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UNIVERSITY OF AUCKLAND
Waipapa Taumata Rau

# UniNews

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# IN THE **NEWS**

**A selection of University staff and students who provided expert commentary in the media recently. Let us know! Email: uninews@auckland.ac.nz.**


Jennifer Miles-Chan

## CAFFEINE HIT

Associate Professor Jennifer Miles-Chan (Human Nutrition Unit, Faculty of Science) told *Fair Go* that it was possible to overdose on high-potency caffeine products such as supplements and powders. "I think there should be much more education on the dangers of consuming high doses of caffeine," she said.
**Link: tinyurl.com/miles-chan-fair-go**


Priyanka Dhopade

## DIVERSITY CRUCIAL FOR SPACE

A thriving space sector needs professionals from diverse fields, not just engineers and scientists, Dr Priyanka Dhopade (Faculty of Engineering) told Newsroom. She emphasised the importance of including experts in space law, economics, policy and ethics to ensure responsible and sustainable practices.
**Link: tinyurl.com/newsroom-dhopade**


Tim Fadgen

## US ELECTIONS

US politics expert Dr Tim Fadgen (Public Policy Institute, Faculty of Arts) has been active in the media in the lead up to the US presidential election, speaking on everything from Biden stepping down to the Harris/Trump debate. He has featured on the Pacific Media Network, Radio Waatea and in *The Post*, among others.
**Link: tinyurl.com/fadgen-post-debate**


Gergely Toldi

## BACKWARDS ON BABY FORMULA

Neonatologist Dr Gergely Toldi (Liggins Institute) was quoted opposing the government's decision to pull out of a trans-Tasman infant formula labelling standard. His opinion piece in The Conversation, written with Liggins colleague Dr Mariana Muelbert, was picked up by publications such as *Farmers Weekly* and *New Zealand Doctor*.
**Link: tinyurl.com/toldi-conversation**


Jessie Jacobsen

## HUNTING GENES

Dr Jessie Jacobsen (School of Biological Sciences) told RNZ how genetic testing could help autistic individuals. In a decade-long study, scientists used the tests to identify the specific genes causing individuals' autism. This can help them access more tailored support, learn of health risks, and find support groups, she said.
**Link: tinyurl.com/jacobsen-rnz-genes**


Laszlo Sajtos

## READY TO PAY WITH OUR FACES?

Speaking on RNZ's *Morning Report*, Business School Associate Professor Laszlo Sajtos (marketing) discussed facial recognition payment technology and customer perceptions of it. He said there are advantages to the technology, particularly for use at large-scale events.
**Link: tinyurl.com/rnz-sajtos-payments**

## THIS ISSUE



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# MARS ROVER DRIVER TOUCHES DOWN ON CAMPUS

NASA engineer Vandi Verma shared her remarkable experience operating the *Opportunity* rover during a recent visit to the University.

***NASA engineer Vandi Verma, with the replica of the Opportunity rover.*** *Photos: Chris Loufte*

***Vandi's visit to New Zealand aims to inspire the next generation of scientists and engineers.***

**Auckland high-school students were given a rare opportunity to hear from NASA engineer Vandi Verma, who visited the University on 17 September.**

Vandi is known for her role as the driver of NASA's Mars rovers, including *Opportunity*, which launched in 2004 and operated on Mars for nearly 15 years.

She's touring Aotearoa as part of a roadshow running throughout September and October, aimed at inspiring the next generation of scientists and engineers.

As part of her visit, the Centre for Automation and Robotic Engineering Science (CARES) in the Faculty of Engineering built a full-scale replica of the *Opportunity* rover.

Using NASA schematics, researchers and students brought the model to life through 3D printing and rapid prototyping. The replica includes functional elements, such as a movable arm and mast, controlled by an Xbox controller, as well as an interactive face-tracking feature.

In her talk, Vandi provided a glimpse into her work on Mars exploration and robotics, describing how she helped navigate the rover despite the 24-minute communication delay between Earth and Mars.

"The rover takes so much data that it doesn't have enough power to transmit it directly back to Earth. You transmit it to orbiters on Mars, and then that information is sent down to Earth," she says.

"It's like sending an email to your car to tell it where to go."

She recalled her early fascination with the *Sojourner* rover, which landed on Mars in 1997. Seeing images of this small rover navigating the Martian surface sparked her interest in robotics and space exploration. She pursued robotics courses and eventually became involved in NASA projects, which led to her work on the *Opportunity* rover.

"It was supposed to last 90 days. I didn't think I would ever actually get to work on it, because I was still in school, but it lasted over 14 years," she says.

She explained how engineers at NASA's Jet Propulsion Laboratory developed autonomous driving systems for the rover, enabling it to explore uncharted terrain, collect rock samples and make significant scientific discoveries about the planet's geology.

Following her talk, Vandi led the high school students into workshops at the Faculty of Engineering, where they participated in activities designed to give them hands-on experience with robotics and space exploration technologies.

The workshops were organised by engineering student Sarina Todd. Last year, Sarina's work promoting STEM education and gender equity in these fields won her the Most Outstanding Contribution (Service and Leadership) at the University's 2023 Blues Awards.

