UNIVERSITY OF AUCKLAND
Waipapa Taumata Rau
NEW ZEALAND

Sustainable Development Goals Report 2024

CONTENTS

FOREWORD

Tēnā koutou katoa

As the world closes in on the Sustainable Development Goals 2030 agenda, there is a heightened focus on the potential of Artificial Intelligence (AI) to accelerate urgent progress towards an equitable, sustainable and resilient future.

Around the world, we are witnessing AI in action. Education is reaching more people, health diagnostics are being revolutionised, energy use is optimised, and climate change impacts are monitored. AI presents us with a unique set of tools to be leveraged in response to the most pressing challenges of our time.

At the same time, there are warnings about the possible negative consequences of AI. These include its carbon footprint, the danger of misuse, the risk of entrenching discrimination and inequity, and potential job displacement. These alone serve to remind us of the need to use this new technology wisely. If we are to successfully harness AI for the genuine benefit of both people and the planet, our use of it must be guided and shaped by fundamental human values. This underscores the crucial role each of us plays in shaping the future through the responsible use of AI.

While in the present, we are able to look to the past to inform our approaches to an AI future. The University's values guide its sustainability endeavour: respect and integrity, excellence, and service, which are lived through our behaviours, actions, and strong and enduring commitments to open intellectual inquiry, collaboration, creativity, equity, and diversity.

As a research-intensive university, we aspire to be at the forefront of world-changing innovation, examples of which are included in this report. In doing this, we will continue to embrace the spirit of collaboration and shared responsibility. We will continue to innovate from a firm foundation built on common goals, encompassing both the environmental and social strands of sustainability.

This report reaffirms the University of Auckland Waipapa Taumata Rau's commitment to the UN Sustainable Development Goals. Our unique perspective keeps us focused on what truly matters: striving for a just, prosperous, and sustainable future for our planet and communities.

Nāku iti nei, nā

Professor Dawn Freshwater
Vice-Chancellor

Analosa Veukiso-Ulugia

Sustainable Development Goal 1:

END POVERTY IN ALL ITS FORMS EVERYWHERE

73 publications based on UoA queries

30% national share of publications based on UoA queries

12 courses based on UoA queries

RESEARCH / FUNDING

Housing insecurity and mental health are major concerns for Pacific youth

Talavou o le Moana, a report on Pacific secondary school students in New Zealand from the Youth19 Rangatahi Smart Survey led by the Adolescent Health Research Group (AHRG), has uncovered major inequities in mental health, housing deprivation and experiences of racism.

Lead author of the report, Dr Analosa Veukiso-Ulugia, from the University's School of Curriculum and Pedagogy, says one third of respondents stated they didn't see a positive future for themselves in Aotearoa.

Almost half of Pacific students experienced housing deprivation, with worries around having enough money for rent or mortgage payments, or the safety of their neighbourhoods.

More than one-third reported having experienced a racist encounter, with a further quarter of students unsure.

The report highlights concerning statistics around mental health, with a quarter of students manifesting depressive symptoms and serious thoughts of suicide; tragically, one in ten had attempted suicide in the previous year.

However, she noted significant progress in areas such as feeling safe at school, connections to family and faith, and lowered substance abuse.

The report looked at ethnic and gender identity; family and faith; socioeconomic environment and housing; education, friends and community; physical, mental and sexual health and substance use and healthcare access.

The report stresses the urgent need to address these issues and calls for collaboration between governments, agencies, and communities to create a more equitable future for Pacific youth.

ENGAGEMENT

Tackling socioeconomic inequalities in Aotearoa

As part of Substantive Equality Month, in August 2023, international and local academics examined the different issues that contribute to socioeconomic inequality and how to address these at the Auckland Law School's 'Panel on Poverty'.

Poverty is an increasingly pressing problem in Aotearoa, with the impact falling disproportionately on Māori and other groups affected by structural disadvantage. This situation does not live up to New Zealand's national self-image, nor to its obligations under Te Tiriti.

The panel discussed the structural causes of poverty and potential solutions, exploring the types of poverty, who is most affected and why poverty is a Treaty of Waitangi issue. Each of the four experts brought a unique perspective and depth of practical experience in working with those affected.

University of Auckland Associate Professor Hanna Wilberg shared her insights on social security law. While to some extent, the social security system is part of the solution, the reality is that it's very far from eliminating poverty. She highlighted challenges within the system, such as beneficiaries accumulating debt to cover essential needs, and the obligation to accept any available work pushing people into precarious situations.

The issue of ethnic and gender pay gaps in workplaces was also put under the legal microscope and the question of whether private law addresses inequality was addressed, challenging the notion that everyone is equal in the eyes of the law.

ENGAGEMENT

Dream team visits Maui after fire trauma

A team from the University's Centre for Arts and Social Transformation (CAST) travelled to Maui to support local people impacted by the devastating 2023 Lahaina fires.

Known for its expertise in engaging with children after disasters, the CAST team was approached for support by the Maui Arts and Cultural Center (MACC) in Kahului, as they worked with families directly affected by the fires.

The CAST team was invited to lead children's arts-based activities that help process trauma in post-disaster contexts. Led by professors Peter O'Connor and Selina Tusitala Marsh, they worked closely with Maui arts practitioners to develop resources rooted in Hawaiian culture. Poetry workshops, storytelling sessions, and a unique 'A Teaspoon of Light' activity aimed to provide comfort and healing to those impacted by the fires.

As well as the therapeutic benefits for the children, a valuable legacy of the collaboration with MACC was for both teams to combine their expertise and create a long-term relationship focused on supporting young people in the community, both in the present and in the event of future disasters.

The CAST team described the trip as "a wonderful weaving together of creativity across cultures, for the wider good".

RESEARCH / FUNDING

Social work students doing it tough

Social work students in New Zealand are suffering from significant financial hardship, new research from the University of Auckland has revealed.

The study, led by Professor Liz Beddoe, revealed the financial distress faced by social work students required to complete 120 days of unpaid practicum or field education as part of their degree.

“It shows the process of qualifying for the profession risks making those students as vulnerable as the people they hope to serve,” she said.

Most students relied on various forms of financial support, including loans and assistance from family, with high levels of anxiety about debt. The study also found that financial hardship affected students’ ability to engage in essential activities and caregiving responsibilities, particularly for those with children or family members to support.

ENGAGEMENT

Creative support for young children after trauma

A world-first set of creative resources has been developed for early childhood educators, to support children returning to school after traumatic events.

The University of Auckland’s Centre for Arts and Social Transformation (CAST) has expanded its Te Rito Toi online resources to cater to children aged three to five, in addition to primary-aged children.

These resources, incorporating visual arts, drama, music, dance, and nature play, aim to help children and teachers recover from distressing experiences using a trauma-informed approach.

Learning designer Emily Gibson has spearheaded the development of Te Rito Toi Early Childhood Edition, which she said engages children through the arts and play in making sense of their experiences, grounding them in the present, feeling a sense of safety and connectedness to others, and regaining a sense of hope.

OUR PEOPLE

Perfect casting for notable poet

In a major coup for the University of Auckland’s Centre for Arts and Social Transformation (CAST), renowned poet and scholar Selina Tusitala Marsh took up the role of co-director in January 2023.

Professor Marsh, known for her work in Pacific literature and creative writing, aims to further CAST’s mission of social change through the arts. Her role involves expanding outreach to Pacific and diasporic communities.

The centre, which is co-led by Professor Peter O’Connor, takes an arts-based approach to issues like homelessness, post-disaster recovery, disengagement from school and youth mental health.

Dr Andy Allan

Sustainable Development Goal 2:

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION, AND PROMOTE SUSTAINABLE AGRICULTURE

198 publications based on UoA queries

24% national share of publications based on UoA queries

19 courses based on UoA queries

RESEARCH / FUNDING

Can our crops keep up with climate change?

Rather than 'clean and green' is the future for our food crops 'dead and brown'? Researcher Andrew Allan says our time to decide is running out in the race to develop crops to feed us in a hotter world.

Allan has a dual role as professor of Biological Sciences at the University of Auckland and principal scientist at Plant and Food Research. He warns that climate change poses a significant threat to New Zealand's high-value crop industries due to warmer winters and hotter summers, affecting varieties like apples, avocados and kiwifruit. The rising temperatures could lead to decreased frosts crucial for fruit production, impacting the country's export sector.

His research is focused on developing new crop cultivars that can withstand everything from higher temperatures to the new pests and diseases that will establish themselves in a far less temperate New Zealand climate, as well as bursts of erratic weather.

The risk is that the climate crisis moves temperatures upwards faster than the new cultivars can be bred. Andrew says the only strategy to win the race is speed, with gene-editing technologies like CRISPR having the potential to accelerate the development of resilient crop varieties.

Despite past hesitancy towards genetic technologies, due to concerns about unintended consequences and impacts on New Zealand's 'clean and green' image, Allan stresses the necessity of adapting to the climate crisis using all available tools, and explaining the benefits to the public. Such tools can play a vital role in creating crops that are not only resilient to climate change, but are also nutritionally enhanced and appealing to consumers, he says.

RESEARCH / FUNDING

Can the humble feijoa offset diabetes?

A University of Auckland study has been investigating whether the feijoa — known to many as the 'People's Fruit' — can help prevent type 2 diabetes.

The study, named Ferdinand, is a six-month weight-loss and maintenance programme, during which adults with raised blood sugar are given a gram of whole-fruit feijoa powder (or a placebo) each day. It is hoped that the feijoa powder will boost the benefits of weight loss, leading to improvements in blood sugar levels.

Participants, who are individuals on the borderline of developing diabetes, are overseen by a registered dietitian. The aim is for them to lose five to ten percent of their body weight in the first two months and then focus on maintaining it.

Principal Investigator, Associate Professor Jennifer Miles-Chan, explains that the potential benefits of feijoa in reversing the risk of diabetes derive from polyphenols and abscisic acid, which are compounds contained in the fruit, particularly the skin.

Ferdinand builds on a short-term study in Iran, and is the world's first long-term clinical trial investigating the role of feijoa in the diet, for individuals with pre-diabetes.

OUR PEOPLE

KiwiNet research commercialisation awards

Three University of Auckland researchers were finalists in the 2023 KiwiNet Research Commercialisation Awards. They were: Dr Olivia Ogilvie for the Sprout Breakthrough Innovator Award; Dr Laura Domigan for the BNZ Researcher Entrepreneur Award; and Dr Nandoun Abeysekera for the PwC Breakthrough Project Award.

Dr Ogilvie is co-founder and CEO of New Zealand's first cultivated meat company, Opo Bio, which supplies cells from Aotearoa New Zealand to industry worldwide. She has been instrumental in commercialising the company's cell line development technology platform, to enable large-scale cell culture production.

Dr Domigan, Chief Scientific Officer of Opo Bio and a senior lecturer at the University of Auckland, has become a recognised international leader in cultivated meat. Her ground-breaking work tackles some of the planet's major social and environmental challenges, such as greenhouse gas emissions, ethical food choices, animal welfare and food security.

Dr Abeysekera created Avasa, a startup business in the medical technology industry that is developing a new technology to speed up the binding of small blood vessels during surgery, and reduce failure rates.

