THE UNIVERSITY OF AUCKLAND ALUMNI MAGAZINE

# Ingenio

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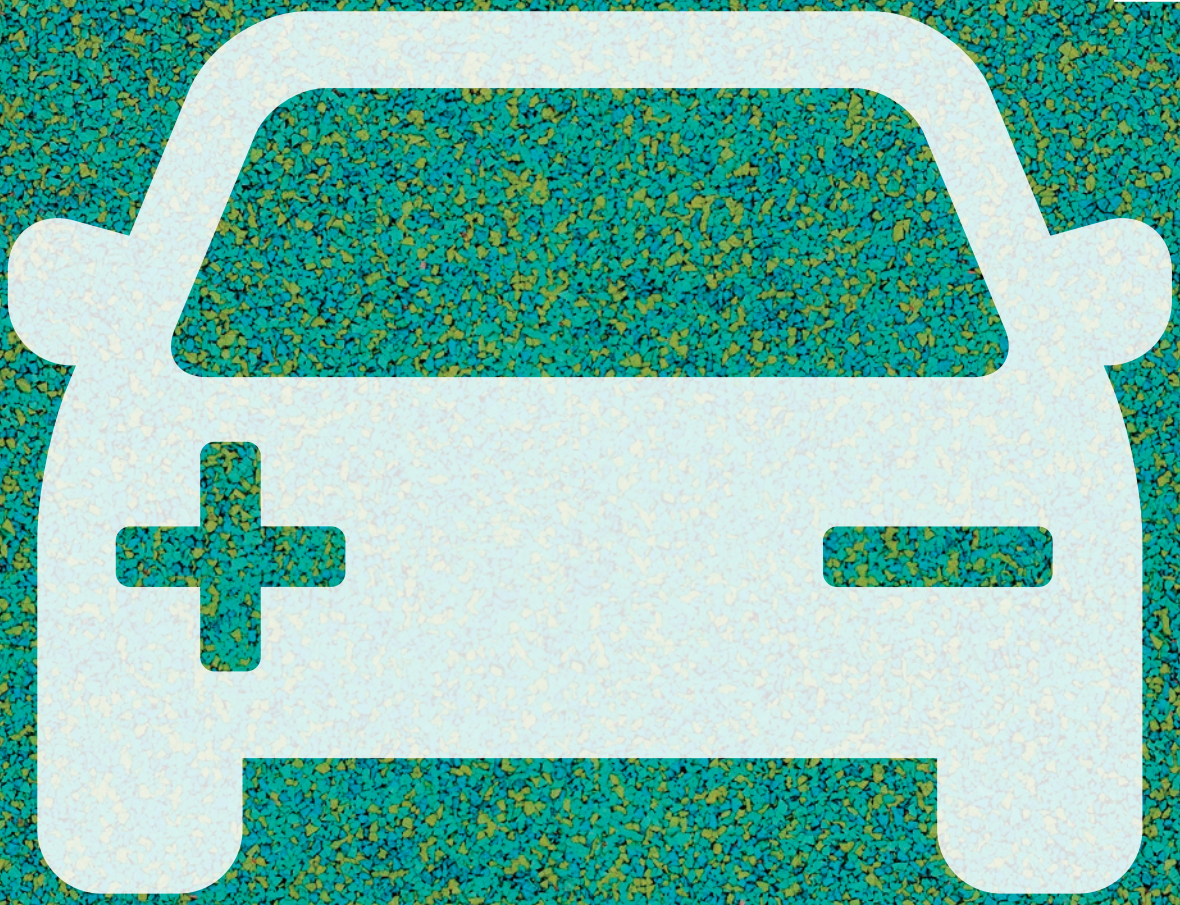
SPRING 2021



# ELECTRIC VEHICLES: PROS AND CONS

## THE TECHNOLOGY NEEDED TO CHARGE ON WITH EVS

**20 years of progress**
The ABI reflects on its achievements

**40 Under 40**
Ideas and achievements of an influential group

**Taking Issue**
Should we aim for Mars if we need to save Earth first?

# BIG PICTURE

# *VIEW FROM ABOVE*

**The ClockTower was built in the mid-1920s to mark the success of a campaign to keep the University of Auckland in the central city. The 54-metre tower, faced with white Mount Somers stone, isn't usually seen from above. That's where a drone came in.**

*Image: University of Auckland Media Productions*

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**SUSTAINABLE**
The wrap around *Ingenio* is 100 percent degradable and recyclable. *Ingenio* is also printed on environmentally friendly paper stocks.


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Photo: Māori Television


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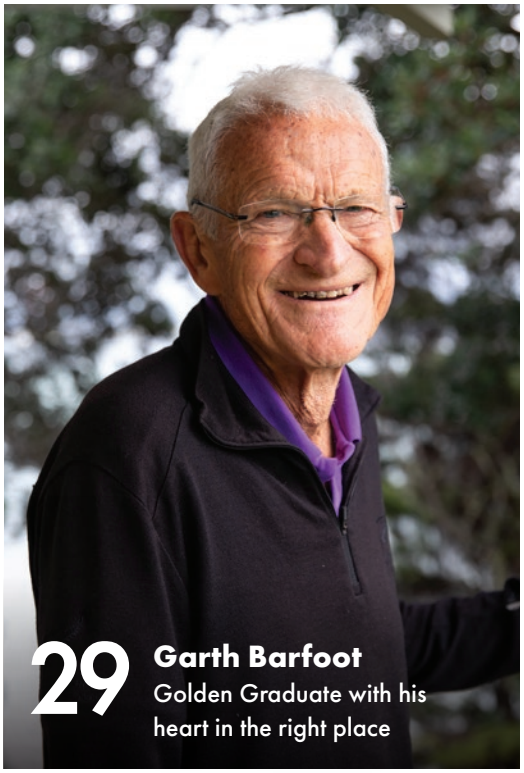


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**Editorial**

# LEARNING FROM A PANDEMIC

Kia ora koutou. As I welcome you to the Spring 2021 issue of *Ingenio*, I am mindful that you may be in, or recently released from, some form of lockdown wherever you are in the world.

At the University, our experience with Covid-19 in 2020 prepared us well for August's New Zealand lockdown and extended Auckland lockdown. We swiftly moved our teaching online and took lessons from last year to support our students. I am proud of the flexibility again shown by our academic and professional staff to respond to students' needs and to keep them engaged in university life.

The pandemic has seen us scrutinise our student offering and reflect on approaches we have taken that we can carry forward into our thinking about the future. Our students are now experiencing flexible learning on-demand and around the clock. They find themselves increasingly able to study and learn at a time that suits their lives, thanks to the ease of an online connection. At the same time, we are very aware of the challenges of, and barriers caused by, internet access for many of our students.

These experiences inform us as we advance our work to realise the vision of *Taumata Teitei*, the Strategic Plan 2025. Within the plan is a deep commitment to our community and to Aotearoa. *Taumata Teitei* prioritises accessible, equitable lifelong higher education opportunities.

Universities worldwide are in a period of evolution. This began in response to the technology revolution, its impact on the future of work, and an increasing student focus on employability.

Global geopolitics has renewed a commitment to local communities while at the same time highlighting the importance of universities to international people-to-people connections.

The process of change has been accelerated by the pandemic. Although it has taken us online, it has also reinforced the value our students, staff and community place in being on campus. The student experience of flexible learning offers us a window into what may lay ahead. Tomorrow's students will expect to be able to, as necessary, switch between on-campus, online and blended study modes, or study offshore.

As the University of Auckland prepares and adapts for these modes of learning, it remains committed to the campus-based experience. It is on our campuses that our research takes place and it is our research that powers our teaching. It is the combination of these that ensures we prepare our graduates to be leaders and citizens of the future, for the future.

Our forward-looking work requires us to explore a new curriculum to meet the expectations of our students, their employers and the needs of society. We are examining improved pathways to the University of Auckland for a broader range of students, timetabling, mode of delivery options, and remote and community-based provision.

We want to create an offering that is attractive to more Māori and Pacific students and to more postgraduate students. We will honour our commitment to lifelong learning with an increasing range of non-degree education opportunities.

We know that Covid-19 will continue to challenge us. As it does, we remain committed to our students and staff, and dedicated to preparing the University for the future. It is a future that I see providing greater opportunities for alumni, friends and whānau, as we work together to learn and advance the interests of our wider community.

**PROFESSOR DAWN FRESHWATER**
Vice-Chancellor
University of Auckland Waipapa Taumata Rau


# CHARGING INTO THE FUTURE

**The government has introduced a rebate incentive for people to buy electric vehicles. But is New Zealand's infrastructure ready for an increased uptake in EVs? Owen Poland talks to University of Auckland experts working to remove barriers.** ▸

*Some of the students who take part in the Formula SAE Australasia competition each year, building and racing an EV car.* *(See page 11)*

**“It’s a big investment now for a city to put this sort of technology in and you don’t want to get it wrong.”**

– Professor Grant Covic, Inductive Power Transfer Roadway Project

*Professor Grant Covic is the Lead Principal Investigator of the MBIE-funded Inductive Power Transfer (IPT) Roadway Project.*

The fact that the Huntly Power Station has burned record amounts of imported coal in 2021 is but one indication that New Zealand is going in the wrong direction when it comes to meeting its international climate change commitments.

Transport accounts for 21 percent of New Zealand’s annual greenhouse gas emissions, so encouraging greater use of electric vehicles (EVs) to address the 90 percent rise in transport emissions over the past three decades could be a solution. But some say that more EVs will place additional load on an electricity network that’s already struggling to meet demand. Others fear that EVs could embed existing health inequities and potentially disadvantage Māori.

So, how is New Zealand preparing for any increased uptake in EVs? What technologies are we advancing, and what are the challenges and opportunities that lie ahead?

As the Lead Principal Investigator of the MBIE-funded Inductive Power Transfer (IPT) Roadway Project, University of Auckland Professor Grant Covic (Engineering) heads a multidisciplinary research team supported by the Robinson Research Institute at the Victoria University of Wellington and GNS Science, which aims to develop new ways to charge New Zealand’s EV fleet.

For many consumers, the greatest barrier, other than cost, is ‘range anxiety’, creating fear of either running out of power or having to break a journey to recharge. Which is why IPT is a potential game-changer. Enabling vehicles to charge wirelessly as they travel down a highway or top up while they’re parked at the supermarket not only increases range but also removes ‘plug-in anxiety’ and eliminates ‘charging deserts’.

The major task is to develop charging pads – connected to a reliable source of power – that can survive being embedded in the highway. They are described by the road pavement engineering fraternity as being akin to having ‘an alien in the pavement’.

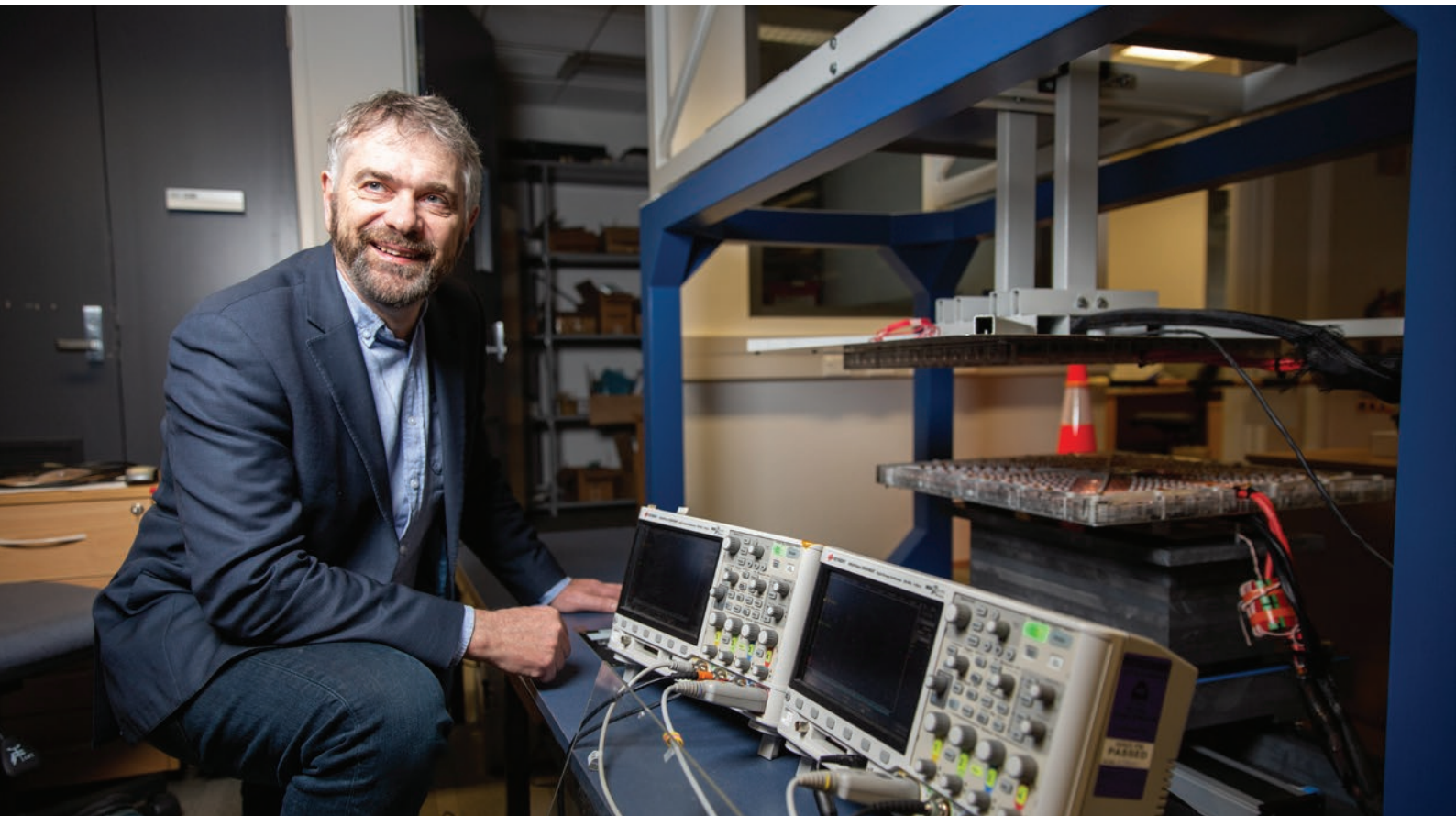
Grant says the goal is to “break the technology barriers to get it into the road, with development starting within the next decade”.

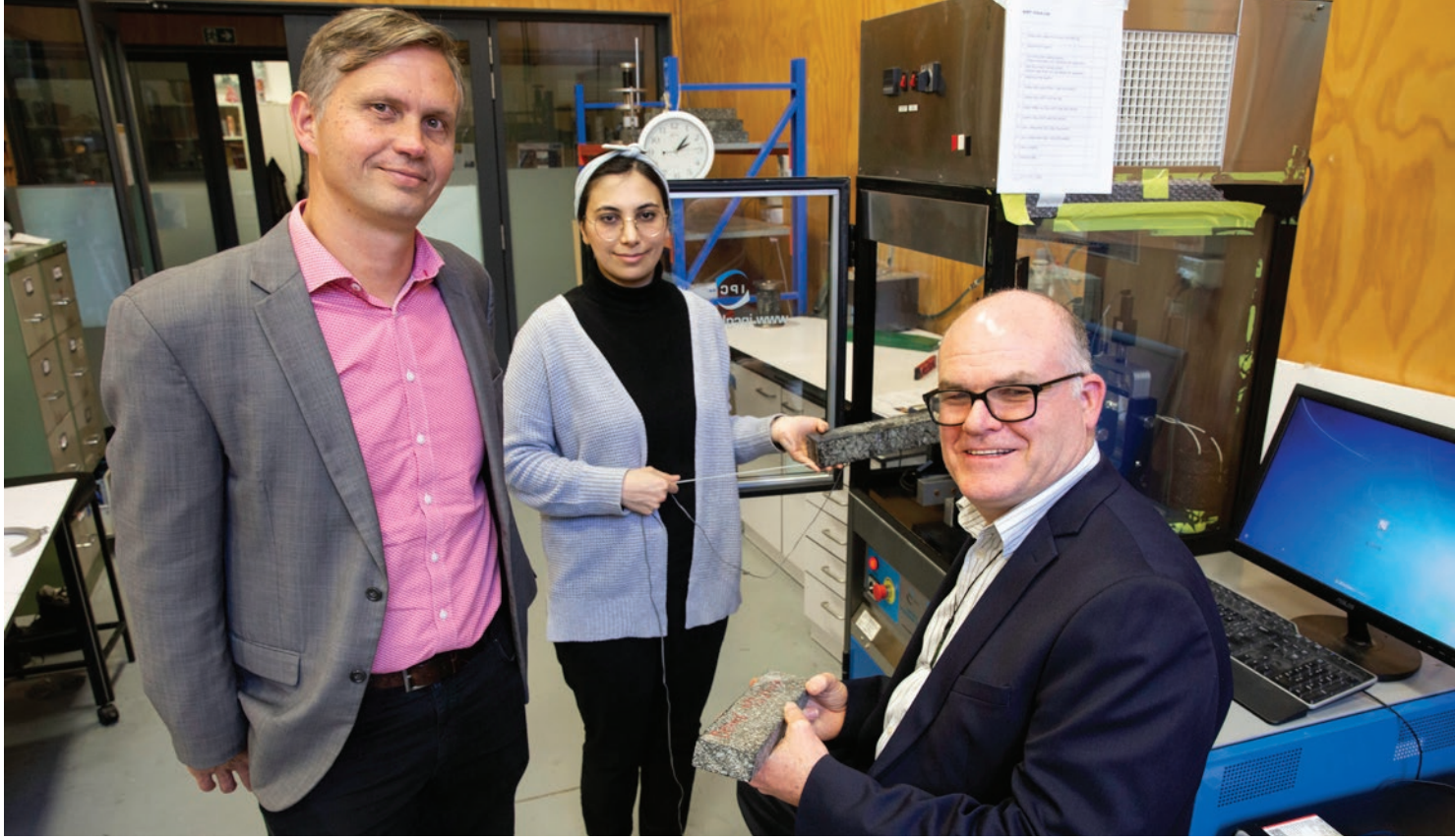
The challenge for Professor Simon Bickerton (Engineering) and the team he leads at the Centre for Advanced Composite Materials is to develop a robust and cost-effective solution that optimises the life of the encapsulated ferrite ceramic pad and aligns it with the lifecycle of the pavement. “It’s about utilising materials to protect the delicate electrical equipment thermally and mechanically within the roadway.”

