academic divisions. Fourteen projects received grants ranging from \$729,000 to \$960,000, and a further 16 researchers received \$300,000 Fast-Start grants. The funded projects will focus on subjects including stress hormones, the links between chromatin and neurodevelopmental disorders, the impact of flooding on property values in New Zealand's coastal cities, childfriendly neighbourhoods, the decline of substance abuse in adolescents, and virus evolution in native species.

Welcoming the funding, Vice-Chancellor Professor Harlene Hayne says the awards

are a significant achievement and testament to the hard work and worldleading research happening at Otago.

"There is always huge competition for these awards, not just from the country's eight universities, but also about 30 Crown research institutes and private and public-sector organisations.," she says. "These impressive performances continue the University's strong record in gaining external research funding and reflect the ongoing strength of the University's research culture."

# Arts Fellows

The University of Otago's 2021 Arts Fellows continue a strong tradition of celebrating diversity and making culture accessible to many.

They are: Becky Manawatu, Robert
Burns Fellow; Lucy Marinkovich, Caroline
Plummer Fellow in Community Dance;
Heather McQuillan, University of Otago
College of Education Creative New
Zealand Children's Writer in Residence.
2020 Frances Hodgkins Fellow Bridget
Reweti and 2020 Mozart Fellow Kenneth
Young have both received Fellowships for a second year.

# Professorial promotions

The following University of Otago academics were promoted to the position of professor, effective 1 February, 2021:

Robert Aitken (Marketing); Boris
Baeumer (Mathematics and Statistics);
Tim Cooper (Theology); Sue Crengle
(Preventive and Social Medicine); Barbara
Galland (Women's and Children's Health);
David Gwynne Jones (Surgical Sciences);
Simon Hales (Public Health); Merilyn
Hibma (Pathology); David Jardine
(General Medicine, Christchurch); Roslyn

Kemp (Microbiology and Immunology);
Ping Liu (Anatomy); Christoph Matthaei
(Zoology); Janice Murray (Psychology);
Dorothy Oorschot (Anatomy); Chris
Pemberton (Medicine, Christchurch);
Patricia Priest (Preventive and Social
Medicine); Anna Ranta (Medicine,
Wellington); Bruce Russell (Microbiology
and Immunology); Ben Schonthal
(Religion); Mark Seymour (History);
Faumuina Fa'afetai Sopoaga (Health
Sciences); Janet Stephenson (Centre for
Sustainability); Nicola Taylor (Law); Maree
Thyne (Marketing); Paola Voci (Languages
and Culture); Nicola Wheen (Law).

# New Year Honours

The following Otago alumni and staff received 2021 New Year Honours.

ONZ: Professor Emeritus Sir **Mason Harold Durie**, KNZM, for services to New
Zealand.

KNZM: Mr Ian Lemuel Taylor, CNZM, for services to broadcasting, business and the community.

CNZM: Professor Stephen Thomas Chambers, for services to infectious disease research; Dr Stuart Peter Gowland, QSO, for services to health and education; Distinguished Professor Philippa Lynne Howden-Chapman, QSO, for services to public health; Dr David William Kerr, for services to health and business.

ONZM: Dr Christine Margaret Foley, for services to victims of sexual assault; Dr Janette Fay Irvine, for services to women and women's health; Dr Timothy Michael Malloy, for services to health; Dr Colin Douglas Meurk, for services to ecological restoration; Dr Gail Tewaru Tipa, for services to Māori and environmental management.

MNZM: Mrs **Susan Veronica Anderson**, JP, for services to restorative justice;

Professor Michael George Baker, for services to public health science; Professor Bronwyn Mary Hayward, for services to political science, particularly sustainability, climate change and youth; Mr Samuel Edwin Isaac Judd, for services to the environment and sustainability education; Dr Jann Medlicott, for services to philanthropy, the arts and radiology; Ms Melissa Potocka Moon, for services to athletics and charitable causes; Mr Paul Gerard Norris. for services to the tourism industry and conservation; Mrs Pauline Kei Smith, for services to Pacific arts and the community; Dr Tasileta Teevale, for services to Pacific education and public health research; Mr Gary Lynnford Watts, for services to mental health.

QSM: Mr Lester Dean, for services to the Pacific community; Reverend Falkland Gary Fereti Liuvaie, for services to the Niue community; Reverend Alison Jean Stewart, for services to choral music.

# Emeritus professors

The University Council has awarded Emeritus Professor status to:Professor David Bell (College of Education); Professor Nicola Peart (Faculty of Law); Professor David O'Hare (Psychology).

# Honorary degree

The University has recognised the contribution of Vice-Chancellor Professor Harlene Hayne with an Honorary Doctor of Laws degree. The degree was conferred at the 13 March graduation ceremony (see pages 14-18).

# **Appointments**

Professor **Brian Hyland** has been appointed to the role of Dean of the

School of Biomedical Sciences.

Professor **Helen Nicholson** has been



appointed to the position of Acting Vice-Chancellor. Professor Pat Cragg has returned to the position of Acting Deputy Vice-Chancellor (Academic).

Professor Jessica Palmer (formerly Dean of the Faculty of Law) has been appointed as Pro-Vice-Chancellor (Humanities).

Professor **Shelley Griffiths** is the Acting Dean of the Faculty of Law; and Professor **Michael Reilly** is Acting Dean of Te Tumu, School of Māori and Indigenous Studies.

Ms **Tofilau Nina Kirifi-Alai**, formerly manager of the Pacific Island Centre, has



accepted a new role as the manager of Pacific Community Engagement, based in Auckland.

Dame **Fiona Kidman** DNZM OBE, is the inaugural recipient of the University of Otago Centre for Irish and Scottish Studies (CISS) Irish Writers Fellowship. Initiated in 2020, the CISS Scottish and Irish Writers Fellowships aim to facilitate and encourage literary and cultural exchange between Ireland, Scotland and New Zealand.