During her visit to the University, Vandi also toured Te Pūnaha Ātea Space Institute, including the Mission Operations Control Centre, which will oversee New Zealand's space mission, MethaneSAT, later this year. She also visited the CARES lab, where she explored various projects focused on human-robot interactions and advanced robotic technologies.

The nationwide roadshow will also feature local robotics experts discussing the latest developments in robotics and automation in Aotearoa. The event aims to inspire innovation and demonstrate how cutting-edge technology is shaping the future of New Zealand.

■ Hussein Moses

## UNITED TEAM TO SUPPORT RESEARCH EXCELLENCE

**Waipapa Taumata Rau has launched a new entity to enhance research excellence and the University's drive to be a global powerhouse of innovation, creativity and entrepreneurship.**

Deputy Vice-Chancellor of Research and Innovation Professor Frank Bloomfield (pictured above) says the new Research and Innovation Office, Te Puna Tiketike aims to ensure all key research services sit together as a single, united team to support research excellence.

He acknowledged the huge contributions of the Office of Research Strategy and Integrity (ORSI) and the teams in UniServices that have come together to form the Research and Innovation Office.

"Our professional research services staff have built a significant track record of success for the University, supporting research across the faculties and Large-Scale Research Institutes.

"The goal for the Research and Innovation Office is to work together with our researchers to build upon that success and achieve even greater outcomes for the University and our community."

Michael Steedman, Kaiarataki, Office of the Pro Vice-Chancellor Māori, gifted the name Te Puna Tiketike, which means, metaphorically, the source of sustenance to enable great actions.

"We recognise that our collective contributions will uplift and enable our communities," says Michael.

"Our [research] office will act as the spring and source of sustenance."

**Full story: auckland.ac.nz/rio**

## OWNING THE NUMBERS

**The University's latest gender pay gap figures reveal that the median hourly rate of pay for women working at Waipapa Taumata Rau is 11.9 percent lower than that for men.**

The *2024 Gender Pay Gap Report* also notes that overall the pay gap is largest for Pacific women and smallest for Pākehā women or women belonging to European ethnic groups.

This is the first year the report has included the pay gaps for women of different ethnic groups. And when broken down further, it showed that for academic staff, the gap is largest for women who belong to Asian ethnic groups (at 33.5 percent), and for professional staff, the gap is largest for women of Pacific ethnic groups (at 13.1 percent).

Pro Vice-Chancellor Pacific Professor Jemaima Tiatia-Siau says she has mixed feelings about the results of the report.

"While it is disheartening to see that the largest pay gap exists for Pacific peoples, it's not surprising, as it reflects wider societal trends affecting all ethnic groups, not just Pacific. There is a strange comfort in this, as it suggests it's an inherited issue rather than something unique to the University," says Jemaima.

"The report gives us a clear indication of where we need to focus our efforts and reinforces the importance of our ongoing work to achieve equity. We are already developing a Pacific staffing strategy aimed at growing Pacific staff capacity and capability, and we'll use the findings of this report to further strengthen it ahead of its release later this year."

**Visit: auckland.ac.nz/gender-pay-gap-2024**

## GREEN MINDS GATHER

**Experts in harnessing nature to transform our cities gathered from around the globe at the University of Auckland last month for the World Green Infrastructure Congress 2024.**

Organised by the Faculty of Creative Arts and Industries, the congress saw hundreds of local and international sustainability and green infrastructure experts converging on campus to share their ideas with companies, institutions, public authorities and scientists. The goal was to examine and catalyse nature-based solutions – such as green walls, roofs and other green spaces – to create more sustainable urban environments.

Internationally recognised UK green roof expert Dusty Gedge (pictured right) was among the keynote speakers, and his address drew on his deep understanding of how urban ecology and green roofs can contribute to a sustainable future, particularly in cities like London. Dusty, who has challenged conventional wisdom about green spaces, advocates for a future where cities are not just concrete jungles but vibrant, living ecosystems integrated into every level of a city's urban fabric.

The University's Professor Margaret Stanley was also among the speakers, and talked about the sometimes-unintended consequences of introducing 'more nature' into our cities.

Margaret, who heads a research group in the School of Biological Sciences in the Faculty of Science, discussed how our disconnect with our local environment sometimes results in people unwittingly helping introduced species at the expense of native ones. One example, she noted, was people stocking bird feeders with bread and seed, when Indigenous birds in New Zealand eat nectar, fruit and insects.

**Full stories: auckland.ac.nz/wgic-gedge** and **auckland.ac.nz/wgic-stanley**

# IN THE FRAME

**The female gaze is centred in a photography exhibition at Old Government House that begins this month.**

*Through the Lens: Gendered Reflections* is a group exhibition of photographic works by women, who all have connections to the University of Auckland. While most are Elam School of Fine Arts alumnae, others have been part of the teaching faculty or had their first exhibition at the University's Gus Fisher Gallery.

*Through the Lens* features 23 works from the University of Auckland Art Collection, which were produced between 1973 and 2017 by some of New Zealand's most celebrated photographers, including Yvonne Todd, Lisa Reihana, Marti Friedlander, Ann Shelton and Fiona Pardington. It aims to highlight the seminal role that women have played in the evolution of photography in Aotearoa.

The exhibition is curated by the art history department's postgraduate art writing and curatorial class taught by Associate Professor Linda Tyler, and is also supported by the Marti Friedlander Trust.