Heat is also “a real issue”, according to Dr Doug Wilson from the University of Auckland’s Transportation Research Centre, who says that polymers and additives may need to be added to the surrounding asphalt mix to stop it from becoming fluid and tacky.

“It’s a challenging project, but it’s also exciting because it provides lots of opportunities to look at innovative materials and techniques.”

Ease of maintenance and longevity is also critical. The last thing that road users want, says Doug, is more congestion caused by ripping up pavements. “We want to ensure we are making good decisions now about a future transport system for the next 50 years. That’s a complex and difficult task, but it’s something that we really need to take on.”





*Professor Simon Bickerton, Engineering PhD student Pari Aghcheghloo and Dr Doug Wilson, who leads the University's transportation engineering materials and modelling team.*

**"It's about utilising materials to protect the delicate electrical equipment thermally."**

– Professor Simon Bickerton, Centre for Advanced Composite Research Materials

## TESTING THE PAVEMENTS

A demonstration system could be up and running within three years, and Doug is grateful for the support of industry players like Downer New Zealand. Downer has provided space and pavement construction expertise near its South Auckland asphalt plant for the development of a new accelerated pavement tester that will simulate a truck wheel running over a half-scale roading surface to fully test the electrical, mechanical and civil components.

Grant and the University's power electronics group have been using their world-renowned IPT experience to develop global standards to pave the way for the universal acceptance of wireless charging. The ultimate goal is for power to be able to transfer between charging pads in the road and the pads in vehicles, regardless of whether it's a Ferrari or a bus or how high the vehicle sits above the ground. Standards for light vehicles were introduced in 2020, with systems expected to become available in 2022. The focus now is on developing common technology for medium and heavy-duty vehicles.

The lead time from standardisation through to product development is normally around four years, and while China is advancing quickly, Grant says that wireless charging will eventually flow into New Zealand.

"We always seem to be the last stop even though we're really leading the advancement of the technology."

A lot of political decisions will need to be made, and he says that city councils and the government have a responsibility to think about how to proliferate charging infrastructure to ease the transition to EVs.

"It's a big investment now for a city to put this sort of technology in and you don't want to get it wrong," says Grant.

Which raises the matter of cost, and who pays.

"It's going to be an expensive system to initially install because it's new technology skills and our construction sector is not really practised at being able to put these systems in," says Doug.

## COST OF CHARGING LANES

Economic modelling by the University of Auckland Business School suggests that IPT is viable, and Research Fellow Dr Selena Sheng says that public private partnerships (PPPs) may be the best option to attract private investors into such a huge infrastructure project.

At a consumer level, EV charging lanes would need to be tolled to recover the cost. Selena believes risk-averse motorists who want to reach their destination with sufficient battery power would pay. "They will most likely jump into the lane and pay the extra cost to use this service." ▶

*University of Auckland Business School Research Fellow Dr Selena Sheng says EV charging lanes would need to be tolled to recover the cost.*

Engineering PhD student Pari Aghcheghloo is working on a MBIE Endeavour-funded project evaluating the performance of IPT pavement systems. "It's such an important project to me because it's essential we move towards more sustainable transportation systems," Pari says.

"I envisage a world with widespread EV use and no air pollution from transport. Ultimately, this research will create better lives for people."

For the heavy transport sector, the potential advantages of wireless charging are huge. As Simon puts it, "A smaller battery reduces the weight of the vehicle so it can carry more cargo – and it will also reduce battery costs."

What's more, charging times will be reduced, which minimises wait times at truck stops.

Ensuring fairness and equity is another important consideration and Grant says it has to be thought through in terms of policy.

"It's a big question overseas. Nobody wants to have a situation where the rich get the benefit of new technology and people who are less well-off are seen to be driving dirty cars. That would not be a desirable outcome at all."

Using incentives like feebates to encourage EV uptake are all very well, but Doug says they also raise real equity issues between the haves and have-nots,"so we want to ensure that we provide opportunities in communities that don't have a lot with perhaps more shared transport systems".

That line of thinking extends to the Vision Mātauranga elements of the project, which involve understanding the needs and perspectives of Māori communities, including the holistic Māori world view that acknowledges the interconnectedness and interrelationship of all living and non-living things. The question for Doug is, "How can the technology of electrification and wireless power demonstrate to all of Aotearoa how to live more locally and share transport to reduce the carbon footprint?"

To that end, Faculty of Engineering lecturer Dr Tūmanako Fa'aui is researching the impacts, benefits and inclusion of Māori within the technology.

"The alignment in terms of sustainability outcomes and kaitiakitanga (guardianship) seems to be a key factor," he says.

As is the case for many, the initial concerns around the cost of EVs and range anxiety apply for Māori. But there are potential opportunities to upgrade vehicle fleets for Māori businesses and organisations. Using natural resources owned by iwi, such as iron sands, in the construction of a wireless charging network could also generate revenue and "additional economic opportunities", according to Tūmanako.

Wider conversations about health and community well-being are also on the agenda, along with better informing communities about the benefits of the technology.

"People don't know what they don't know," says Tūmanako, so thought is being given to an education campaign in schools to "increase understanding of the technology and what's possible even at that younger level".

Modelling is a key part of the IPT Roadway Project in terms of predicting the future electricity demand from EVs and understanding the impact that dedicated charging lanes will have on traffic flows and road safety.

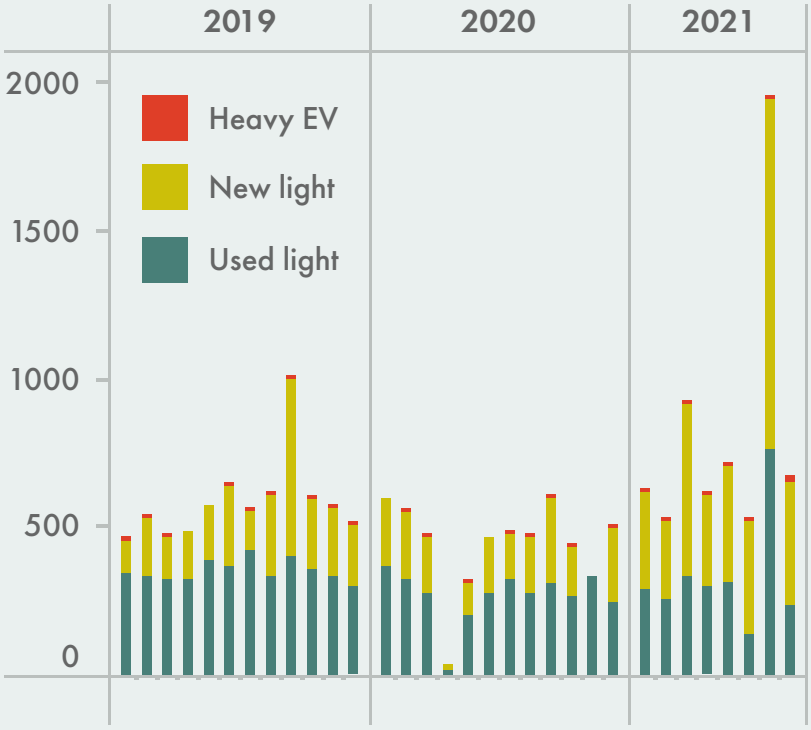
Transportation modeller Dr Prakash Ranjitkar (Engineering) says installing wireless charging pads along the entire Auckland motorway network would be too expensive, so it's a matter of determining what percentage needs to be electrified – and where. "With minimum cost, can we accommodate all the different types of vehicles? That is what we are looking at."

A number of different scenarios have been modelled based on Ministry of Transport predictions about how the uptake of EVs will evolve, but Prakash says that policy changes like the feebate scheme will have an impact and "maybe the scenario that we are predicting in ten years will come early".

Understanding the various factors that drive uptake is also important, and current research suggests that education rather than income is the main factor. More than 30,000 EVs are now on the road, but that's only about one percent of all light vehicles in the country.

"People with a certain level of education are more technically savvy and they're fascinated by the technologies," says Professor Basil Sharp, director of the Energy Centre at the University.

## Monthly EV registrations



*Faculty of Engineering lecturer Dr Tūmanako Fa'aui is researching the impacts, benefits and inclusion of Māori within the technology.*

"That's added to their willingness to uplift this new form of transport."

Interestingly, research by the Business School has found a positive relationship between solar-panel availability in certain regions and EV uptake. Early adopters who first bought EVs several years back are also having a positive influence on those who buy them now – the so-called 'peer effect'.

"They try out new things and then they showcase that this is workable, this is doable, and it is safe for other people to use this kind of transport mode," says Selena.

## TRANSITIONAL ARRANGEMENTS

Given the potentially long lead time before in-road dynamic wireless charging becomes a reality, thought needs to be applied to transitional arrangements such as fast-charging hubs in strategic locations – especially for commercial fleets – and the possible use of biofuels to further reduce greenhouse gas emissions.

Recent power blackouts are also a stark reminder that New Zealand must prepare for the increased load that EVs will place on the national grid. "We can't just simply go and say, let's all go electric," says Grant.

"We've got to actually say, let's also plan for an electrified transport technology."

Rather than distributing energy over long distances at a higher cost, the IPT Roadway Project has highlighted the need to generate locally for transport purposes. Having solar or wind power that feeds directly into fast-charging systems is one option, and Doug says that strong leadership with a deep understanding of the problems is essential.

"We need to be making much smarter decisions about our infrastructure."

The increased connectivity is also a huge opportunity for industry to grow around the electrification of transport, according to Grant.

"We can grow green energy sources in New Zealand and easily connect EV batteries to support the grid, taking energy when it is available during the day rather than waiting until nightfall and increasing the load on local transformers."

Economics also suggests that as the technology becomes more available, it also becomes more affordable, as vehicle manufacturers scale up EV production.

"My attitude is that if there's money to be made, the investment will follow," says Basil. "But right now we're burning coal in Huntly."

While EVs will undoubtedly reduce New Zealand's greenhouse gas emissions, Doug is quick to point out that 'zero carbon electrification' will never be a reality because of the embodied energy in the imported vehicles, which he says is not being accounted for.

Selena and Basil were among academics who recently published a paper comparing the energy mix that different battery EVs use to power the vehicles. It showed the reduction in $CO_2$ emissions depends on the extent to which the vehicle's electricity is generated from renewable sources. If fossil fuels are used in a car's electricity generation, it could lead to a negative effect on the environment.

Then there's the thorny question of battery production and disposal. The lithium-ion batteries found in most EVs are expensive to produce, heavy and only last between five and seven years. They're also difficult to recycle, with most ending up in landfills or storage.

Solving the battery issue is not part of the IPT Roadway Project mandate, however Associate Professor Geoff Waterhouse (Faculty of Science) is working on a revolutionary solution to make EVs more efficient, affordable and environmentally friendly. Geoff and two ▶

## IN THE RACE

Each year, a cross-faculty team of around 70 students vies for honours in the annual Formula SAE Australasia competition which is contested by more than 25 universities from Australia, New Zealand, the US, Japan and Europe.

The Auckland team embraced EVs back in 2015 as part of their challenge to design and build an EV race car from the ground up, although the primary aim is to get a vehicle up and running rather than produce any new research or technologies.

A previous attempt to build a customised battery management system didn't work, but the 2021 team has been making a battery encased with carbon fibre, instead of aluminium, to save weight.

"The challenge is finding new ways to go fast," says team leader Keith Anderson. "We also expect to see further innovation as the team progresses with a long-term plan to have an autonomous vehicle."

For most participants, it's about getting hands-on experience with EVs in the hope of forging a career in the automotive sector.

Says Keith: "We're all pretty passionate about the idea of battery-powered electric cars, so we'd all be keen to get involved in that industry – it's definitely growing in New Zealand."

Read the University's latest FSAE news (PDF) at **tinyurl.com/FSAE-UoA**.
See the SAE website at **saea.com.au/formula-sae-a**

**"We want to be making good decisions now about a transport system for the next 50 years."**

– Dr Doug Wilson, Transportation Research Centre

post-doctoral fellows are midway through a three-year research project to create low-cost catalysts to enable the production of a zinc-air battery that can store six times more energy than lithium-ion batteries. The post-doctoral positions are funded by Kath and Greg Trounson, EV enthusiasts and donors to the University.

"Imagine having that same amount of energy stored in one-sixth of the volume," says Geoff. "A further advantage will be that the air-breathing zinc-air batteries we're developing are 100 percent recyclable."

Another big advantage for battery manufacturers is that zinc is found in most countries around the world. This is in stark contrast to the current lithium-ion technologies, such as lithium-cobalt-oxide batteries, which are reliant on cobalt mined by child labour in Central Africa or the expensive lithium found mainly in Australia, South America and China.

Geoff and his team estimate that they are about four years away from something that they could take to a battery manufacturer, but that time could be halved with just one good idea.

"A lot of the commercial success that people have had in New Zealand can be distilled down to just one good idea with suitable IP protection as you go, as Grant Covic and John Boys did with inductive power transfer.

"If you work hard around that good idea, you can come away with a big win."

Recognised along with Professor John Boys with the Prime Minister's Science Prize in 2013 for his pioneering work on inductive power transfer, Grant hopes people will want to adopt EVs because it makes sense economically.

"The time for electric vehicles is now," he says. "These technologies remove barriers and will make it easy. What we're trying to do is to make the transition a lot smarter and a lot faster."

The IPT Roadway Project is also forging new relationships and collaborations that Simon says are a "real exemplar" of multidisciplinary research.

"It's about working together to solve what are often called wicked problems," says Doug. "The wicked problem we have at the moment is the climate-change emergency."

# HEAR THE ROAR

One feature of electric vehicles is that they are very quiet. But when it comes to motor racing that isn't a good thing.

Dr Andrew Hall, a mechanical engineer and acoustician in the Faculty of Engineering, is helping to solve this issue.

He, technologist Gian Schmid and fourth-year students Aman Sagoo and Bevan Tucker are working with Kiwi rally legend Hayden Paddon, at Paddon Rally Sport, to develop a sound-generating device for Hayden's Hyundai Kona EV car. The aim is to improve EV rally car safety and make it sound like 'real racing'.


***Hayden Paddon's Hyundai Kona EV rally car. Quiet now, but the University's mechanical engineers are helping to make it roar.***

"Motor rallies often take place in forests, and cars suddenly race out from behind trees or over a crest," says Andrew. "The lack of noise can pose safety issues if people don't hear the cars coming.

"Spectator enjoyment is also really key, so we modelled our sound profile on Hayden's love of the V8 Judd and V10 Formula One car engine sounds. We're aiming to get Hayden's EV car to really scream."

Rather than mounted loudspeakers that could be smashed off or damaged in the harsh environments in rally sport, the engineers have developed other techniques.

"We've created a mechanical system that creates a realistic frequency spectrum," says Andrew. "We're working closely with Hayden's team and have a prototype being tested on his car in Cromwell. We know it works, but we need to test how robust it is."

Andrew's usual acoustic work is to reduce noise, in building materials for example, but he is also a keen motor rally fan. "In a typically Kiwi way, I just sent Hayden an email and offered our services. He got back to us and said he was really keen to collaborate."

Andrew says having world-class facilities and a team with 20+ years of experience at his fingertips has made it possible.

"The University is lucky to have amazing acoustic facilities. We're one of the best in Australasia. We do testing for local and international companies, such as building acoustics, appliance noise and developing noise-reduction materials for apartments."

For now, his team is focused on working on the EV rally car with Paddon. There's also potential for the devices to be used in Formula E racing in Europe.

It's pretty much non-petrolhead heaven.