# Achievements

Evolutionary and reproductive biologist Distinguished Professor **Neil Gemmell** received the 2020 Hutton Medal by the Royal Society Te Apārangi, awarded



annually to a researcher for significantly advancing understanding in animal, plant or earth science.

Professor Mark Weatherall (Medicine, Wellington) was jointly awarded the Health Research Council's Liley Medal, presented annually for outstanding contributions to the health and medical sciences

Professor **Tim Woodfield** is the first New Zealander to be awarded the Australasian Society for Biomaterials and Tissue Engineering Award for Research



Excellence. Professor Woodfield leads the Christchurch Regenerative Medicine and Tissue Engineering (CReaTE) Group.

Students Holly Still (Geology) and Taylor Hamlin (Zoology, and Maths and Statistics) have each been awarded \$20,000 Doctoral scholarships by Antarctica New Zealand.

Dr Elodie Desroziers (Physiology), Dr Sunali Mehta (Pathology) and Dr Adam Middleton (Biochemistry) have received Sir Charles Hercus Health Research Fellowships.

Dr Jemma Geoghegan (Microbiology



and Immunology and ESR) and Dr Nathan Kenny (returning to Otago from Oxford Brookes University) have each been awarded \$800,000 five-year Rutherford Discovery Fellowships from the Royal Society Te Aparangi.

Dunedin biochemistry graduate
Jennifer Palmer has been awarded a
Cambridge-Rutherford Memorial PhD
Scholarship to study at Cambridge
University, England.

Professor **Sarah Derrett** was awarded the Otago Medical School's Dean's Medal for Research Excellence.

Associate Professor Vijay Mallan (Higher Education Development Centre) became the first person outside the United Kingdom to become a UK Council of Graduate Education recognised doctoral supervisor.

History Professor Takashi Shogimen has become the first New Zealand-based humanities scholar to be invited to join the prestigious Academia Europaea, a pan-European Academy of Humanities, Letters and Sciences.

Chief Operating Officer Stephen Willis won the 2020 Australasian L.H. Martin Award for Excellence in Leadership for his sustained and strategic leadership during



a time of significant change and during the COVID-19 pandemic. The prize was part of the Australasian Association of Tertiary Education Management's Best Practice Awards.

Professor Richie Poulton
(Multidisciplinary Health and
Development Research Unit), Professor
John Crump (Otago Global Health
Institute), Professor Debbie Hay
(Pharmacology and Toxicology) and
Professor Peter Fineran (Microbiology and
Immunology) were included in the 2020
Clarivate Highly Cited Researchers list (in
the top one per cent of citations globally).

# **Obituaries**

Professor **Phil Bishop** (Zoology) was a champion of amphibian conservation and a highly respected teacher. With more than 100 publications in conservation biology and applied ecology to his

name, his research has made a broad contribution, from New Zealand's little-known native frog species to the development of conservation techniques and approaches globally. He was also an



outstanding science communicator. He co-ordinated two visits to Otago by Dame Dr Jane Goodall and, in his role as Director of the World Congress of Herpetology, in early 2020 he led a successful event that brought 870 delegates to Otago from 57 countries worldwide.

Associate Professor Russell Poulter joined the Biochemistry Department as a lecturer in fungal genetics in 1972 and was directly responsible for the establishment of Otago's genetics degree programme. He retired from teaching in 2018, but continued his research until his death in January.

Associate Professor **Gina Forster**, took up a lectureship role in the Department of Anatomy in 2018, after a distinguished career overseas. She played an active role in service and outreach activities, as well as the Brain Health Research Centre.

Emeritus Professor **Daniel**McKerracher joined the University of
Otago in 1973 and was an educational
psychologist in the Department of
Education. He retired in 1997.

Emeritus Professor **James Flynn**, who died in December 2020, aged 86, was renowned for his intelligent approach to research and teaching, and his internationally recognised work on race and IO.

He was appointed as the Foundation Professor of Political Studies at Otago in 1967 and was Head of Department until 1996. He then became joint Emeritus Professor in the Politics programme and Department of Psychology. He retired early in 2020.

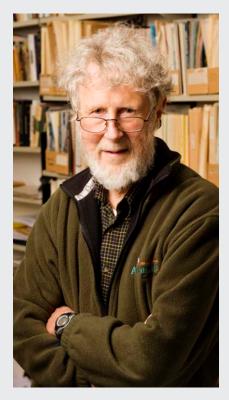
Otago Vice-Chancellor Professor Harlene Hayne was just one of many academics around the world who has paid tribute to Professor Flynn, describing him as "an iconic figure around our campus".

"He was a legendary teacher and a giant amongst scholars," she says. "His work was highly cited across a number of disciplines, his research made a real difference in the world and his ideas had an immense reach, from high school classrooms to the frontiers of social science research."

From 1981 – when he began investigating US Armed Forces mental records – Flynn produced numerous publications on intelligence, race and worldwide increases in IQ scores over time. This ground-breaking research on what became known as the "Flynn Effect" gained international recognition. He returned to, and expanded on, these themes throughout his career in books such as What is Intelligence? Beyond the Flynn Effect (2007).

Professor Flynn advocated open scientific debate about controversial social science claims, however, despite his extensive work on IQ, Flynn described himself as "primarily a moral philosopher who merely [had] a holiday" in psychology.

He also became an internationally renowned author of non-fiction books:



Beyond Patriotism: From Truman to Obama (2012) provides an insightful critique of US politics and foreign policy; Fate & Philosophy: A journey through life's great questions (2012) delves into religion, ethics, science, and free will; The Torchlight List: Around the world in 200 books (2010) analyses works that delight and enlighten recent history and the modern world.

Interspersed with these were works dealing with broader social issues; *A Book Too Risky to Publish: Free Speech and Universities* (2019) concluded that few universities now meet their original goals of promoting free inquiry and unfettered critical thought. *In No Place to Hide: Climate Change* (2018) he argued climate engineering is necessary to buy the time until carbon-free energy is readily available. His books have been translated into Spanish, Portuguese, Polish, Korean, Arabic, Italian and Japanese.