Dr Nandoun Abeysekera

RESEARCH / FUNDING

Food for thought: public space blooms into edible landscape

A project to transform an abandoned bowling green into a food oasis highlights how public spaces could be used to provide free food for all.

University of Auckland researchers, led by Dr. Barbara Ribeiro, worked alongside the Kaitiaki Trap N Train Trust as the trust created a public edible landscape in Waharoa, a rural Waikato community. The 400 square metre space has blossomed into an edible garden that offers local residents free access to freshly harvested fruit and vegetables.

With the support of the local council and the University's research team, the garden showcases a variety of crops, including culturally significant foods. Initial results indicate positive impacts on health, social connections and knowledge of new foods.

Ribeiro envisions utilising public spaces to offer free food and create safe environments for pollinators. Her research also includes the Epicurious Garden in Brisbane, Australia, a government-supported urban edible garden.

Both projects demonstrate diverse benefits, from educating children about food origins to providing social spaces and reducing food costs for families. Ribeiro hopes these models can inspire broader adoption of public edible landscapes, emphasising the value of regenerative placemaking in fostering social food connections and biodiversity.

Greg O'Grady Device

Sustainable Development Goal 3:

ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

3 GOOD HEALTH AND WELL-BEING

2,019 publications based on UoA queries

33% national share of publications based on UoA queries

459 courses based on UoA queries

RESEARCH / FUNDING

$15M funding over five years for major health research programmes

Waipapa Taumata Rau, the University of Auckland, has received $15M in government funding for three major health research programs, emphasizing innovative, equitable patient care.

An Auckland Bioengineering Institute team, led by Professor Martyn Nash, secured $5M to develop non-invasive methods for analyzing cardiac diseases using MRI and echocardiography, aiming to improve cardiac care, especially for Māori and Pacific communities.

Another team, led by Professor Greg O'Grady, received funding to advance medical devices for diagnosing and treating gut disorders. These devices, which are non-invasive and provide rapid diagnostics, are set to transform gastroenterology by moving beyond the limitations of traditional structural tests to address functional gut issues.

Professor Ngaire Kerse is heading a project focused on dementia care, with a near $5M grant aimed at developing comprehensive, equitable care solutions for New Zealand's ageing population. This includes establishing accurate dementia prevalence and co-creating care solutions with diverse communities.

Additionally, a collaboration between the University of Auckland's Dr. Ofa Dewes and the University of Otago's Professor Leigh Hale has launched the "Taunakitanga Takitini" programme. Funded for its work on improving self-management support for people with disabilities, the programme seeks to enhance the lives of those facing significant health disparities by developing and implementing community-supported care models.

RESEARCH / FUNDING

$70M to ramp up research into RNA vaccines and other treatments

Te Herenga Waka—Victoria University of Wellington and the University of Auckland have been selected as co-hosts of a government-funded RNA Development Platform, supported by the Malaghan Institute of Medical Research and the University of Otago. The platform aims to advance RNA technologies, which were pivotal in COVID-19 vaccine development, for use in novel therapeutics, diagnostics, vaccines, and other fields like animal health. With initial funding of $500,000 and an additional $69.5 million over seven years, the platform will enhance New Zealand's biotech sector by building capability in RNA research, and fostering collaboration among leading research institutes and companies.

RESEARCH / FUNDING

Gene-editing treatment relieves debilitating symptoms

Kiwi patients with a painful and deadly genetic condition say a single gene-editing treatment has relieved their symptoms and changed their lives. Led by Dr. Hilary Longhurst, the trial involved CRISPR-Cas9 technology targeting the KLKB1 gene responsible for hereditary angioedema—a disorder that causes frequent and potentially lethal swelling. Conducted at the New Zealand Clinical Research facility, this trial marks a significant advance in genetic therapy, showing potential for treating other genetic disorders. Patients reported either complete cessation or a significant reduction in swelling attacks, dramatically improving their quality of life. Following the successful trial, further studies are planned to solidify these findings and explore broader applications of this pioneering gene-editing approach.

RESEARCH / FUNDING

Research excellence recognised with $12M funding

Waipapa Taumata Rau, the University of Auckland, has secured over $12M in funding from the Health Research Council of New Zealand (HRC) for various health research projects. The projects focus on significant health topics, such as helping New Zealanders quit vaping, which is an initiative led by Professor Natalie Walker. Funded to the tune of $1.4M, this project involves a national, community-based clinical trial involving almost 800 people who want to stop vaping. The study will test the effectiveness of using medicinal nicotine (delivered via a skin patch and a mouth spray) for quitting vaping, in comparison to a vape nicotine reduction strategy. This research aligns with the Smokefree Aotearoa 2025 Action Plan, which aims to reduce smoking to 5% or less in all population groups by 2025. Having widespread availability of reduced harm nicotine vapes, helps people move away from the more harmful tobacco-based products. Ultimately people should then move away from vaping. All the funded projects collectively aim to advance medical knowledge, address health inequities, and improve overall health outcomes across New Zealand and globally.

RESEARCH / FUNDING

Researchers install pollen trap on Auckland Museum roof

The Aotearoa Airborne Pollen Collaborative (AAPC) is an organisation that involves researchers from the University of Auckland, Victoria University of Wellington, and Massey University. The collaborative installed a green metallic pollen trap in July 2023 on the roof of the Auckland War Memorial Museum to collect real-time data on airborne pollen. This is the first such study in 35 years, following a previous effort in 1988. The project aims to link pollen levels with asthma attacks and other signs/symptoms, including eye allergies, addressing gaps in current data that rely on outdated trends. The researchers hope to establish permanent monitoring stations across New Zealand to enhance allergy and asthma management. The Auckland Museum supports this initiative, with an earlier version of the trap installed on the roof of the museum in 1980's. The roof of the museum is an ideal location for accurate pollen collection as it is elevated and open on all four sides.

RESEARCH / FUNDING

Tairāwhiti Study – World-first roadmap for imaging and modelling child physiology

The Tairāwhiti child imaging and wellbeing Study, led by researchers at Mātai Medical Research Institute, and supported by the Auckland Bioengineering Institute and GE Healthcare, uses advanced MRI and computational modelling to understand child physiology. This world-first approach scans children "head to toe" in one session, creating detailed models of brains, hearts, lungs, and musculoskeletal systems. Unlike previous adult-focused studies, this paediatric project faces challenges like children's movement and short attention spans. With custom algorithms and organ-specific imaging, researchers aim to establish normative databases for better diagnoses and personalized treatments. The study involves community engagement with children learning about their bodies, supported by their families, enhancing the understanding of paediatric health and potentially revolutionizing personalized and predictive medicine for children.

RESEARCH / FUNDING

First research centre focused on Pacific and global health launches

Te Poutoko Ora a Kiwa, the first University research centre dedicated to Pacific and global health solutions, was launched at Waiapapa Taumata Rau, the University of Auckland, in April 2023. Directed by Sir Collin Tukuitonga, Dr. Judith McCool, Dr. Roannie Ng Shiu, and Dr. Kara Okesene-Gafa, with Professor Ashley Bloomfield as the advisory board chair, the centre aims to improve health outcomes for Pacific peoples in Aotearoa, the Pacific region, and globally through impactful research. It focuses on addressing health inequities and enhancing regional capacity. The centre's name, meaning health and vitality in leadership, reflects its commitment to cultivating Pacific leaders and building on the legacies of Pacific communities to foster health and wellbeing.

Interns of 2024 Te Pūnaha Matatini

Sustainable Development Goal 4:

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

4 QUALITY EDUCATION

448 publications based on UoA queries

37% national share of publications based on UoA queries

129 courses based on UoA queries

RESEARCH / FUNDING

Internships support a new generation of researchers

Over the 2023 - 24 summer, Te Pūnaha Matatini – a Centre of Research Excellence hosted by the University of Auckland – supported 12 interns who engaged in diverse research projects while building community and experiencing the centre's transdisciplinary approach. These projects included from analysing the relationship between mātauranga Māori and science, improving healthcare systems, improving healthcare systems, mathematically modelling lake health and investigating language acquisition of te reo Māori. Associate Professor Mike O'Sullivan emphasized the importance of creating a supportive community for interns to prevent isolation. Madeleine Barber-Wilson, one of the interns, worked on modelling the health of Wairewa Roto, a lake significant to Ngāi Tahu. Te Pūnaha Matatini invites organizations interested in future collaborations on internships to reach out.

OUR PEOPLE

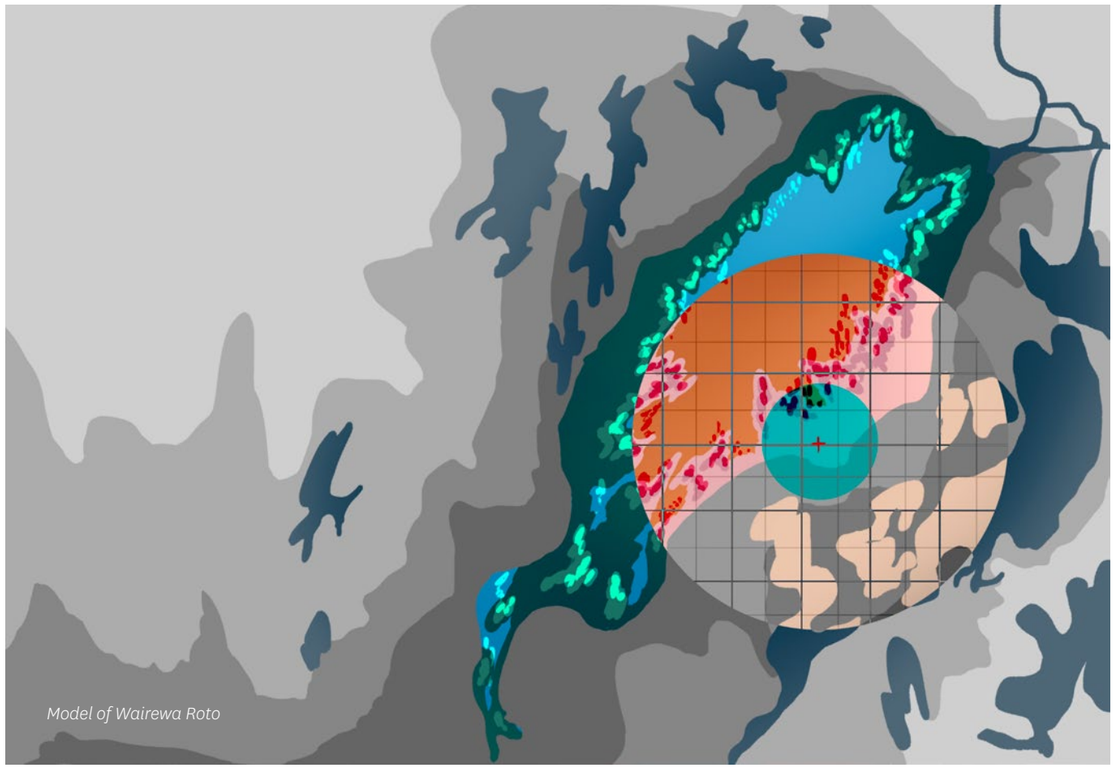
He Vaka Moana project builds inclusive education

Ema Wolfgramm-Foliaki and Sonia Fonua were recognised with a research impact award for their He Vaka Moana Talatalanoa project at the University of Auckland. This project aims to integrate Indigenous knowledge, values, and culture into academia through strength-based research, utilising Oceanic principles. The project developed from the original He Vaka Moana project that involved nine staff members from various faculties and units. They worked on projects to enhance the success of Māori and Pacific students by challenging and redefining dominant knowledge systems in education. The talatalanoa —Tongan for ongoing conversation— came out of Sonia's fellowship project, Lalanga ha kaha'u monuia – Tongan for weaving together for a better future. The talatalanoa creates a safe space for all staff to authentically and meaningfully enhance their cultural understanding and strengthen relationships within the university, focusing on supporting Māori and Pacific student success as a continuous process.