## Tips for EV drivers

Andrew and Gian both drive Nissan Leafs and have a couple of tips for EV drivers.

**Andrew**: "If you're charging at a fast charger, only charge to 80 percent because the charging speed slows above that, so it takes longer. Unless there's good reason, just keep the battery between 20 and 80 percent charged. Also, charge your car at home."

**Gian**: "Stick to the parking time limits at public charging stations and don't wander off and do your shopping for hours and leave your car unattended."

# A SPIRITUAL JOURNEY INTO THE VALLEY

I was really quite deluded. And like all deluded people, I was also deluded about being deluded.

I'd seen other journalists go back to university and become credentialled chin strokers who got to contribute to *The Conversation*. Their life looked so virtuous. Useful. And cosy. I wanted a bit of that! A kind of buttered-toast fireside respite from horrid late-capitalism hustling.

Was it possible to have an academic do-over, now, aged in my fifties? I didn't have a great transcript. I was first sent to university aged 16. This was not because I was Doogie Howser. (Sorry, my ancient pop-culture references will mean nothing to a Gen Z cohort.) I wasn't particularly clever, but I was emo before it was a thing. My worried parents would drop me at the university gate each morning in our Ford Cortina. I went to lectures, ate a pie in the student union on my own, hunched in my op-shop gabardine coat. I got an unexceptional philosophy degree in which I sulkily studied only existentialists and a bit of Husserlian phenomenology. Would my whole life have been different if I'd bitten the bullet and done logic? In that *Sliding Doors* reality, I would have been breezy and made money in the property market. Instead, I was still a sucker for what the socialist blogger Fredrik deBoer calls "the cult of smart", the pervasive modern idea that intelligence is the defining human quality and that academic performance is a shorthand for total human value. Like two bald men arguing over a comb, possibly only thwarted academics like me still subscribe to this view. Regardless, I wanted to have another go.

Henry Kissinger famously, if unoriginally, stated that the battles in academia are vicious because the stakes are so low. (This is actually called Sayre's Law.) This makes it sound as though the academy is a gladiatorial bloodbath. I didn't find it so. On the contrary, the spiritual journey of being at university was more life-changing and satisfying than getting high grades or anything I gleaned from the scholarly literature. It turned out, to succeed in academia, I didn't need to fight harder to become more clever. Quite the opposite: I had to lose my ego.

The writer Eckhart Tolle, himself a "failed" academic, describes the ego as wanting to be a mountain. He suggests when you're in a situation where you might feel an urge to assert your knowledge or your opinion about something, to try to be present and attend to the momentum behind that strong urge to express what you know. Trust me, this is hard (especially if you've been diagnosed with adult ADHD). It can take a lot of presence to hold back from asserting the "I". Because when you do, there is an instant of feeling diminished. You feel like a valley, not a mountain. But if you do let go and descend to the valley, there is a deepening, as your former self falls away. This is where you can connect to the truth, beyond your ego.

I thought I knew things, and I did. But what I already understood was an obstacle to the things I needed to understand. This process of letting go of what you know, or think you know, is terrifying. You are not Marie Kondo filling a mini-skip, you are a trapeze artist: you've just let go of one swing but not grasped the other.

You are suspended in mid-air; in the abyss. You could plummet to your death.

That's why you can't do it on your own. I certainly couldn't. Lots of people helped me, but there was one particular professor who was just the sort of person who, in the past, I would have labelled "not my tribe". Maybe she studied logic in her youth. Or was a sergeant major in the marines. Either way, I wouldn't have dared mention Freud around her. Yet, it turns out the professor you don't think you want is the exact professor you need. I had to listen to what she said. I had to stop thinking I knew it all. I had to learn to write in a different way. She took me down to the valley.

In order to become something else, we have to let go of what we were. Including all our comforting delusions. So I'm not sure I still idealise academia as my saviour or a cosy retreat from neoliberalism or the path to social approval. I may still have delusions, but I find reality is better.

*Photo: NZ Herald*

*Deborah Hill Cone is a journalist who returned to tertiary study aged 51. She completed two graduate diplomas, then a postgraduate diploma in psychology at the University in 2021. She is embarking on a PhD and is a graduate teaching assistant in the School of Psychology.*

*This article reflects the opinion of the author and is not necessarily that of the University of Auckland.*

# AUCKLAND CLIMBS WORLD RANKINGS

## The recent Times Higher Education World University Rankings brought good news

*Above: Vice-Chancellor Professor Dawn Freshwater.*

The University of Auckland has improved its world ranking again, climbing to 137th equal in the latest Times Higher Education (THE) World University Rankings, compared with 147th last year. This is the highest any university in Aotearoa New Zealand has ranked since THE first published rankings independently in 2010.

Vice-Chancellor Professor Dawn Freshwater (pictured) said she was heartened by the way the University continued to perform internationally, particularly considering the challenges created by the Covid pandemic over the past 18 months.

"Maintaining and improving our internationally recognised levels of education and research despite the uncertainties of the current environment, and at the same time positioning the University for a post-Covid reality, has been no mean feat."

She commended staff for their dedication in achieving the result. "It is the strength of our academic disciplines, including transdisciplinary collaborations, wholeheartedly supported by our professional staff, that is reflected in this result."

The Times Higher Rankings measure performance within five broad pillars: teaching, research, international outlook, citations and industry income. Universities around the world increasingly measure success by their alignment to social and environmental goals, such as the Sustainable Development Goals. The University already has a solid reputation in work published around health and well-being. Other emerging strengths, such as sustainable ecosystems and advancing just societies, are enhancing the University's research score.

The International Outlook category was strengthened largely by the highly successful retention and support plan for international students. It also reflects the high level of international collaboration on publications.

# ALUMNI AT THE OLYMPICS

## Making it to Tokyo was a massive thrill for alumni and students

*Tarryn Davey in the match against Japan at the Olympics. Photo: Alisha Lovrich*

Alumna Tarryn Davey (BPharm, 2017) says being at her first Olympics was a real "pinch me" moment and has made her want to compete at another Olympics.

"The experience was so different from other Olympics – no spectators, not being able to watch the other sports – so that's definitely made me want to experience a 'normal' Olympics as well. Paris 2024 is the goal."

The women's hockey defender unfortunately got injured in the second game, against Japan, which was "really gutting and disappointing". But she's holding onto the memory of becoming an Olympian. "A personal highlight was playing my first Olympic game ever, against Argentina, and it was great to win.

"The moment in which you're singing the anthem, knowing you were about to officially become an Olympian was also really special."

Tarryn was one of six alumni to compete in Tokyo. Another of those was Black Sticks captain Stacey Michelsen, who retired in October. Another athlete, trampolinist Dylan Schmidt, won a bronze medal. Dylan graduated with a BCom in 2020 and spent all his time after that training for Tokyo. He's also planning another Olympics. "I am definitely going to Paris. Peak age for a trampolinist is late 20s and I'm 24 now."

Two University of Auckland students won gold medals at Tokyo – Medical and Health Sciences student Theresa Fitzpatrick in the women's rugby sevens and Engineering honours student Michael Brake in the men's rowing eight.

**Full story: auckland.ac.nz/UOA-Olympians**

# BOOSTING BUSINESS

## Theresa Gattung says female entrepreneurs are vital to economy

Women are the winners after businesswoman and philanthropist Theresa Gattung gifted the University at least $2.5m over ten years. The money will fund a new Chair of Women in Entrepreneurship in the Business School to helm a hub that fosters entrepreneurial women and equips graduates with relevant business skills.

Theresa says her support is driven by her desire to help make New Zealand the best place to do business, particularly for women.

"Improving women's economic empowerment is crucial to gender equality, a goal that constantly needs championing," she says. "I'm a firm believer that through business we can create a fairer world. I want to encourage tertiary study that is practical and grounded in real world entrepreneurship and that will give women a deep understanding of business."

Full story: **auckland.ac.nz/theresa-gattung-gift**

*Theresa met with the Dean of the Business School, Professor Susan Watson, in June when the funding was announced.*

# ROLL ON **2024**

## World-class spaces are something special to look forward to

Come 2024, the building landscape at the University of Auckland will have changed dramatically. That's the year the new Recreation and Wellness Centre is due to open, which will be an exciting time for everyone familiar with a large hole in the ground where the old recreation centre once was.

Also opening in 2024 is the redeveloped Social Sciences Building. Even before it's been built, it has been awarded 93 points by the New Zealand Green Building Council, achieving a 6 Green Star Design rating. This is the highest score awarded since the inception of the rating, putting the building in the world leadership category. The 50-year-old structure (B201) is an adaptive reuse project that will set new benchmarks for low carbon design and sustainability. It will send less waste to landfill, create less pollution through its construction and operation, and provide healthy, functional spaces for the many thousands of students and staff who will work, learn, research and socialise within its walls. The design also focuses on acoustic performance, comfortable lighting and excellent access to public transport, along with bike parking and end-of-trip facilities. The design of B201 includes the refurbishment of an existing building and the addition of a spectacular new timber atrium to house the Faculty of Education and Social Work and the Faculty of Arts.

Full story: **auckland.ac.nz/6-green-star-building-201**

Rec Centre: **auckland.ac.nz/Rec-Centre-Progress**

## MORE NEWS & RESEARCH

Keep up to date with University news **auckland.ac.nz/all-UOA-news-stories**

*Below left: The space left by the demolition of the old recreation centre. Photo: Katie George*
*Below: An artist's impression of the new B201 on Symonds Street. Image: Jasmax*

Feature

# TWO DECADES OF INNOVATION

The Auckland Bioengineering Institute turned 20 this year. Prue Scott looks at a few of its achievements.

Lockdowns have scuttled many events this year, including a public event planned for September to mark the 20th anniversary of the Auckland Bioengineering Institute (ABI).

But the ABI's co-founder and director, Distinguished Professor Peter Hunter, is happy to talk about the institute's achievements, from its ambitious beginnings to its latest huge undertaking, the 12 Labours Project.

Over the past two decades, there have been prestigious awards, world-class spin-out companies, a bioengineer jetting off to NASA (doctoral student Finbar Argus), many research grants and even a couple of Oscars for a man fascinated with faces, Associate Professor Mark Sagar, CEO of Soul Machines.

The ABI began in 2001 as the Bioengineering Institute, a cross-faculty research centre from Engineering and Medical and Health Sciences that combined experimental work and instrumentation development with computational modelling of physiology and physiological function. In 2008, it became the University's second Large Scale Research Institute and gained the name it has today. The Consortium for Medical Device Technologies (CMDT) was also established as a national resource in 2012 to help grow the medical device industry in New Zealand, an industry the ABI had fostered and in which it was a proven innovator. In 2014, the ABI began hosting the Medical Technology Centre of Research Excellence (MedTech CoRE).

Since 2001, the ABI has grown to more than 250 people, including academic staff, professional staff and postgraduate students. Its overarching aim is to improve medical diagnosis and treatment of injury and disease in all aspects of human physiology, including ankles, knees, lungs, heart, brain, gastrointestinal system and pelvic floor muscles, and connect scientific research to clinical and commercial outcomes.

"We can be very proud of where we stand on the world stage," says ABI deputy director Professor Merryn Tawhai. "We have a 20-year track record in mathematical modelling of various organ systems in the body and we're the largest bioengineering institute in the world."

**"There are huge benefits to working in the clinical environment of the Auckland District Health Board."**

– Distinguished Professor Peter Hunter, ABI director

Peter adds: "Early on, we had the critical mass to purchase expensive resources and the ability to tightly link modelling and instrumentation to experiment in many research projects.

"We bought New Zealand's first supercomputer and developed instrumentation using our own mechanical and electronic workshops, and experimental laboratories in the Department of Physiology at the Faculty of Medical and Health Sciences (FMHS) and the School of Biological Sciences."

The ABI's achievements show the power of operating in a multidisciplinary environment. Says Peter: "It's the talented research academics and the interaction between faculties that is the leading characteristic and strength of the ABI.

"We've also invested in our people – training doctoral students, creating jobs, and running clinical trials and spin-outs. Much of our early work was based on international science and this has given us critical linkages across the world."

Those investments, and the relationship between computational modelling and medical instrumentation development, have led to world-first discoveries. These include a new way to screen vision, a virtual 'pregnancy', augmented reality to assist people with disabilities, new diagnostic strategies for digestive disorders, a virtual 3D heart for diagnosing cardiac disease, and an app to quickly diagnose brain injury.

There have been more than 20 spin-out companies, borne of ideas developed at the ABI by staff or students and then commercialised. ABI's 'Cloud 9' innovation area on its ninth floor has nurtured the likes of Alimetry, Electroclear, Formus Labs, FlexiMap and PowerON. Those who have gone on to commercial success include JunoFem, HeartLab, Kaha Sciences, IMeasureU, Objective Acuity, StretchSense and Formus Labs.

And there's Mark Sagar's Soul Machines whose AI technology began with digital human BabyX. The company has gone from strength to strength including the creation of 'digital people' being used in industries from education to customer services. "Mark is a unique researcher because he has both outstanding artistic and mathematical abilities," says Peter. "His Oscars were for his pioneering work in facial motion capture on *King Kong* and *Avatar*, but his ability to turn this into a highly successful spin-out company was a bonus."

Five ABI researchers have won James Cook Research Fellowships from the Royal Society Te Apārangi – Professors Andrew Taberner, Poul Nielsen, Martyn Nash, the late Andrew Pullan and Peter himself. Peter has also been honoured with the Rutherford Medal, the Royal Society's highest accolade; Merryn was awarded the MacDiarmid Medal; and Professors Iain Anderson and Simon Malpas were separately recognised with the Pickering Medal. ABI alumnus Dr Ben O'Brien (CEO, StretchSense)

*Professor Merryn Tawhai and Distinguished Professor Peter Hunter: driving forces at the Auckland Bioengineering Institute.*

## "We can be very proud of where we stand on the world stage." – Professor Merryn Tawhai, ABI deputy director

won the Prime Minister's MacDiarmid Emerging Scientist Prize in 2013. Associate Professor Peng Du of the Gastrointestinal Research Group won the same prize in 2018.

Constant growth since 2001 has changed the makeup of the ABI's graduate students, from being locally born to 70 percent international from 36 different countries. Of the international students, 70 percent remain in New Zealand. Of those who stay, 60 percent end up in spin-out companies, 20 percent in companies like Fisher & Paykel Healthcare and Orion Health and 20 percent go on to become university research staff in the ABI or elsewhere.

The ABI's expertise in mathematical modelling of various organ systems is world-renowned. Recently, the Ministry of Business, Innovation and Employment (MBIE) awarded it $15m funding over five years to take those projects further through what's known as the 12 Labours Project. The funding will support a global project to mathematically model the physiological systems of the human body, an important extension of the Physiome Project. The project involves building an online computational model to create a virtual physiological human. The ultimate goal is to use it to develop patient-specific diagnosis and treatment.

"We have large teams with deep expertise on modelling different components of the body," says Merryn. "We can model the cardiovascular, gastrointestinal and respiratory systems, for example, and we can do that in very fine detail through use of medical imaging and mathematical measurements. Where the challenge lies is linking these together so we really can simulate function in a body.

"MBIE's funding will also help develop a new generation of niche devices that can be implanted to measure signals from inside the body to inform the mathematical modelling."

Physical space is an issue. The ABI includes Bioinstrumentation, Biomimetics and Implantable Devices labs, as well as the Augmented Human and Empathic Computing labs.

Peter says an important strategic goal is to establish a MedTech Innovation Quarter (MedTech-iQ) in Grafton and Newmarket.

"There are huge benefits to working in the clinical environment of the Auckland District Health Board, as well as boosting the ABI's links with FMHS and the Liggins Institute."

Merryn says the ABI's strong track record and leadership in medical technologies make for an exciting future. "You need commercialisation through companies wrapped around these technologies to really support them through the clinical implementation.

"I expect we will see some early wins because of what we have already done – it could be through AI-based processing and interpretation of patient data or low-cost diagnostics. The 12 Labours Project is a highly visionary project that's really setting New Zealand up well."

To mark 20 years, the ABI will hold a showcase at The Cloud on Auckland's waterfront, 28 March to 2 April. See: tinyurl.com/ABI-event

Read recent ABI news: auckland.ac.nz/ABI-News

*Dr Jason Turuwhenua, of the ABI and the Department of Optometry and Vision Science, tries special eye-test glasses for size.*

# Clear vision for pre-schoolers

## Creating eye-testing models and devices requires foresight

Researchers at the Auckland Bioengineering Institute (ABI) have designed a novel device to test for the most common cause of poor vision in children – 'lazy eye'.

The research has been awarded $1.2m from the Health Research Council to trial the device in South Auckland early child education centres. About one in 25 children experiences 'lazy eye' or amblyopia. If left untreated, it can affect their vision for life.

Dr Jason Turuwhenua (Ngāi Tūhoe) of the ABI and the Department of Optometry and Vision Science says while there is national vision screening for children, the tests rely on an eye chart. It is rarely easy to get preschoolers to sit still and focus for the chart.