Born in Washington DC during the Great Depression, Flynn became a self-professed "atheist, a scientific realist, a social democrat". He was a member of the Socialist Party of America and served as chairperson for the Congress of Racial Equality (CORE), a civil rights organisation in the US South.

However in 1963, after several unsuccessful job interviews around the US, he, wife Emily and his young family headed for New Zealand and a teaching position at the University of Canterbury.

In New Zealand he continued to campaign for left-wing causes and became a founding member of both the New Labour Party and the Alliance, three times unsuccessfully standing for parliamentary election.

While political success may have proved elusive, Flynn's academic work was widely lauded. He was an Honorary Fellow for life of the New Zealand Psychological Society, receiving the Society's Special Award in 1998.

In 2002 the University of Otago awarded him its Distinguished Research Medal and, in 2010, an honorary Doctorate of Science. He was a Fellow of the Royal Society of New Zealand and in 2011 was a recipient of its Aronui Medal for research of outstanding merit in the Humanities.

In 2007, the International Society for Intelligence Research made him a Distinguished Contributor, and he was also made a Cambridge University Distinguished Associate of The Psychometrics Centre.

His profound knowledge on a range of issues and skills as a communicator also translated well to new media: his 2013 TED talk, titled "Why our IQ levels are higher than our grandparents", has been viewed more than 2.8 million times.

For more: otago.ac.nz/news/otago760050

# Celebrating McCahon

Widely regarded as New Zealand's foremost artist, Colin McCahon's artistic career spanned 45 years and a variety of themes, subjects and styles from landscape to figuration to abstraction and the use of painted text. Now, almost 35 years after his death in 1987 (aged 67), Otago's Hocken Collections celebrates his immense contribution to New Zealand art and art education with an exhibition of his artworks and a notable inscription of his papers into the prestigious UNESCO Memory of the World New Zealand Register.

### **DELVE INTO THE HOCKEN'S**

extensive collection of Colin and Anne McCahon papers and discover not only a unique insight into the life of New Zealand's great artist and art educator Colin McCahon and his wife and fellow artist Anne, but also many other significant figures in the art world as well. Across 4.21 linear metres - the largest selection of unpublished material created by the McCahons anywhere in the world - the collection documents the couple's life and work between 1918 and 1987, from professional correspondence between fellow artists and galleries, business papers and inspiration for artworks, to more personal childhood drawings and writings, a handwritten and illustrated book for his son, or a hand-drawn Christmas card.

Inscribed earlier this year into the

UNESCO Memory of the World New Zealand Register – the Hocken's first inscription for a New Zealand artist – the Colin and Anne McCahon Papers also include papers belonging to McCahon's mother Ethel McCahon that round the collection further and offer a unique perspective of his childhood.

Much of the collection is made up of personal letters from Colin to Anne (1915-1993) and his family over the years, including letters from a young Colin to his parents and to his many friends, including members of the New Zealand art community: John and Anna Caselberg, Patricia France, Doris Holland (nee Lusk), Ron O'Reilly, Ralph Hotere and Toss Woollaston.

"One of the values of the McCahon papers is their focus on Colin and Anne McCahon, but also the information they contain about other noted New Zealand artists," says Head Curator Archives Anna Blackman.

"There's a mixture of the sorts of books and little pictures from childhood that many families would keep, as well as the material that's clearly related to the development of his art – including a manifesto about the nature of art and the role of the artist that he wrote with John Caselberg."

Archivist Tom Riley, who put the application together for the Memory of the World inscription, says the collection reveals a different side to the artist than is historically known.

"There are the more unusual – or unexpected – inclusions in the papers," he says.

"There is a catalogue from 'Anything Left-Handed' in London [McCahon was left-handed], a magazine he made when he was young that includes boyish pranks or pastimes, and a copy of *Mad Magazine*.

"A book to McCahon's son, William, falls into this category too. I'd always thought of McCahon as quite a hard person, a man of his time, but to see such an explicit expression of tenderness is revealing."

"I am William. I live in a little white house beside the sea. In the morning the sun rises up out of the sea and shines in through my bedroom window. In the evening the sun sets behind the walls. In the garden, there is a sunflower, it's much bigger than I am, and some lettuces and tomatoes and beans my father planted. I found a snail in the garden. At high tide,

Colin McCahon, 1919-1987, The Virgin and Child compared (1948), oil on canvas on board, 1053x805mm, given by Dr Charles Brasch, Dunedin, 1963, Hocken Collections, Uare Taoka o Hākena, University of Otago. Reproduced courtesy of the Colin McCahon Research and Publication Trust.

the sea comes right up to the bay in front of my house. When the tide is out there is a sandy beach to play on."

So wrote McCahon, capturing the intimate portrayal of his first son William's early years in a little illustrated book *William and his home by the sea*, now housed in the collection of papers at the Hocken. The book is one of Riley's favourites – partly, he says, because it's a lovely object, but also because it provides a unique insight into the McCahon family life.

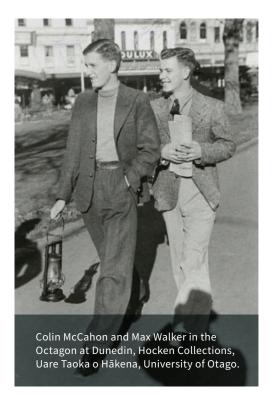
Riley says throughout the correspondence from the artist, there is also a sense of "striving and questioning" for which McCahon's work is better known.

"One of the key themes in his work is that quest for fulfilment and some connection to the unknown, the almighty, and you see that through the correspondence.

"You also get a sense of his closeness to his family, his parents in particular, and his relationship with Anne, which are very personal and intimate and there's an immediacy to them. For instance, in one letter from Anne: 'Dearest, your parents have just gone for a walk and I am alone by the fire' – you feel like you're sitting there with Anne."

