





new companies launched in 2022

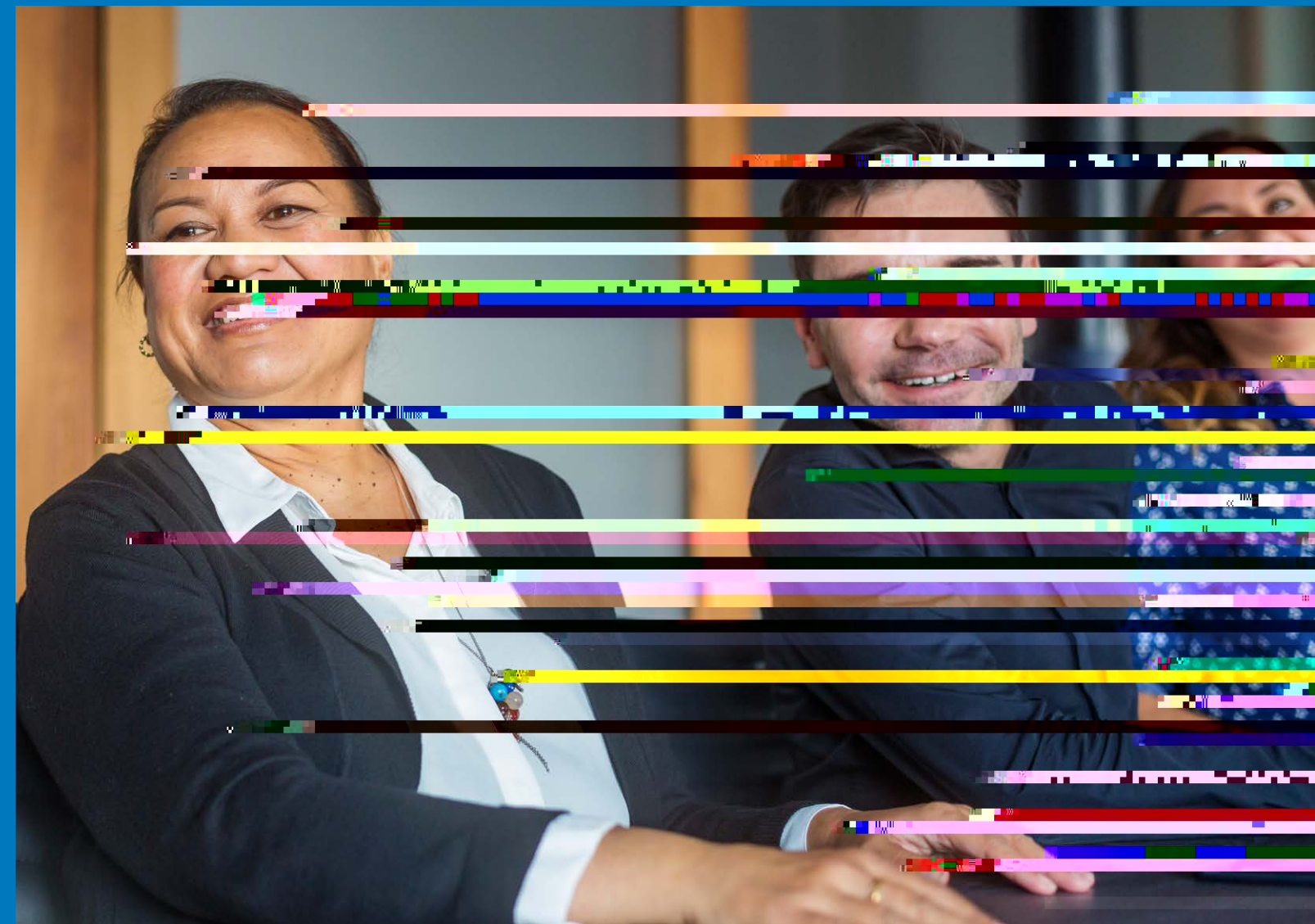
Net asset value of the University of

External research funding in 2022

In 2022, with guidance from Kai iahi Tui Kaumoana, communitie

Partnership is at the heart of everything UniServices is and does – we maintain strong relationships with researchers, investors, entrepreneurs, government, industry, students, tangata whenua, and diverse communities and organisations.