RESEARCH / FUNDING

Tackling disadvantage and bias in our schools

Two University of Auckland projects designed to reduce educational disparities have received funding from Te Pūtea Rangahau a Marsden, the Marsden Fund. One project, led by a multidisciplinary team, received $861,000 to develop an anti-bias training program for teachers with an embedded virtual reality experience that immerses them in the experiences of a Māori student facing racism through a school day. The other, led by Dr. Ampersand Pasley, received a $360,000 Fast Start Grant to co-design a whole-school gender and sexuality education curriculum with trans and irawhiti takatāpui students, acknowledging the colonial inheritance of gender norms and exploring what it would mean for New Zealand education to support the full breadth of gender diversity. Both projects develop strategies to address systemic inequalities and how they manifest in education.



Model of Wairewa Roto

OUR PEOPLE

University of Auckland staff recognised in Europe with Educators For Impact awards

Three staff members from the University of Auckland Business School's Centre for Innovation and Entrepreneurship (CIE) have been honoured with Educators for Impact Awards, recognized by the Erasmus+ Programme of the European Union.
Peter Rachor was named an Innovative Mindset Master for his role in the Hynds Entrepreneurial Fellows programme, which integrates entrepreneurial education across various university disciplines. Dr. Deborah Shepherd and Judith Marecek received Empowering Learning Journey Heroes awards for their work on Summer Lab, a programme that combines the United Nations Sustainable Development Goals with experiential learning to foster entrepreneurship and innovation.
The University of Auckland is the sole recipient of these awards in New Zealand, highlighting its commitment to transdisciplinary and entrepreneurial education.

Deborah Shepherd

Peter Rachor (right)

Sarina Todd

Sustainable Development Goal 5:

ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

79 publications based on UoA queries

31% national share of publications based on UoA queries

19 courses based on UoA queries

OUR PEOPLE

Champion for change honoured with University award

Sarina Todd, an engineering student at the University of Auckland, was honoured with the Most Outstanding Contribution (Service and Leadership) award at the 2023 Blues Awards for her dedication to promoting gender equity in STEM fields. As a co-founder of Women In STEM NZ and a leader in several student organizations, Sarina has been instrumental in connecting young women with role models, and providing career insights. Her initiatives are utilized in New Zealand high schools as educational resources. Sarina also represented the university at UNITE Camp 2030 in New York, focusing on sustainable development goals related to quality education. Her achievements highlight her significant contributions to gender equity and STEM education.

OUR PEOPLE

Breaking barriers: Sarah Liu's mission for gender equality

Sarah Liu, founder and managing director of TDC Global, is dedicated to promoting diversity, equity, and inclusion (DEI) globally. A University of Auckland alumna, she launched her career after studying abroad in Tokyo and working in marketing for major brands. Recognizing the barriers women face in leadership, she established TDC Global to empower women and diverse talent. Her company is recognized among the top diversity, equity, and inclusion consultancies in Asia-Pacific, influencing DEI policies in over 18 countries and partnering with significant corporations like Canva and Amazon Web Services. Committed to closing the gender gap within her lifetime, Sarah envisions a future where men and women are equal leaders, leveraging setbacks as growth opportunities and prioritizing resilience over popularity.

OUR PEOPLE

Pausing and reflecting on progress for Women in Entrepreneurship

Professor Christine Woods, holding the Dame Theresa Gattung Chair for Women in Entrepreneurship at the University of Auckland, has significantly advanced initiatives supporting women in entrepreneurship. Since her appointment, she has developed an undergraduate course on the subject, revitalized the Girls Mean Business program, and launched the Aotearoa Centre for Enterprising Women. Christine's efforts have been recognized with a Staff Excellence award for Diversity, Equity, and Inclusion. She is researching the role men play as allies in gender equality in entrepreneurial ecosystems and is preparing to co-host the global Diana International Research Conference. Her work, blending education with actionable community outreach, aims to foster gender equality and empower women across both academic and professional landscapes.

RESEARCH / FUNDING

Taking the journey to the realm of light

Dr. Jade Le Grice, a psychologist and Co-Director of Te Pūtahi o Pūtaiao at the University of Auckland, uses a mātauranga Māori perspective to address complex societal issues like attitudes towards abortion and sexual violence. In her research, Le Grice challenges traditional views and highlights the nuanced perspectives within Te Ao Māori regarding abortion, showing a range of responses from support for life preservation to recognition of women's choices. Her work also addresses the high rates of sexual violence among Māori, advocating for a broader understanding of sexual coercion as violence. Le Grice's research is pivotal in reshaping policies and societal understanding, emphasizing the importance of cultural practices and community support in addressing these issues.

RESEARCH / FUNDING

Economic abuse affects one in seven NZ women

New research from the University of Auckland, led by Professor Janet Fanslow, reveals that one in seven New Zealand women experience economic abuse in relationships, significantly impacting their financial autonomy and compounding other forms of intimate partner violence. Economic abuse includes tactics like controlling access to finances or sabotaging earning potential. The study shows that women facing economic abuse are more likely to suffer from food insecurity, depend on benefits, and have diagnosed mental health conditions like depression or anxiety. The findings emphasize the importance of recognizing economic abuse in addressing the broader mental health crisis and advocating for comprehensive abuse assessments in health and legal services to support victims effectively.

OUR PEOPLE

In a league of her own: Toni Bruce wins major award

Professor Toni Bruce from the University of Auckland has been awarded the prestigious International Communication Association's Sport Communication Legacy Award. Recognized internationally for her contributions to the study of women in sports media, Bruce's research also encompasses race, national identity, and disability. She has significantly shaped the field through her scholarship and mentoring efforts. As a respected member of various editorial and executive boards and the first non-North American president of the North American Society for the Sociology of Sport, her work has helped legitimize the communicative study of sport. Bruce received the award at the ICA Conference on the Gold Coast in June 2024.

Acclaim for fermented and upcycled ingredients trailblazer

Dr Ninna Granucci is a former University of Auckland international student, and alumna of the University of Auckland Business School's Centre for Innovation and Entrepreneurship (CIE). She has recently received awards from the European Commission (EC) and the Cartier Women's Initiative for her work in reducing food waste by fermenting and upcycling food by-products into nutritious ingredients. A scientist and now CEO of Green Spot Technologies, Granucci is a pioneering female founder in the male-dominated tech industry. Women account for only one in seven of Europe's entrepreneurs and receive less than 2 per cent of venture capital funding.

Recognising the challenges faced by women founders in accessing funding, Granucci emphasises the importance of support networks and advocacy. She is part of the European Female Founders Network, which aims to increase representation and support for women founders and empower the next generation of female entrepreneurs.

Granucci emphasises the need for multiple good ideas and perseverance in overcoming challenges. Her experiences underscore the importance of adaptability and resilience in navigating the path from lab discoveries to market success.

Fan Zhu

Sustainable Development Goal 6:

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

6 CLEAN WATER AND SANITATION

116 publications based on UoA queries

24% national share of publications based on UoA queries

20 courses based on UoA queries

ENGAGEMENT

A crop to feed us in a time of climate emergency

Dr. Fan Zhu from the University of Auckland presented quinoa as a promising crop for future food security amid climate change at the 2024 Researchers with Global Impact event. Unlike major staples such as rice, wheat, and maize, which require vast amounts of water, quinoa needs only 500 litres per kilogram, making it more sustainable. Quinoa thrives in diverse environments, from arid to high-altitude regions, and offers complete protein, is gluten-free, and rich in essential nutrients. Its historical significance to the Incas and its potential for space travel further highlight its versatility. Dr. Zhu's decade of research underscores quinoa's potential to address global food and nutritional challenges.

ENGAGEMENT

New Zealand CleanTech on a global mission

Hydroxsys, a New Zealand CleanTech firm, is addressing the global freshwater crisis with its advanced membrane filtration technology. Aiming to recover and reuse one billion cubic meters of water in 20 years, Hydroxsys targets industries like dairy and mining to improve sustainability. With $3 million in recent capital and a new partnership with the University of Auckland and NZ Product Accelerator, the company is poised for significant impact. General Manager Kariappa Maletira Karumbaiah highlights the importance of collaboration and innovation, citing past trials and partnerships, including the Velocity programme. Hydroxsys aspires to expand into humanitarian water solutions and contribute to global water conservation.

RESEARCH / FUNDING

Cleaning wastewater and producing fertiliser at the same time

Senior Lecturer Wei Yu and Research Fellow Bing Li are piloting a process to extract phosphorus-rich struvite from wastewater on an industrial scale. Struvite is a slow-release fertiliser. Recovering it from wastewater helps clean waterways and prevent nutrient pollution that causes harmful algal blooms. The new method aims to improve the efficiency and reduce the costs of struvite recovery, addressing issues faced by existing systems. This approach offers a sustainable solution to phosphorus pollution, which is a significant problem in New Zealand, and provides an alternative to costly and environmentally damaging phosphate imports.

RESEARCH / FUNDING

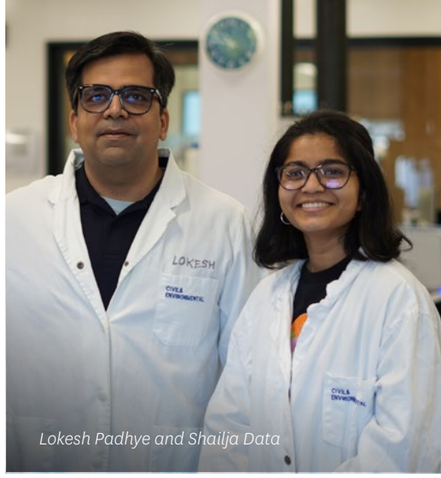
Every flush a donation to science

Wastewater-based epidemiology provides valuable insights into community health by analysing chemical biomarkers in wastewater. Researchers have used this method to monitor Covid-19 and understand substance use, including alcohol. A recent comprehensive study in New Zealand, led by Lisa Pilkington and team, revealed trends in alcohol consumption, such as higher intake on weekends and in the South Island compared to the North Island. This method is advantageous over traditional surveys due to its unbiased, non-invasive nature and near real-time results. Future studies aim to explore vaping habits and cancer prevalence. So, every time you flush, you contribute to important research that can positively impact public health.