As well as personal correspondence, the collection includes business letters – from galleries, societies and art dealers, some including financial details and receipts, even the names of people who bought his work, and instructions in





McCahon's hand about the conditions for the sale of his work. Other papers relate to specific projects, including the commission, sketches and photographs for the *Waterfall* mural he created for the University of Otago Library, as well as correspondence and sketches for his famous *Urewera* mural.

There are also books and pictures – from preparatory material for various works or designs of the drama productions he was involved in - to the more personal, including a picture created by McCahon and his son William, of William going to school in the rain. A number of Bibles and other religious texts - some of which are annotated - highlight an influence that became significant in his paintings, while a notebook from his trip to America with Anne in 1958 references the things he's seen, text he's read and addresses of places he's visited. An education handbook from 1971 delivers his advice to artists around the preparation of materials and tools - not, as he says, "how to prepare your car for flower

power decoration" but the sorts of materials "usually painted on".

"I think McCahon could be really funny, quite witty and humorous, which is sometimes overlooked, but you see it in his communications," says Riley.

Head Curator of Hocken Pictures Robyn Notman, says the art collection includes over 200 works by McCahon, ranging from major paintings to sketches. In the last few months two further works by the artist were donated to the collection. One is a drawing, The Three Marys at the Tomb (1947), a gift from Gary Blackman who originally purchased the work as a young man from the artist's exhibition held at the Dunedin Public Library in 1948. Blackman taught pharmacology for many years at the University of Otago and was actively engaged with the development of the Hocken's art collection. This recent gift perfectly complements the Hocken's current holdings of McCahon work, especially those from the artist's early religious/figurative period, which includes iconic works such as The Virgin and Child compared (1948).

The second recent gift, from former Hocken Pictures Curator and art historian Gordon Brown, is a small painting from the *Jump* series of the 1970s, a series not previously represented within the Hocken's collection.

These two gifts are the most recent of an ongoing series of generous and considered donations from the McCahon family, friends and supporters.

Regarding the Hocken as a place of culture with an ongoing role to play in research, McCahon gave works to the Hocken's collection and ensured his parents John and Ethel's collection of his work was also bequeathed there.

"The collection has a lot of integrity because the people who formed it, including Rodney Kennedy, Charles Brasch, Patricia France, Michael Hitchings, Gordon Brown and Tim Garrity, were directly connected to McCahon as friends, supporters, advocates, collectors and patrons," Notman says.

"One of the first McCahons that came in here was a gift from Rodney Kennedy in the '50s – it was a drawing. After Charles Brasch died in 1973, he left a bequest primarily intended to purchase artworks for the collection. But most of the works here in the collection are gifts."

An exhibition at the Hocken Gallery

- "Colin McCahon: A Constant Flow of
Light" – is running from August 2020 to

1 May 2021 as part of the commemorations
of the 100-year anniversary of the birth of
Colin McCahon in 1919.

Growing up in Dunedin, McCahon's artistic foundations were forged in Ōtepoti Dunedin. He attended the Dunedin School of Art (now known as Otago Polytechnic School of Art) from 1937 to 1939.

With a focus on the period from the mid-1930s to mid-1970s, including his early art school works, the exhibition also included some of his most well-known paintings and represented many of the artist's key ideas, formal aesthetic innovations and influences.

Notman says the title of the exhibition was inspired by the artist's interest in light and dedicated pursuit of his artistic vision. The text is drawn from the inscription on McCahon's mural A Waterfall Theme (and variations) (May-August 1966), which was commissioned for the University of Otago's Central Library (now housed in the Information Services Building) by Brasch and his cousins and fellow arts patrons, Mary, Dora and Esmond de Beer, to enhance the library and create an inspirational space for students.

"I also wanted to associate the artist with what he did while he was here in Dunedin, not only at the Art School, but also emphasise the importance of having a handful of friends and supporters who understand and believe in what you're trying to do, which is to make new art that expresses your ideas. I think it's very significant that Dunedin played that role for McCahon."

### **AMIE RICHARDSON**

# Otago alumni

**Every Human Intention: Japan in the New Century,** by Dreux (Drew) Richard, Penguin Random House, February 2021.

Perfection: The Life and Times of Sir William Manchester, by Earle Brown and Michael F. Klaassen, Mary Egan Publishing, 2021.

Indigenous Textual Cultures: Reading and Writing in the Age of Global Empire, edited by Tony Ballantyne, Lachy Paterson and Angela Wanhalla, Duke University Press, September 2020.

The New New Zealand: Facing Demographic Disruption, by Paul Spoonley, Massey University Press, 2020.

**Upstream on the Mataura,** by Dougal Rillstone, Mary Egan Publishing, 2020

Human Trafficking. A Treatment Guide for Mental Health Professionals, by J. Coverdale, M.R. Gordon, P.T. Nguyen, American Psychiatric Association Publishing, 2020.

Professional Ethics in Obstetrics and Gynecology, by L.B. McCullough, J. Coverdale, F.A. Chervenak, Cambridge University Press, 2020.

**Death of a Coast Watcher,** by Anthony English, Monsoon Books Ltd, UK, 2020.

**Apocrypha Scripta,** by Michael O'Leary, Earl of Seacliff Art Workshop, 2020.

**Sevens: Rugby Poems,** by Mark Pirie and others, Earl of Seacliff Art Workshop, December 2020.

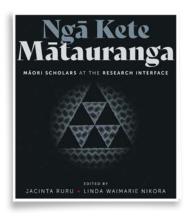
Folk Punk: Selected Photos, Artworks and Drawings 1985-2020, Earl of Seacliff Art Workshop, October 2020.

The Heart Still Sings, by Jean Klier, Balboa Press, 2019.

Negotiating Climate Change: A Forensic Analysis, by Aynsley Kellow, Edward Elgar Publishing, 2018.

Handbook of Research on NGOs, edited by Aynsley Kellow and Hannah Murphy-Gregory, Edward Elgar Publishing, 2018.