Jason's solution is to identify how a child's eyes involuntarily respond to carefully designed patterns on a short video featuring moving and different-sized dots. When played on a tablet, the tablet camera measures the eyes' response, to determine visual acuity. The aim is for the device to lead to better management of the condition.

"This will reduce the need for unnecessary treatments, such as patching, which can be time-consuming and challenging for children and their families," Jason says. "Ultimately, this will mean less stress for whānau."

Jason has also been working with Dr Joanna Black from the School of Optometry on an innovative eye-testing device for older students. They worked with Kia Aroha College in Ōtara, a school comprised mostly of Māori and Pacific students. "It was about testing the usability of the device, but it was also a chance to build a model of engagement for researchers working with Māori and Pacific communities," he says.

**Full stories: auckland.ac.nz/JT-model** and **auckland.ac.nz/Jason-preschoolers**

# MIX AND MATCH **POLYNESIAN MIGRATION**

## Fragments of pottery reveal clues into Pacific migration routes

Carbon dating and analysis of 193 Neolithic samples of ceramics from 20 archaeological sites throughout Southeast Asia concludes that Polynesian migration into the south of the Pacific involved an extraordinary mingling of populations.

*Associate Professor Ethan Cochrane*

Associate Professor Ethan Cochrane, an archaeologist in the Faculty of Arts, says the period 10,000 to 4,500 BCE in this region shows the most "mixing, matching and moving" of people in entire human pre-history.

The study, published in scientific journal *PLOS One*, challenges the existing theory that the Pacific was populated via two distinct routes, either from the north or to the west, that unfolded step-by-step into the southern Pacific.

Ethan says: "Our data supports the idea that people moved in all directions at a range of times, as there are pieces of the earliest pottery from exactly the same era deposited in both western Borneo and the northern Philippines, which couldn't be the case if existing theories are correct."

Ethan says as more accurate and precise dates are revealed, the research informs a new way of thinking about early human movement around the Earth. This, in turn, has shaped continuous variation in past populations and will "change how contemporary Polynesian people think about their own origins".

**Full story: auckland.ac.nz/migration-research**

# BIG FUNDS GIVEN FOR FLU TRACKING

## Research boosted for two global virus and vaccine studies

New Zealand's novel environment is the setting for a project to create predictive models for flu and other respiratory viruses. The two-year Southern Hemisphere Influence and Vaccines Effectiveness and Surveillance V (Shivers V) project is co-led by Professor Nikki Turner and the $9.8m funding through UniServices was gifted by the US-based Flu Lab, a research NGO working to eliminate influenza.

As New Zealand opens its borders, researchers will be able to trace how respiratory viruses spread by collating epidemiologic, clinical and genomic data to create a model similar to that developed to predict Covid-19 outbreaks.

"This is crucial work," says Nikki. "The respiratory syncytial virus (RSV) epidemic this year is particularly concerning because of its impact on those who are most vulnerable: our tamariki, elderly, those with significant medical problems, those in poor housing and particularly for Māori and Pacific communities."

Nikki is also developing a tool to better understand why people refuse or delay vaccinations. Questionnaires will be used to predict vaccine uptake, measure and monitor vaccine acceptance and identify barriers to vaccine access. The research, funded by the Health Research Council, is set against the backdrop of falling child immunisation rates.

Also on vaccines, UniServices has been awarded nearly $8m by the US Centers for Disease Control and Prevention (CDC) to lead the largest global vaccine monitoring study ever undertaken, which will follow 300 million people. It will be run by the Global Vaccine Data Network (GVDN), an international consortium for vaccine monitoring. Its co-director is Associate Professor Helen Petousis-Harris who is the principal investigator for the project.

**Full stories: auckland.ac.nz/ShiversV-study** and **auckland.ac.nz/vaccine-tool** and **auckland.ac.nz/GVDN-study**

*Professor Nikki Turner (left) and Associate Professor Helen Petousis-Harris have been at the forefront of vaccination discussion and research in 2021.*

### MORE RESEARCH

Keep up to date with University research and news at **auckland.ac.nz/all-UOA-news-stories**

# Kānuka flavours in a bottle

## Chemical engineering and business combine to create liquid hangi taste

Dr Kiri Dell from the Auckland Business School and Associate Professor Saeid Baroutian of Chemical and Materials Engineering have collaborated on the development of a food-flavouring product based on the properties of kānuka trees grown on Māori land in Ruatōria.

Kiri says: "I'm passionate about integrating the power of science and technology to realise the potential of our whenua and finding novel ways for our whenua to sustain Māori landowners."

Together with Saeid and whānau from Ruatōria, she has developed a start-up to commercialise multiple products based on the unique properties of kānuka.

Their first product, liquid smoke, was produced through a fast pyrolysis system designed by Saeid that retains high flavour profiles while eliminating the polycyclic aromatic hydrocarbons (PAHS), carcinogens created from burning.

The result is a flavouring ingredient that adds an instant hangi taste to food. As well as the pleasant taste and aroma, it also acts as an antioxidant and antimicrobial agent, helping to preserve food products in which it is used.

The novel product has already earned the attention of Plant Tech Nation, a plant-based meat company and Fix & Fogg, the nut butter company. Expect to see products with the 'hangi in a bottle' soon.

**Full story: auckland.ac.nz/kanuka-project** and **tinyurl.com/stuff-kanuka**

*Associate Professor Saeid Baroutian (Engineering) and Dr Kiri Dell (Business) collaborated with Ruātoria whenua on the kānuka product.*

# RIGHT AND PRIVILEGE

**The role of a University and its academics is to be the critic and conscience of society. But what does that mean in the 21st century? Gilbert Wong finds out.**

**Associate Professor Siouxsie Wiles casts her mind back to the start of 2020. She had been following the reports of a novel coronavirus in Wuhan and says she saw the shape of the pandemic ahead.**

**"There was no hesitation in my mind that telling people about it was the most important thing I could ever do. It's one thing telling the government about what might happen and hoping it makes the right decision, but the public need to know as well so they will support those decisions," she says.**

Eighteen months later, the microbiologist in the Faculty of Medical and Health Sciences remains an important voice for media to make sense of the Covid-19 virus. Reporters know she will answer their calls and do her best to explain. Her work with illustrator Toby Morris from *The Spinoff* has gone viral, in a good way. Their explainers of everything from infection rate to border protection have earned them a place in the World Health Organisation's strategy to battle the pandemic.

The work has been acknowledged. She is the New Zealander of the Year, and was part of the team at Te Pūnaha Matatini awarded the Prime Minister's Science Prize for their contribution to the country's Covid-19 response. In July, Siouxsie was one of two to receive the 2021 Critic and Conscience of Society Award, established to encourage academics to provide independent and expert commentary to the public.

The phrase 'critic and conscience of society' has a worthy if archaic tone. Elements of the concept trace back to Enlightenment thinkers, but the specific words came in response to the Rogernomics revolution of the Fourth Labour Government. Enshrined in the Education Act 1989 and its update in 2020, the words confer a special role and responsibility on universities and academics and are there as counterbalance to the radical changes of those years.

Barbara Grant, associate professor of critical studies in the Faculty of Education and Social Work, has researched the origins of and context to the phrase. "It represented a huge ideological change. There were a whole lot of tectonic shifts in the power relations between government, education and communities."

The phrase first appeared in print in the controversial 1988 *Report of the Working Group on Post-Compulsory Education and Training*, known as the Hawke report after the group leader Professor Gary Hawke. The report was adopted as a blueprint for changes to the university sector.

"There's not a clear story about who created or invented the term," says Barbara. "Two people claim they came up with the phrase and it may be that, in the discussions surrounding the Hawke report, people might well have independently come up with it.

"The bill was there to turn us towards a market-driven concept of education. A key concept was that tertiary education largely benefits individuals, so the individuals (students) should pay for their education."

The goal was to impose financial accountability over the tertiary sector. There was a public outcry over the loss of autonomy for universities. In response, the initial Education Act was later amended to explicitly include academic freedom and the critic and conscience role.

The legislation defines academic freedom as: the freedom, within the law, to question and test

## "We talk a lot about cancel culture, but it's not cancel culture, it's consequence culture." – Associate Professor Siouxsie Wiles

received wisdom, put forward new ideas and state controversial or unpopular opinions. In exercising academic freedom, universities have to maintain the highest ethical standards and permit scrutiny of those standards.

In contrast to the multiple clauses outlining academic freedom, the Act is silent on any definition of the 'critic and conscience' role.

"But the Act really makes it a responsibility and says that for a university to be a university, it has to 'accept a role as critic and conscience of society'," says Barbara.

Associate Professor Matheson Russell is a political philosopher in the Faculty of Arts. He sees the two concepts, academic freedom and the critic and conscience role, as intrinsically linked.

"If academic freedom was just a privilege that academics have because of their job, there's no rationale for it. The rationale is that academic freedom is essential for the social good that university academics deliver. The critic and conscience role is one of the social goods academics deliver, which is speaking out in public and calling things out they know to be false."

Neither comes carte blanche.

"The next question is, how do we exercise those freedoms and are there limits?" asks Matheson. "The Act talks about responsibilities, it talks about accountability and it talks about ethical standards.

"If an academic thought they had these freedoms and should be left to do their own thing, irrespective of the consequences or how well it was done, then that would undermine the purpose of academic freedom."

He says there is no social good without strong scholarship. "If we're not doing that, then we're squandering the resources. If the scholarship is sloppy, we're not fulfilling the social good universities need to achieve."

Behind the aspirational ideals lie conundrums. A prevailing view is that academics should 'stick to their lane' and not speak publicly outside their specific research area. "That raises the question: what is academic expertise?" says Barbara.

"We make a lot of fuss about the transferable and generic skills we want students to have. We want them to know the world through a lens based on evidence with critical thinking that considers a range of perspectives."

Therefore, we would expect, she says, those that teach these skills to have honed their own critical thinking to a sharp enough edge to comment incisively on broader and public topics.

The architects of Rogernomics could not have imagined the culture wars today. In 2021, Black Lives Matter and #metoo, have become shorthand for new revolutions. For universities, the rise of 'cancel culture' at British and Australian universities, where controversial speakers have been 'de-platformed' has led to draft legislation to 'promote' free speech at universities. In Britain, the proposals include a 'free speech enforcer' with powers to fine universities.

"Academic freedom is a privilege that comes with responsibilities," says Siouxsie. "We talk a lot about cancel culture, but it's not cancel culture, it's consequence culture. An academic can say something from a position of privilege and have the freedom to do that, but in doing so they can cause real harm to people by embedding biases.

"You might have the right to say something, but that doesn't mean you should say it. Nor does it mean we have to listen or provide a platform for it. This is the tightrope we're walking as human beings."

*From opposite page: Associate professors Barbara Grant (Education and Social Work); Siouxsie Wiles (Medical and Health Sciences) and Matheson Russell (Philosophy, Arts).*

**Barbara Grant, Siouxsie Wiles and Matheson Russell were among the academics involved in the critic and conscience network, criticandconscience.org.nz**

# 40 UNDER 40 *HITS* 200

This year, the 200th member of the University of Auckland's 40 Under 40 has been added to this influential cohort. Andrew Patterson surveys the 160 members inducted between 2017 and 2020 to hear their insights on the big issues facing the world, what they'd change about New Zealand and what makes them happiest.

*Hannah Hong was in the 2020 40 Under 40 cohort.*

*"People consume environmentally non-sustainable products and services simply because they are available."*

– Hannah Hong, director, Lemon & Beaker

As the world becomes ever more complex, what do the next generation of leaders think about the issues they will be required to navigate in the future? More importantly, what ideas do they have for change?

The University's 40 Under 40 members provide an ideal sample group to take the pulse of this emerging generation. Equally split by gender, ethnically diverse, representative of all fields of study and with around 40 percent living overseas, this cohort of achievers represents some of the University's most enterprising graduates.

When it comes to the top three issues that concern them, it's no surprise that climate change and the environment rated highest, with almost 80 percent of respondents expressing frustration at the slow progress in addressing the issue of climate change.

Hannah Hong (BSc) is director of skincare company Lemon & Beaker. "People keep consuming environmentally non-sustainable products and services simply because they are available," she said. "I believe we need to ban more non-sustainable products and services."

Rising inequality and the implications of Covid-19 also featured prominently. Other issues included mental health and well-being, systemic racism and critical race theory. Disinformation and the negative influence of social media in promoting conspiracy theories were also mentioned by many respondents.

At the risk of being parochial, Prime Minister Jacinda Ardern was the only stand-out individual to emerge as the most admired leader – nominated by around 20 percent of respondents. "Politics aside, she exemplifies what a female leader brings to a leadership role," said China-based Jennifer Ma (LLB), founder of early childhood education brand, Little Oasis.

Tesla and SpaceX founder Elon Musk also received several nominations. As Graeme Fielder (PhD, molecular medicine), vice-president of Gene Therapy NewCo, noted: "His combined ability to see the future and achieve it while putting everything on the line is inspiring."

Interestingly, almost 20 percent of respondents said they didn't particularly admire any of the world's leaders. "These days, leaders lack decision-making ability and don't have a clear long-term agenda," said Jimmy Peng (PhD Engineering), an assistant professor at the National University of Singapore.

If given the opportunity to change just one aspect of New Zealand, respondents nominated a wide range of issues, from eliminating the infamous tall poppy syndrome, racism, reducing child poverty and addressing rising inequality through to a greater focus on innovation and championing the arts. Improving New Zealand's connectedness with the rest of the world was also raised by numerous respondents. Coach and facilitator Shruthi Vijayakumar (BA, economics/politics), co-founder of Emerge Institute, suggested, "creating spaces within organisations

*Shruthi Vijayakumar was made a 40 Under 40 member in 2020. Photo: Colin McDiarmid*

*"We need to create spaces within organisations where different knowledge systems and world views are actively considered."*

Shruthi Vijayakumar, co-founder, Emerge Institute

where different knowledge systems and world views could be actively considered".

While no one dominant issue emerged, there was an obvious concern expressed about New Zealand's growing divide between the haves and the have-nots.

Survey participants were also asked what they believed the University of Auckland should be teaching students for their futures. There was no shortage of suggestions, including a greater focus on critical thinking, problem-solving and creativity. Carl Adams (MA, development studies), Tearfund international programmes director, suggested the development of "engaging tools and approaches used in the workplace that help bridge the gap between university life and the demands of the workplace".

Many respondents raised concerns that degree programmes need to be more relevant to future career paths and reflect the changing nature of the world graduates are entering. A recurring theme was that universities need to teach students how to learn in a way that opens their minds and challenges them to be bolder in their outlook.

Regarding Covid-19's impacts, apart from missing international travel, the vast majority of respondents commented positively about the benefits that have come from lockdowns and remote working.

"Surprisingly, it has made our business bigger and stronger," commented one respondent, who didn't wish to be identified.

For others, it allowed them to put things into perspective. "It has made me step back and think about the value of time and spending more of it with my children, extended family and friends. It has also got me thinking about how improved flexibility could work for families to increase time spent together," said Jaime Short (BSc, Anthropological Science/Geography), environmental consultant for Tonkin & Taylor.

*"Lockdowns got me thinking about how improved flexibility could allow families to spend more time together."*

***Jaime Short,*** environmental consultant, Tonkin & Taylor

*Jaime Short*

*"I have watched people unnecessarily die and have been horrified by the political divisions Covid has created."*

*Dr Simon Talbot, plastic surgeon*

Some spoke about a more confronting experience. Dr Simon Talbot (MBChB), who is a plastic and reconstructive surgeon at Harvard Medical School in the US, said: "Covid has had an incredible impact. As a medical professional, I have personally watched people die unnecessarily and have been horrified by the political divisions Covid has created."

Demonstrating the importance of ongoing learning, more than two-thirds of respondents said they plan to undertake further studies to keep up with the increasing complexity of the world.

Finally, for all their success, when it came to what makes them happy, perhaps the most truthful answer from one respondent, "I don't know", highlights the difficulty of answering this vexing, age-old question.

While almost everyone mentioned spending time with family, others noted the satisfaction that comes from sharing their talents or, as orchestral conductor Tianyi Lu (BMus Hons) put it, "empowering people to realise their potential through compassionate servant leadership".

Jenny Chu (Engineering/LLB Hons), a procurement specialist with the Asian Development Bank in the Philippines, said it's about "making a difference while challenging myself and making those around me happy". But founder and CEO of *The Spinoff*, Duncan Greive, perhaps summed it up best: "Everything being in its place personally and professionally, though I admit it doesn't happen very often."