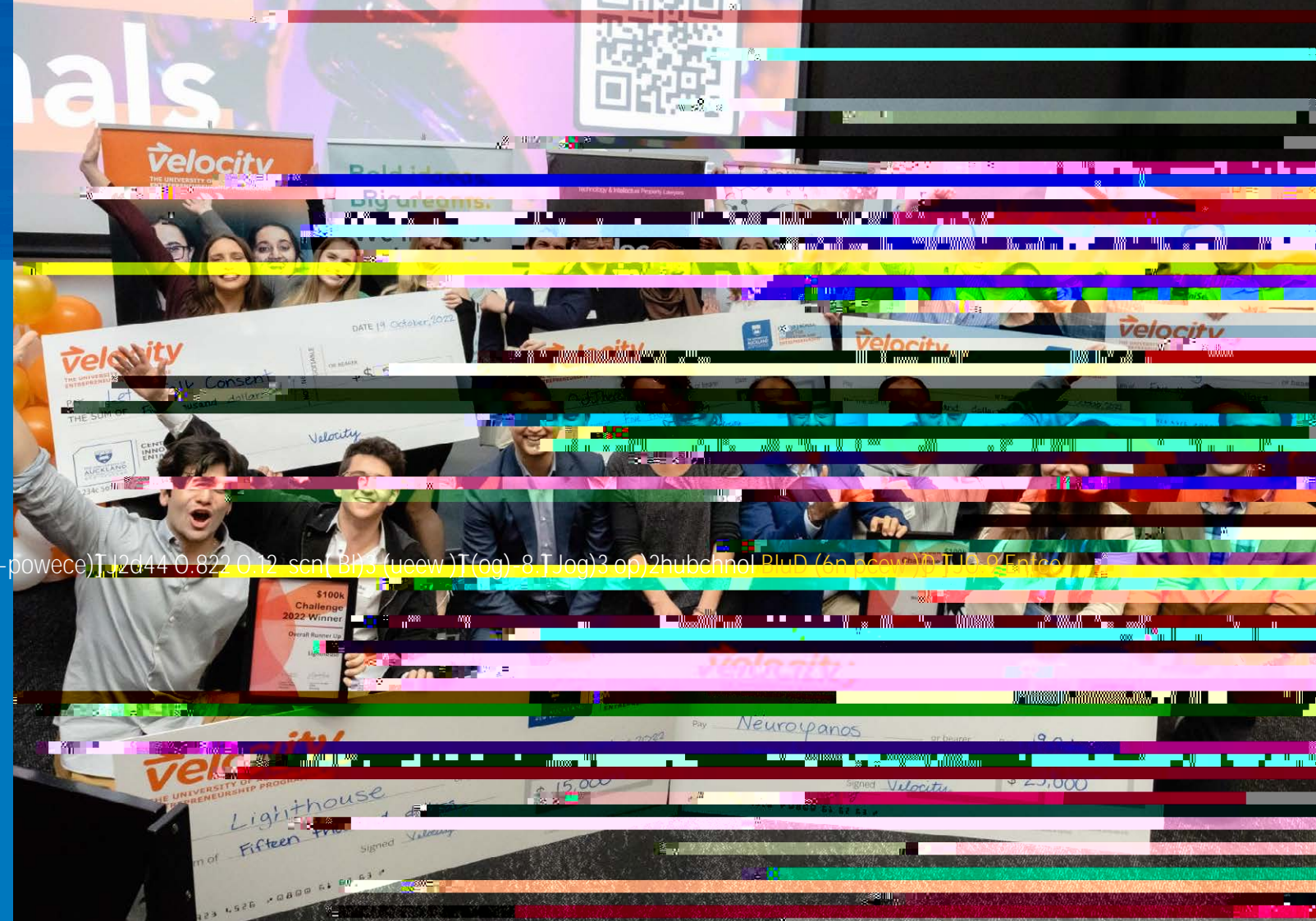
Because we contribute to the University's achievements, we share pride in its honours, including having placed in the world's top 10 in the [Times Higher Education \(THE\) University Impact Rankings](#) and [Quacquarelli Symonds \(QS\) Sustainability Rankings](#). The University also placed in the top 100 and top 150 overall in the [QS World University Rankings](#) and [THE World University Rankings](#).





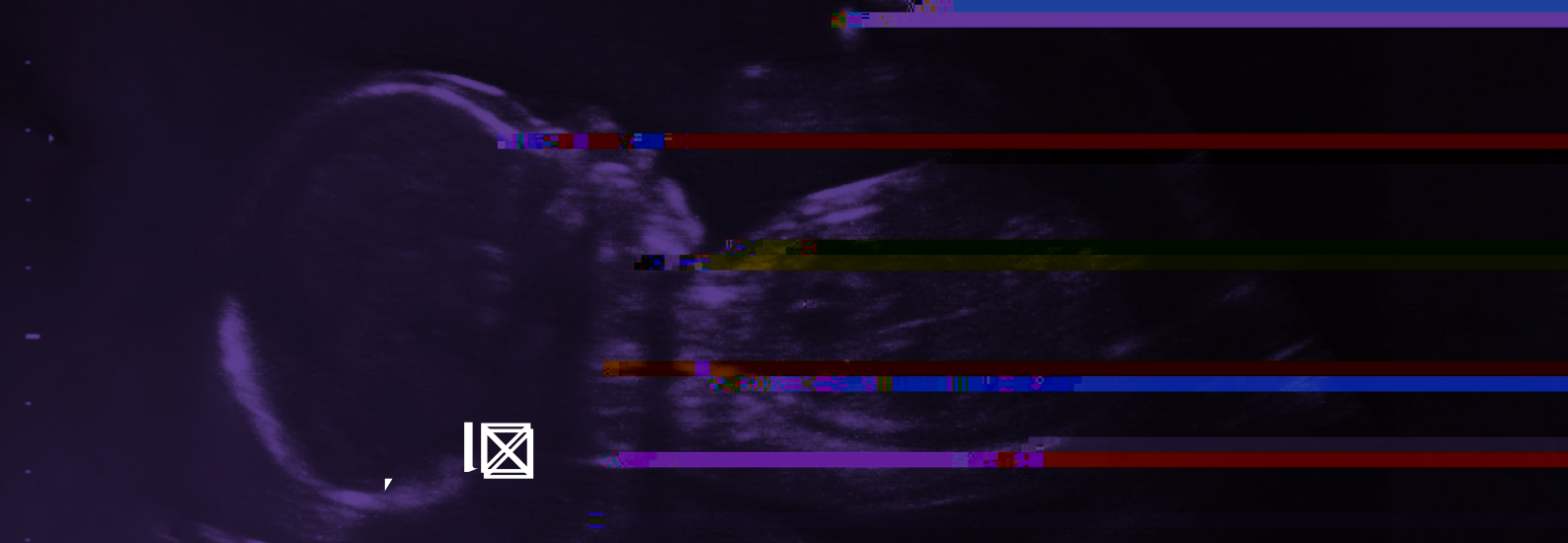
Icon & Icon

The inaugural **Blue & Green Technology Conference**, which UniServices developed in partnership with the United States Embassy & Consulate New Zealand, was the (24)6 (advers ch (ari)2 (of (shicha)7.15G-powece)T (2d44 0.822 0.12 scn (Bhs (uecw)T (og) 8 T Jcg)3 op)2hubchnol PluD (6e acow)0 T D 8 Entke) 6 (whicha Te New Tjghe Unit)7.r d S









At any given time, there are babies in intensive care with rare genetic conditions that doctors struggle to diagnose. Liggins Institute researchers aim to change this through a project to **rapidly sequence the genomes of sick babies**, leading to faster treatments that could save lives or at least give parents certainty.



Groundbreaking work by University researchers has found **slowly developing brain injury** after

preterm birth. [New research shows that low blood sugar levels in newborns can cause brain damage in newborns.](#) The Neonatal Glucose Studies Team's finding that sugar gel rubbed inside a baby's cheek improves low blood-sugar levels has become a first-line treatment around the world.

A team led by Distinguished Professor Dame Jane Harding has been nationally honoured for work on **low blood sugar levels** that can cause **brain damage in newborns**. The Neonatal Glucose Studies Team's finding that sugar gel rubbed inside a baby's cheek improves low blood-sugar levels has become a first-line treatment around the world.