Linda says that while the University started collecting art in 1966, it didn't include photography in its remit until 2001.

As a result, many of the major artists associated with the University who were working in the medium of photography in the 1970s, 80s and 90s, such as Fiona Clark and Marti Friedlander, have only been acquired relatively recently. But it was a period of great creativity, she says.

"During this period, the traditional fine arts media, such as painting and sculpture, were considered loaded with male histories," explains Linda, "and the 'new' media of video, performance and photography were favoured by women artists as an opportunity to make fresh work outside of that canon."

*Through the Lens: Gendered Reflections* runs at Old Government House from 2 October to 13 November.

**For more, visit: @throughthelens_exhibition on Instagram and Through The Lens: Gendered Reflections on Facebook.**

***Yvonne Todd*. Gynecology *(2006). Lightjet print photograph.*** *The University of Auckland Art Collection.*

***Tongan artist Taniela Petelo from the Seleka International Art Society at ITAC7***
*Photo: FPS Photo*

# CREATIVE EDUCATORS CONVERGE

**More than 200 of the world's top teaching artists gathered at the University in September to exchange ideas and showcase their educational practice.**

Hosted by the Centre for Arts and Social Transformation (CAST), the seventh International Teaching Artist Conference (ITAC7) saw creative educators from across Aotearoa, the Pacific and as far afield as Nigeria, Finland and Venezuela, gather to share ideas and inspire each other.

CAST co-director Professor Peter O'Connor says central to the conference was the idea that the future of learning is 'AI'.

"But not 'artificial intelligence', rather the 'ancestral information' that has always been transmitted through the arts."

The conference attracted more than 80 Indigenous artists who talked about how knowledge is shared and carried across generations through mediums like dance, storytelling, music, art and craft.

"We were reminded by Indigenous artists across the Pacific curated by Lagi Mama [a New Zealand-based cultural organisation focused on promoting Indigenous knowledge] and Cree artists from the Calgary Arts Commons, of the power of the arts when they are deeply connected to the land they originate from."

**Full story: auckland.ac.nz/ITAC7**

# BUSINESS BOOST

**Congratulations to Kate Ricketts, who has secured further funding for her start-up, ISpy Nits, which she launched through the University's Velocity programme.**

The latest funding will allow Kate (pictured below), who has been working as the University's schools and community outreach manager, to work full-time on the business.

Kate shared her story of developing ISpy Nits in the June issue of *UniNews*.

Frustrated with treating her children's head lice, she came up with the idea for a non-toxic hair powder that makes nits glow under UV light, making them easier to see and treat.

The idea won the social category of the Centre for Innovation and Entrepreneurship's (CIE) Velocity $100k Challenge in 2022, scoring her a place in CIE's Venture Lab business incubator. She secured her latest funding from UniServices (which provided ISpy Nits' seed funding), Cure Kids Ventures and an angel investor.

**Full story: auckland.ac.nz/ricketts-velocity**

**Ted Shu, PhD in Civil and Environmental Engineering, Faculty of Engineering**

Atmospheric rivers – long, narrow corridors in the atmosphere that carry massive amounts of water vapour – have a flow comparable to the Amazon River, but in the sky.

And as climate change reshapes global weather patterns, understanding atmospheric rivers is vital for protecting Aotearoa New Zealand's water resources and communities, says Dr Jingxiang (Ted) Shu.

Ted graduated with his PhD with a thesis that explored the powerful influence of atmospheric rivers on New Zealand's weather, revealing their dual role as a vital water source and a potential cause of extreme weather events.

His study, using data from more than 500 rain gauge sites across the country, showed atmospheric rivers affect the country an average of 70 to 90 days a year, with more frequent and intense events occurring in summer.

The study also found that atmospheric rivers primarily make landfall along the western coastlines of both the North and South Islands, bringing vital rainfall to support New Zealand's water supplies, agriculture and hydropower.

However, the same atmospheric rivers can also lead to extreme weather events, says Ted.

"This emphasises the importance of understanding and monitoring atmospheric rivers, as climate change is expected to increase their frequency and intensity," he says.

**Emmy Rākete, PhD in Sociology, Faculty of Arts**

Emmy Rākete (Ngāpuhi), a political activist for incarcerated Māori and queer communities, drew on inspiration from other activist academics in her journey to become Dr Rākete.

Emmy, who graduated with a Doctorate in Sociology, is a critical Marxist scholar who bridges activism and academia. Her PhD thesis, Empire of Punishment: A Social Reproduction Theory of Mass Incarceration, earned her a spot on the Dean's List.

Since 2017 she has also been spokesperson for People Against Prisons Aotearoa, championing the abolition of prisons.

Reflecting on the journey that led to her recent graduation, she credits much of her inspiration to the work and legacy of Dr Moana Jackson, a renowned lawyer whom Emmy first met in 2016.

The late Māori legal scholar and activist left a profound impact on Emmy, who recalls how his work was not only rigorous but also deeply political, and unafraid of challenging the status quo. His dedication to justice is what she strives to emulate, she says, through courage and clarity in her own activism.

"He made sure that we knew that we had support, that I knew that I had support."