*Note: Qualifications listed were completed at Auckland. Alumni may have gained further qualifications elsewhere.*

**See pages 24-27 for 2021's 40 Under 40s.**

*Simon Talbot was in the 2017 40 Under 40 cohort and is a distinguished alumni of the University.*

**BOOKS AND FILM TIPS**

When asked what book or movie had influenced them, our 40 Under 40s from the past five years nominated more than 50. These included documentaries and TED Talks on topics from climate change to personal development. No single book or film stood out in the polling, but a few that scored several mentions included: *Sapiens – A Brief History of Humankind* by Yuval Noah Harari; *The Power of Now: A Guide to Spiritual Enlightenment* by Eckhart Tolle; and *A Life on Our Planet* by David Attenborough. Documentaries nominated included *Inside Bill's Brain* (Netflix), about the mind of Bill Gates; *I Am Greta*, profiling climate activist Greta Thunberg; and *Found on 49* (YouTube) detailing a dramatic sporting setback that became the basis for a personal triumph. (Full list at auckland.ac.nz/ingenio)

FORTY UNDER FORTY

# HUMANITARIANS

## KARL ROCK

Karl Rock is frank. "At school, I was a complete failure. But at university I focused on my passions – computers and film – and turned into a B+/A- student."

After graduating with a diploma in computer science and a BA majoring in Film, TV and Media Studies, Karl expected to get an IT job and settle down. When he was made redundant twice, he became disillusioned with working for other people, so decided to build something to become self-sufficient.

"I followed my passion for India and moved there. I bought a $400 GoPro camera and little did I know that the videos I was making in India for fun would go viral and I'd be able to make a career out of it."

*Karl Rock has earned a living with his YouTube videos about India.*

Today, Karl is a YouTube influencer with 348 million views of his videos and 1.85m subscribers. His top-ranked video, showcasing India to New Zealand, and New Zealand to India at street level, has had 15 million views.

Karl has also earned an international reputation for his scam-busting work, uncovering and fighting scams in India, and has become the go-to person in India for local research on scam call-centres operating internationally.

"Ever since scammers started calling my house, I took it personally and decided to raise awareness to get these shut down. Where I live is a hotbed for such scam call-centres. Luckily, in the past year, the police seem to have made it a priority to take them down – at least in my city."

*"You can't make everyone happy, so don't try."*
Karl Rock

Ask Karl what he has learnt during his career and he says: "I've learnt to say 'no.' You have to focus on your purpose in life and not be afraid to say no when an opportunity would be more of a distraction than helpful. And, as a YouTuber, you can't make everyone happy, so don't try.

"I also don't set goals. I focus on spending my time doing things that interest me. I'm content helping others through my videos."

### 2021 Humanitarians

**Oshni Arachchi**, Head of responsible investment, global head of sustainability data, screening and processes, Danske Bank Asset Management, Sweden

**Morgan Edwards**, Doctor, Waitematā DHB

**Boopsie Maran**, Founder and director of urban strategy, Places for Good

**Karina McHardy**, Independent consultant

**Tāmati Rākena**, CEO, My Taiao Clothing

# PERFORMERS

*"We pride ourselves on being a Māori business able to understand and connect with clients from all walks of life."*
Marcia Hopa

### 2021 Performers

**Ryan Archibald**, Business innovation manager, Auckland Unlimited

**Claire Cowan**, Composer, Self-employed

**Shilo Kino**, Freelance writer and journalist

**Manase Tapuaki Mei Langi Latu**, Opera singer, Lindemann Young Artist, Metropolitan Opera (when Covid-19 allows travel)

**Angus Muir**, Designer, Angus Muir Design

**Carl Van Roon**, Director, Van Roon Martial Arts Ltd

# DISRUPTORS AND INNOVATORS

*"If the passion is not there, you're not in the right place."*
Michal Garvey

### 2021 Disruptors and Innovators

**S. Adeel Ali**, CEO and co-founder, APIMatic Limited

**Imche Fourie**, CEO, Outset Ventures

**Rahul Suresh Gandhi**, Resident physician, Capital and Coast DHB

**Kate Meyer**, Business director, sustainability, Beca

**Lucy von Sturmer**, Founder and CEO, *The Humblebrag*

**Daniel Xu**, CEO, Spark 64

## MARCIA HOPA

*Marcia Hopa is a TV and radio host, graphic designer and kapa haka leader.*

Marcia Hinemoa Hopa has a natural flair for performance, whether it's on the kapa haka stage, TV screen or the radio.

In 2021 she co-hosted Māori Television's bi-lingual family game show *Lucky Dip* and is also co-host of Ngāti Hine FM's *E Ara E Mara* morning show.

"I love entertainment and being in front of or behind the camera or on the airwaves," says Marcia, who is fluent in te reo Māori.

Marcia (of Ngāpuhi, Waikato and Ngāti Whātua descent) grew up in Whangārei. She is a founding member, senior tutor and kaitatāki wahine (female leader) of Hātea Kapa Haka, a whānau and marae-based kapa haka group established by her mother, Pauline Hopa, in 2000. Hātea is one of the top kapa haka groups in Northland and renowned for its unique sound. At the Te Matatini Māori performing arts competition in Wellington in 2019, they delivered a spine-tingling te reo Māori version of Queen's *Bohemian Rhapsody* that went viral after initially being approached by Universal Music to create the Māori version for a video to mark the launch of the Queen biopic.

Marcia and Hātea Kapa Haka also contributed to the 2019 te reo Māori album *Waiata Anthems,* popular songs from New Zealand artists, with a powerful mix of harmonies for *Aotearoa God Defend New Zealand.*

Back in 2013, Marcia graduated from the University with a Bachelor of Education and became a teacher in her home town.

"My degree set me up and allowed me to teach and mentor rangatahi for many years." Marcia also spent five years as a navigator for the I Have a Dream Charitable Trust, based in Tikipunga and Whangārei.

"That role saw me mentoring and supporting more than 100 students, from Year Three to Year Seven."

As well as her teaching, media and kapa haka skills, Marcia has a digital multi-media qualification and has left teaching to work full-time in Niwha Creative, a business she co-owns with friend Phoenix Ruka, following her mantra to "give things a go".

"Niwha is a design house of Māori creatives who are passionate about delivering professional graphic design, film and illustration to the world through our lens," she says. "We pride ourselves on being a Māori business able to understand and connect with clients from all walks of life."

**Nominate more**
Know an Auckland graduate who's doing great things? Let us know for the next list.
**alumni.auckland.ac.nz/40under40**

## MICHAL GARVEY

*Michal Garvey is the founder and director of Foodprint, an app helping keep edible food out of landfills.*

Michal Garvey is the founder of the award-winning Foodprint app, which redirects 'waste' from food outlets to customers.

"If the passion isn't there, you're not in the right place," she says of career choices.

Michal has a BA in Māori Studies and Political Science and says learning te ao Māori principles, such as kaitiakitanga, has helped shape her values and world view.

"My degree helped me find my place in the world and know the impact I wanted to have."

But it was after a "life-changing year" in Sweden in 2017, soaking up a country where sustainable living is part of the culture, that set Michal on a particular course. Within a year of returning to Aotearoa, she had set up Foodprint, first in Auckland then Wellington, with the support of the Creative HQ Climate Response Accelerator. Foodprint was one of eight successful teams to get into the programme from more than 70 applications.

The app (foodprint.app) won a Gold Pin and a silver accolade at the 2020 Designers Institute Best Design Awards, and was a finalist in the NZ Sustainable Business Awards.

Foodprint works by linking food outlets with thousands of customers who check the app to see which eateries have surplus food going for a discount, such as a bakery or supermarket near you. People purchase the food in the app and collect it using the app's map feature.

"Globally, one-third of all food produced for human consumption is wasted," says Michal. "Food that ends up in landfills decomposes and emits methane, contributing to the climate crisis.

"New Zealand cafés, restaurants and supermarkets produce 50,000 tonnes of food waste each year. More than 60 percent of this is completely avoidable."

Michal says Foodprint and the conversations it creates around food waste can play a role in Aotearoa New Zealand meeting the Sustainable Development Goals target to halve food waste by 2030.

"We're working with more than 400 eateries and have so far saved more than 50,000kg of carbon-dioxide emissions through food rescue," she says.

"I'm looking forward to the day when that's 50,000 tonnes of $CO_2$ emissions."

**Read full profiles: alumni.auckland.ac.nz/40under40**

FORTY
UNDER
FORTY

# ENTREPRENEURS

*"I believe cryptocurrency is the future of the internet."*

Nawaz Ahmed

### 2021 Entrepreneurs

**Mofei Bian**, Investor, China

**Matty Blomfield**, CEO and co-founder, Hectre Group Ltd

**Eleshea D'Souza**, Founder and director, Art In Bloom Academy and LIC

**Kate Riegle van West**, Founder and CEO, SpinPoi

**Chandni Sahrawat**, Director and operations manager, Sidart, Cassia and Sid at The French Cafe

**Shaun Tan**, Head of technology, Lanaco

## NAWAZ AHMED

Nawaz Ahmed works on crypto projects with international firms.

When Nawaz Ahmed was a schoolboy, he had a successful "side hustle" selling chocolates to students and then hats to buyers around New Zealand. They were clues to the kind of career path he'd take, focused on innovation and start-ups.

Today, Nawaz works with international crypto-advisory firms such as Faculty Group and Genesis Block, building and advising on new blockchain and cryptocurrency projects. He invests in tech start-ups in New Zealand and, more recently, the US, and is a scout for local and offshore venture capital firms.

He also hosts a podcast called *The Inquisitive VC*, talking to venture capitalists and entrepreneurs around the world.

Nawaz enrolled in a Biomedical Science degree at the University in 2013. But when he discovered the Master of Bioscience Enterprise (MBioEnt), he changed tack.

"I thought it was a great opportunity to merge my science background with my business interests."

From there, he won an internship to join the technology development team at UniServices,

# INFLUENCERS

*"I've learned how important it is to listen before responding."*

Valery Wichman

### 2021 Influencers

**Edward Ashby**, Board member, Te Kawerau Iwi Tiaki Trust

**Emma Blomkamp**, Researcher and facilitator, Independent / University of Melbourne / Charles Sturt University, Australia

**Lanu Faletau**, Solicitor, Auckland Council

**Cat Ruka**, Executive director, Basement Theatre

**Nina Tonga**, Curator contemporary art, Museum of New Zealand Te Papa Tongarewa

## VALERY WICHMAN

Valery Wichman is a barrister and solicitor working for the Cook Islands Government. She is a leading campaigner for human rights in the Cooks.

Ask Valentino (Valery) Wichman what her greatest achievement is and she'll point to her work to advance LGBTQI+ rights in the Cook Islands.

"Yes, that's my most proud achievement … creating a change in perception and behaviour around the same-sex decriminalisation campaign in the Cook Islands and campaigning for equality."

In November 2019, the Cook Islands Parliament Select Committee reversed its decision to repeal the section of the Crimes Bill that made it illegal for same-sex acts. In response, Valery gathered supporters to boost the Te Tiare Association (the local LGBTQI+ association). She also helped establish the Pride Cook Islands Campaign.

"There is still much to do, but seeing our tamariki inspired and driven to be their authentic selves is priceless," Valery says.

Valery grew up in Rarotonga. In 2007, she enrolled in a conjoint BA/LLB at the University of Auckland and became a Tuākana Arts

– the University's commercialisation company – and was exposed to the world of start-ups and venture capital.

"The MBioEnt programme really gave me a fundamental understanding of key business and commercialisation aspects," says Nawaz.

"When I interned at UniServices, I got to see how tech companies start, what you need to look for when analysing early-stage tech ideas, and how early-stage companies pitch."

A defining moment for Nawaz was discovering cryptocurrency. He says he fell down the "crypto rabbit hole" and decided to focus on it. "I believe it is the future of the internet."

He has been working in crypto for about four years and has a professional goal.

"The idea is to become a full-time, early-stage technology venture capitalist, with a specific focus on crypto projects."

One of his challenges has been learning how to network.

"Initially, I didn't know how to network and was uncomfortable with the whole idea of it," he says.

"After putting myself in situations where I had to do it, I started to get the hang of it. I realised that being good at early-stage tech investing really relies on building authentic relationships and meeting great people doing great things."

**Listen to his podcast at: medium.com/@mnawaz.ahmed95**

mentor. In 2009, she worked for the University's Equity Office as a mentor to Pacific Island students from selected high schools.

"The University provided me with an enabling environment to develop my passion for helping people," she says.

Since she graduated, most of Valery's professional career has been in the Cook Islands working for the government in a variety of roles, most recently as Director of Central Policy and Planning. That includes work on the Cook Islands National Population Policy and its 2020+ National Sustainable Development Agenda.

"I never really had concrete plans after leaving university – but my various roles have definitely helped me evolve in a positive way."

In 2016, the year Valery was admitted as a barrister and solicitor to the High Court in New Zealand, she also won a Queen's Young Leaders Award for championing LGBTQI+ rights in her home country.

Valery says her family have stood by her "through thick and thin" as her main support.

"What I've learned is how important it is to listen before responding … to understand the full context of a situation.

"So, patience would be the key word for me."

# BUSINESS LEADERS

## ZIENA JALIL

*Ziena Jalil is a business leader, inclusion advocate and director on a number of boards.*

While Ziena Jalil was growing up in Fiji, she had strong female role models. "That included my mother and grandmother, and other female leaders who weren't just advancing their own careers, but improving outcomes for marginalised communities."

It is something she has never forgotten.

Head girl and dux at Fiji's Natabua High School, Ziena became a trainer in drug and substance-abuse prevention at 16 and represented South Pacific youth at a UN forum at The Hague in 1999.

She continued her education in New Zealand, graduating as the top student in her Bachelor of Communication Studies at AUT, and then moved to Asia, where she was based for ten years in the roles of regional director (South and South East Asia) for Education New Zealand, New Zealand Trade Commissioner to Singapore (the youngest commissioner ever appointed), and Head of North Asia Marketing and Communications for New Zealand Trade and Enterprise. Her work leveraging the historic NZ-China Free Trade Agreement led to her being recognised as the Public Relations Institute of New Zealand Young Practitioner of the Year.

Returning to Auckland with two young children just over five years ago, Ziena enrolled in a Master of Arts at the University of Auckland, graduating with first class honours in political studies and international relations.

"I came to the University later in life, so it wasn't so much a foundation for success as a springboard to new directions."

Today, she has her own consulting practice in strategy and stakeholder engagement and serves on numerous boards. She also advises, speaks and writes about diversity, equity and inclusion.

Back at that UN Forum in The Hague more than two decades ago, Ziena was asked by a journalist what her goal in life was.

"I said I wanted to leave the world a little bit better than what I found it. I don't think 16-year-old me understood the magnitude of what I said.

"Fast-forward 20 plus years and for me leaving the world a bit better is about bringing equity and opportunity to those with diverse cultures, abilities and experiences. I focus on education and economic development, on New Zealand's relationship with Asia and the Pacific, and applying a diversity, equity and inclusion lens to everything that I do."

*"I apply a diversity, equity and inclusion lens to everything I do."* Ziena Jalil

**2021 Business Leaders**

**Joshua Buckley** Executive, Control Air Enterprises, US

**Te Aopare Dewes**, Hoa rangapū (partner), Chapman Tripp

**Richard Hobbs** General manager, strategy and customer, Transpower

**Sarah Liu** Founder and managing director, The Dream Collective, Australia

**Lloyd McCann** CEO, Mercy Radiology and Healthcare Holdings Ltd

**Nuwanthie Samarakone** Founder and director, ICE Professionals

**Read full profiles: alumni.auckland.ac.nz/40under40**

*Cecilia Tarrant is the University's first female Chancellor, and has taken over from Scott St John, who was in the role for four years.*

# MEET THE CHANCELLOR

Cecilia Tarrant is the University's new Chancellor. Danelle Clayton meets a woman well known for helping other women reach their goals.

**Other appointments in 2021**

**Pro-Chancellor:**
Cathy Quinn

**Provost:**
Professor Valerie Linton

**Pro Vice-Chancellor (Māori):**
Associate Professor Te Kawehau Hoskins

**Deputy Vice-Chancellor (Strategic Engagement):**
Dr Erik Lithander

**Pro Vice-Chancellor Equity:**
Professor Cathy Stinear

For a while, Cecilia Tarrant didn't think being female in a male-skewed industry was an issue. Then she hit the glass ceiling and "reverberated right off".

"As I became more senior in investment banking, gender inequality became more obvious," she says.

Since returning to New Zealand from London 11 years ago, Cecilia has focused on creating opportunities for women to succeed. Since 2010, she has been an executive-in-residence at the University's Business School, a role created to give students direct contact with business leaders. She also established the Women's Mentoring Programme (WMP), now in its 11th year. The WMP matches female students with women in the business community. Cecilia is involved in a similar programme in the Law School.

"It's about making sure when women leave this university they have some of those skills that can take years to acquire without mentorship."

She says women need financial backing as much as mentorship and she is a founder and investor in ArcAngels, which supports female entrepreneurs. So far, it has invested $2.2m in female-led start-ups and raised a $2.9m fund.

Cecilia's ascent to the top of a global investment banking firm belies humble beginnings. She grew up in Waitomo Caves Village – her father and aunt ran the general store and her mother sold souvenirs outside the glow-worm cave. "My parents ran seven-day-a-week businesses, so that instilled a work ethic."

She attended the tiny Waitomo Caves Primary School, then boarded at St Dominic's College in Henderson, before doing a conjoint Arts/Law honours degree at the University of Auckland.

However, her career could have looked very different if it weren't for intervention from the then Dean of the Law School, Professor Jack Northey, when Cecilia decided not to do honours.