**Alumni:** if you have recently published a book please email *mag.editor@otago.ac.nz* 



# Ngā Kete Matauranga

Māori scholars at the research interface

Jacinta Ruru and Linda Waimarie Nikora (editors)

In this beautiful and transformative book, 24 Māori academics share their personal journeys, revealing what being Māori has meant for them in their work. Their

perspectives provide insight for all New Zealanders into how mātauranga – Māori knowledge – is positively influencing the Western-dominated disciplines of knowledge in the research sector.

Co-editor Jacinta Ruru – a professor of law at the University of Otago and co-director of Ngã Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence – says only about five per cent of academic staff at universities in Aotearoa New Zealand are Māori. Tertiary institutions have, for the most part, been hostile places for indigenous students and staff, and this book is an important call for action.

"It is well past time that our country seriously commits to decolonising the tertiary workforce, curriculum and research agenda," writes Ruru.

"We hope this book inspires change by those in power to more firmly acknowledge mātauranga and the immense value of increasing Māori at the research interface."

*Ngā Kete Mātauranga* also features illustrations by Dunedin-based artist Heramaahina Eketone, whose work focuses on the potency of Māori symbols and motifs.

The book demonstrates the power, energy and diversity that can be brought out into the world by Māori scholars working both comfortably and uncomfortably from within, without and across diverse academic disciplines and mātauranga Māori. – Professor Linda Tuhiwai Smith.

These deeply personal stories provide a portal into the te ao Māori world, which many outside it seek to understand, but struggle to find a frame in which to do so. The abstract concept of decolonising the tertiary workforce is brought to life and given meaning by these kōrero of strength, where the authors display courage and vision from within an environment so often hostile to indigenous ways of knowing. Read it, be inspired, and welcome this refreshingly written challenge to embrace mātauranga Māori and build a stronger academy. – Professor Juliet Gerrard, Prime Minister's Chief Science Advisor Kaitohutohu Mātanga Pūtaiao Matua ki te Pirimia.

For further information:
Otago University Press
otago.ac.nz/press | university.press@otago.ac.nz

# Gift expands options for southern students

A GENEROUS GIFT of \$3 million from distinguished neurologist, philanthropist and Otago alumnus Dr Elman Poole will support southern students to pursue their studies in science, music, health sciences and engineering at the University of Otago and University of Canterbury. It will also allow more postgraduate students from both universities to undertake overseas fieldwork.

Dr Poole has bequeathed £750,000 to each of the two universities (about NZ\$3 million in total) via their respective charitable trusts, to support undergraduate scholarships for students from Southland Boys' and Southland Girls' High Schools, as well as an increased number of postgraduate travelling scholarships.

Dr Poole, who grew up in Invercargill and graduated with a degree in medicine from Otago in 1950, passed away in June 2019 in the United Kingdom, aged 93. The scholarships reflect his passion for science and music, his commitment to enabling southern talent to shine, and his desire to give others the experience of overseas fellowships that he had enjoyed.

In an interview in 2016, he said the scholarships were targeted and carefully planned initiatives that provided

opportunities for young people to go to university and study abroad. "They are lifechanging opportunities for those who are prepared to step up and make a success of it," he said.

Commenting on Dr Poole's wishes for his bequests, executor of his estate in the UK, Emerita Pilgrim, says: "Elman had always told me of his desire to enable young, talented New Zealand scholars to fulfil their academic abilities, to achieve the highest possible professional leadership goals with a commitment to serve their community.

"He himself received scholarships to the UK and USA which launched him onto his talented medical career path. His bequests now reflect his desire to launch New Zealand's talented scholars onto the same path."

Otago's Director of Development and Alumni Relations, Shelagh Murray, says the University is incredibly grateful for the wonderful gift from Dr Poole.

"His generosity has already supported many students from southern New Zealand on their journey to achieve their dreams and to further their education and their interests. His bequest will add to that legacy by providing even more young people with support, helping them to reach their

potential and opening new doors for our postgraduates," she says.

"We kept close contact with Dr Poole and enjoyed visiting him in Oxford in recent years with our University Chancellor, Dr Royden Somerville."

In the last decade, Dr Poole established three undergraduate scholarships at Otago for students of Southland Boys' and Southland Girls' High Schools.

Two Elman Poole Science and Music Scholarships are awarded to a student from each school who is an all-round achiever with a strong interest and aptitude for music performance and science. The Elman and Alfred Poole Science Scholarships are for students who intend to pursue a degree and career in science, and two Elman and Alfred Poole Health Sciences scholarships are awarded to students who excel in science and intend to enrol in the Health Sciences First Year course at Otago. For each of these scholarships, the students receive \$5,000 annually for three years.

In addition, Dr Poole and the University of Otago co-founded a postgraduate Elman Poole Travelling Scholarship in 2006, which supports PhD students in their second- or third-year of study, majoring in physical or biological sciences, health sciences or music, who wish to do fieldwork outside New Zealand. Preference is given to candidates born in Otago or Southland.

In 2016, Dr Poole also donated \$500,000 to the University of Canterbury to support undergraduate study in engineering for students from the two Southland high schools, providing scholarships of \$5,000 a year for three years for up to four students a year, as well as postgraduate travel scholarships. His legacy will allow those awards to be offered in perpetuity and expand the subjects that Southland High School scholars study at Canterbury.

"With his generous legacy, Elman has helped to shape, change and influence the lives of many young Kiwis and students of this university," Director of the University of Canterbury Foundation Jo Dowling says.



# About Dr Elman Poole

Dr Elman Poole was a son of the late Philip Poole, a well-known cabinetmaker and musician in Invercargill in the 1920s. He studied at Southland Boys' High School and the University of Otago, graduating MB ChB in 1950. Awarded a Nuffield Dominion Scholarship, he travelled to the UK and studied at Lincoln College, Oxford, in 1953.

He specialised in neurology and held posts in London at the Institute of Psychiatry and the National Hospital for Nervous Diseases. After a Rockefeller Fellowship to the Mayo Clinic, he returned to the Radcliffe Infirmary in Oxford in 1962 and set up the clinical neurophysiology department. He was also clinical lecturer in neurology at Oxford from 1979 until his retirement in 1990.