RESEARCH / FUNDING

New Zealand's drinking water safe from harmful 'forever chemicals'

New research from the University of Auckland has found that New Zealand's drinking water is largely free from harmful levels of PFAS (per- and polyfluoroalkyl substances), often called "forever chemicals." The study, led by Associate Professor Lokesh Padhye, Associate Professor Melanie Kah, Dr Erin Leitao, Professor David Barker, and PhD candidate Shailja Data, analysed water samples from twenty locations across the country. Results showed PFAS levels were below the strictest global standards, including those proposed by the US EPA. While the findings are positive, the researchers stress the need for continued monitoring and proactive measures to manage potential contamination sources. They recommend improved waste management and public awareness to maintain water quality and address emerging contaminants.



Lokesh Padhye and Shailja Data

Sustainable Development Goal 7:

ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

7 AFFORDABLE AND CLEAN ENERGY

152 publications based on UoA queries

36% national share of publications based on UoA queries

15 courses based on UoA queries

RESEARCH / FUNDING

Emilson Silva: energising Aotearoa

Professor Emilson Silva, Director of the University of Auckland's Energy Centre, is spearheading energy innovation in New Zealand. With a background in economics, Silva transitioned from aspiring medical student to energy economist after a high school dissection experience. His recent work focuses on advancing New Zealand's energy sector, including improving the emissions trading scheme and exploring decentralized energy trading through solar power. Silva is optimistic about the potential for "prosumers" - people who both consume and produce energy - and advocates for evolving regulations to support peer-to-peer energy trading. He also emphasizes the importance of energy security, proposing solutions like energy storage and geothermal power.

RESEARCH / FUNDING

Full charge for the future

Professor Geoffrey Waterhouse, from the University of Auckland, is advancing a green hydrogen economy by developing cost-effective catalysts. His research focuses on improving catalysts for oxygen evolution and reduction reactions, crucial for water electrolysis and fuel cells. Traditional catalysts for these reactions use expensive metals like platinum, but Waterhouse's approach employs low-cost, earth-abundant metals like iron, nickel, and cobalt, enhancing efficiency and reducing costs. His work, inspired by nature's catalysts (enzymes), aims to create more sustainable energy solutions. Waterhouse also develops rechargeable batteries, leveraging international collaborations to grow New Zealand's emerging hydrogen economy and contribute to worldwide decarbonization efforts.

RESEARCH / FUNDING

Sustainable charging for electric vehicles

Wenwei Wang received the Best Thesis Award at the Celebrating Research Excellence Awards 2023 for his work on improving electric vehicle (EV) wireless charging. His research introduces an innovative multi-level converter design and advanced controls that integrate multiple affordable power modules to enhance efficiency and reduce costs. This breakthrough addresses challenges in charging speed and expense, laying the groundwork for high-power wireless chargers. Wang's goal is to advance EV adoption and support a transition to a carbon-free future.

RESEARCH / FUNDING

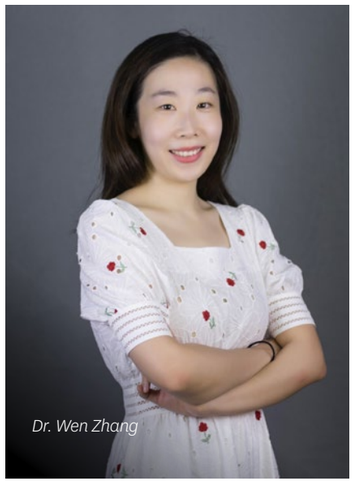
Solar and EVs: a match made in 'clean-energy' heaven?

A recent study from the University of Auckland found that households with solar panels are more likely to adopt electric vehicles (EVs). Researchers, including Dr. Le Wen and Dr. Selena Sheng, discovered a positive association between solar panel installations and EV purchases, highlighting that solar power can provide sustainable charging solutions and increase EV usability. The study, published in Energy Policy, suggests that combined solar and EV adoption supports New Zealand's low-carbon goals. The findings advocate for policy measures that encourage both technologies, such as rebates and promotional programs, to boost adoption rates and contribute to emission reduction targets.

RESEARCH / FUNDING

$1m boost for innovative engineering research

Dr. Wen Zhang has received a $360,000 Marsden Fund grant to explore using liquid metals for on-demand hydrogen production. Hydrogen is a promising clean energy source, but efficient production remains challenging. Zhang's research focuses on improving the aluminium-water reaction, where aluminium's passive alumina layer hinders hydrogen production. The team proposes using an electrowetting process to control the spreading of liquid metals on an aluminium surface, making it easier to remove the alumina layer. This innovation aims to enhance hydrogen production efficiency, potentially enabling cost-effective, on-site, and instant green hydrogen generation.



Dr. Wen Zhang

Sustainable Development Goal 8:

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

73 publications based on UoA queries

20% national share of publications based on UoA queries

33 courses based on UoA queries

ENGAGEMENT

Local founders' advice for young women pursuing entrepreneurship

A recent Women in Entrepreneurship event at the University of Auckland explored the experiences of local female entrepreneurs, highlighting the importance of building confidence, networks, and staying true to core values. The event, organised by the University's innovation hub and Women in Business group, emphasized that while New Zealand has a significant number of women-led businesses, there is still progress to be made in closing the gender gap. Key advice includes reaching out to others, surrounding oneself with supportive people, and embracing authenticity. The discussion also addressed gender bias and the need for greater inclusiveness in networking and investment opportunities to unlock significant economic potential. In 2023, 53% of the University's Centre for Innovation and Entrepreneurship participants were women.

RESEARCH / FUNDING

The intersection of motherhood and leadership

Dr. Amanda Sterling from the University of Auckland Business School has released a report examining the intersection of motherhood and leadership. Her research, based on interviews with 48 women in leadership roles across various organizations, reveals that leadership norms that don't account for the embodied experiences of women (e.g. pregnancy, birth, and breastfeeding) hinder women's advancement to senior positions. Sterling's findings emphasize the need for businesses to better understand and support mothers in leadership roles to promote gender balance and improve outcomes for both women and organizations. She hopes her research will drive systemic changes to enable more women to thrive in leadership positions.

RESEARCH / FUNDING

Post-Covid workplaces: Is the fun fading away?

A study from the University of Auckland, led by Associate Professor Barbara Plester and Senior Lecturer Rhiannon Lloyd, explores how hybrid work impacts workplace fun. Their research highlights that fun activities in hybrid environments must accommodate diverse preferences and safety concerns. They find that structured fun can create ambiguity and reduce participation, while spontaneous fun, although riskier, is more valued by employees. The study underscores the importance of psychological safety and encourages managers to foster an inclusive environment where fun is optional and modelled by senior staff. The research, based on interviews with workers from two companies, suggests that hybrid work may limit spontaneous interactions, impacting overall workplace fun.

ENGAGEMENT

The AI revolution and the future of work

The inaugural Future Workplace Forum, held in November 2023, and hosted by the University of Auckland Business School and the Human Resources Institute of New Zealand, explored the impact of technological innovations on the future of work. Senior Lecturer Dr. Angela Liew discussed how technology is affecting traditional industries like accounting and aquaculture, emphasising the risk of deskilling (the unintentional loss of skills as technology advances). She then, along with other panellists, delved into the ethical dilemmas posed by AI in decision-making, employee privacy, and data security, with insights from experts like Associate Professor Gehan Gunasekara and Professor Michael Witbrock. The forum also addressed the influence of technology on communication, hybrid work models, and the necessity for ongoing education to adapt to the evolving job market. Keynote speaker Dr. Michelle Dickinson highlighted the importance of diversity of thought, emphasising that true strength and innovation in shaping the workplace of the future comes from working with people who bring different perspectives.

Angela Liew

RESEARCH / FUNDING

Multinationals: what about their local employees?

Snejina Michailova, Professor of International Business at the University of Auckland, highlighted a significant gap in research on multinational corporations at the 2024 Researchers with Global Impact event. Despite host country nationals making up approximately 80% of the global multinational workforce, research disproportionately focuses on expatriate employees, with only one in fifty papers addressing the experiences of local employees. Michailova's work emphasizes the need for more research on the roles host country nationals play and the issues they face in multinational firms.

Snejina Michailova

Sustainable Development Goal 9:

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALISATION AND FOSTER INNOVATION

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

111 publications based on UoA queries

27% national share of publications based on UoA queries

17 courses based on UoA queries

ENGAGEMENT

Embracing identity and values key to Pacific entrepreneurship

The 2023 Pasifika Innovation and Entrepreneurship Talanoa, hosted by the University of Auckland, highlighted the importance of identity and cultural values in Pacific entrepreneurship. The event featured a panel of Pacific entrepreneurs who shared insights on innovation, the significance of embracing their heritage, and the need to diversify income streams. They also shared how their Pacific roots guide their business decisions and creativity, with a focus on preserving culture and making a social impact. The discussion also stressed the value of understanding one's context, making business decisions aligned with cultural awareness, and using time wisely. The evening concluded with shared kai (food), fostering connection and inspiration among attendees.

RESEARCH / FUNDING

World-first collaboration Medtech-iQ Aotearoa

Medtech-iQ Aotearoa is a pioneering initiative aimed at boosting New Zealand's MedTech sector through a virtual hub supported by four regional centers. The University of Auckland, via its Auckland Bioengineering Institute (ABI), is central to this effort, hosting both the national entity and the Auckland hub. This initiative seeks to position New Zealand as a leader in medical device and digital health innovation, attract investment, and foster high-tech start-ups. It also emphasizes Māori and Pacific community engagement. The University's Centre for Innovation and Entrepreneurship (CIE) enhances this effort by supporting MedTech start-ups and leveraging its successful track record.

ENGAGEMENT

University of Auckland incubator sends a new cohort of innovators into the world

The 2024 University of Auckland Venture Lab incubator program recently concluded, showcasing a cohort of innovative start-ups addressing diverse issues from sustainable tech to advanced health solutions. Hosted at the University of Auckland, Waiapapa Taumata Rau, this free six-month program, managed by the Business School's Centre for Innovation and Entrepreneurship (CIE), supports selected teams from CIE's Velocity $100k Challenge and Research to Innovation Hatchery. Participants benefit from expert mentorship and resources to refine their ventures. Highlights include CycleMate's sanitary care solutions, Glowguard's advanced sunscreen, and Sabzika's crop disease monitoring system. The program exemplifies the University's commitment to nurturing impactful start-ups.

ENGAGEMENT

New university study tour aims to inspire Māori entrepreneurship

Kurutao, a new study tour programme from the University of Auckland's Centre for Innovation and Entrepreneurship (CIE), aims to inspire Māori students to explore entrepreneurship while incorporating Māori cultural values. Conceived by Engineering student Hiraia Haami-Wells, the study tour was inspired by CIE's Vanguard programme but tailored to the collective values of Māori communities. The study tour will expose students to Māori entrepreneurs and innovators through site visits, workshops, and discussions in Auckland and Gisborne. The programme is open to all Māori students and seeks to raise awareness of entrepreneurial opportunities within a cultural context, empowering participants to make meaningful contributions to their communities.