## DEVELOPING DIGITAL TWINS

**Robyn May, PhD in Bioengineering, Auckland Bioengineering Institute**

Robyn May was on a ward round at Port Shepstone hospital outside Durban, South Africa when she got a call telling her she and her husband had won a trip to the Rugby World Cup in New Zealand.

That good luck ignited a spark that was to lead, albeit a few years down the track, to the couple moving to New Zealand for good.

Robyn's first job in Auckland was as project manager in maternal and perinatal clinical research under Distinguished Professor Dame Jane Harding.

Robyn was enjoying her clinic work in paediatrics, but was becoming increasingly excited about research. As a clinician she missed numbers and maths and thought coding looked "an awful lot of fun". And as a sci-fi enthusiast, bioengineering looked like a chance to turn science fiction into science fact.

When, in 2020, Robyn committed to doing a PhD, she chose a project combining her two passions: paediatrics and bioengineering.

In a collaboration between the Auckland Bioengineering Institute and the Liggins Institute, her doctoral research involved developing newborn cardiovascular digital twins; physics-based computational models of the heart and blood vessel systems for individual newborn babies.

If her thesis title – Understanding Cardiovascular Remodelling Related to Preterm Birth: A Clinical and Computational Modelling Study – sounds complicated, that's because the research is leading edge.

First, Robyn turned to the hospital, collecting ultrasound data on the hearts of term and premature babies after birth, and following them up between three and six weeks of age.

Then for each baby where she had ultrasound data, she created a personalised model simulating how that baby's heart was beating and how blood flowed through their bodies.

The aim is that these cardiovascular digital twins could one day aid decision-making when taking care of preterm babies in NICU; they have already proved themselves as a research tool to investigate the differences in those born preterm that might predispose them to cardiovascular disease later in life.

"These are some of the largest subject-specific computational modelling studies, and the first in early life," she says.

Robyn didn't graduate in person – instead she spent much of September in Germany, after winning a Maurice and Phyllis Paykel Trust travel grant to present her research at two conferences.

"I enjoy the chance to present at bioengineering conferences as a clinician, bringing a more translational perspective of how digital twins can actually make a difference in clinical care."

**Justin Sobion, PhD in Law, Faculty of Law**

Justin Sobion is helping to tackle the world's biggest problem in the world's highest court.

Justin, who has graduated with a PhD in Law, focused his thesis on Earth trusteeship – an idea that posits that the Earth and its resources could be held in trust by states for current and future generations.

"To be a trustee means you give up some authority because you're acting on behalf of someone else," he says. "That's a challenge, especially in a world where many states prioritise their own interests."

Along with being a senior law tutor, author, artist and new dad, Justin is also currently working on one of the world's most significant climate justice cases to date.

Initiated by Vanuatu, 132 nations are asking the International Court of Justice (ICJ), to establish the obligations of countries to address the climate crisis – and the consequences if they don't.

Eight Caribbean countries have filed written submissions at the ICJ for an outcome that will strengthen the region's legal position in terms of climate loss, damage claims and negotiations. And Justin, born in Trinidad, is representing Grenada, Saint Vincent and the Grenadines, and Saint Lucia.

"In my doctoral studies, I was looking at the duties of states, particularly around holding the Earth in trust for future generations. So I was a good fit to work on this case."

# TIES ACROSS THE PACIFIC

**Hukerenui and Ohinerau Bonnet, PhDs in Civil and Environmental Engineering, Faculty of Engineering**

Hukerenui and Ohinerau Bonnet (Fa'a'ā, Tahiti) may have travelled a long way from their home in Mā'ohi Nui (Tahiti) to study at Waipapa Taumata Rau. But in many ways, it was a journey that brought them full circle.

Their French-speaking parents, Ronald and Carmen, temporarily relocated to Tāmaki Makaurau in preparation for the twins' birth because it was medically safer than Tahiti, and they were born at Auckland Hospital in 1997.

In recognition of their ties here, their father and sister Punareva gave them Māori names to honour some of the tūpuna from Aotearoa, symbolising their bond in the histories of Polynesian voyagers who crossed oceans together.

After spending their childhood and high-school years in Tahiti, they returned to Aotearoa for university, 17 years later.

Their mission to pursue their doctorates later followed and, along with that, tackling the challenges faced by Pacific women in engineering. Now, Hukerenui (Huke, pictured left) and Ohinerau (Ohi, right) have earned their doctorates in Civil and Environmental Engineering.

The Bonnet twins attribute their success to the University's Tuākana programme, an educational community for Māori and Pacific students and staff, which they say has supported their cultural identity as Mā'ohi Tahitian and empowered them to succeed in their respective areas.

Huke's research for her doctorate focused on cleaning up wastewater. She used local bacteria to help reduce pollution from nutrients, making the process eco-friendlier by using hydrogen-based methods.

"This is especially important in Aotearoa New Zealand because agriculture is such a big part of this country," explains Huke.

Ohi's research focused on studying enzymes called laccases, which are made by fungi and bacteria to break down tough, woody materials. These enzymes also have cool uses in biotechnology. She says they offer more natural ways to solve environmental engineering challenges.

"It's a very Polynesian concept to acknowledge that the health of our fenua [land] is directly related to the health of our people."

As the twins explore the next phase of their careers, Huke is excited to continue her academic journey through a postdoctoral contract at the University, where she will teach.