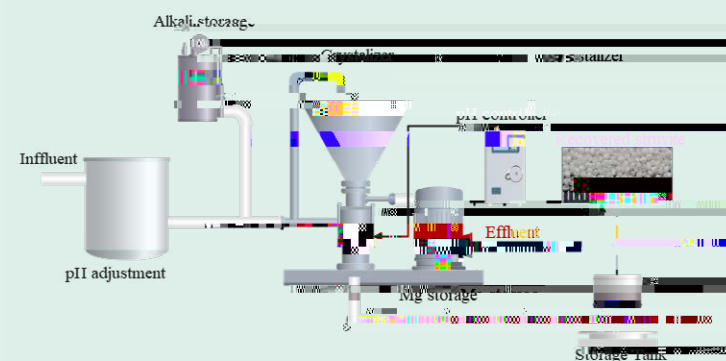
Academics from Engineering and the Business School are collaborating to [shape a circular market for plastics](#). With \$11.7 million in funding over five years, the team is working on a multipronged approach including developing ways to make plastics more recyclable, improve manufacturing methods for recycled plastics and help businesses change their processes.

The Covid-19 pandemic resulted in huge amounts of disposable personal protective equipment (PPE) – not only masks but also isolation gowns, face shields, gloves, etc. A team of researchers led by Dr Yvonne Anderson found a way to [safely sterilise PPE](#) using dry heat, while collaborators led by Associate Professor Saeid Baroutian found a way to break down what can't be reused into water and harmless chemicals.



PPE disinfection structure

Recovering resources is also important in building a circular economy. A team led by Dr Wei Yu has developed a way to [recover phosphorus from wastewater](#) in the form of the mineral struvite, which makes an effective fertiliser. The result could be both cleaner waterways and richer soil.



Struvite phosphorus recovery process



Making transportation greener involves many approaches. The lowest-carbon way to get around is walking, so Dr William Cheung is [analysing neighbourhood walkability](#), amenity and the resulting impacts on wellbeing and the housing market.

With concrete playing an important role in infrastructure, Dr Enrique del Rey Castillo is working to [produce a low-carbon concrete using local pumice](#) to replace some of the high-carbon cement normally used.

Auckland researchers are key members of the [Micromobility Research Partnership](#) formed in 2022 across New Zealand and Australia. One project aims to [trial a 'bike or scoot and ride' hub](#) near Auckland's Panmure Station.

University researchers are also working on ways to charge electric vehicles wirelessly as they're moving. A new study used a traffic simulation framework to [investigate the feasibility of embedding charging pads in a section of Auckland motorway](#), including factors such as cost, length and strength of charging lanes, effects on traffic flow and energy consumption.

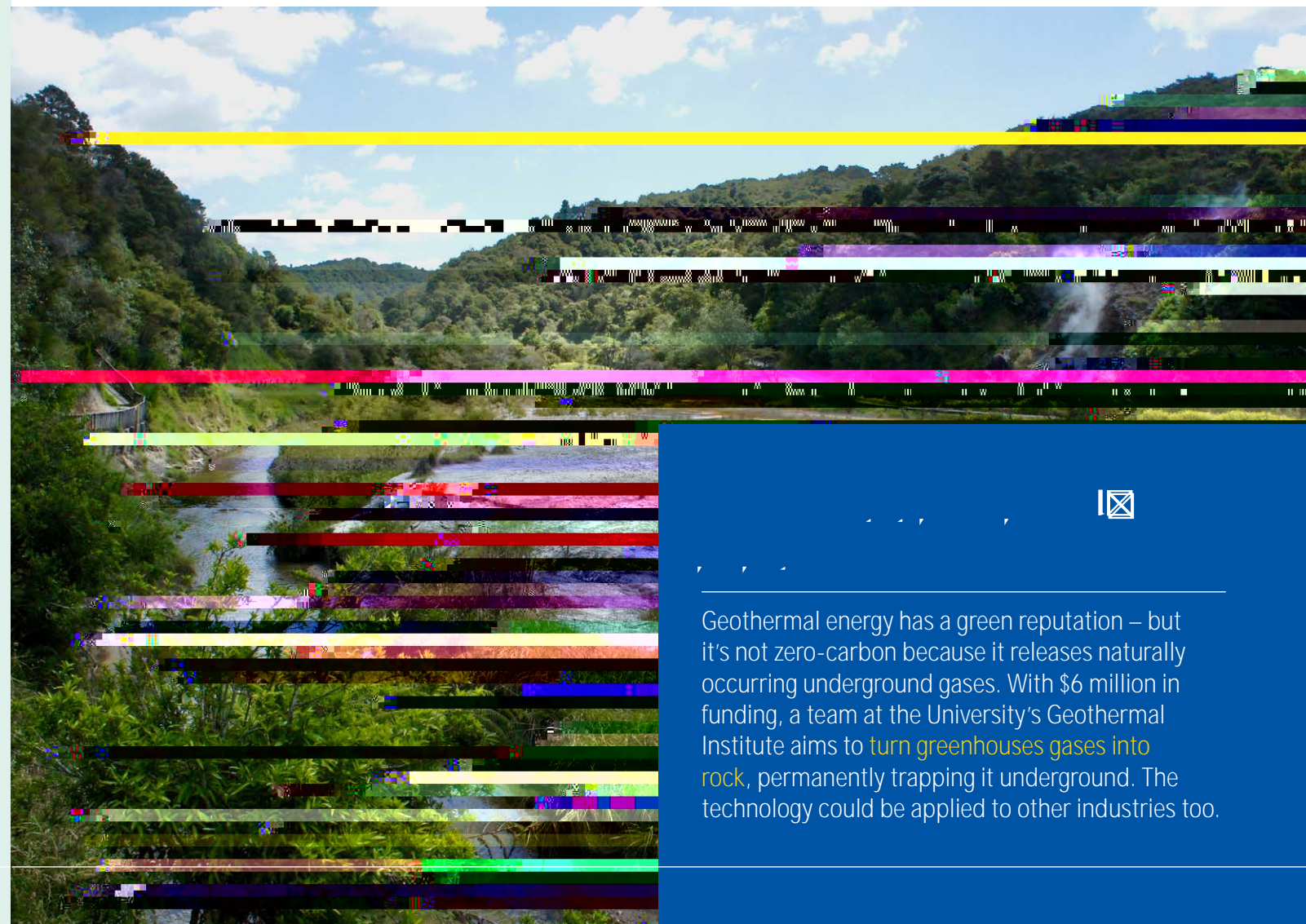


Dr Enrique del Rey Castillo

Sustainability covers environmental, social and economic dimensions. To bring those together, [Ngāra whetū | Centre for Climate, Biodiversity and Society](#) was established as a new Hina kia Tutuki flagship research centre.