RESEARCH / FUNDING

New Zealand Product Accelerator is manufacturing innovation at pace

The New Zealand Product Accelerator (NZPA), hosted by the University of Auckland, is pivotal in advancing New Zealand's manufacturing innovation. For 14 years, NZPA has brought together over 100 researchers and practitioners from various organisations to tackle real-world manufacturing challenges. NZPA has been instrumental in creating new market opportunities for New Zealand's manufacturers and in integrating advanced scientific research into commercial applications. Work has led to practical innovations and new product developments that have directly contributed to the growth of Kiwi businesses. An independent review in 2013 on behalf of The Ministry of Business, Innovation and Employment (MBIE) praised NZPA for its accessible costs, collaborative approach, and flexible intellectual property policies. Based on the findings, the review concluded that the NZPA is the best organisation Aotearoa currently has for connecting manufacturers to research and science. NZPA significantly boosts New Zealand's manufacturing sector, contributing an estimated $76-115 million annually.

Dr. Sereana Naepi and Dr. Marcia Leenen-Young

Sustainable Development Goal 10:

REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

281 publications based on UoA queries

31% national share of publications based on UoA queries

62 courses based on UoA queries

RESEARCH / FUNDING

Pacific academics step closer to increasing Pacific success

University of Auckland academics Dr. Sereana Naepi and Dr. Marcia Leenen-Young have been awarded a US$75,000 Spencer Foundation Vision Grant to enhance Pacific success in higher education. The grant will support their project, Strengthening the Vaka: Achieving Equity in Higher Education for Pacific Peoples, which aims to address the inequity and racism faced by Pacific communities in Aotearoa's tertiary sector. Over the next year, they will collaborate with Pacific researchers, policymakers, and the community to design a transformative research initiative. The grant also makes them eligible for the Spencer Foundation's US$3.5 million Transformative Research Grant, potentially driving significant change in educational equity for Pacific peoples.

RESEARCH / FUNDING

Manalagi study on Pacific Rainbow+ community finds urgent need for leadership

The Manalagi project, a three-year research study led by Seuta'afili Dr. Patrick Thomsen in New Zealand, calls for increased Pacific and Rainbow+ leadership in health and service organizations. The study found that 60% of Pacific Rainbow+ community members face discrimination, highlighting the need for culturally competent, Pacific-led services. Many feel safer with healthcare providers from their own culture but struggle with high costs and a lack of awareness of mental health services. The report emphasizes the importance of affordable care, health literacy, and support for disclosing sexuality. Dr. Thomsen also urges families and churches to support Pacific Rainbow+ individuals, advocating for their inclusion and leadership.

OUR PEOPLE

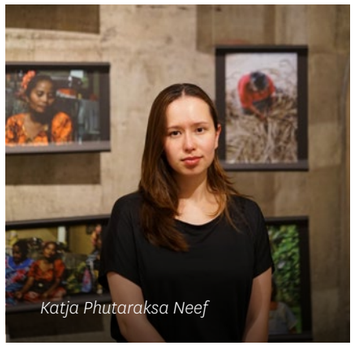
Award recipients aim to improve Māori cancer care

Two University of Auckland researchers, Alexis Ross (Ngāti Kahungunu) and Stella Williams-Terei (Te Rarawa, Te Aupōuri, Ngāpuhi), have received awards for their work in improving Māori cancer care. Alexis, a Paediatric Dietitian, is a PhD student using co-design to create a 'prehabilitation' pathway for children with acute lymphoblastic leukaemia, aiming to optimise nutrition, physical activity, and wellbeing, during treatment. Stella's master's research investigates the role of Māori cancer nurses, aiming to understand their contributions and address the shortage of Māori nurses in cancer care. Both researchers are supported by the Cancer Society of New Zealand and Hei Āhuru Mōwai Māori Cancer Leadership Aotearoa.

OUR PEOPLE

Student human rights projects receive Amnesty awards

Two University of Auckland students, Katja Phutaraksa Neef and Josh McCormack, have received Amnesty International Aotearoa's Gary Ware Legacy Award for their human rights projects. Katja, a master's student in development studies, is raising awareness about the Banaban people's dislocation due to phosphate mining in the 1900s by creating a virtual exhibition featuring their stories and art. Josh, a final-year medical student, is developing a project to improve health outcomes for LGBTQIA+ individuals in rural-regional Aotearoa, addressing the stigma surrounding queer health needs. The award, worth $4,000, will help them advance their respective initiatives, highlighting important but often overlooked issues.



Katja Phutaraksa Neef

RESEARCH / FUNDING

Research aims to aid cancer care for Sāmoan patients and their aiga

Sāmoan PhD student Fofoa Pio-Bentley has been awarded the PMA Knowledge Hub Doctoral Scholarship to research racism in cancer care for Sāmoan patients in Aotearoa New Zealand. Her work aims to develop a patient-centred cancer care model that addresses the barriers Pacific families face in accessing healthcare. Inspired by her father's battle with leukaemia, Pio-Bentley's research highlights the impact of racism and missed diagnoses on low survival rates in Pacific communities. Supervised by Associate Professors Donna Cormack and Melani Anae, her research is part of the University of Auckland's efforts to improve Pacific health outcomes through initiatives funded by the Pasifika Medical Association.

RESEARCH / FUNDING

Family violence is making Kiwis sick, research shows

A University of Auckland study led by Professor Janet Fanslow reveals that domestic violence significantly impacts the health of New Zealand women. The research, involving 1,464 women, found that over half had experienced intimate partner violence, which nearly triples their risk of mental illness and doubles the risk of chronic diseases like heart disease and diabetes. The study highlights the need for healthcare providers to address intimate partner violence as a critical health determinant. Fanslow urges the government to implement an evidence-based domestic violence intervention developed by the Te Whatu Ora and to actively embed response to family and sexual violence into the health system.

Janet Fanslow

Waipapa Marae Whakairo Opening Ceremony

Sustainable Development Goal 11:

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

270 publications based on UoA queries

29% national share of publications based on UoA queries

107 courses based on UoA queries

OPERATIONS

New whakairo at Waipapa Marae

The University's Waipapa Marae recently unveiled new whakairo (carvings) to replace the weather-worn originals that had been in place since 1987. The old carvings, designed by the late tohunga whakairo, Dr Pakariki Harrison, were removed and buried in a ceremony that honoured their history and the traditions of local iwi Ngāti Whātua Ōrākei.

The new carvings, crafted by Arekatera Maihi, closely replicate the original designs but incorporate subtle design elements into certain pieces that acknowledge the connection to the land and its people. Because the marae was still in operation while the work was undertaken, Maihi and his team at Toitū Design Ltd. had to rely on photographs and drone footage to match the design of the originals, instead of the usual practice of carving side-by-side.

The burial of the old carvings is a tradition that pays homage to ancestors and the spiritual essence of the artefacts. It also represents regeneration and renewal, embodying the Māori belief in the cyclical nature of life, death, and rebirth.

ENGAGEMENT

Creative bureaucracy is not an oxymoron for smart cities

University of Auckland Professor Tom Baker took part in a podcast mini-series about creating new institutions that are empowered to innovate, adopting design thinking approaches, and nurturing creative bureaucracies. In this podcast, Professor Baker shared his research at Waipapa Taumata Rau with the general public with the aim of creating a culture of innovation within city governments that can lead to positive changes and improvements in urban environments. While these innovations may not completely solve complex urban challenges, they have a tangible impact on everyday life in cities by streamlining processes, enhancing community engagement, and fostering resource sharing.

OUR PEOPLE

First Māori woman awarded prestigious architectural medal

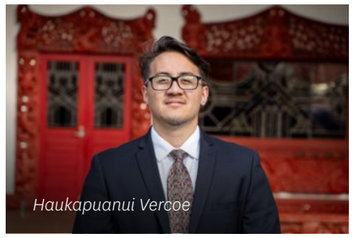
Professor Deidre Brown (Ngāpuhi, Ngāti Kahu), made history by becoming the first Māori woman and academic to win the NZ Institute of Architects' 2023 Gold Medal. She was recognised for her contributions to architecture through academia, research, and service rather than professional practice. In her role as head of Te Pare School of Architecture and Planning at the University of Auckland, Deidre emphasises the importance of Māori and Pacific architectural and art history, housing, and indigenous design. Aside from her academic achievements, Deidre has also made significant contributions through leadership, mentoring, and cultural preservation. She was instrumental in locating and repatriating eight missing Māori wood carvings from museums around the world. Deidre's broad spectrum of work has had a profound impact, transcending disciplines and benefiting many individuals. President Judith Taylor of the NZ Institute of Architects acknowledged Deidre's wide-ranging influence, emphasising her invaluable contributions to the field of architecture and beyond.

Deidre Brown

RESEARCH / FUNDING

Hundreds of marae exposed to natural hazards

New research from the University of Auckland aims to enhance the resilience of marae in New Zealand against natural hazards like flooding, landslides, and earthquakes. The study conducted by engineering PhD student Haukapuanui Vercoe using geographic information system (GIS) mapping revealed that a significant number of marae are exposed to various hazards, including flooding, landslides, tsunami, and liquefaction. The study highlights the urgent need for resources to address infrastructure vulnerabilities and ensure marae can continue to support their communities during emergencies. Furthermore, Vercoe emphasised the impact of climate change on these risks and called for collaborative efforts between governments and communities to provide necessary funding and resources for marae.



Haukapuanui Vercoe

ENGAGEMENT

Urban designer Zoë Avery's vision for cities

By spearheading initiatives like the World Green Infrastructure Congress, Associate Professor Zoë Avery advocates for integrating nature into cities to combat climate change, biodiversity loss, and to reduce energy consumption. She emphasises the critical role of nature in creating healthier and more sustainable urban environments through solutions like green infrastructure to address environmental challenges holistically. Through her work and advocacy, Avery aims to inspire a shift in perspective towards creating cities that coexist harmoniously with nature and to empower communities to embrace nature-based solutions. Avery's approach involves reimagining urban spaces as interconnected ecosystems that benefit both people and the environment, ultimately calling for a united effort to build resilient cities and protect the planet for future generations.

Sustainable Development Goal 12:

ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

168 publications based on UoA queries

27% national share of publications based on UoA queries

27 courses based on UoA queries

OPERATIONS

Green Star café champions waste prevention

As part of the redevelopment of our Green Star 201 building, a collaboration between Property Services, Retail, and Procurement teams has ensured the atrium's B2 Social café is a model of waste prevention. In addition to discounts for BYO containers and a mug library for waste-free takeaway drinks, the café utilises an innovative milk refill scheme. Instead of standard two litre plastic bottles, the milk is delivered in ten litre refillable buckets, which are hooked up to a milk dispenser. With the push of a button, the dispenser releases a shot of milk for the barista to froth – no more and no less. Empty buckets are collected for sterilising and refilling, and the cycle continues. Between January and July 2024, B2 Social has saved approximately 1500 plastic milk bottles from needing to be recycled, helping achieve our circularity goals and waste reduction targets, and leading the way for other food and drink retailers on campus.