Meanwhile, Ohi aims to use her expertise in environmental engineering on industry projects that benefit the environment and communities. She is particularly interested in working with iwi, hapū and other Indigenous groups.

**Leith Macfarlane, Master of Architecture, Faculty of Creative Arts and Industries**

After years spent working in corporate law, Leith Macfarlane realised her true passion was in a field where she felt she could make a more immediate and meaningful difference.

"It took me many years to figure out that law wasn't my thing. And once my son was born, I knew I wanted to set an example for him by taking a leap into something new and pursuing a more creative path," says Leith.

With a love for design, Leith made the decision to return to university to study architecture, juggling the demands of motherhood and the challenges of a completely new discipline. After five years of hard work, she graduated with a masters in architecture with first class honours.

She now channels her passion into socially responsible architecture, designing spaces that strengthen community ties and address pressing social issues. Her commitment to community-based architecture is already being realised as she oversees her first built project – a community hub in the Pāpāmoa Hills.

Her advice for those contemplating a career change is to be bold and, if you have the opportunity, take the leap.

"It's been incredibly rewarding and worth every bit of effort."

**Full stories: auckland.ac.nz/grad-stories**

*K-pop stars, like V from the boy band BTS, have huge fan communities, says Fine.*
*Photos: Chris Loufte*

# FINE KOLOAMATANGI: HEART AND SEOUL

After first falling in love with K-pop almost 20 years ago, Fine Koloamatangi has now made the genre the focus of her art history PhD, exploring its visual appeal to Pacific peoples.

**Even if you're not a fan, it's hard to ignore the global pop-culture phenomenon that K-pop has become.**

For most outside of South Korea, awareness of the country's now US$10 billion a year pop music industry dawned with the release of Psy's mega 2012 hit *Gangnam Style*. K-pop has since become a cornerstone of what's known as Hallyu – the global wave of interest in Korean popular culture encompassing everything from boy band BTS, to the Netflix show *Squid Game* and the Oscar-winning film *Parasite*.

But for Fine Koloamatangi, K-pop fandom came before all this. It started one day in the mid-2000s, while she was studying for her law and arts (politics and art history) conjoint degree at Canterbury University, when she got talking to another student outside a lecture about the music they were listening to.

"She goes, 'have you heard of K-pop?' I didn't know what that was, but I was really open to listening, so she lent me one of her earphones. I was like, 'this sounds really great' and she goes, 'yeah, go look it up'."

Fine did, and quickly became a fan. But given the niche nature of K-pop at the time, she largely kept this musical interest to herself.

"Then a couple of years later I discovered some of my really good Pacific friends were also into K-pop, so there was a bit of a group of us. I think if it wasn't for my friends, and experiencing K-pop in that community way, I don't think my love for it would have grown as much as it did."

**K-pop through an academic lens**

Fine has now completed a PhD in art history looking at the appeal of K-pop to Pacific peoples. Her research involved interviewing people who became fans of the genre prior to 2012, before Hallyu really began to surge, to hear their stories and find common threads of connection.

> *"It was surreal to be in Korea after so many years of engaging with its culture."*
>
> *– Fine Koloamatangi, Faculty of Arts*

One thread she discovered was a legacy of engagement among Pacific peoples with Asian media – everything from martial arts films and anime to Japanese pop and conventions like Armageddon – placing K-pop in this lineage. This is backed up by Asia New Zealand Foundation research, which found that Pacific peoples are highly engaged in Asian arts experiences.

K-pop fandom is often intensely personal, she explains, with fans following artists, known as 'idols', from their first musical release, known as a 'debut', through the journey of their career. But it's also characterised by its large and devoted fan communities, with idols building massive followings. Last year, Lisa, a singer from the girl group Blackpink, became the first K-pop star to surpass 100 million followers on Instagram.

Fine says many Pacific K-pop fans have taken an active role in engaging fan communities in Aotearoa, both online and through events; one of her friends, for example, started the Facebook group NZ K-pop Fans, which Fine now runs.

"Pacific people tend to look to community, so that kind of community creation is a natural extension of that."

Given her art history discipline, Fine has looked specifically at how the visual aspects of K-pop may contribute to its appeal to Pacific peoples. An entire chapter of her thesis is dedicated to music videos, in which she taps into a rich vein of visual material.

K-pop girl group Red Velvet for example, went so far as to recreate specific scenes from works by artists including Claude Monet, John Everett Millais and Hieronymus Bosch in the video for their song 'Feel My Rhythm'.

**Music in the family**

While Fine was first introduced to K-pop as a young adult, she thinks her openness to it was born much earlier.

In the late 1970s, Fine's paternal grandfather, Saimone Koloamatangi, started Fōfō'anga 'o Aotearoa, a Tongan kava club, out of the family home in Grey Lynn. A place where the local Tongan community could meet and share their traditions, language and music, it provided a safe space during the time of the Dawn Raids.

"As a child I would be serenaded to sleep sometimes from the music they played. I took it for granted at the time, but now I realise I was incredibly blessed to be surrounded by my Tongan culture."

Fine's grandparents were also founding members of Grey Lynn's United Church of Tonga, helping provide a place where the community could share its religious practices, and her grandfather was a musician and composer, with diverse musical tastes ranging from Glenn Miller to Hawaiian ukulele music.