"He said, 'You should be doing honours and if you don't, you won't be able to study overseas.' I was very fortunate he took the time to do that."

Cecilia took his advice and what followed was a Master of Laws at UC Berkeley, a role as an associate at a San Francisco law firm, and then a career in investment banking in New York and London. She has a background in international finance and governance and was a managing director of Morgan Stanley.

In June, Cecilia became the University's first female Chancellor. She was already a familiar face, having been trustee of both the US and UK Friends of the University, and on the University Foundation. She has been a member of Council since 2017 and the Pro-Chancellor since 2019.

She says this is an exciting yet critical time.

"Covid has caused a lot of resets and the role of the University in the community and wider society is of particular importance during uncertainty. Going back into lockdown in August, I felt we knew how to do this, but Delta shifted the goalposts. So, we need to deal with immediate challenges, but still keep planning for the future."

The same sentiment applies to her life.

"I exercise better if I have a goal. My goal is to walk the Auckland Half Marathon. I've been using that to motivate me to walk every day."

The priorities of the University's new Strategic Plan, *Taumata Teitei*, resonate strongly with her.

"I'm keen to see improved cultural competency from the University Council, because we need to lead from the top," says Cecilia, who has been learning te reo Māori for several years.

"We also need to strengthen our networks and think carefully about how our curriculum will meet the future needs of our students."

# 'COLONEL SANDERS' SECRET RECIPE

Journalist Donna Chisholm reveals Garth Barfoot's surprising link to her career.

The day after I spilled hot-pink stencil correcting fluid down my new lime-green dress, an envelope containing a $25 cheque for a new outfit arrived on my desk. "To Donna," read the accompanying note from my then boss Garth Barfoot, "on the assumption that it only happens once."

It was 1974 and as a 16-year-old in my first job, a typist at real estate agency Barfoot & Thompson, it cemented Garth Barfoot's place in my career pantheon of great bosses. Nearly 50 years on, as a journalist, I'm still a typist of sorts and Garth, 85, is still giving away money, albeit in vastly greater amounts.

After reading in *Ingenio* this year about the establishment of Manaaki Mānawa, the Centre for Heart Research at the University of Auckland, Garth donated $100,000, which has bought a state-of-the-art ultrasound imaging platform for the centre. It will image organs at work, and be used to train researchers to perform echocardiography. It helped, Garth says, that in 2020 he'd had heart valve surgery. I hope it also helped that I'd written the story.

When we catch up, Garth is limping and bandaged after tearing a calf muscle on a 5km cross-country run. But the veteran of more than 250 triathlons since he took up the sport 30 years ago was confident he'd be back training soon.

Garth was an accountancy cadet with a Bachelor of Commerce from the University of Auckland when he began work in 1957 at Barfoot & Thompson, the real estate company his father Val founded in 1923. He worked in the letting department before having a short stint selling houses. Although an "above average" salesman, he says he was far from a star performer – in part because the then newlywed baulked at working Saturdays. Most of the estate agents in those days were "builders with bad backs" or former vacuum cleaner salesmen – and, yes, they were almost exclusively men.

Garth, who retired as a director in 2017, says he's the "Colonel Sanders" of Barfoot & Thompson – the grand old man who's wheeled out at celebrations. His secret recipe, he says, is remembering people.

*Donna Chisholm and Garth Barfoot catch up on old times, in 2021. Photo: Elise Manahan*

As a director of Barfoots, he was renowned for his honesty and integrity – not words commonly used to describe estate agents. He says agents often took new buyers out for a celebratory dinner, but he told them it was more important that they be able to take them out a year later and still look them in the eye.

So, how would he cool today's overheated housing market?

**"If I was king, I'd subsidise every retirement village and old folks' home to encourage people to move there."**

"If I was king, I'd subsidise every retirement village and old folks' home to encourage people to move there and then you'd have all their homes for people at the bottom of the ladder."

Although the rich-lister's name is synonymous with real estate, it's his sporting achievements that give him the biggest thrill.

Garth says he was ideally suited to triathlons because he wasn't fast, but could always go the distance, thanks to a childhood of tramping trips with his family.

"It was a sport I was doing well in – the ego side of it was very strong. I got my name in the paper in my first race! It was like a dose of adrenalin."

Despite seeing his name on billboards for decades, he says nothing matched the thrill of seeing it in small print on the results page.

"Money can't buy that."

**GOLDEN GRADUATES**
Our Golden Graduates are those who graduated from the University of Auckland 50 or more years ago, along with graduates aged 70 and over.

Taking Issue

# SHOULD WE BE AIMING FOR MARS WHEN WE STILL NEED TO SAVE OUR OWN PLANET?

Three academic minds from the University explore the question.

*The writers' views reflect personal opinions and may not be those of the University of Auckland.*

## WISE TO PREPARE TO SUPPORT LIFE ELSEWHERE

Guglielmo Aglietti

Whether we should shoot for Mars when we need to save our own planet is a legitimate question to ponder, as we have to prioritise and balance different aspirations.

The natural resources that support life on Earth are limited and although every possible effort must be made to preserve our environment and its sustainability, the natural world evolves and so does our society. Every successful society in history has grown beyond its initial settlement, and therefore we can expect a similar evolution.

The history of our planet and knowledge of space taught us that events such as asteroid strikes are relatively common in planetary timescales, and ultimately the Sun will not be able to sustain life on Earth forever. Although the timescale of the latter means that we don't need to worry about that for some million years, concerns about the former are legitimate.

A large celestial body could be already on a collision course with Earth, with consequences that could be catastrophic. It's a scenario fit for Hollywood disaster movies, but so was the explosion of a worldwide pandemic, with the consequences we have all experienced. Therefore, I would be cautious to outrightly dismiss these disaster scenarios.

Indeed, the probability of being hit by an asteroid capable of wiping out life on Earth is very low, but rare things do happen. Therefore, if possible, it is wise to prepare and develop a capability to support life elsewhere, for example on Mars.

Other arguments can be deployed, from the more historical to the scientific. Our ancestors went beyond what was thought to be the end of the world in search of fortune, and similarly now we are considering venturing beyond Earth to settle or capture new resources. There's also the fact that exploring Mars might shed light on the evolution and end of life on a planet.

Then there's the more utilitarian argument that the development of space technologies has produced countless innovations that have improved life on Earth, and we can think about a future where interplanetary tourism or asteroid mining would be relatively common enterprises.

Perhaps the question shouldn't be whether we should aim for Mars, but what resources should be designated to support this endeavour while allowing us to address the many other urgent challenges society faces.

**Professor Guglielmo Aglietti is director of Te Pūnaha Ātea, Auckland Space Institute**

## NAVIGATION COMES NATURALLY, BUT IS THE SKY THE LIMIT?

Dan Hikuroa

Enabled by the world's best sailing innovation, the waka hourua, our ancestral navigators discovered, mapped out and settled more than 1,000 islands across Te Moana Nui a Kiwa Pacific Ocean.

They perfected non-instrumental open-ocean navigation more than 3,000 years ago, well before early European explorers reached the Pacific with compasses and sextants.

"He ao! He ao! He aotea! He aotearoa," are the words Kuramārōtini (also known as Hine-te-aparangi), hoa rangatira of Kupe, cried out when those aboard the *Matahourua,* chasing the octopus Muturangi from Hawa'iki, encountered the lands we now call Aotearoa New Zealand.

When Kupe departed to return to Hawa'iki, he recorded the name Te Hokianga-Nui-a-Kupe, Hokianga for short, as his departure point and then shared the star paths to navigate back to Aotearoa from Hawa'iki.

But the skills and vast knowledge that had been handed down for generations were almost lost altogether, save for the vision and efforts of Pius Mau Piailug, the last of the master navigators, who shared it with the Polynesian Voyaging Society. Placed anywhere in the Pacific Ocean, Mau could 'see' where he was and navigate to any place. Since then, numerous aspirants have become master navigators and the future of navigating is secure. So, the discovery of new 'worlds' has always been part of Māori history.

Although human curiosity no doubt played a role in the search and discovery of new islands, such migration was largely driven by necessity, as population growth increased and demands on limited resources surpassed ecosystems' carrying capacity. It strikes me that Mars missions and our quests to get humans to Mars, ostensibly as a solution to exhausting the limits of this planet, follow a similar path to my ancestors – voyages of discovery followed by migration compelled by need.

But the imperative to live within the limits of this planet is one we need to face and address – indeed a Māori approach requires nothing less, and even that we live regeneratively.

As for whether we should aim for Mars, I refer to a story I heard about Mau Piailug. When invited to look through a telescope on Maunakea he asked "why?" To see distant celestial objects was the response. He replied to the effect, "If I can't 'see' it, I am not supposed to see it."

Perhaps that's what my ancestors would say.

**Dr Dan Hikuroa is a senior lecturer in Māori Studies, Faculty of Arts**

**"The imperative to live within the limits of this planet is one we need to face and address – indeed a Māori approach requires nothing less."**
– Dan Hikuroa

## NARCISSISTIC EGOS GETTING IN THE WAY OF SCIENCE

Heloise Stevance

This question couldn't be more relevant, when we are in a new age of space exploration and your sibling who dreams of going to Mars on holiday is sounding less and less crazy by the day. But why now, when we've been sending rovers to Mars for nearly 25 years?

For the first time in history, we are looking at the prospect of putting people on Mars, which captures not only the imagination and wonder of the public, but also is a beautiful demonstration of late-stage capitalism. This new age of exploration (which is starting to look a lot like colonisation) is not driven by science, but by the prospect of profit and, most importantly, the narcissistic ego of our favourite billionaires. These very same billionaires gathered their outrageous wealth and power by exploiting the working class and taking advantage of a system that is, at its roots, careless of the environment.

But that is the tragedy of fast advances in space exploration: they are never driven by science and always driven by ego. Why do you think Russia and the US raced each other to the Moon? It's the world's greatest peeing contest. Now the Musk-bros are going to come at me claiming I am 'anti-progress' when in fact I am just 'pro-science' with a sprinkle – a dash even – of 'anti-capitalism'.

Going to Mars is great, we have so much left to learn and I am enthralled by the progress of *Perseverance* and *Ingenuity*. I am, however, less impressed by Jeff Bezos's space phallus (if you haven't seen pictures of his rocket, I recommend you check it out). Space exploration and environment conservation are not mutually exclusive – there is enough brain power and money around. The problem is that it is currently up to a few billionaire individuals to choose where to spend our planet's resources, when it should be up to scientist communities.

I won't tell you that we should never ever send humans to Mars, but it may be time to read the room and deal with the climate emergency and wealth inequalities. Never mind if it crushes Elon Musk's dream.

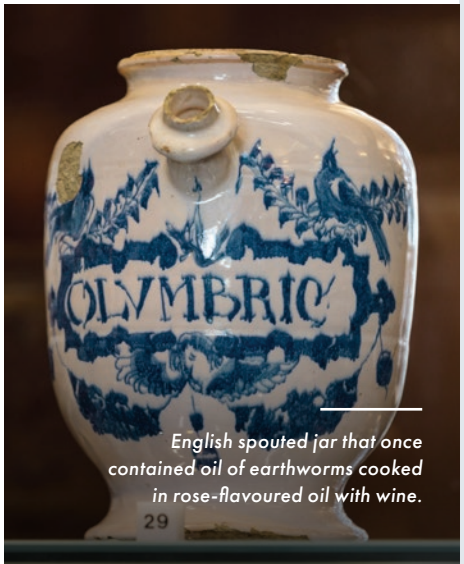
**Dr Heloise Stevance is an astrophysicist in the Faculty of Science**

What do you think? Have your say.
**Facebook: UoAAlumni**
**Twitter: @AucklandAlumni**
**Email: ingenio@auckland.ac.nz**

Dr Neil Anderson is a neurologist and also president of the Auckland Medical History Society.

Part of the collection of apothecary jars. The first jars were donated by Dr James Newman.

A 17th century Spanish jar that once held wolves' entrails washed in white wine.




English spouted jar that once contained oil of earthworms cooked in rose-flavoured oil with wine.

# MEDICAL MEMORABILIA

## An intriguing library and museum is tucked away in a corner of Auckland Hospital's grounds. Denise Montgomery steps inside.

If you're one of those people who dreads going to the doctor, thank your lucky stars you weren't born 100 years ago.

In the Ernest & Marion Davis Memorial Library, a gem of a medical history collection in the grounds of Auckland Hospital, you can read the medicinal labels on apothecary jars to see how far we've come. Fancy being treated with wolves' entrails washed in white wine, blown upon, dried and rolled in wormwood? How about oil of earthworms, earthworms cooked in rose-flavoured oil with a little wine? Feel better?

This year is the 60th anniversary of the library. It was established when Sir Ernest Davis donated a substantial sum of money for a medical library, medical museum and meeting place for the Auckland Hospital Board, in memory of his wife Marion. When the Auckland Medical School opened, the Philson Library was created but the Ernest & Marion Davis Library continued as a medical history repository. It is the physical home of the Auckland Medical History Society (AMHS), founded in 1964 by Drs Edward Roche, James Newman and Laurie Gluckman, father of Sir Peter. James donated around 40 apothecary jars of English, Spanish, Dutch and Italian origin to the library, added to over the years.

The late Kaye Ibbertson, a long-time professor of endocrinology in the Auckland Medical School, was the driving force behind the AMHS for many years. Today, its president is alumnus Dr Neil Anderson. Judith Murphy, an honorary academic in the Faculty of Medical and Health Sciences, is on the AMHS committee.

"I've seen many medical museums around the world and this has one of the most interesting collections of apothecary jars, and other objects, many of which have been donated by Auckland alumni or their families," says Judith.

Neil, a neurologist with the Auckland District Health Board, says anyone with an interest in medical history and heritage can attend the society's meetings, including students, for whom membership is free.

"People tend to become interested in medical history as they get older, but we are trying to encourage younger people to become involved. There is a lot to be learned from medical history, it's not just a curiosity."





He says students, young doctors and nurses may be surprised by what can be gleaned from the collection through curator Juliet Hawkins, assistant Melanie Mirfin, an Arts alumna, and librarian Victoria Bell.

"What we see in the collection increases our understanding about why we do things the way we do today," says Neil. "We can learn from how others approached medical conditions and also from mistakes made. You learn how a particular disease was discovered, what treatments were invented, what worked and what didn't."

As well as around 5,000 books, the collection houses masses of medical equipment, such as a 1900s vaginal specula, part of which consists of a porcupine-quill-handled probe; a worryingly large metal flushing dilator used in urology; and silver catheters to make your eyes water. To say nothing of the blood-letting cups.

There are also artworks. "The one I like best is the poster of the doctors advocating smoking," says Neil.

Another painting shows a man having his leg amputated, blood dripping into a bucket and a dog sitting patiently at the side. The dog couldn't be seen in the painting until the artwork was restored by alumna Sarah Hillary, Auckland Art Gallery's principal conservator.

When Covid levels allow, AMHS also holds regular lectures by medical historians.

"Being a neurologist myself, I'm very interested in its history. I gave a talk this year on Marshall McDonald, a Dunedin physician who was probably the first person interested in neurology in New Zealand." Neil had planned to write a book on New Zealand's neurology history, but kept getting diverted by the interesting personalities he discovered along the way, including McDonald.

He has also written a biography of Wellington neurologist Dusty Allen and is writing one on Derek Denny-Brown, who became professor of neurology at Harvard.

"He was likely the world's most influential neurologist from 1940 to 1970."

The museum's glass cabinets feature memorabilia of three Kiwi neurologists, Gavin Glasgow, Keith Eyre and Jock Caughey, the latter whose biography Neil is also compiling.

"Gavin's homemade reflex hammer is there, and Keith Eyre's examination bag. But pride of place goes to a stereotactic frame used by early neurosurgeon, Graeme Macdonald," says Neil. "It's a device that's fixed around the head to keep it still so you can put a lesion in the brain.

"This was a very early frame and was really successful. Graeme trained and worked with a neurosurgeon in England who made these in his workshop. Graeme brought it back to New Zealand to use."

Neil grew up in Auckland and trained at the University of Auckland Medical School, Auckland City Hospital and in New York. He has worked at Auckland Hospital since returning from the US around 1987. He is interested in stroke and autoimmune diseases in the brain, particularly those triggered by cancer, and evolving treatments for multiple sclerosis. "We can't yet cure MS, but we can slow the process."

The Auckland Medical History Society also funds an annual medical humanities essay competition for students, instigated by Professor Linda Bryder, a medical historian at the University.

"The essay writer doesn't have to be a medical student," says Neil. "It could be an engineering student or a history student."

With students living through a moment in medical history now, what could be more timely?