RESEARCH / FUNDING

Food waste: how messaging can help us clean up our act

University of Auckland researcher Mary Khalil conducted a study to understand how messaging can influence individuals to reduce household food waste. The study found that messages focusing on the gains of not wasting food were more effective in increasing people's intentions and behaviors to minimise food waste compared to messages highlighting the losses. This result suggests that positive emotions, especially hope, play a significant role in encouraging individuals to take action to reduce food waste. Khalil and her fellow researchers believe that using positive emotions in messaging can help individuals overcome feelings of helplessness towards large-scale problems like food waste and motivate them to take action, benefiting both individuals and society as a whole.

RESEARCH / FUNDING

Greenhouse gas transformed in aid of carbon-free future

Research conducted at the University of Auckland focused on converting waste carbon dioxide into formic acid, a potential precursor for useful chemicals and carbon-free fuel. Published in the journal Nature, the study led by Dr. Ziyun Wang's team from the School of Chemical Sciences utilised a catalyst made from waste lead-acid batteries to achieve this transformation in benchtop experiments. This research addresses the pressing need for carbon capture and storage solutions as a means to combat global warming and move towards a carbon-free economy. The team's method of carbon dioxide electrochemical reduction under acidic conditions shows promise for scalability in industrial settings and long-term efficiency, offering a sustainable and environmentally friendly approach to utilising waste CO_2.

RESEARCH / FUNDING

Can a circular economy approach stem the streams of plastic waste?

A cross-disciplinary team of researchers from engineering, business, and design is addressing the escalating issue of plastic waste by creating a "game of consequence." Led by Professor Johan Verbeek from the Faculty of Engineering at Waipapa Taumata Rau, the University of Auckland, the initiative aims to develop a gaming platform that empowers stakeholders with actionable insights for managing plastic waste streams effectively. The team includes Prof Simon Bickerton and Prof Julia Fehrer from the University of Auckland, and Prof Deb Polson from RMIT Melbourne. By transforming the real-world problem of plastic waste into a gaming simulation, the team seeks to build a unique and engaging approach to tackling this pressing issue. The research also includes ecosystem analyses to evaluate the entire recycling chain and material development to create new types of plastic materials. Despite the significant challenge—given that most plastics are not currently recycled—the team remains hopeful. They draw inspiration from past successes in other industries and aim to implement solutions that mimic natural ecosystems. The project has garnered widespread support, particularly through MBIE's Endeavour Fund.

ENGAGEMENT

Planet + People vs. Plastics

Two University Research Centres, Ngā Ara Whetū Centre for Climate, Biodiversity and Society and Te Aka Mātauranga Matepukupuku Centre for Cancer Research, joined forces to host an event to discuss the environmental impact of plastics during Earth Day 2024. The panel, including experts from various fields, examined the chemical composition of plastics, pollution from their production, and their effects on land, sea, air, animals, and human health. They also explored solutions to limit plastic waste and the spread of microplastics, such as promoting public transport to reduce the release of microplastics from car tyre wear, which accounts for up to 78% of the world's oceanic microplastics. The event spurred a conversation about the political and societal aspects of plastic consumption and ways to address the pervasive issue of plastic pollution.

RESEARCH / FUNDING

Wine leftovers will turn to treasure in Endeavour Fund project

University of Auckland scientists secured $18.8 million from the Endeavour Fund, with $9.8 million designated for a project focusing on converting waste from New Zealand's wine industry into valuable products. Led by Professor Paul Kilmartin, the research will explore utilising grape marc (leftover stems, skins, and seeds from winemaking) for food, paper, pharmaceutical, building, and chemical products. The initiative aims to generate new revenue streams for New Zealand companies while addressing waste management in the circular economy. Furthermore, an additional nine projects under the University of Auckland received $1 million each in funding from the Endeavour Fund. Projects include a photonic device for varroa mite control in beehives, exploring carbon footprints underwater, revolutionising shellfish nursery culture and wastewater treatment for nitrogen control. These projects cover diverse areas such as environmental sustainability, bioengineering, and marine science, showcasing the range of innovative research being undertaken at the University of Auckland.

B201

Sustainable Development Goal 13:

TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

177 publications based on UoA queries

17% national share of publications based on UoA queries

40 courses based on UoA queries

OPERATIONS

B201: Our award-winning low carbon building

Already a recipient of several national and international sustainability awards within the built environment sector, the 6 Green Star B201 redevelopment has also been shortlisted in the Climate Action category of the 2024 Green Gown Awards Australasia. Award submissions have emphasised the University's commitment to reducing all scopes of emissions through adaptive reuse, engineering innovation, and contractor and supplier engagement. With a 30% reduction in embodied carbon, achieved in part by adapting the original concrete frame, B201 signifies the university's commitment to climate-conscious campus development.

Renowned for its welcoming atrium and event space and the cultural narratives emboldened by the redesign, B201 is also operating efficiently. Despite an expected electricity demand increase in Sector 200 due to the removal of gas boilers, utility data for B201 shows that the electricity consumption of heat pumps, chillers, and lighting is below the modelled forecast, helping to reduce scope 2 emissions. These results are partially due to the double-glazed insulating glass, which has a spectrally selective coating that minimises solar gain while providing high levels of daylight. With an LED sustainability performance display, green roof and range of waste minimisation initiatives underway, the building is also a living laboratory for sustainable practices, with exciting opportunities for academic and operational collaboration.

RESEARCH / FUNDING

The impact of extreme weather on young people

The Extreme Weather Survey in Aotearoa New Zealand, conducted by Growing Up in New Zealand (a longitudinal study run by the University of Auckland), aimed to gather insights for future planning based on the impacts of severe weather events on young people's wellbeing. Approximately 1,400 youths and caregivers from regions affected by recent extreme weather were invited to participate in this online survey. The research focuses on how these events have affected the participants and will inform future disaster preparedness strategies. Associate Professor Sarah-Jane Paine emphasized the importance of understanding the toll of extreme weather on young people's wellbeing and providing a platform for families to share their experiences. This initiative is part of the government's urgent response to assessing the impacts of recent weather events, with funding from the Ministry of Business Innovation and Employment. Findings from the survey are expected to contribute valuable insights for ongoing recovery and planning efforts in response to extreme weather events.

OPERATIONS

Our journey to Net Zero carbon

The Sustainable Estate and Operations Working Group – made up of representatives from service divisions across the University – is responsible for implementing Te Taumata Tukuwaro-kore, the Net Zero Carbon Strategy, released in late 2022. The strategy outlines our "progressive pathway" to Net Zero, which involves measuring the University's direct and supply chain emissions and implementing projects to meet our reduction targets. In the last two years, completed emissions reduction projects include air travel policy changes to encourage fewer flights and lower-carbon travel options, a sustainable finance framework, the decarbonisation of Sector 200 buildings including B201 and Waipapa Marae, lighting upgrades at City and Grafton Campuses, and an increase in the procurement of certified carbonZero electricity to above 50%, with plans to reach 100% by October 2024.

In 2023, the University's greenhouse gas emissions were 25% lower than our baseline year of 2019. While there has been a steady increase since the Covid-19 pandemic, we have not 'bounced back' to baseline levels. For instance, in 2023, staff air travelled 36 million fewer kilometres than in 2019 and produced almost 40% fewer emissions. While we are cautiously optimistic about meeting our 2025 emissions reduction targets, the overall upward trends signal that more work is needed to shift policies and practices and engage our many suppliers. The Sustainability Office continues to maintain and improve our annually verified emissions inventory and has gained greater clarity on the emissions resulting from international student air travel and freight and couriers.

RESEARCH / STUDY

Key sectors stymie emission reduction efforts - study

University of Auckland researchers from the Energy Centre found that New Zealand's Emissions Trading Scheme (ETS) could have a greater impact on reducing emissions if five key sectors - agriculture, transport, energy, petroleum and diesel, and waste - were better regulated. These sectors are currently underperforming, hindering the scheme's effectiveness in both reducing emissions and stimulating economic growth. The study suggests that focusing on these sectors could enhance the ETS's ability to achieve the country's emission reduction goals. Specifically, the energy, waste, and agriculture sectors are identified as major sources of emissions and crucial to New Zealand's economy. The agricultural sector, in particular, is highlighted as having the highest greenhouse gas emissions among all industries. The researchers propose implementing measures such as a fixed carbon price ceiling, imposing taxes on sectors exceeding emission averages, and investing in innovation and alternative energy sources like hydrogen.

ENGAGEMENT

Climate justice takes centre stage

The Climate Litigation Conference at the University of Auckland brought together various stakeholders to discuss climate-related legal issues and potential solutions. Climate change is a pressing global concern, and the conference aimed to explore how governments and businesses can be compelled to make significant changes. The event featured judges from renowned international courts, legal experts, practitioners, and academics discussing climate litigation trends in New Zealand and worldwide. The conference, organized by the New Zealand Centre for Environmental Law (NZCEL), provided a platform for global experts to engage with local practitioners and showcased the importance of legal interventions in driving environmental sustainability and ensuring intergenerational equity. NZCEL has followed up the Conference with the NZCEL 2024 Future Generations Events Series.

ENGAGEMENT

Climate change sector scenarios

In 2023, the University of Auckland participated in a collaborative project called Climate Change Scenarios for the Aotearoa New Zealand Tertiary Education Sector. Involving all New Zealand Universities, Wānanga and Te Pūkenga, it focused on the question: How will climate change impact Aotearoa New Zealand's tertiary education sector between now and 2100? In 2024, the project culminated in a report which details a series of plausible scenarios for the sector and offers a flexible framework for climate adaptation planning. The scenarios are crafted to be challenging with the intent to promote discussion. By having difficult conversations now, the hope is that Aotearoa will be better prepared for what is to come and that the tertiary education sector will continue to take a leading role in tackling climate-related changes. This project is a finalist in the Powerful Partnerships category in the 2024 Green Gown Awards Australasia.

RESEARCH / FUNDING

University to operate methane tracking satellite

A new Mission Control Centre at Te Pūnaha Ātea | the Space Institute at the University of Auckland will play a key role in the Methanesat space mission, which aims to track methane emissions and combat climate change. Launched recently, the satellite will detect methane from various sources like oil, gas, agriculture, and landfill, with data expected later in 2024. The university took over operations of the spacecraft post-launch, providing students with hands-on experience in the growing local space industry. The Mission Operations and Control Centre (MOCC) at the university will manage daily spacecraft operations, including payload management and safety. This experience combined with academic courses like aerospace engineering offers students a unique pathway into the space sector, nurturing the next generation of space scientists and engineers in New Zealand.

RESEARCH / FUNDING

Dietary changes could help NZ reach climate targets

A study led by Dr. Kathryn Bradbury suggests that reducing meat and dairy consumption in New Zealand households could significantly aid in reaching climate goals, as these foods contribute over half of dietary greenhouse gas emissions. This research indicates that older primary household shoppers have higher emissions, while larger households show lower per capita emissions probably due to efficiency and reduced waste. Additionally, another recent paper by Dr. Bradbury reveals that the actual number of vegetarians in New Zealand is closer to 2% rather than the previously cited 20%, and less than 1% are estimated to be vegan. This research highlights the importance of accurately assessing dietary habits to better understand the population's food consumption and its implications for health and environmental policies.