She says her father, political studies academic Associate Professor Malakai Koloamatangi, also plays guitar and harboured ambitions to be a musician.

"He opened our eyes to a lot of different forms of music growing up, so I feel that trajectory of cultural appreciation was established early on, which helped me to not dismiss K-pop when I first heard it."

*"As a child I would be serenaded to sleep sometimes from the music they played … I was incredibly blessed to be surrounded by my Tongan culture."*

*– Fine Koloamatangi*

More than 45 years later, the family still runs the kava club, hosting club nights for elders on Wednesdays and for youth on Fridays, where music plays a big part in setting the mood and connecting community members to their culture and each other.

**On the ground in Seoul**

Earlier this year Fine was able to travel to the home of K-pop for the first time, when she undertook an Asia New Zealand Foundation internship at the CJ Cultural Foundation. The two-month internship included a four-week stint at the foundation's Seoul office, researching popular music industries in Australia, Aotearoa and the Pacific and the potential of Korean indie musicians to enter these markets.

Despite landing in Seoul in the heart of winter, where the temperature plunged to minus 14, it lived up to expectations.

"It was kind of surreal to be in Korea after so many years of engaging with its culture. You build up images in your head about what it might be like, but being there was great; I really enjoyed it."

Fine submitted her doctoral thesis at the end of July and says she'd potentially like to do more travel and conduct further research answering questions that emerged while undertaking her PhD. One area for further research, she says, would involve potentially collaborating with another researcher looking at connections to K-Pop among Māori.

So, after viewing K-pop through an academic lens, does she still enjoy listening to it?

Yes, she says. NewJeans, a girl group that debuted in 2022, is a current favourite, with their nostalgic sound that captures the old-school K-pop she originally bonded with.

"I'm still a fan," she says.

■ Caitlin Sykes

**Fōfō'anga 'o Aotearoa, the kava club established and run by the Koloamatangi family, features in the second season of the web series *Still Here*, which highlights stories of inner-city Auckland's Pacific communities.**


*Fine's research found K-pop fandom sits in a lineage of Pacific people's engagement with Asian media.*

*Minduli Wijayatunga, Professor Roberto Armellin and Jack Yarndley.*
*Photo: Chris Loufte*

# RISING STARS OF SPACE EXPLORATION

## At Te Pūnaha Ātea Space Institute, astrodynamics researchers are charting the course for the next era of space discovery.

**From interplanetary missions to the search for extraterrestrial life, it's easy to see how space exploration has captured our imaginations – yet many are unaware of the critical role astrodynamics plays in making these journeys possible.**

Like pilots flying aeroplanes, scientists and engineers working in the field of astrodynamics guide spacecraft through space using mathematics, physics and celestial mechanics to understand their motion under gravitational forces.

Astrodynamics is crucial for exploring and utilising space efficiently and safely. It's the science that makes sure our space missions go exactly where they need to, when they need to, all while avoiding obstacles and conserving resources.

At Te Pūnaha Ātea Space Institute in the Faculty of Engineering, a dedicated team, led by Professor Roberto Armellin, is at the forefront of this fascinating field.

Though not a space enthusiast by nature, Roberto has always had a passion for solving mathematical problems. He chose aerospace engineering because it sounded intriguing, and he quickly discovered the joy of space trajectory optimisation – the process of determining the most efficient path for a spacecraft to travel from one point to another in space.

His passion for the field was fuelled by one of his professors, Amalia Ercoli Finzi, the first Italian woman in aerospace engineering. Today, he teaches the very class she once taught him back in Italy, passing on her legacy of inspiration and knowledge to students in Aotearoa New Zealand.

"I see this work as an exciting opportunity to contribute to the education of the first generation of aerospace engineers in this country," he says.

Until recently, students had to go abroad to pursue their degrees in astrodynamics. However, that has changed thanks in part to the efforts of the Space Institute. Among the students Roberto supervises is Jack Yarndley, who is believed to be the first New Zealander undertaking a PhD in astrodynamics in the country.

Like Roberto, the 24-year-old has always been fascinated by space trajectory optimisation work.

"When I was growing up, one of my favourite video games was *Kerbal Space Program*, which is all about going to different planets and launching fictional characters into space using orbital dynamics. What I really liked was figuring out how to do that in the most optimal way, which is what astrodynamics is all about."

Jack is currently developing a station-keeping strategy for the Binar Prospector, a mission proposed by Curtin University in Perth. This strategy ensures the spacecraft stays in the right orbit as it grazes the Moon's surface, helping us understand its potential for resource prospecting.

In early 2025, Jack will spend three months at NASA's Jet Propulsion Laboratory (JPL) with two fellow students from the Space Institute. He'll be working on the mission design for a solar sailing spacecraft, which uses sunlight to propel itself through space, offering a novel way to explore the Moon's environment for future missions.

> ***"It's an exciting opportunity to contribute to the education of the first generation of aerospace engineers in this country."***
>
> ***– Professor Roberto Armellin, Te Pūnaha Ātea Space Institute***

Meanwhile, his colleague Minduli Wijayatunga recently returned from her own four-month stint at JPL, which was focused on asteroid deflection.