His brother, Alfred, qualified in medicine from Otago in 1946 and played an important part in health care in Invercargill. His sister, Ivy, attended Southland Girls' High School and graduated with a BA from Otago in 1948.

His niece, Dr Elizabeth Poole, says Dr Poole maintained strong links with the extended family throughout Southland and Otago and always regarded southern New Zealand as his home.

"He wanted to provide the means to help young talented local students achieve their career goals and be successful leaders in their fields, just as he has," she says.

Yes, I would like to support the University of Otago and its ongoing programmes. Your gift can be directed to any one		
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□ Scholarships □ Research □ Pūtea Tautoko Student Hardship Fund □ Where the need is greatest □ Other		
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For residents in New Zealand and rest of the world, please send this form and your donation to:		
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*We will not be able to accept cheaues after 25. June as they are being		

phased out by all New Zealand banks.

# Auckland Dental Facility provides education, opportunity and access



**THE UNIVERSITY'S NEW** Auckland Dental Facility was officially opened by the Vice-Chancellor Professor Harlene Hayne on 4 February.

The state-of-the-art facility, which provides treatment by appointment only, follows the model operated successfully by the Faculty of Dentistry in Dunedin where the University provides patients with quality treatment at an attractive cost, recognising that patients play a role in helping to educate students.

The new initiative was made possible by a \$10 million donation from Dr Graeme Hart and his wife Robyn.

The facility began operation in 2020 with 11 final-year students, around half of whom are now working in high-needs communities as dentists. This year, the facility has 29 students and in 2022 it will be at full capacity with almost 50 students, which will be half the Faculty of Dentistry's final-year students and the facility's limit.

Facility Clinical Director Dr David Roessler says the Auckland students "are in a world-class facility situated in a highly multicultural area with an extremely diverse range of oral health needs.

"This provides them with an amazing opportunity, not just to learn, but to make a real contribution and become part of the community. We have already seen this happening in the time we have been open. Similarly, we offer oral health practitioners opportunities to continue their dental education."

Roessler says the facility staff and students have been "like a big family, which is really, really nice".

He believes one of the facility's most lasting impacts could be the numbers of graduates who decide to work in high-needs areas. Another lasting impact will be the students promoting oral health awareness and educating people about oral health.

The facility has a broad range of patients, most of whom have conditions that have gone untreated for years. "We've had a lot more impact than we expected, we haven't even had to advertise for patients. This is a big deal in Auckland," Roessler says.

Faculty of Dentistry Dean Professor Mike Morgan says the \$28.2 million, two-storey, 32-chair building was built on Counties Manukau District Health Board (DHB) land neighbouring the Manukau Super Clinic on Great South Road.

The University partnered with the DHB on the project which increases access to subsidised oral health care in South Auckland and fulfils the University's three objectives of education, research and serving the community.

Morgan says the broad range of learning opportunities will support the education of first-class dental graduates. "They will leave their education and training experiences with a greater appreciation of the complex needs of our increasingly diverse population."

Division of Health Sciences Pro-Vice-Chancellor Professor Paul Brunton says the facility provides an additional educational opportunity for students across all dental programmes. "This is particularly the case with respect to developing cultural competencies while providing dental care to a high-needs population in South Auckland.

"The facility's continuing education and training post-graduation also helps dental teams across New Zealand maintain their skills to the benefit of all New Zealanders."

The facility will strengthen relationships and partnerships with Māori and Pacific communities, based on mutually beneficial goals incorporating patient care, research and education.

The Faculty of Dentistry will regularly consult the community to find out what it needs from the clinics and will also provide outreach activities

Construction of the facility – which incorporates state-of-the-art dental and audio-visual equipment – was completed ahead of time and under budget. The design accommodates the requirements of clinical services, education and community accessibility.

Based on current world best-practice, the dental chairs have more space around them for family. While most chairs are in bays, some are in rooms for extra privacy.

Through a partnership with the Te Ākitai iwi, a cultural narrative has been woven into the facility under the guidance of notable artist Johnson Witehira.

# **Facility facts**

- The facility is designated as a general dental practice. It has 32 treatment chairs and another chair dedicated to teledentistry.
- The facility's Simulation Clinic – with artificial heads for practising dentistry – has 16 fully-equipped stations which also include screens for students and dentists to watch others work, lectures, or patients being treated (teledentistry).
- The facility's seminar room's capacity is up to 50 people.
- The University of Otago has been New Zealand's national centre of dentistry since 1907.
- The Faculty of Dentistry in Dunedin undertakes about 76,000 treatments annually for the public from around the lower South Island. This service has now been extended to South Auckland.



THE UNIVERSITY'S NEW AUCKLAND DENTAL FACILITY. Photo: Sharlene Ferguson, Focal Point Photos



UNIVERSITY OF OTAGO VICE-CHANCELLOR PROFESSOR HARLENE HAYNE AND CHANCELLOR DR ROYDEN SOMERVILLE QC AT THE FACILITY'S OFFICIAL OPENING IN FEBRUARY.



THE NEW FACILITY WILL BUILD AND STRENGTHEN RELATIONSHIPS WITH THE LOCAL COMMUNITY.

Photos: Counties Manukau District Health Board

# **20Twenties 2021**

We are pleased to announce the return of the 20Twenties Young Alumni Awards to the 2021 alumni calendar.

Our 2020 recipients demonstrated significant contributions in a wide array of areas including leadership, ethical game development, COVID-19 research, and improvement of the health of their community. We invite you to read the profiles of some of our 2020 recipients to inspire you to nominate the next generation of outstanding young alumni. Their profiles can be read at otago.ac.nz/alumni/people/20twenties

We encourage you to consider nominating a young (under 30) Otago graduate who has made an impact in his or her community or wider and whose contribution has challenged the status quo or has made significant difference in some way.