Kathryn Bradbury

Rebecca Gladstone-Gallagher (centre)

Sustainable Development Goal 14:

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

14 LIFE BELOW WATER

170 publications based on UoA queries

22% national share of publications based on UoA queries

31 courses based on UoA queries

OUR PEOPLE

Lecturer named environmental ‘champion’ on Earth Day

Dr. Rebecca Gladstone-Gallagher, a marine science lecturer at the University of Auckland, was chosen as New Zealand’s representative for the international sustainability science competition. The competition, Frontiers Planet Prize, recognizes scientists contributing to solutions that keep humanity within the Earth’s ecological boundaries. Her research about appreciating the connections between land, water, and sea ecosystems to prevent irreversible damage to coastal ecosystems, emphasised the need for a more integrated approach to environmental management. Winning the award shows her work is highly regarded for addressing the interconnectedness of ecosystems and the urgency of holistic environmental management to combat degradation effectively.

ENGAGEMENT

Extreme Weather & Ocean Warming: Insights from Ngā Kōrero Webinar

Ngā Kōrero is a webinar series that is part of Seaweek, a free initiative supported by the New Zealand National Commission for UNESCO, in which researchers from the University of Auckland took part. The webinar was organised to address the significant challenges to New Zealand’s marine life due to extreme weather and warming attributed to climate change. The webinar featured Dr. Melissa Bowen, a senior lecturer at the University of Auckland, who investigates ocean temperatures, currents, and salinities, contributing to national science programs working with climate simulations and investigating microplastic impacts.

RESEARCH / FUNDING

Beneath the surface: exploring kelp forests for solutions

Research conducted by research fellow Caitlin Blain on seaweed and kelp forests highlights their potential in carbon reduction efforts, stimulating interest from various sectors. Kelp’s ability to sequester carbon is recognised, but challenges remain in quantifying this process. Caitlan’s experiments reveal that up to 40% of carbon released by kelp forests in dissolved form can be long-lived, providing valuable data for carbon sequestration initiatives. Blain’s research, supported by environmental organisations, aims to address threat factors like sea urchin grazing and increased turbidity due to land runoff. Furthermore, she wants to increase awareness of the value and vulnerability of kelp forests to inspire greater efforts towards their conservation.

RESEARCH / FUNDING

Unprecedented heatwaves revealed by marine lab’s historic data

Since 1967, records from the University of Auckland’s Leigh Marine Lab have captured a significant warming trend in New Zealand’s Hauraki Gulf, with a noticeable increase in marine heatwave occurrences and intensity since 2012. This phenomenon has been documented by Dr Nick Shears and his co-authors in a paper published in the New Zealand Journal of Marine and Freshwater Research. The impact of rising sea temperatures includes detrimental effects on marine life such as sponges, seaweed, and kelp. Researchers highlighted that the continuous rise in ocean temperatures, exemplified by 2022 being the warmest year on record, has led to impacts on the marine biodiversity in the region. This study emphasises the importance of long-term sea-surface temperature records, like those collected by the Leigh Marine Lab, which boasts one of the longest sets of records in the Southern Hemisphere, providing valuable insights into the warming trend.

RESEARCH / FUNDING

Ecological restoration could help atolls to stay afloat

A team led by Dr Sebastian Steibl and Professor James Russell from the University of Auckland argues that ecological restoration could save coral atoll islands from the threat of rising sea levels due to climate change. In their natural state, coral atoll islands have the capacity to adapt to rising sea levels because they naturally grow upward, but there is a threat to human-impacted islands that are losing this capacity and can no longer adapt to changing sea levels. Coral atolls are vital for biodiversity, housing millions of seabirds, and are home to several Indigenous Oceanian cultures. The scientists have started trials of restoration methods on atolls such as Tetiaroa, Palmyra, and Aldabra. They suggest that restoring the natural growth process of atoll islands could enhance their resilience to climate change. While densely populated and heavily urbanised islands may require human-engineered solutions, sparsely inhabited and uninhabited atolls are seen as excellent candidates for restoration efforts.

RESEARCH / FUNDING

Microplastics research reveals high pollution levels on Auckland beaches

Researchers from the University of Auckland have discovered high levels of microplastic pollution in Auckland’s coastal environment, with contamination levels at least 50 times higher than previously reported in New Zealand. The study, published in Science of the Total Environment and led by PhD student Mahyar Ghanadi and Associate Professor Lokesh Padhye, revealed widespread microplastic occurrences in concentrations that could potentially harm wildlife and ecosystems due to their enduring nature and distribution. Despite the concerning findings, the reduced presence of polyethylene around Auckland beaches was seen as a positive outcome, possibly resulting from regulations on single-use plastic shopping bags implemented in New Zealand since 2019. The researchers highlight the importance of continuous monitoring to understand the sources, fate, and transport of microplastics in marine environments. A call for urgent action to safeguard marine ecosystems and enact environmentally friendly policies was made.

RESEARCH / FUNDING

Expedition witnesses vast change in Antarctic's icy seas

Professor Craig Stevens co-led a research expedition focusing on the decline in sea ice coverage due to warming oceans, with the aim of understanding the impacts on the physics and bio-geochemistry of the Southern Ocean. The voyage utilised robots like ocean gliders to collect vital data on temperature, salinity and other physical and chemical properties of the ocean, highlighting warmer water encroaching beneath the continental shelf. These observations suggest potential changes in the Ross Sea sector as warmer waters pose a threat to the stability of the region. The study's findings underscore the urgent need to expand data collection efforts in Antarctica to monitor and understand the evolving impacts of climate change on the region and how these will flow on to Aotearoa.

RESEARCH / FUNDING

Coastlines the frontline against plastic pollution

The common belief is that plastic waste primarily ends up in the ocean, especially in areas like the North Pacific "Great Garbage Patch." However, research indicates that less than 10% of plastic entering rivers and coastlines actually reaches these subtropical ocean accumulation zones. Most of it ends up along coastlines, in estuaries, or is washed ashore. A recent study by Professor Giovanni Coco, Professor Melissa Bowen, Dr. Gaoyang Ling and PhD candidate Zheng Chen, using Auckland's Waitematā Estuary, showed that a significant portion of plastic debris is trapped in estuaries rather than moving out to the ocean. The research found that 60% to 90% of buoyant plastic waste remains in the estuary over multiple tidal cycles due to currents that push it towards the shore. This trapping effect is observed globally in various estuaries. These findings suggest that local efforts to clean up plastic waste from shorelines, rivers, and estuaries are crucial in preventing marine pollution. Shorelines act as reservoirs for accumulated plastic, which can degrade into smaller particles over time. Ongoing and future clean-up efforts, alongside international treaties aimed at reducing plastic use, are essential for addressing both current pollution and historical waste.

Sustainable Development Goal 15:

PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

15 LIFE ON LAND

248 publications based on UoA queries

19% national share of publications based on UoA queries

46 courses based on UoA queries

RESEARCH / FUNDING

Lasers will target pest ravaging honey bees

Researchers at the University of Auckland, led by Dr. Francesco Merola and Professor Cather Simpson, are working on a project to use tiny lasers stationed at honey bee hives to combat varroa mites without the need for pesticides. Varroa mites are a significant threat to bee colonies as they feed on bees, spread diseases, and can cause colony collapse, impacting food security due to the role of bees in pollination. The aim of the project is to create a cost-effective tool that will protect bee colonies by targeting and killing varroa mites at hive entrances. The project, supported by a grant from the Ministry of Business, Innovation and Employment, involves collaboration with Plant & Food Research and industry advisors from the apiculture sector.

RESEARCH / FUNDING

Tiniest bird delivers evolution lesson

Research from the University of Auckland is helping to rethink how and when vocal learning evolved in birds. Dr Kristal Cain and Dr Ines Moran researched the vocal learning ability of the rifleman, or tītipounamu, which is the smallest bird in New Zealand. The research suggests that the song of the tītipounamu may not be innate, but rather learned from other members of the bird's community, based on the finding that individuals raised in isolation had different songs than those raised in the wild. This species is considered to be an evolutionary "missing link" between songbirds and parrots, and suggests that vocal learning in those lineages may be a more ancient trait than previously assumed.

RESEARCH / FUNDING

Scientists explore kawakawa's healing properties

Researchers at the University of Auckland have discovered over 60 biologically active compounds in kawakawa leaves, a plant significant in Māori medicine. Dr. Chris Pook, working with the Liggins Institute, utilised advanced techniques like liquid chromatography and mass spectrometry to identify these compounds. The research team is also exploring how kawakawa might enhance the absorption of other beneficial compounds, such as curcumin from turmeric. They are conducting trials to assess kawakawa's ability to reduce inflammation and improve health outcomes in chronic diseases like heart disease and diabetes. The research is part of the Taketake a Tāne program, which focuses on developing health solutions from indigenous species.

Titipounamu or rifleman

Sustainable Development Goal 16:

PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

138 publications based on UoA queries

25% national share of publications based on UoA queries

71 courses based on UoA queries

RESEARCH / FUNDING

Tuvalu, Kiribati climate migrants 'need immigration pathway'

Dr. Olivia Yates, a researcher at the University of Auckland, highlights the urgent need for immigration reforms to facilitate climate migration from low-lying Pacific atoll countries to Aotearoa New Zealand. She is the lead author of a research report and policy brief, "Preparing for Climate Mobility from Tuvalu and Kiribati to Aotearoa," released during Tuvaluan Language Week. The report emphasizes the importance of safeguarding cultural identities for frontline countries like Tuvalu and Kiribati, where rising sea levels threaten their existence. While most people wish to stay in their homelands, some are exploring migration options. The report was a collaboration between researchers at the University of Auckland and community organisations, stresses the need for dignified migration options for those affected by climate change in the Pacific region.

OUR PEOPLE

Refugee advocate wins social justice award

Bernard Sama, a doctoral candidate, was awarded the Te Whainga i te Tika Award for Social Justice in 2023 for his efforts to improve New Zealand's refugee policies. Having come to New Zealand as a refugee himself, Sama advocated for ending the detention of asylum seekers in prisons and police cells and expanding resettlement support for refugees. His experiences prompted him to pursue a Ph.D., where he researched ways to enhance the refugee and protection status procedure in the country. Sama's collaboration with the asylum-seeking community and civil society sector led to successful advocacy for structural changes in the treatment of asylum seekers, resulting in the government accepting recommendations to end such detentions. While pleased with this progress, Sama believes more can be done, such as increasing pathways for community sponsorship and expanding the quota program to provide better support for those fleeing war, conflict, and human rights abuses. Sama remains focused on advocating for further positive changes in New Zealand's refugee policies.

RESEARCH / FUNDING

Report supports changing rules for blood donation

A report from the University of Auckland advocates for updating New Zealand's blood donation rules to align with those in Canada and the UK, which would allow three times the current number of gay and bisexual men to donate blood. The study found that most participants were interested in donating blood, but under the current policy, only 13% would be eligible. Also, it suggests that the current exclusion of men who have had sex with other men in the past three months is unfair and discriminatory, especially since advances in HIV screening can mitigate risks. The authors, which included Dr Peter Saxton from the University of Auckland Waipapa Taumata Rau, recommend implementing individualized risk assessments for potential donors, similar to recent changes in the UK and Canada. The New Zealand Blood Service's chief medical officer expressed commitment to change and introducing more inclusive screening. The study provides insights into safe sex practices among men who have sex with men in New Zealand and supports the idea that updating policies won't compromise blood safety.