"Asteroids present a significant risk to Earth. While there's low probability of impact, there are potentially severe consequences. The project I worked on aimed to address this threat by using ion beam deflection, which involves directing electric propulsion thrusters at an asteroid's surface to gradually alter its momentum and change its trajectory over time," she says.

"Ideally, we would never have to use them, but it's always better to be prepared."

Last year, the 25-year-old was a recipient of an Amelia Earhart Fellowship, which is awarded internationally each year to up to 30 women pursuing doctoral studies in aerospace engineering and space sciences.

Minduli has also collaborated with RocketLab and Astroscale, a company dedicated to space sustainability and debris removal, to design missions aimed at addressing the growing problem of space junk.

"It's a priority for me to use astrodynamics for the betterment of the planet, as well as for exploration purposes."

Together, the astrodynamics team achieved significant success by securing third place in the eleventh edition of the Global Trajectory Optimisation Competition (GTOC), often likened to the America's Cup of trajectory optimisation. They also placed fifth in GTOC 12 and currently boast the top post-competition solution, which centred on asteroid mining.

While it's known that there are valuable materials in space, bringing them back to Earth is currently either technologically unfeasible or prohibitively expensive, says Roberto.

"However, I believe this will change, and I hope to see us successfully utilise materials in space – or, even better, bring precious ones back to Earth."

■ Hussein Moses

***Image: Reuben Paterson*. Relax with Frankie's Whānau *(2002). Glitter on canvas.***
*The University of Auckland Art Collection, Faculty of Education Collection.*

# ALL THAT GLITTERS

## Madeleine Gifford takes a closer look at Reuben Paterson's glitter paintings, which are part of the University of Auckland Art Collection.

**Though several artists from Aotearoa have been known to incorporate sparkling materials into their works, no one does shimmer quite like multi-media artist Reuben Paterson (Ngāti Rangitihi, Ngāi Tūhoe, Tūhourangi, Scottish).**

Working across painting, sculpture, installation and animation over almost three decades, Reuben's exploration into glitter and light is an undeniable sign of the artist's hand.

As memorable as they are enchanting, three of Reuben's celebrated glitter paintings reside at the City Campus as part of the University of Auckland Art Collection.

Reuben Paterson (born 1973) graduated from Elam School of Fine Arts in 1997 and is now based in New York. Throughout his oeuvre we find a trail of shimmering media, from glass to glitter and even diamond dust. From early in his career, a source of Reuben's inspiration was the naturally occurring 'glitter' in the environment, harking back to his childhood spent alongside the glistening waters and sparkling black sands of Auckland's West Coast. This textural and enlivening quality of his artworks is often coupled with an exploration of queer identity and whakapapa-based modes of cultural knowledge.

Reuben has become especially known for his kaleidoscopic compositions of kōwhaiwhai, depicted in vibrant glitter on canvas. *Relax with Frankie's Whānau* (2002) is one such work, in which he uses a contemporary medium to affirm Māori visual tradition. It was created during Reuben's time as a teacher at Westmere Primary School, after he graduated from the Auckland College of Education (2001). The painting was first acquired as part of the Faculty of Education Collection, which retains a unique focus on works by arts educators as a distinct part of the University's collection.

Reuben's works in this format feel as though they hold a similar sentiment to that championed in Lissy and Rudi Robinson-Cole's recent *Wharenui Harikoa* (House of Joy) (2020–2023) – a tactile and life-sized wharenui that was crocheted using florescent shades of wool.

In *Relax with Frankie's Whānau*, the use of both glitter and the juxtaposed electric blue and green create a joyful frisson on the surface that is further brought to life by the interplay of surrounding light.

Reuben also uses language to interrogate how culture can be portrayed through advertising, specifically through slogans on t-shirts. The work's title references the controversial 1983 single 'Relax' by British pop group Frankie Goes to Hollywood, and the subsequent legacy of the iconic 'Frankie Says Relax' t-shirts that lived beyond the publicity around the song.

Alongside glitter, water makes frequent appearances in Reuben's work. It was the subject of his 2010 exhibition *The Water Between Us* (Milford Galleries, Dunedin) from which a pair of works were accessioned into the University's collection that same year.

*Fish to Water* (2010) and *Water to Fish* (2010) each depict an ambiguous underwater scene.

From our vantage point, it is impossible to tell whether we are looking at the bottom of a lake or at the inside of a man-made aquarium. Reuben implies the presence of water by using the glitter to convey depth, volume and a dance of refracted light.

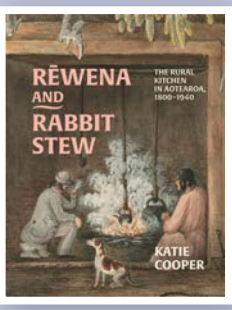
Throughout the entire body of his work, the artist has engaged directly with environmental issues by platforming water as both a subject and a metaphor to prompt contemplation about its historic use and abuse.

Reuben's works on campus are publicly accessible. *Relax with Frankie's Whānau* hangs on Level 1 of the General Library. *Fish to Water* hangs on Level 10 of the Science Centre (Building 302) and *Water to Fish* on Level 4 of Kate Edger Information Commons (Building 315).