Ngāra Whetū flagship research centre



Geothermal energy has a green reputation – but it's not zero-carbon because it releases naturally occurring underground gases. With \$6 million in funding, a team at the University's Geothermal Institute aims to [turn greenhouse gases into rock](#), permanently trapping it underground. The technology could be applied to other industries too.



Mā pihī: Māori and Pacific Housing Research Centre

With the Māori economy booming, as per work by Associate Professor Rachel Wolfgramm, celebrating and building on mātauranga Māori is a major focus at Waipapa Taumata Rau. In 2022 the James Henare Māori Research Centre and Mā pihī: Māori and Pacific Housing Research Centre were named Hīkina kia Tutuki flagship research centres. The University hosted its first annual Mātauranga Māori Symposium, with this year's focus on Te Ao Toi (Māori arts) and creative expression.

Māori researchers received funding to investigate community wellbeing – Dr Kiri Dell is looking at the impact of te reo revitalisation strategies, while Associate Professor Mohi Rua is examining how mainstream sports can become mana-enhancing spaces for Māori.

University researchers are teaming up with the German Aerospace Center, DLR, to research free-space optical communications – laser light technology – to transmit information from spacecraft down to Earth. Project leader Dr Nick Rattenbury says lasers can transmit more information, more securely, than traditionally used radio waves.

Researchers at ABI, in partnership with UniServices-backed company Soul Machines, received \$4 million to investigate how 'digital people' can be used in healthcare, monitoring people's health and providing support in managing conditions. UniServices is also a leader in digital health, both through National Institute for Health Innovation research and investing in digital health start-ups.

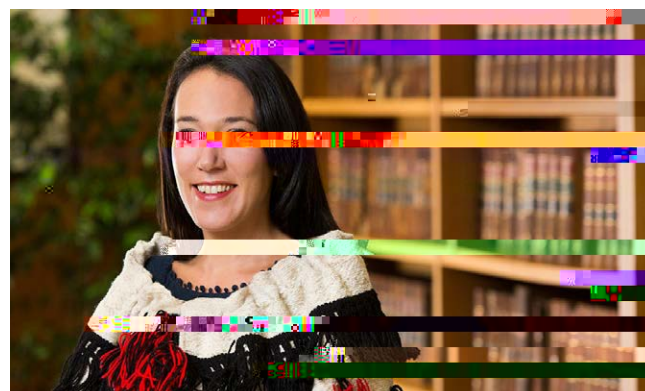


Nearly 400 Indigenous rights and law experts from around the world came together for the once-in-a-decade Constitutional Kōrero, a wānanga organised by Law School academic Dr Claire Charters to discuss what a constitution based on Te Tiriti o Waitangi (the Treaty of Waitangi) would look like and how to realise it.

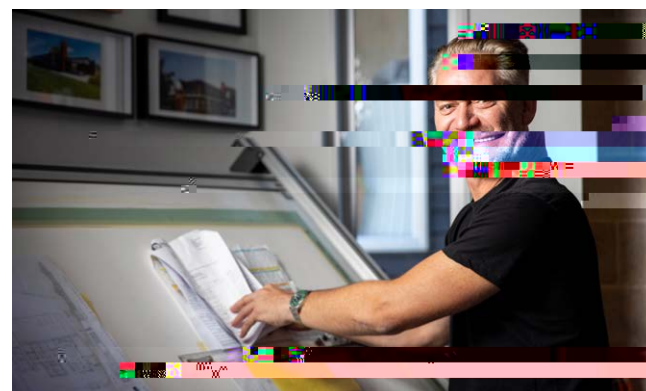
Researchers led by Professor Anthony Hoete of the School of Architecture and Planning are reviving an ancient Māori construction technique and testing its seismic resilience. The mīro technique gave whareniui and other buildings remarkable structural stability, but with perhaps only one remaining whare in Aotearoa built with the method, the knowledge is endangered.

Professor Ken Elwood was appointed to the new role of Chief Engineer for the Earthquake Commission and the Ministry of Business, Innovation and Employment. His role will focus on improving building resilience against natural hazards, including examining how engineers assess the expected seismic performance of existing buildings and design retrofits.

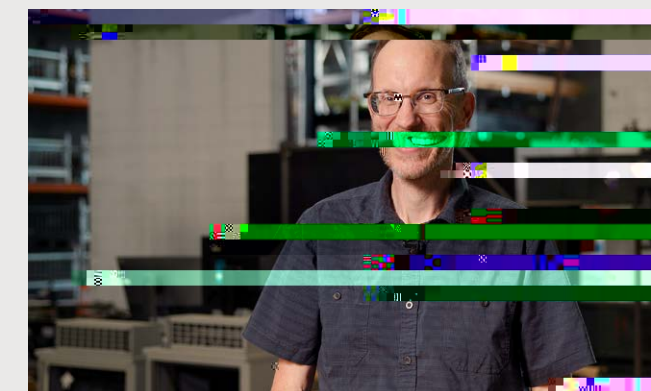
Prolific Industry 4.0 research led by Professor Xun Xu led to an excellent Times Higher Education impact score for the University on United Nations Sustainable Development Goal 9: Industry Innovation and Infrastructure. Xu's team aims to develop and apply smart technologies across industries to reduce energy and resource consumption while increasing efficiency and worker wellbeing.



Dr Claire Charters



Professor Anthony Hoete



Professor Ken Elwood



Professor Xun Xu



UniServices manages a portfolio of **services, programmes and projects** that build on Waipapa Taumata Rau, University of Auckland research to deliver positive impacts on communities

In 2022, the teams that focus on workforce development and data access worked together on an ambitious digital transformation programme to deliver services for a post-Covid world that has embraced online and blended learning as well as digital data access.