ENGAGEMENT

Indigenous rights in the spotlight at constitutional conference

The recent Designing Our Constitution conference, held at the University of Auckland, recently focused on pragmatic and structural changes needed for constitutional transformation to better realise Māori rights in Aotearoa New Zealand's constitutional framework. The event, part of a series inspired by the Matike Mai report and honouring the late Dr. Moana Jackson, brought together experts like Professors Margaret Mutu and Claire Charters, alongside UN Special Rapporteur Francisco Calí Tzay. Discussions focused on creating a constitution that acknowledges a place of belonging for everyone in Aotearoa, while recognising the authority and tino rangatiratanga of Tangata Whenua, on an equal footing with the Government. Calí Tzay shared insights from his global experience with Indigenous rights and visited Māori communities facing ongoing legal challenges with the Crown. The conference underscored the need for constitutional reforms that protect Indigenous rights and ensure justice, aligning with New Zealand's commitments under the UN Declaration on the Rights of Indigenous Peoples.

Dawn Freshwater

Sustainable Development Goal 17:

STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALISE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

ENGAGEMENT

Teaching networks connect educators across and beyond the university

In 2023, two interdisciplinary networks were established to advance knowledge sharing and collaboration around sustainability teaching and learning. An internal staff Sustainability Teaching Network was created by the sustainability leads in the Curriculum Framework Transformation Programme, and connects over 75 staff across the university through regular presentations about sustainability teaching and pedagogy in the context of different disciplines. The second network – Teaching and Learning for a Sustainable World – extends beyond the University and was initiated through a transdisciplinary research project supported by Ngā Ara Whetū Centre for Climate and Biodiversity. Led by academics Sally Birdsall, Niki Harré and Alys Longley, the network involves a core group of university staff along with external participants including Auckland Council, Greenpeace, Outward Bound, Eco Matters, and the Ministry for the Environment. In addition to networking events, the research team has put together a stimulating online seminar series featuring local presenters and international sustainability educators from a range of countries, including Nigeria, Canada, Sweden, and Portugal.

ENGAGEMENT

University excels in international sustainability Impact Rankings

The University of Auckland has maintained a strong position in the Times Higher Education Impact Rankings for 2024, which evaluates universities' contributions to the Sustainable Development Goals (SDGs). Ranking 13th out nearly 2,000 competing institutions placed the University securely in the top 1% of institutions globally. This ranking assesses sustainability commitments across research, stewardship, outreach, and teaching, covering all 17 SDGs. The university's top performance reflects its strategic commitment to sustainability and net zero carbon emissions. Initiatives such as investigating the gender pay gap, adaptive reuse of buildings, global partnerships, and research collaborations contribute to the university's high scores. The rankings are seen as crucial for universities, governments, funders, policymakers, and prospective students, as they provide insight into how universities are contributing to sustainability and help identify areas for improvement. The Impact Rankings are becoming increasingly significant in assessing universities' commitments to sustainability and their role in fostering sustainable practices among students.

ENGAGEMENT

University of Auckland showcases its sustainability strengths

The University of Auckland showcased its commitment to sustainability at the Global Sustainable Development Congress in Bangkok in June 2024. The University's delegation included Vice-Chancellor Professor Dawn Freshwater, Deputy Dean of Science Julie Rowland, Space Institute Te Pūnaha Ātea Director Professor Guglielmo Aglietti, PhD candidate Gaël Gendron, and International Office team members Vasso Koutsos, Jennifer Roshan, Wendy Anh Thu Le and Yoke Yau Wong. They joined over 3,000 global leaders to address sustainability challenges and the Sustainable Development Goals (SDGs). The event featured the University's first experiential and paperless exhibit with VR showcases from various faculties. Professor Freshwater emphasized the need for universities to shift from a return-on-investment to a return-on-values mindset and to leverage AI responsibly for sustainability, and highlighted space sustainability through Professor Aglietti's research. As a moderator on a panel at the Congress, Professor Rowland stressed the pivotal role of universities in scaling AI solutions to create a just and fair world, especially in the context of rising geopolitical tensions and climate change. The Congress underscored the importance of cross-sector collaboration and inspired participants with global efforts toward sustainable solutions.

OPERATIONS

New approach to increase Māori and Pacific success

The University of Auckland has launched an initiative to improve Māori and Pacific students university entrance pass rates and overall success at the tertiary level. The goal is to achieve university entrance parity for Māori and Pacific learners by 2030 by partnering with secondary schools. The initiative also aims to address barriers faced by Māori and Pacific students in tertiary education, such as a lack of preparedness due to inequities in secondary schooling and limited awareness of university course prerequisites. By collaborating with secondary schools, the project seeks to lay the necessary groundwork for higher education and increase the number of students eligible for university. This initiative is seen as a potential game-changer for these communities, aiming to positively impact the education sector, labour market, and society as a whole.

RESEARCH / FUNDING

Climate research takes on greatest threat to Pacific

Pacific researchers are investigating how climate-related events will influence population dynamics in the region, which is expected to grow from 13 million to 20 million by 2050. The project, co-led by the University of Auckland's Professor Yvonne Underhill-Sem, examines how factors like cyclones, floods, and sea-level rise will affect people's decisions to stay in their home countries or migrate, including to New Zealand. The study, commissioned by the New Zealand Ministry of Foreign Affairs and Trade, aims to provide actionable insights for policy-making to address climate mobility challenges. The research uses Pacific methodologies that emphasize kinship links and local languages. Initial findings suggest that while some people will migrate, most will adapt and remain in their home countries. Future reports and policy briefs will continue to explore these issues throughout 2024.

ENGAGEMENT

Research centre forges closer ties with Kiribati to tackle health issues

A new initiative led by the University of Auckland aims to improve health outcomes for Kiribati by collaborating closely with health officials and clinicians. The Centre for Pacific and Global Health, hosted by the Faculty of Medical and Health Sciences, facilitated the development of a memorandum of understanding (MOU) between the university and the Kiribati government. This MOU enables the sharing of expertise, training, and support for Kiribati's Ministry of Health and clinical staff. It also sets the stage for joint research projects and funding to address persistent health challenges in Kiribati and the region. The collaboration focuses on areas like nutrition, primary care, and digital health, which are crucial for Kiribati and other Pacific nations. The goal is to build research capacity that positively impacts communities and enhances Pacific research leadership globally.

ABOUT THIS REPORT

This report summarises a range of activities that Waipapa Taumata Rau, the University of Auckland undertakes to contribute to the Sustainable Development Goals (SDGs). These activities all relate in some way to one of the core elements of the University's function, spanning research, teaching, operations, engagement and partnerships. We have substantiated the report with quantitative research and teaching-related SDG metrics, as well as a range of qualitative case studies. The University has continued to work towards reducing inequalities, poverty, and hunger among our staff, students and the wider community, as well as contributing to solutions for a wide range of social, economic, environmental, and health-related challenges. This year's report is a list of a selection of our activities and initiatives, capturing both our ongoing commitment to addressing a variety of global challenges, as well as a range of other activities that we have adapted to suit the current circumstances. We are 100 percent committed to the Sustainable Development Goals and believe the underlying principles of the SDGs are more relevant than ever in the current global climate.

SDG metrics

Publication-related metrics are reported for each SDG using the 'Auckland Approach', which represents the effort of the University to localise SDG keyword mapping to account for the context within which our research activities take place. What our method adds to similar approaches used internationally is the ability to capture relevant but very locally specific terms. These may include, for example, specific geographical locations, terms particular to New Zealand English borrowed from Māori (e.g., whānau for family, kai for food), or locally used terms for general academic contexts. This method builds on an SDG mapping partnership with Elsevier, Aurora, and the University of Southern Denmark in which best practices for SDG mapping are shared. This SDG localisation effort has extended our understanding of the SDG research activities that are unique to the University of Auckland, our Māori and Pacific communities, Aotearoa New Zealand, and the Pacific region. In 2021, the University made a further attempt to generalise the Auckland SDG research mapping approach to understand our learning and teaching activities. In this report, courses taught in 2023 are mapped onto the SDGs based on metadata contained in the course catalogue. This course mapping effort identified 868 SDG-related courses out of the 2,614 courses offered by the University of Auckland in 2023. The course statistics have been slightly modified compared to last year's version of this report: courses that were taught in more than one term or semester have been deduplicated, and are counted only once. More information about the University of Auckland SDG Mapping project is available at: **www.sdgmapping.auckland.ac.nz.**

Case studies

Striving to pick a range of initiatives from across the University, we shortlisted a diverse set of case studies based on comprehensive consultation with key stakeholders undertaking these activities. These case studies cover examples of research / funding, engagement, operational initiatives, and the recognition of excellence in our staff and students, and were chosen because they highlight clear contributions to the respective SDGs involved. This SDG report lists only a few of the many initiatives undertaken by the University of Auckland. Our **SDG page** is regularly updated with the latest information about University of Auckland initiatives and activities towards the SDGs, while our feature repository, **Mātātaki The Challenge**, explores some of these initiatives in-depth. The University of Auckland has a formal Sustainability Strategy, Te Rautaki Aronga Toitū, as well as a Net Zero Carbon Strategy, Te Taumata Tukuwaro-kore. Both of these documents can be found on our **website**.

UNIVERSITY IMPACT RANKINGS

The 17 Sustainable Development Goals (SDGs) were established in 2015. They set a 15-year agenda and call to action for all countries to end poverty, fight inequalities, and build peaceful, just, and sustainable societies by 2030. Launched in 2019 by Times Higher Education (THE), the University Impact Rankings measure how universities worldwide are performing against the SDGs. The University of Auckland has consistently ranked within the top one percent globally in all ranking years to date. These outstanding results recognise and reaffirm the University of Auckland's strong commitment to sustainability and making a positive social impact through its partnerships, research, teaching, operations, community engagement and knowledge transfer. In 2024, 1,963 universities were ranked.

Sustainable Development Goal	Our Rank 2024
Overall ranking for impact	13
SDG 1: No poverty	59
SDG 2: Zero hunger	32
SDG 3: Good health and well-being	21
SDG 4: Quality education	101-200
SDG 5: Gender equality	24
SDG 6: Clean water and sanitation	36
SDG 7: Affordable and clean energy	75
SDG 8: Decent work and economic growth	101-200
SDG 9: Industry, innovation and infrastructure	78
SDG 10: Reduced inequalities	39
SDG 11: Sustainable cities and communities	39
SDG 12: Responsible consumption and production	30
SDG 13: Climate action	21
SDG 14: Life below water	14
SDG 15: Life on land	6
SDG 16: Peace, justice and strong institutions	7
SDG 17: Partnerships for the goals	54

1 In some cases, we are ranked in a band – in these cases, the specific rank for institutions within that band are not published.

2 Institutions can submit on any combination of SDGs, but not all submitters will be eligible for overall ranking. This can be seen here, in that there are more submitters on SDG 17 (2,031) than for the overall ranking (1,963).

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SUSTAINABLE DEVELOPMENT GOALS