Nominations for the 2021 awards will open in May and close at the end of July and nomination forms will be available from our website *otago.ac.nz/alumni* 

20 twenties

# Events & reunions

# **UPCOMING REUNIONS**

If you would like to organise a reunion please contact us for more information: reunions.alumni@otago.ac.nz

Toroa College	July, Dunedin
Medical class of 1971 reunion	12–14 October, Bay of Islands
Medical class of 1976 reunion	28–29 October, Christchurch
Home Science first-year class of 1971	5–6 November, Christchurch
Salmond College 50 <sup>th</sup> anniversary reunion	26–28 November, Dunedin
Oral Science class of 2012	2022, Dunedin
Phys-Ed first-year class of 1972	Easter 2022, Dunedin
Medical class of 1962 reunion	Dates tbc, Sydney
Medical class of 2002 reunion	2022, Dunedin

# **UPCOMING EVENTS**

Breakfast with Highlanders' coaches	16 April, Dunedin
Breakfast with Highlanders' coaches	30 April, Wellington
Wanaka and Queenstown alumni events	19 and 20 May
Invercargill alumni event	3 June
Napier alumni event	8 September
Tauranga alumni event	9 September

Final dates are subject to change. Please contact us for confirmation.

TO I

otago/ac.nz/alumni/news/events

**ALUMNI EVENTS IN 2021** commenced with a webinar organised and hosted by Alumni of the University of Otago in America (AUOA) which gave our alumni in the United States the opportunity to connect with the Vice-Chancellor, Professor Harlene Hayne, before she leaves for her new role at Curtin University in Perth, Western Australia.

This was followed by events in Dunedin and Auckland. Unfortunately, planned events in Queenstown, Christchurch and Wellington had to be cancelled.

We hope to being able to meet with alumni in person in 2021 and look forward to hosting a number of events and activities digitally. Please keep a look out for your invitation to join our online book club in 2021.



1970 MB CHB REUNION, November 2020, Barnett Lecture Theatre, Dunedin.



1980 BDS REUNION, February 2021.

# Remembering Sophia



The first scholarship has been awarded in the name of Sophia Crestani.

## **THE GENEROUS RESPONSE** to

the Sophia Michelle McMillan Crestani Scholarship fund has meant that the first scholarship in Sophia's name was awarded in March this year and fundraising for a second scholarship is well advanced.

Sophia passed away in tragic circumstances at a student party in North Dunedin on 6 October 2019 and the scholarship has been established by her family in her memory. The scholarship fund has touched the hearts of many and at the beginning of this year \$106,638 had been raised. The more funds that are raised, the greater the value of each scholarship.

"The support that we have received from Sophia's family and friends, Otago students, staff and current parents has been amazing," says Director of Development and Alumni Relations Shelagh Murray. "We are continuing to fundraise for the second scholarship, to be established as an endowment similar to the first. We're heartened by the donations we continue to receive."

The first scholarship, worth \$4,500, is for a female second-year student studying mathematics and/or statistics. Sophia demonstrated her innate ability in mathematics at an early age, winning the St Benedict's School Mathematics Cup and an academic scholarship to Queen Margaret College.

Sophia was also a sporty and creative young woman, a people person who gave back to her community as a gymnastics coach and recreation co-ordinator.

The second scholarship will be awarded to a female second-year student studying any subject.

Both scholarships are for second-year community-minded females in financial need. Sophia's parents, Elspeth McMillan and Bede Crestani, say "some students are looking after family members with no income, and others do not have any family support and would not be able to attend university without this financial help. We hope and intend that they make a real difference over a long time, and allow students to gain an education when they may otherwise have had to withdraw."

In addition to the scholarships, last July Sophia's parents and her twin sister, Frances, along with the University, the Police and other Dunedin stakeholders, launched The Sophia Charter for Community Responsibility and Well-being to enhance safety and well-being of the student community in North Dunedin.

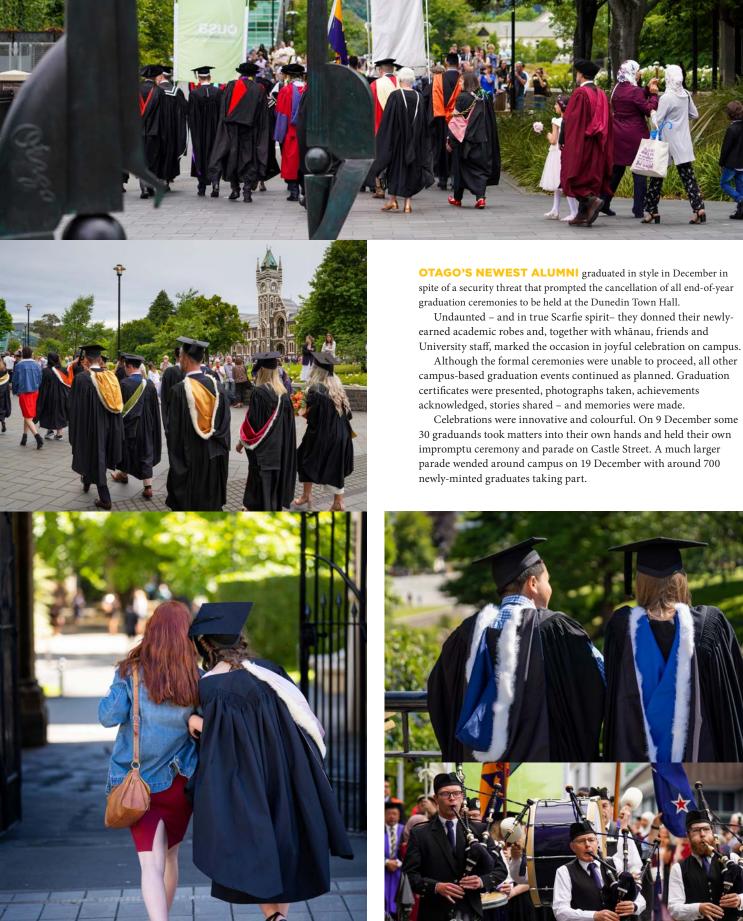
The charter's ultimate goal is to provide a "circle of support" to ensure North Dunedin becomes a stronger student neighbourhood where residents take responsibility for themselves, each other and the wider community.