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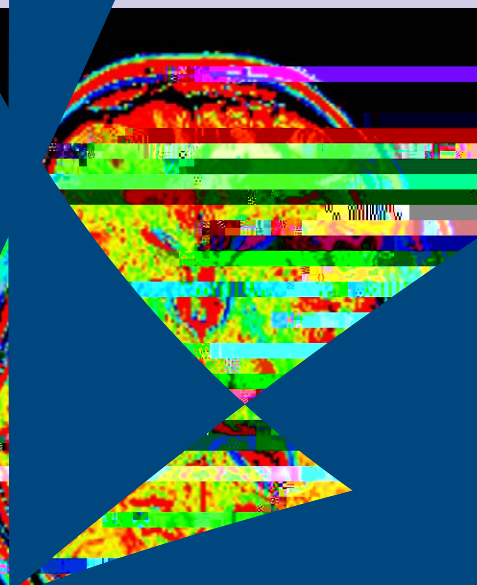
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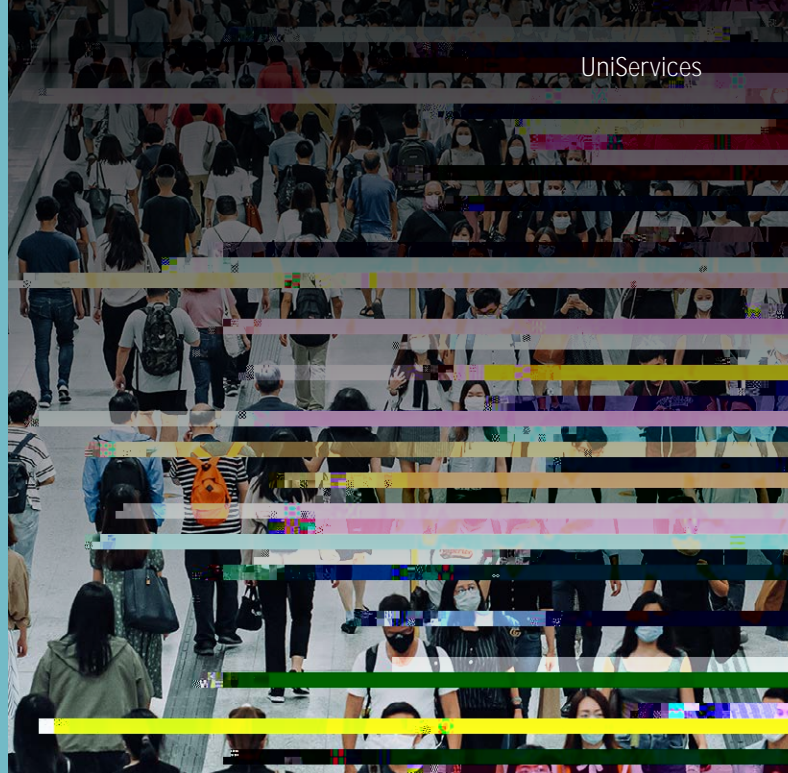
In 2022, CAMH upgraded the powerful of the
scanners. The new scanners allow for physiological
monitoring capabilities. Technicians
to time scans to capture a
heart pumping – without having
to use more imaging time. It also allows for
faster, quieter

the same time, the scanner room and mock
scanner room were upgraded to improve patient
experience. The imaging system was upgraded to
allow for faster processing and the use of AI
to speed up scans without compromising quality.



4,222 MRI scans
67 act



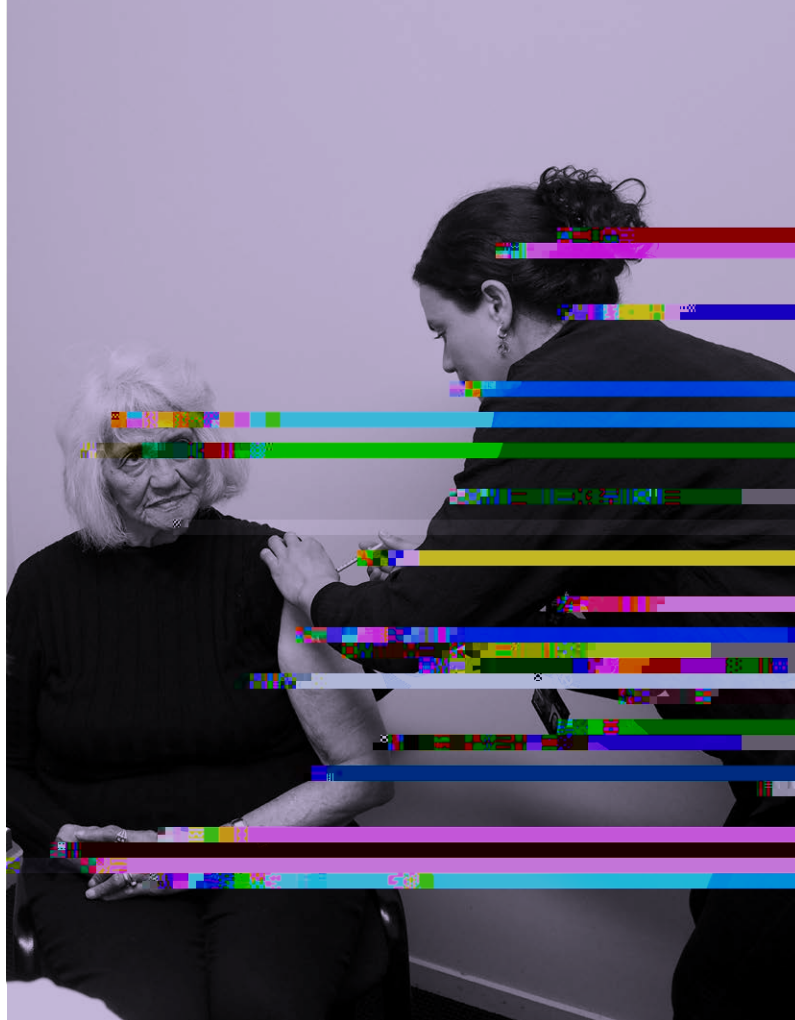


Growing Up in New Zealand is the largest longitudinal study of child development in Aotearoa New Zealand, regularly collecting information from more than 6,000 families since 2009. The data provides rich insights into child health and wellbeing and is used to inform policy and service development.