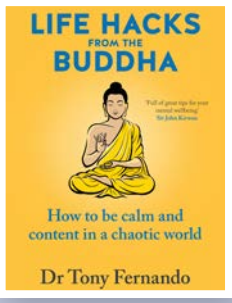
■ Madeleine Gifford, art collection adviser, Te Tumu Herenga, Libraries and Learning Services




**Resetting the Coordinates: An Anthology of Performance Art in Aotearoa New Zealand**
Dedicated to the late Jim Allen, former head of sculpture at Elam School of Fine Arts and a central figure in the development of conceptual and performance art in Aotearoa, *Resetting the Coordinates* offers a 50-year critical survey of this artistic mode. The first anthology focused on performance art in Aotearoa, its editors include University of Auckland honorary research fellow in art history Dr Victoria Wynne-Jones.
**Edited by Christopher Braddock, Ioana Gordon-Smith, Layne and Victoria Wynne-Jones, Massey University Press, $70**




**Rēwena and Rabbit Stew: The Rural Kitchen in Aotearoa**
Historian Katie Cooper explores how cooking and food practices shaped the daily lives, homes and communities of rural Pākehā and Māori throughout the 19th and early 20th centuries. *Rēwena and Rabbit Stew* reveals the social and cultural milieu in which rural people produced, cooked and shared food in Aotearoa.
**Katie Cooper, Auckland University Press, $50**




**Life Hacks from the Buddha: How to be Calm and Content in a Chaotic World**
Former senior lecturer in psychological medicine at the University of Auckland, and now a practising psychiatrist and sleep specialist, Dr Tony Fernando distils ancient wisdom from the Buddha, who he describes as the greatest psychologist who ever lived. This book contains 50 simple, easy-to-follow tips to help foster mindfulness, generosity, living simply, avoiding harm, and cultivating compassion.
**Tony Fernando, HarperCollins NZ, $40**

# SURROUND SOUND

**Godfrey De Grut's office – filled with keyboards, guitars, albums, music awards and even a keytar – is a musician's paradise.**

What's outside, though, also brings him joy. Last year the School of Music professional teaching fellow moved from the sixth to the ninth floor of the Fisher Building on Waterloo Quadrant, which brought expanded horizons.

"My goal in life was to have some greenery and in summer the outlook from here is very, very green," he says. "It's lovely."

An award-winning musician and songwriter, music has taken Godfrey, who lectures in popular music, on tours around the country and the world. But despite having a lanyard from playing the SXSW music festival, an APRA Silver Scroll for co-writing 'Misty Frequencies' with Che Fu, and signed albums from multi-Grammy winning saxophonist Michael Brecker in his office, it's that 1980s music video staple – the keytar – that really gets students' attention, he says.

*Godfrey De Grut's keytar is a hit with students.* Photos: Chris Loufte


*The 'Misty Frequencies' video t-shirt.*

*An album signed by jazz legend Michael Brecker.*


*Some of Godfrey's vintage keyboards*

**What do you like to have in your space, and why?**

I like to surround myself with vintage keyboards and synthesisers. I used to have so many more, but I've pared it down now to just the necessary elements. And guitars. And I like having access to sound equipment, percussion equipment – anything that's useful for making music.

**Do you use the keyboards regularly?**

There will be seasons when they're used quite a lot, and then seasons when they're mothballed, and that kind of goes hand in hand with the semesters of the University. I also do gigs, so sometimes I pick them up and take them out. About ten years ago, that would have been all the time, but now it's less often.

I have a Juno-106 synthesiser. I love them, but they're famous for breaking down. I started collecting them about 30 years ago and this is my third.

I also have a Poly-800, which I used on tour through the States back in the early 2000s with various bands because it was somewhat portable. It was easier to get in the van and to fly with.

**How many guitars do you have here?**

Quite a few. Most of them were gifted to me by my uncle who got me into guitar around age 13. He loved playing in bands and loved gear.

**What are your favourite items in this space?**

I have a signed copy of *Steps Ahead* by Michael Brecker, which is my pride and joy. He came to tour New Zealand for the Roger Fox Big Band 20th anniversary, and I played for Roger for about 12 years, so I was lucky enough to be on tour with Michael for two weeks.

I got him to sign some things, and he played my saxophones. I also have a signed copy of a Joni Mitchell album that he played on, where he drew a little picture of me. He was very kind.

Also, my wife suggested I put all my favourite lanyards from my tours together. So, I have this frame with them in, and she's doing the same because she's also a musician. It surprises me that I threw so many of these lanyards away in the moment, though; you just need to imagine that 30 years later you'll probably want to have held on to some of these mementos.

**What's the most unusual item here?**

Bizarrely, I'd say it's the t-shirt. I wore it in the Che Fu video for 'Misty Frequencies', and we all had leads coming out our backs, which is why the shirt has a hole in the back.

Nobody else in the band has kept their video t-shirt, but I somehow managed to keep mine and I wore it when we played the 20th anniversary concert for *The Navigator* album at the Auckland Town Hall in 2021.

**How do your students respond when they come into this space?**

They generally notice the keytar. I got that in 2000 on a tour with Che Fu when I decided that I wanted to spend all my per diems and then some on it. It's fun because it's very portable, and you just plug it into a computer. I've played that on lots of tours.

A lot of students don't really notice the awards, but I do need to update my degree that's hanging in the corner because last year I got my masters. It's good to remind the students that hanging in at university can sometimes help.

■ Caitlin Sykes