In October, a memorial bench was installed in front of the University's Clocktower building to honour and celebrate Sophia. The funds for the seat were raised by Sophia's friends, with the surplus going towards the scholarship fund.

For further information about the scholarship and to donate:

alumni.otago.ac.nz/donate/sophia-crestani





# The golden age of Salmond College



**RESIDENTIAL COLLEGES AT** Otago are almost as old as the University. The high proportion of out-of-town students needed a suitable place to live, and the Anglican and Presbyterian churches obliged. The Anglican Church opened Selwyn College in 1893, 22 years after the University held its

Originally, all of the halls of residence – as they were then called – were single-sex, including the Presbyterian Church's all-male hostel Knox College, which opened for students training for the ministry at the adjoining Knox Theological Hall (and for other students) in 1909; and all-female hostel St Margaret's College, which started two years later.

By the 1960s, the Presbyterian Church was facing a couple of related problems. Expansion at Knox and St Margaret's was unable to match the demand for beds as the University's roll doubled in a decade.

The church also wanted to replace its Deaconess College in Dunedin where women lived and trained in an age when men became ministers and women became deaconesses.

The planned solution was to open a second all-female hostel, in which deaconesses would live alongside other female students.

Before the new facility opened in Knox Street in 1971 – amid the rhododendron bushes and oak trees on the same extensive landscaped grounds as Knox College – the church allowed women to become ministers.

And so, Salmond Hall – as it was originally named – began as effectively a sister hall of residence to Knox College up the hill, providing accommodation for women training for the ministry and for female University and teachers' college students.

The hall was named after a prominent Otago Presbyterian family that included siblings Mary Salmond, an Otago graduate who had been a principal of Deaconess College's predecessor, and her brother James David ("JD") Salmond, also an Otago graduate, who was a Presbyterian minister and lecturer at Knox Theological Hall. They both died in 1976.

Reflecting its Christian origins, Salmond Hall had its own chapel – the Waddell Chapel – named in memory of the pioneering Presbyterian Church deaconess Christabel Waddell (Duncan) and her husband, Dunedin Presbyterian minister and social campaigner Rutherford Waddell.

Salmond Hall originally accommodated 140 students "of the fairer sex", including three training for the ministry.

This was the liberating early 1970s and many of the female students were not in the mood for cloistered accommodation. *Critic* reported in April 1971 that students in Salmond Hall had protested against the restrictions on dress and smoking, and being locked in the hostel at night. According to *Critic*, some of the students even tried to break all the hall's rules and get expelled.

Male students were allowed to stay in the hallowed hall from 1975. It was less a reflection of changing social mores, or of a desire to emulate the experience of co-educational Carrington Hall, about which one observer commented when it opened in 1945 that "It made the girls less giggly and the men less crude". It was more to do with too many male applicants for Knox and too few female applicants for Salmond.

The hall was renamed Salmond College in 2006, to align with the names of all of the other residential colleges and in recognition of what the college described as the growing academic and collegiate focus of the organisation.

Salmond College has been expanded and upgraded over the years, including the 2006 addition of the Macalister Wing, and the 2015 upgrade and addition of rooms on the third floor of the Fulton Wing.

Salmond and Knox are formally affiliated to the University but still owned, managed and independently run by the Presbyterian Church, and governed by a single board.

The Head of Salmond College since 2019, Nick Bates, describes the arrangement as a win-win. "The University gains from Salmond and Knox about 500 beds and, for the church, it is an opportunity to continue its mission to serve the community and

foster, grow and develop young people from all walks of life."

Salmond College today accommodates 261 students, most studying at the University although Otago Polytechnic students are also welcome.

"Up until a few years ago, there were up to 80 polytechnic students staying here," Bates says. "The advent of the polytechnic student village means smaller numbers and this is something we will have to consider in coming years."

The majority of students live in single rooms on one of the four levels in the main building, with an ensuite residential wing for mature students. The head, deputy head, a pastoral assistant and nine senior students known as residential leaders also live on site.

"The residential leaders mentor like big brothers and big sisters," Bates says. "They are the first port of pastoral care for the students."

"Home-away-from-home" is a phrase that keeps cropping up when current and former students talk of Salmond, and "down to earth and unpretentious" in reference to their fellow residents. Most are first-year students, weaning themselves off home before going flatting, although 45 are returning students this year.

Bates – an Otago graduate and former secondary school teacher, guidance counsellor, youth worker and head of Cumberland College – says that, while



the college retains its distinct Christian character, the students today come from many different backgrounds and creeds.

"We are an extremely diverse community. Last year, 65 per cent were female and 35 per cent male. More than half the students identified their ethnicity as something other than Pākehā or European. We had about 20 Māori residents, about 15 Pasifika residents and about 80 in total who identified as Asian or Middle Eastern, even though many are New Zealand citizens or residents."

A number of anniversary events, including a weekend of celebrations in late November, are palnned. "The planning committee is hopeful that plenty of former Salmond residents will return to share stories and fun times and reflect on their formative experiences," Bates says.

## IAN DOUGHERTY

# Anniversary events

### WEDNESDAY, 25 AUGUST 2021, 7.30PM

50th Anniversary Waddell Debate, Waddell Chapel, Salmond College

## **SUNDAY, 5 SEPTEMBER 2021**

Special event for current residents and recent alumni completing their studies

### **26-28 NOVEMBER 2021**

50th anniversary celebration weekend: live-in at Salmond College

- Friday 26 November: registrations from 1.30pm, barbecue garden party
- Saturday 27 November: walking tours, gala dinner
- Sunday 28 November: 50th anniversary service, Waddell Chapel

Registrations of interest to *salmondcollege50th@gmail.com*For more information, find us on Facebook: *Salmond College 50<sup>th</sup> reunion* 

# Help us stay connected with you

- Our alumni communications and information about events

   including invitations are sent by email. To update your email address and/or details please contact us via:
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   Visit alumni.otago.ac.nz/alumni-update-form

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