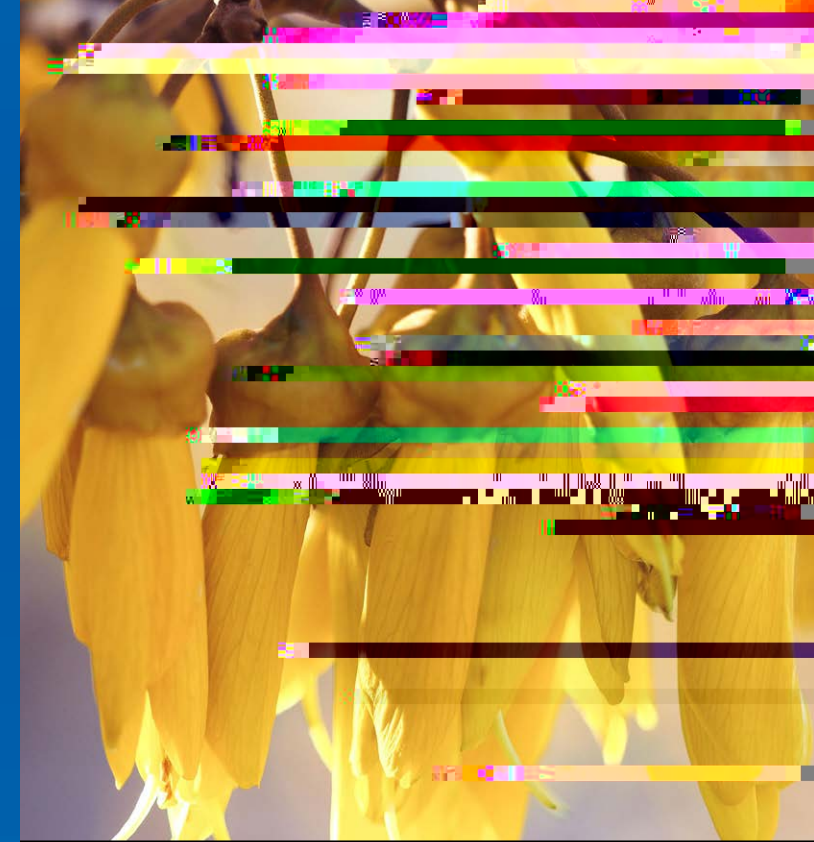
In 2022, Associate Professor Sarah-Jane Paine (Te Hōe) was appointed as the new research director. The first wahine Māori in the position, Paine is also a faculty member at Te Kupenga Hauora Māori, the Department of Māori Health.

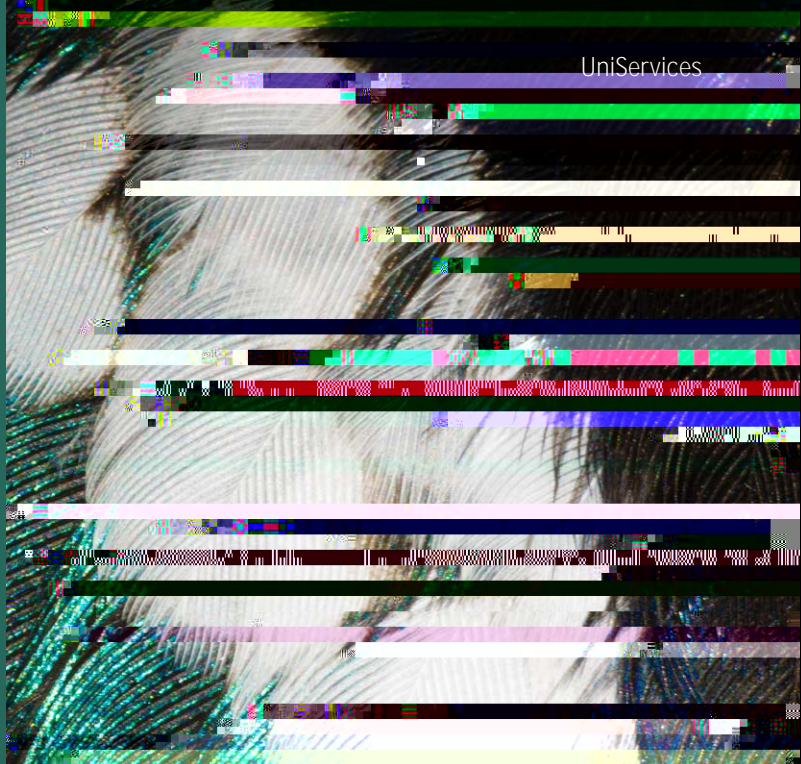
The year saw the completion of the 12-year data collection wave, with over 40,000 questionnaires completed and more than 11 million pieces of data collected. Culturally appropriate practices were used to foster engagement with Māori and Pacific families.



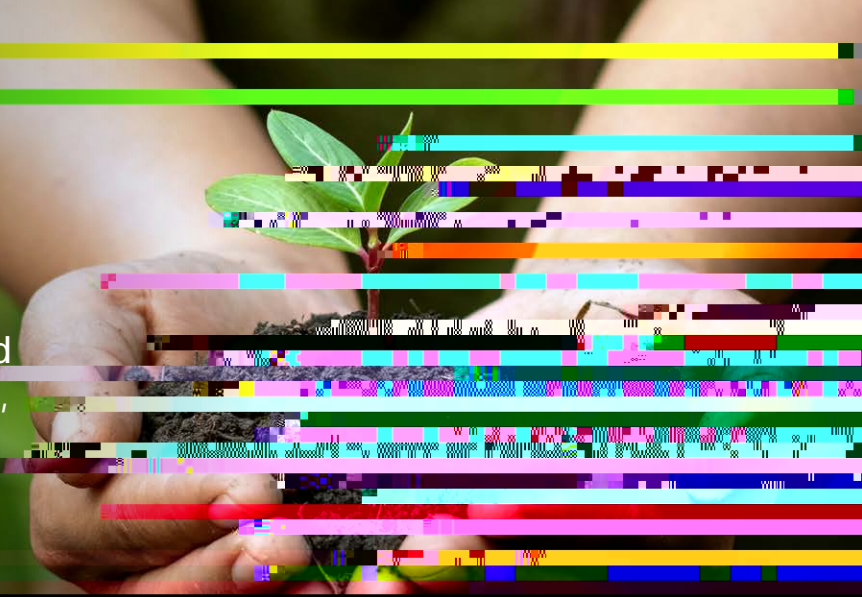


The National Institute for Health Innovation (NIHI) works to improve health in Aotearoa and the Pacific through supporting research, informing





Whānau provides national training and workforce development within the infant, child, youth and whānau mental health and addiction sector. In 2022, **Abigail Milnes** became its permanent director.