*Clockwise from top left: cupping set (France, c.1860); stereotactic frame (c.1940s-50s); silver urinary catheters (c.1910); oil painting of an amputation (c.1700s); museum assistant Melanie Mirfin with apothecary jars; Camel cigarettes poster (c.1940-1949). Photos: Billy Wong*

**See online story for a gallery of photos from the museum.**

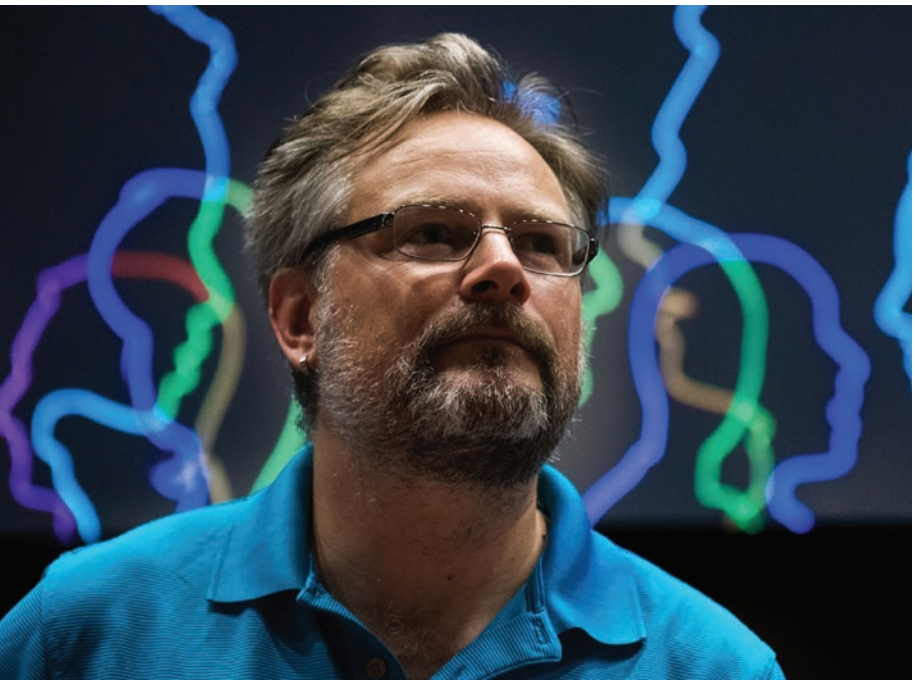
Contact the Auckland Medical History Society through: amhs.co.nz

Read about the Ernest & Marion Davis Library: tinyurl.com/EM-library-pdf

# AROUND THE GLOBE

Anthony Doesburg catches up with three alumni from three different places overseas, all carving interesting careers.

## OLLIE RANKIN *Los Angeles, United States*



*Ollie Rankin says the pandemic has boosted the need for virtual events.*

As Tinseltown news website *True Hollywood Talk* wrote last year, it can be a challenge for someone as multi-talented as Ollie Rankin to focus on one thing.

The University of Auckland computer science graduate, who was born in 1976 and grew up for the most part "poor, in a rough part" of the city, today lives in a beachside apartment in Los Angeles.

Ollie is chief executive and creative director of virtual-reality (VR) content producer Pansensory Interactive, has a long list of movie credits to his name, writes, makes music and is a keen practitioner of the culinary arts. And if there's one positive that has come from Covid-19, it's the impetus it has given his VR music "side hustle" of the past three years.

"The pandemic has changed the landscape and suddenly everybody sees value in virtual events," Ollie says.

**"I've been open-minded and willing to take risks."**

"My business partners and I are experiencing a golden age in this still nascent industry."

That happy chance is pretty much the way his career path has gone. He would say it's a result of his willingness to be led in unexpected directions.

"I've been lucky in the opportunities life has presented me, but I think I've also been open-minded and willing to take risks."

From the get-go, he defied the typical route of a computer scientist with an artificial intelligence (AI) specialty.

"My professors had unwittingly convinced me there were very few interesting applications of AI outside academia. I'd resigned myself to the idea that the first-generation web development work I was doing to support myself through uni would turn into my de facto career. And it almost did."

Instead, up popped Peter Jackson and his *The Lord of the Rings* trilogy.

"I suddenly thought I knew what I wanted to be when I grew up – a visual-effects artist," says Ollie. "I put together a resumé that played up my computer graphics and film studies papers – and completely omitted the AI stuff, thinking that was irrelevant. But it turned out to be the key to unlocking that career path."

For three years, he had the job of endowing orcs and elves with brains on the first two movie adaptations of JRR Tolkien's books. He was part of a small team who pioneered the use of AI to choreograph epic on-screen battles.

Then came 20 years producing visual-effects for such franchises as *The Matrix*, *Harry Potter*, *Transformers* and US TV series *The Good Doctor*.

Ultimately, however, Ollie gave up the virtual reality of the movies to pursue his own creative endeavours with one real goal: championing inclusivity and sustainability in the industry.

"What motivates me now is making a positive impact on humanity and the world around me," he says.

# SERAPHINA KIM

*Delft, The Netherlands*

Seraphina Kim works in the Netherlands, at the Delft headquarters of IKEA, the global furniture and homewares retailer. As an internal audit leader, she "navigates the risks of IKEA's complex value chain".

She did a BCom (accounting/finance) and credits involvement in the University's Business School's extra-curricular activities with getting her where she is.

"I was part of the scholarship and mentoring programme. I also joined the management consulting club, which involved reviewing mock business cases for companies like Unilever."

Unilever later became a client and her advisory skills have since seen her travel to various parts of the world, including Pacific Island nations Tuvalu and Kiribati. Now working in a big city, Seraphina monitors the many and varied value-chain threats that are popping up in the areas of sustainability, intellectual property, data privacy, project management and food safety. "The risks are ever changing, which keeps us on our toes."

Covid-19 is one big shoal that the company – started by a 17-year-old Swede in 1943 – must navigate. "The pandemic changed the way we operate, with an increased focus on digital risks."

*Seraphina Kim rocking the IKEA vibe at work in The Netherlands.*

Although based in the Netherlands, IKEA's Swedish origins remain a strong influence.

"Swedish culture is important here. We regularly connect through fikas (Swedish coffee breaks) and they're embedded in our day-to-day work. Even in our team meetings, fika is a standing item on the agenda."

When it comes to giving career advice, Seraphina leans on Swedish culture. "I started off in a formal, corporate environment, but later realised I'm happier in a more relaxed place that allows a bit more creativity and fun.

"Having balance in all aspects of my life – the Swedish call it 'lagom': not too much, not too little – makes me happy. So the advice I would give to others is do what makes you happy."

**"I'm happier in a more relaxed place that allows a bit more creativity and fun."**

# NAZNEEN BHATIA

*Himachal Pradesh, India*

Nazneen Bhatia's chosen career allows her to tread into the unknown. The Mumbai-born film-maker says her job is a privilege in that she can experience life itself, but also present the findings to an audience.

"Being a film-maker allows you into unexplored places to tell unspoken stories. Film-making, like any art form, allows introspection, and that benefits both the film-maker and the viewer."

Nazneen's film career began at the University in 2000 when she undertook a BA, majoring in Film, Television and Media Studies with a minor in psychology. She credits that time with helping her figure out who she was, the kind of stories she wanted to tell and that needed to be told and how to pave her own path. Opportunities arose to work as an assistant director in India and other locations overseas and she now has her own production house, The Unknown Film Company.

Nazneen returned home straight after graduation and loves the diversity of India's culture. "The way people look, their way of dressing, the cuisine, language, music and dance: everything changes every 50 to 100 kilometres.

"India is also a treasure trove of inspiring stories from centuries past. They are often transformational stories and in telling them through film, you get the chance to bring forth their deep inward significance, rather than the superficial appearance of things.

"Working in India has been exhilarating. I'm not constrained to an office. With a laptop in tow, I can pretty much work from anywhere, preferably with a view."

Nazneen's home country was hard hit by a second wave of Covid-19, and she says the pandemic has been a great leveller. "People's lives were brought to a standstill. We collectively experienced things we never imagined possible. That made us sit back, look at our lives, reflect, strategise our lives' trajectories and just realise the fragile nature of our existence."

There could be a film in that.

**"With a laptop in tow, I can pretty much work from anywhere, preferably with a view."**

*Film-maker Nazneen Bhatia revels in the culture of her homeland, India.*


*The University's main facility for students with disabilities was renamed in recognition of Terry O'Neill's achievements.*

# A CAREER OF TWO HALVES

Terry O'Neill tells Jodi Yeats that a late-in-life decision to enrol at University led to a fulfilling and somewhat unexpected career.

**"I was told, wrongly, that if I went to university, my eyesight would get worse, and I wouldn't cope."**

Dr Terry O'Neill, retiring director of Student Equity

Dr Terry O'Neill's office is in a state of orderly chaos, piles of paperwork neatly arranged on every surface, Rainbow table-tennis bats perch on a shelf, and complex plans jostle for wall space with a serene print of his maunga, Taranaki.

These paradoxes typify Terry's approach to his role as Director of Student Equity over the past decade, a position he left in October. Staff say, as a boss, Terry is pragmatic and solution-focused, yet profoundly informed by research and theory.

Terry, who has low vision due to a condition called chorioretinitis, says his lived experience as a gay man with a disability has lent him both a "well-developed sense of humour" and a "certain toughness", which can be useful in advocacy work. His life is a "game of two halves": before and after studying at the University of Auckland, Terry says.

"The first half was constrained by some ill-judged specialist advice. I was told, wrongly, that if I went to university, my eyesight would get worse, and I wouldn't cope."

After finishing New Plymouth Boys' High School, Terry worked in jobs, including as a bank teller, in hospitality and, with worsening eyesight, at the Waitara freezing works.

Finally, he thought, "This is not satisfying." At 37, he enrolled, with some trepidation, at the University.

"Transformative is a word often used in student equity," Terry says. "For some people, it can feel a bit overused, but for my life, it remains very powerful.

"Study also opened up opportunities for meaningful and stable employment – an issue that remains challenging for many people with disabilities."

While working towards his doctorate in Sociology and Social Policy, focusing on sexuality, identity and masculinity, Terry co-managed Student Disability Services. After graduating, he worked for ten years at the New Zealand Human Rights Commission before taking up the student equity directorship a decade ago.

Terry's achievements have included significant programmes to support Māori, Pacific, refugee-background, low socioeconomic and Rainbow students. He had a lead role in the University's inaugural Disability Programme for students and staff and is delighted this work is now being transitioned into the first whole-of-institution Disability Action Plan (DAP).

Terry's contribution will also be remembered in a physical form, with the University's main facility for students with disabilities recently renamed the Terence O'Neill Centre.

Terry originally planned to leave in April but extended his tenure out of a desire to ensure a smooth transition to the new student equity role in Campus Life. Another driver was to usher the Disability Action Plan through to adolescence.

Now, Terry is looking forward to taking time out before making any big decisions. He will enjoy pastimes including the gym, attending concerts and following politics. The University will still be part of his life, thanks to his relationship of 30 years with Associate Professor Mark Barrow, Dean of Education and Social Work.

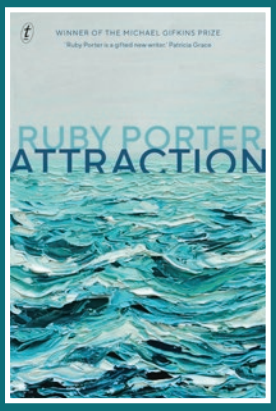
While Terry would like to be remembered for his "small part" in these initiatives, he thinks he will probably be remembered for something more practical. "Having all those red-button automatic-door openers around campus installed!"

Terry "came across some funding", and the rest is history.

# 7 TIPS … TO GET YOUR MANUSCRIPT PUBLISHED

If your great unpublished novel is taking up space on your hard drive and you don't know what to do next, author Ruby Porter has some ideas.

Ruby Porter is a graduate of the Master of Creative Writing programme at the University and teaches on the programme. She was the inaugural winner of the Michael Gifkins Prize for her debut novel *Attraction* (Text Publishing).




**1 Join the New Zealand Society of Authors**

The New Zealand Society of Authors (NZSA) is our union. The NZSA can help you, wherever you're at on your writing journey. It hosts meetings, workshops and conferences that can build your writing community. Its literary bulletins keep you updated on events, trends and opportunities. It offers competitions to members for free mentorships and manuscript assessments. And, if your manuscript is accepted by a publisher, it can respond to your contract queries, and aid in promoting and selling your book. Subscription fees are $130 a year, but only $65 for students. Your money goes towards the NZSA's advocacy work: ensuring equitable copyright laws, fair renumeration for writers and funding for the literary sector.

**2 Trim your word count**

You may believe your novel needs to be 120,000 words for its full genius to come across, but publishers are unlikely to agree. It's a numbers game: the more pages your book is, the more it costs to print. An ideal novel is often around 80,000 words, though if you're a debut author, a publisher would often prefer something closer to 65,000. Poetry manuscripts are expected to come in between 50 and 100 pages. These aren't hard and fast rules; obviously, certain manuscripts need more or fewer words. But don't be afraid of a ruthless edit. If you whittle down your manuscript, you may find that its shape comes into view – the arcs become more visible and the structure becomes tighter. If you save your other drafts as you go, you can always bring back something you've cut.

**3 See it with fresh eyes**

Often, there comes a point with a manuscript where you feel there is nothing more you can do. You're unsure if your edits are changing it for the better or worse. This is a sure sign that you need to step away from your manuscript for a while. Consider taking a month or more. When you return to it, things will be much clearer. You may find there are easy solutions to problems that felt impossible, or obvious edits that need to be made.

**4 Find readers**

Before you send your manuscript anywhere, you need to get outside opinions. Find up to three people – well-read friends, a writer you know, even a professional. The NZSA website has a list of manuscript assessors and editors whom you can pay for their services. Avoid shaping your readers' response beforehand. If they go in cold, you have a better chance of finding out their genuine response: how are your characters coming across? Was the point of view interesting? How did the pacing feel? You may have specific questions you want answered, which you can put to them afterwards.

**5 Enter competitions**

Some of our most famous authors (think Eleanor Catton and Janet Frame) won writing awards before their first novels were ever published. But in addition to the well-known short story and poetry prizes, there are a range of both national and international unpublished manuscript prizes, such as the NZSA Laura Solomon Cuba Press Prize, or the First Pages Prize. These competitions are a great way to get your name out there and have your manuscript read by publishers. Alongside prize money, they can offer other benefits: for example, consultation with agents, developmental edits and even publication. Even if you do not win, getting onto a long or short list can be a great way of earning recognition for your manuscript and knowing you're on the right track.

**6 Get an agent (for international publication)**

International publishers get too many submissions to read them all. Unsolicited manuscripts (i.e., manuscripts that aren't sent in via an agent) go on the 'slush pile', which is as dismal as it sounds. Your manuscript may never get read. There are some homegrown agents doing great work for Kiwis overseas, or else you can research the agents of your favourite international authors. Agents are less prevalent within the New Zealand publishing scene (submission rates are low enough to ensure your manuscript will be seen), but they're a good option to turn to if you find your efforts with publishers so far have been unsuccessful.

**7 Buy New Zealand literature**

If you want to be able to publish your work of New Zealand literature, there needs to be a market for New Zealand literature. The rate at which we purchase our own books, particularly our novels and short story collections, is pitiful. If you can't afford to buy New Zealand books, get them out from the library. This still ensures the author gets paid.

*Kate Bell is providing all-comers with the opportunity to sing in a choir. Photo: Elise Manahan*

# IN TUNE WITH COMMUNITIES

It took a nudge from staff in the School of Music to get Kate Bell where she is today – teaching singing to the masses. Geraldine Johns meets the inspirational choir leader.

**"I'm interested in all those people who sing into their hair brushes."**

– Kate Bell, Everybody Sings

It is no good thing to be stricken with a cold at any time – especially if your larynx is your livelihood.

But Kate Bell is putting a brave face on it, despite not being able to perform for the two days before we meet. And perhaps the enforced break has brought some benefits, given that, when lockdowns aren't interfering, she is in voice at least five nights a week.

Kate is music director at Everybody Sings – a choir collective that encourages people to learn the enjoyment of singing at the hands of skilled professionals. Anyone over the age of 16 is welcome. No experience required. No auditions needed. It's a balance of social and musical goals: participants make the best music they can, with the best choral teachers – creating communities in which people can belong.

There are five Everybody Sings choirs: four in Auckland, another in Tauranga. Total membership is 400. There's also a fledgling children's choir. But Kate has wider horizons. "We have international franchising in our sights."

Out of a sense of personal failure came the social enterprise that she now heads. Despite completing a masters in music from the University of Auckland as an adult, there was a time during her earlier years of study when Kate – a soprano – had her personal musical doubts. She had enjoyed music lessons as a child and wanted to be a singer when she grew up.

"But I lost my confidence. I didn't originally do any music studies at university because I didn't feel my musical background was up to it."

Kate and co-founder Melonie Roberts established Everybody Sings in 2017. They and their partners, Graeme Bell and Paul Roberts, are co-directors. "I'm interested in all those people who sing into their hair brushes, who were filtered out of the school choir because they were told they weren't good enough. We are providing the opportunity for people to learn the skills."

Her path to her masters spans some decades. It started with a BA at Auckland straight out of school, when she dabbled in psychology, English literature, philosophy and Māori studies.