Whānau was successful in its bid for three pieces of new work including perinatal workforce development, online learning for school staff to enhance student wellbeing (in collaboration with Tui Tuia) and talking therapies.

The coordination of free access to the online Triple P Positive Parenting programmes during the Covid-19 pandemic resulted in 17,500 whānau being supported during a time when parents were facing significant challenges.



The **New Zealand Family Violence Clearinghouse** is the national centre for research and information on family, whānau and sexual violence, working alongside Whānau370funudingunueg a



As the research application and commercialisation company of Waipapa Taumata Rau, University of Auckland, UniServices identifies groundbreaking research with commercial potential and helps bring it to an industry-ready stage.

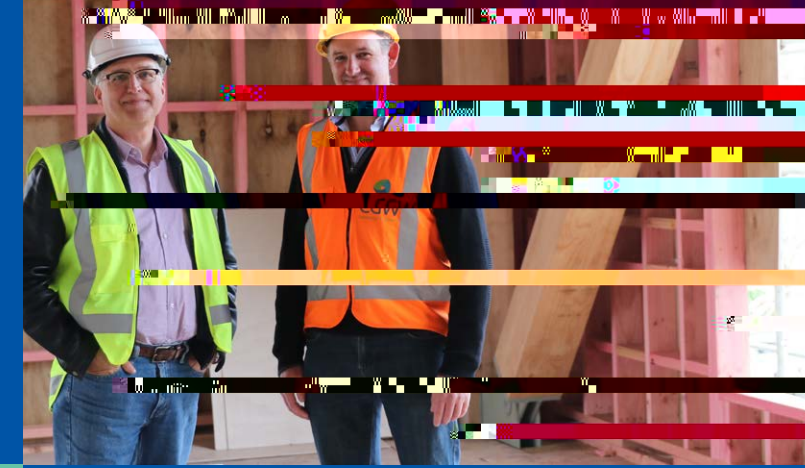
Through the [University of Auckland Inventors' Fund](#), which doubled to \$40 million in 2022, we invest in research-backed ideas that generate value and positive impact in Aotearoa New Zealand and the world.

A [report released in 2022 by Knowledge Commercialisation Australasia](#) found the University to have the highest commercialisation revenue out of 49 publicly funded research institutions, the second-most active start-ups and spinouts, and the second-highest number of intellectual property licences, options and assignments.



It was a big year for Alimetry

Professor Pierre Quenneville (left) and Andy Van Houtte, Project Engineer

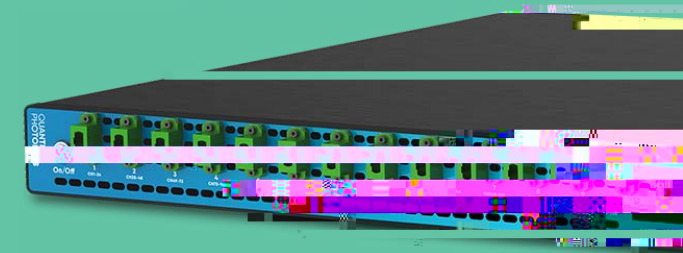


Tectonus's self-centring damper technology allows structures to withstand earthquakes, reduce damage and return to normal functioning more quickly. It raised \$8 million in a Series A round to expand into the North American market. It also hired Clark Beck as CEO, allowing co-founder Professor Pierre Quenneville to become CTO.

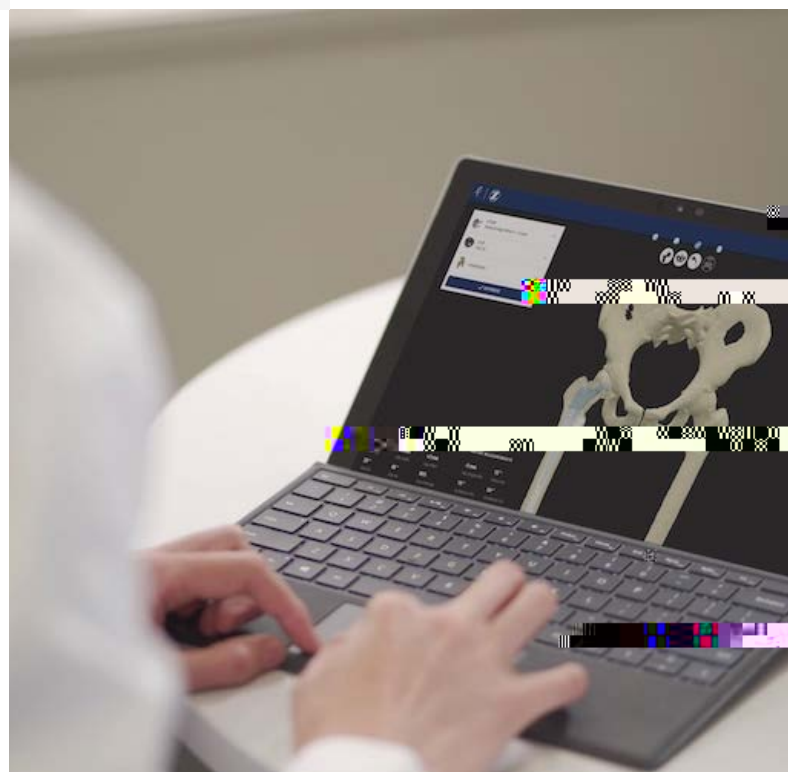
Avasa, incubated at the Auckland Bioengineering Institute, is developing a coupler to safely connect arteries in microvascular surgery much more quickly than currently possible. After successfully reconnecting a live pig's femoral artery using the coupler in 2021, Avasa raised seed funding from Bridgewest Ventures in 2022.



Quantifi Photonics, an emerging leader in high-density photonics test and measurement, raised US\$15 million in Series C funding to accelerate the development of test solutions for datacom and telecom equipment manufacturers. It also acquired SmarTest Electronics, giving it research and manufacturing facilities in Thailand.



Formus Labs, which grew out of Auckland Bioengineering Institute research, developed the world's first AI-automated 3D planner for joint replacement surgeries. It raised US\$5 million to commercialise its cloud-based platform and released its inaugural product, Formus Hip, in Australia and New Zealand, in partnership with global orthopaedic technology leader Zimmer Biomet.



Soul Machines, which creates 'the world's most astonishing digital people', raised US\$70 million, bringing total investment in the company to US\$135 million. It also announced a new entertainment division to allow fans to interact with celebrity avatars. Co-founder Mark Sagar was named Innovator of the Year in the New Zealander of the Year awards.



Having navigated through the challenges and residual impact of Covid-19, we were able to sustain a strong result with an operating margin of \$5.4 million or 7.0% on operating revenue of \$77.9 million.



Business Units surplus: Achieved target net margin of 4.0%.

Commercialisation surplus: Achieved net margin of \$810,000 vs. break-even target.

Research revenue surplus: Achieved net margin of 5.3% vs 1.4% target.

Research contracts: Achieved \$226.8 million of booked agency contracts vs. \$217 million target (\$9.8 million above target).

There was investment-related income of \$6.4 million and interest income of \$849,000, which resulted in total other income of \$7.2 million and contributed to the overall profit of \$6.1 million or 7.2% on total revenues of \$85.1 million. This included:

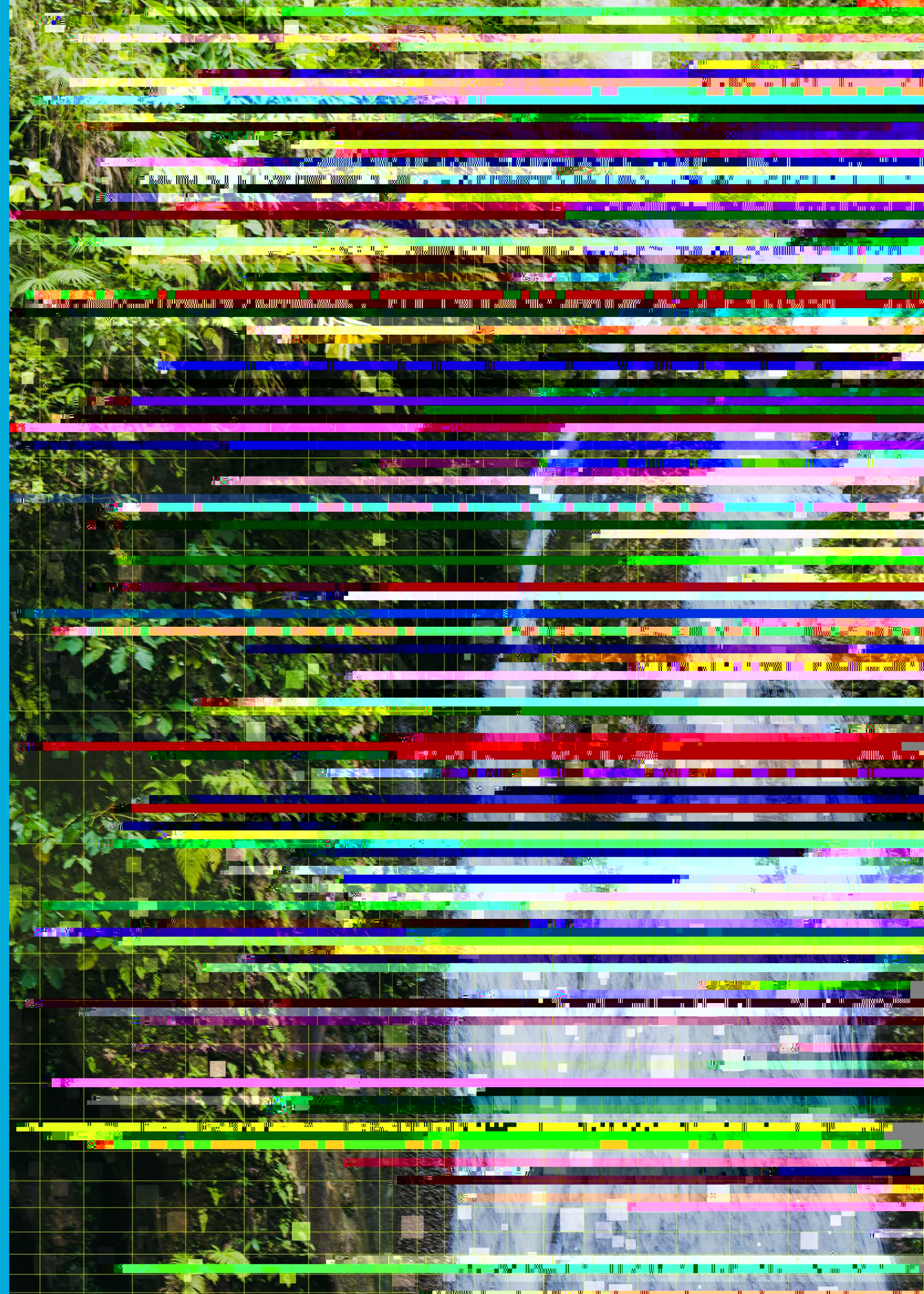
\$5.1 million of income less \$690,000 of expense for the University's share of investment provision, mainly due to a \$3.6 million movement resulting from the write-down of Soul Machines shares in line with the general tech market downturn seen in 2022.

\$1.2 million income on sale of Rain Therapeutics shares, which was partially reduced by an offsetting revaluation impairment of \$665,000 resulting in a net gain of \$535,000.

\$794,000 expense due to investment write-off of SapVax as a result of the recommendation from SapVax's board to wind down the company.

Our investment portfolio has reduced to \$64.6 million due to the valuation write-down of Soul Machines, sale of Rain Therapeutics and write-off of SapVax.

The UniServices balance sheet remains strong with net assets of more than \$89 million. For more information, find us on [Charities Register](#).





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