Then there was a spell abroad and a break from academia before returning to New Zealand, where she stumbled into teaching music to schoolchildren. Kate then started her music studies at the University in 2008. That's thanks to Emeritus Professor Heath Lees – head of music at the time – who referred her to Dr Karen Grylls, Associate Professor of Conducting and Head of Choral Studies. Karen encouraged her to start a part-time graduate diploma in music.

Kate's love of music was re-ignited. A postgraduate diploma in music was followed by a masters degree in which she majored in composition, and that she completed in 2016.

"The wonderful music department at Auckland has played such a key part in this. What I'm doing now would not have been possible without the extraordinary, quality teaching of the choral staff," Kate says.

Everybody Sings has nine choir leaders, including Kate. Seven have music degrees. Kate ordinarily arranges most of the music.

The choirs meet once a week when Covid alert levels allow and also give public performances. That includes an annual concert in Auckland to raise money for the Auckland City Mission (last year they raised $25,000). Unfortunately the concert planned for December 2021 has had to be rescheduled until April 2022.

Kate, a self-described "ridiculously busy" woman, also belongs to the University Chamber Choir. They, together with other alumni, were due to perform at Associate Professor Karen Grylls' farewell concert in November but Covid-19 also put paid to that. The group will honour Karen's contribution as soon as it can.

If you ever see Kate on stage, remember this: "Singing triggers our deepest feelings about ourselves," she says. "Our choir members would laugh if they heard me say I didn't think I was ever good enough. That tells you how little we understand about what we can do and about taking that risk."

**Everybody Sings website: thechoir.co.nz**

# Lives lived freely

Janet McAllister talks to Mark Beehre, a doctor turned artist whose new book features the lives of gay men who never had to live in a time when homosexuality was illegal.

*Mark Beehre has both a medical degree and a degree in fine arts.*

It was a chance encounter a decade ago with the late, great art historian Professor Jonathan Mane-Wheoki that led physician-turned-photographer Mark Beehre to the Elam School of Fine Arts to undertake the project he'd been "percolating" for quite some time: an exploration of the lives of gay men born since the Homosexual Law Reform Act 1986.

"Having encouragement from someone with such mana was a huge validation," says Mark, of Jonathan, who was then Head of Elam.

Mark, who graduated with a Bachelor of Medicine in 1990, put his impostor's syndrome aside, and enrolled to do a master of fine arts, graduating in 2014. His subsequent creative work is now published as *A Queer Existence, The Lives of Young Gay Men in Aotearoa New Zealand.* It features compelling photographs and interviews with gay men who never had to live in New Zealand when homosexuality was illegal.

The book features in-depth conversations with mostly Pākehā but also Māori, Samoan, Burmese and Filipino subjects who've mostly (not always) gone to university. Family, sexual experiences, AIDS – everything is discussed. It is also a useful snapshot of queer male self-definition of identity and sexuality across a decade (most interviews were conducted from 2013-2016). As Mark puts it, his interviewees are "extraordinarily candid … baring something that's almost sacred".

Earning trust in such conversations is part of Mark's work, both as documenter and doctor. Today, he is also an independent non-clinical supervisor for medical professionals.

Informed by the art theory research that Mark undertook alongside his creative work, the photos in *A Queer Existence* are not an attempt to reveal the subjects' 'essential selves' – the concept of an 'essential self' is questioned in these fluid times. Instead, we receive the impression the subject is holding our gaze across the page, making us feel connected: as if each young man is sitting in serious one-on-one conversation with each of us, just as they had been with Mark.

It's easy to see why Jonathan was keen. Mark had already produced *Men Alone – Men Together,* documenting the lives and relationships of 45 gay men of a slightly older generation, out of his earlier study at Elam. Comparing the two cohorts is illuminating. While overt or implied homophobia as well as invisibility and hetero-norms still have a big impact, in *A Queer Existence*, people have the confidence to identify themselves as gay or queer earlier in life than their predecessors did – at university or even in high school – and they're pursuing relationships earlier, at similar ages to their classmates.

"They're also not having to live lives of dissembling, or concealing parts of themselves," says Mark. "That was the key experience of so many gay men, pre-law reform. You had to hide part of yourself in many, many situations."

**"Pre-law reform, you had to hide part of yourself in many, many situations."**

– Mark Beehre, doctor and photographer

The stress of pretending, and the fear of being found out, was never-ending.

Gay himself, Mark had a religious upbringing in Auckland that offered him "a faith or spirituality that was very meaningful", combined with "a set of beliefs, dogmas and constraints imposed by the church that ultimately became damaging. It meant I didn't live my life the way I would have liked to until much later."

Mark had been a doctor for several years when he enrolled in a fine arts undergraduate degree at Elam in 2001, to pursue his love of photography. Although a "mature" student, he "didn't feel old".

"I was doing something exciting and new, immersed in that environment where people were exploring their own creative process and work."


***A Queer Existence, The Lives of Young Gay Men in Aotearoa New Zealand,* Massey University Press, $45**

# Clinical approach

Author Eileen Merriman says working full-time as a doctor is just the tonic for cranking out novels. She talks to Danelle Clayton.

**"I couldn't be successful in one career without the other."**

– Eileen Merriman, novelist and haematologist

Eileen Merriman is a consultant haematologist at North Shore Hospital and also an award-winning author of medical dramas.

She balances her complementary careers and her role as honorary lecturer in the Faculty of Medical and Health Sciences with raising two children, a feat she partly credits to her "stay-at-home husband".

Eileen's eighth novel, *Double Helix*, is the third book the full-time doctor has published in the past year. "I couldn't be successful in one career without the other. You need life to fuel your writing. I couldn't just sit at home writing all day or I'd run out of ideas. And the writing is how I unwind from a day at the hospital. I need both."

When she's on duty, Eileen deals with diseases of the blood. Her patients could have anaemia, or cancer. They could be terminally ill. And while she doesn't write her patients into her books, her experiences often inspire her plot-lines.

Her specialty is revealing how ethical dilemmas might play out in real life and she is often likened to Jodi Picoult (*My Sister's Keeper*), with the added advantage of insider knowledge.

"I don't have to do a lot of research for my books or, if I need to, I know immediately who to go to," Eileen says.

She's not afraid of tricky subject matter and her books have delved into topics such as incest, self-harm and, in 2020's top-selling *The Silence of Snow*, doctors who self-medicate.

She also pens young-adult books. The second in her Black Spiral Trilogy, *Black Wolf*, was released in September, at the same time as *Double Helix*. Her three previous YA novels were all short-listed for the NZ Children's and Young Adult Book awards, and her first adult novel, *Moonlight Sonata*, was long-listed for the Ockham Book Awards.

In *Double Helix*, Eileen explores the inherited gene mutation Huntington's Disease, and the complicated ethics of assisted dying and gene editing. While she hasn't treated anyone with Huntington's, the book does reflect some of her own experiences, including the intense anxiety of training to be a doctor, which she is reminded of when supervising University of Auckland medical students.

*Double Helix* is the story of Jake and Emily, med students from different worlds. Jake may have Huntington's Disease and must eventually face this, while Emily disappoints when she doesn't live up to her surgeon father's expectations.

An interesting subplot plays out about equity in access to medical school – will Jake return to his native Northland to practise? As his cousin points out, "our people need their own doctors".

"I like to write about things that aren't black and white, and that comes up a lot in healthcare," Eileen says. "I've always wanted to write about Huntington's, because in someone diagnosed with it, 50 percent of their genetic offspring will get it. I wondered what a character would do if they knew that, would they get the test or not? What difference would it make?"



*Double Helix*, $36; *Black Wolf*, $20 (Both Penguin Random House)

**WIN:** We have two copies of *Double Helix* to give away. Email: **ingenio@auckland.ac.nz** by 31 November with *Double Helix* in the subject line.

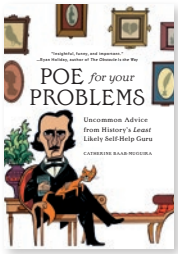
*Dr Eileen Merriman has the advantage of insider knowledge when writing medical dramas.*

David Downs in A Mild Touch of Cancer, with wife Katherine.

# FILMS

A number of films by staff, students and alumni are at the NZ International Film Festival from 29 October. They include: • *A Mild Touch of Cancer*, a documentary about alumnus David Downs' cancer survival after CAR T-cell therapy, is adapted from his book and produced/directed by Professor Annie Goldson (Arts). It is co-produced by masters student Irene Chapple. (Story: **auckland.ac.nz/mild-touch**) • *Ayukawa: The Weight of a Life* is a documentary co-directed by Associate Professor Jim Speers (Elam) and Tu Rapana Neill (Elam alumnus) and co-written/co-produced by Elam graduate, Kentarô Yamada. It's a whaling story, told through the eyes of the townspeople of Ayukawa. (Story: **auckland.ac.nz/Ayukawa-film**) • *Signed, Theo Schoon* is directed by alumni film-maker and art historian Luit Bieringa, with music by Gareth Farr. It tells the story of Dutch-immigrant artist Theo Schoon, in his own words. (See: **tinyurl.com/NZIFF-Luit-Theo-film**) • *Juliet Gerrard: Science in Dark Times* is produced and directed by alumna Shirley Horrocks and is about Professor Dame Juliet Gerrard (Science), the PM's Chief Science Advisor. It screens in Wellington from 7 November. (See: **tinyurl.com/NZIFF-Juliet-Gerrard**)

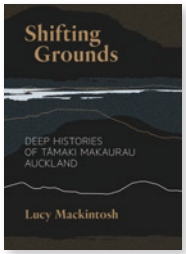

**AUP New Poets 8**
Lily Holloway and Modi Deng are alumni and Dr Tru Paraha is completing a postdoctoral research fellowship in English and drama. Editor Anna Jackson says: "All three poets are concerned with memory and its traces, with artistry and the forms it can take, with the natural world at its most infinitesimal and at its most vast."
**Edited by Anna Jackson, Auckland University Press, $30**




**Poe for Your Problems: Uncommon Advice from History's Least Likely Self-Help Guru**
Catherine Baab-Muguira (Master of Creative Writing, 2008) now lives in her US homeland, working as a writer, journalist and marketer. This not-too-serious self-help book draws on the works and life of Edgar Allan Poe. Catherine says it's a darkly humorous yet admiring look at what Poe's life can teach us.
**Catherine Baab-Muguira, Hachette, $US18**


**Nine Lives: New Zealand Writers on Notable New Zealanders**
In essays on a notable Kiwi of their choice, the authors, including staff and alumni, show how their life and that of their subject is often intertwined. Writers include Selina Tusitala Marsh on Albert Wendt, Paula Morris on Matiu Rata and Stephanie Johnson on Carole Beu. (Published 11 November.)
**Group editors, Upstart Press, $40**


**Ten Acceptable Acts of Arson and Other Very Short Stories**
Jack Remiel Cottrell (Ngāti Rangi) is a flash-fiction writer (stories fewer than 300 words) whose work creates pocket-sized capsules of the world. He won the Wallace Prize in the Master of Creative Writing class of 2020.
**Jack Remiel Cottrell, Canterbury Uni Press, $30**




**Shifting Grounds: Deep Histories of Tāmaki Makaurau Auckland**
Dr Lucy Mackintosh completed her PhD at Auckland in 2018 and her research has formed the basis of this illustrated book. *Shifting Grounds* provides an historical assessment of Tāmaki Makaurau, unearthing the histories of three iconic landscapes, Pukekawa Auckland Domain, Maungakiekie One Tree Hill and the Ōtuataua Stonefields at Ihumātao.
**Lucy Mackintosh, BWB, $59.99**
**WIN: We have one copy of *Shifting Grounds* to give away, thanks to Bridget Williams Books. Email: ingenio@auckland.ac.nz by 7 December.**


**Spark Hunter**
Former journalist Sonya Wilson completed the Master of Creative Writing programme in 2017 and *Spark Hunter* is her first novel. It's an adventure-fantasy for readers aged 10-plus, set in Fiordland National Park.
**Sonya Wilson, The Cuba Press, $25**


**Crazy Love**
Rosetta Allan is a graduate of the Master of Creative Writing programme and this is her third novel. It's based on her own experiences and was launched the night NZ went into level four lockdown. See the video of the last hurrah for a while: **tinyurl.com/crazy-love-book-launch**
**Rosetta Allan, Penguin, $36**


**Activism, Feminism, Politics and Parliament**
Alumna Margaret Wilson (LLB) was president of the Labour Party in the turbulent mid-1980s before becoming a minister in the Helen Clark government. She also held roles as speaker of the house and attorney-general. This memoir provides analysis of political life over four decades, including policies championed by Margaret such as pay equity, the NZ Supreme Court and paid parental leave.
**Margaret Wilson, BWB, $40**

# CONNECTION POINTS

**Facebook:** UoAAlumni
**LinkedIn:** Auckland University Alumni and Friends
**Twitter:** @AucklandAlumni
**Instagram:** @AucklandAlumni
Email: **alumni@auckland.ac.nz**


HEAR

## OUR DISTINGUISHED **ALUMNI**

Our 2021 Distinguished Alumni Award winners are shining examples of the aspiration, effort, determination and resilience required to ascend a taumata or summit. Andrew Grant, Dr Ashley Bloomfield, Courtney Sina Meredith, Rt Honourable Justice Dame Helen Winkelmann and Jeremy Salmond (via virtual link) all shared their stories and vision for the future of New Zealand at our inaugural Taumata event in 2021, MCed by Finlay Macdonald. You can hear the interviews at **alumni.auckland.ac.nz/recordings**. Make a nomination for future Distinguished Alumni Awards by going to: **auckland.ac.nz/daa**

## UPDATE YOUR DETAILS: BE IN TO WIN A SAMSUNG GALAXY SMART WATCH

**Review your contact details to receive our regular alumni publications and emails. That way you will receive exclusive offers, competitions and information about events happening online or near you. Plus, if you update before 31 January 2022 you'll automatically go in the draw to win one of five Samsung Galaxy smart watches.**
**Go to: alumni.auckland.ac.nz/update to update your details.**

VOLUNTEER

## EAT FOR **NUTRITION RESEARCH**

The Human Nutrition Unit (HNU), a collaboration between the University of Auckland School of Biological Sciences and the Department of Medicine, is always looking for participants in its nutrition studies, some of which are in-house. Participants who live in at the Human Nutrition Unit in Mt Eden for two weeks have all meals and snacks provided. (At Covid alert level one.)
Details at: **hnu.auckland.ac.nz/current-trials**
You can also read about the HNU director: **auckland.ac.nz/HNU-director**

VOLUNTEER

## HELP ASPIRING CHANGE-MAKERS

The Centre for Innovation and Entrepreneurship (CIE) is looking for entrepreneurial or innovative professionals to volunteer to share their advice, knowledge and expertise with our aspiring students. There are lots of ways people can help the Kiwi entrepreneurial and innovation ecosystem grow, from being a virtual judge, to getting involved as mentor in residence, to giving your time at the CIE Summer Lab. Head to **auckland.ac.nz/CIE** for more information and to sign up.


JOIN

# VIRTUAL **BOOK CLUB**

The University's Virtual Book Club connects readers across the University community through a private online forum, where members can discuss up to five books a year. Immerse yourself in the written word, enjoy lively debate with fellow book lovers and get inspired by new book recommendations. Everyone who participates gets to vote on which books are featured and as only one is selected every two months, you'll have plenty of time to read each book. Club members also get 15 percent off selected club books at the Ubiq bookshop. Go to **auckland.ac.nz/bookclub** to find out more and sign up.


MENTOR

# CONNECT AND DEVELOP

The University's informal mentoring platform Alumni Connect now has more than 2,000 student and alumni users. The Alumni office recently hosted its inaugural Connect & Develop Series – five talks over four weeks to give the University community tools to grow in the new world of work, ranging from building resilience to influencing at work, to coaching yourself and others. You can log in or sign up at **auckland.ac.nz/alumni-connect** to listen, share career insights with students or simply connect with fellow alumni.

STAY

# CAMPUS HOLIDAY **ACCOMMODATION**

The University's accommodation halls will once again open for 'Summer Stays' (at Covid alert level one).

If you're looking for accommodation between 20 November and 14 February, the Summer Stays team can help out. Maybe you have family visiting Auckland but you have a small house? The University's self-contained apartments at Symonds Street and Carlaw Park have amenities such as meeting spaces, games rooms and communal lounges. The halls are also ideal for conferences, workshops and camps, catering from 20 to 200. Discounts for alumni are available.

For more info, see **summerstays.auckland.ac.nz** or email: **summerstays@auckland.ac.nz**


WATCH

# **BAR** TALKS

Raising the Bar Auckland 2021 and its online companion, Raising the Bar Home Edition, were a great success. With compelling topics and engaging researchers, they've become a regular source of inspiration and knowledge. Whether it's in a bar or from the comfort of your home, you won't want to miss 2022's line-up of topics and top academics. In the meantime, you can watch the 2021 RTB Home Edition talks at **alumni.auckland.ac.nz/recordings** where there's also other alumni content and you can listen to past RTBs. Sign up to RTB enews at **rtbevent.com** for the latest updates.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