Annual Report 2025

Faculty of Engineering and Design

Waipapa Taumata Rau
University of Auckland

With a reputation built on innovative research, world-class teaching, and strong industry connections, the Faculty of Engineering and Design enables its students to become well-equipped to help shape a better future.

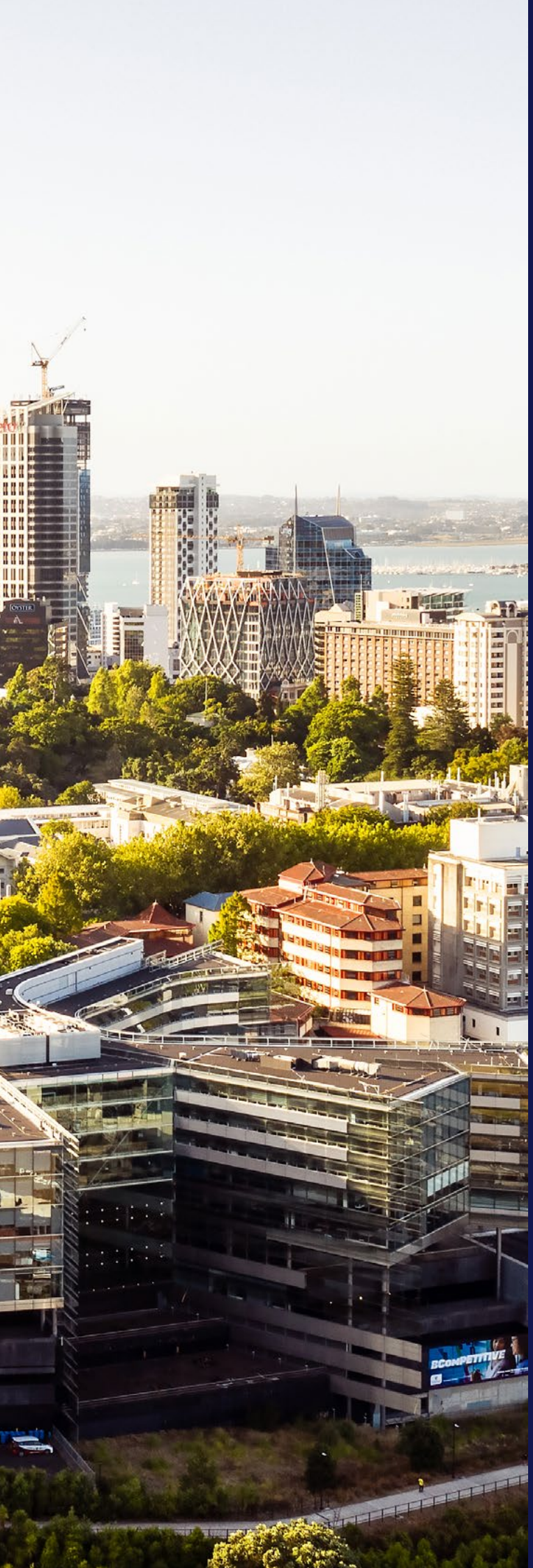
As New Zealand's leading faculty for engineering, architecture and the built environment, and design,[1] we are committed to excellence in an ever-evolving technological landscape.

Our engineers, architects, urban planners, and designers play a vital role in addressing the complex challenges facing society – from transitioning to green energy and building climate-resilient cities, to reducing waste and rethinking how systems and spaces are designed. Through problem-solving, innovation, and creativity, we are dedicated to improving society and delivering real-world impact.

In addition to being New Zealand's highest-ranked university for engineering, architecture and the built environment, the University of Auckland is recognised globally for excellence across several disciplines within the Faculty of Engineering and Design. In the 2025 QS World University Rankings, we are ranked =48th in the world for Civil and Structural Engineering, and within the top 100 globally for Architecture and the Built Environment.

Our leading-edge facilities at the Newmarket Campus further support innovation and research excellence across a wide range of disciplines. Combined with a broad suite of undergraduate and postgraduate programmes, they offer students diverse pathways and outstanding career opportunities in New Zealand and beyond.

[1] 2025 QS World University Rankings by Subject



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Foreword

From the Dean

2025 was a momentous year for the faculty, one which saw the School of Architecture and Planning, the Design Programme, and the five departments within the Faculty of Engineering come together to form Te Herenga Auaha | Faculty of Engineering and Design. This new beginning represents significant opportunities for us as a group of disciplines that together shape the world in which we live. From enabling new technologies, to improving the liveability of our environments. It has been wonderful to see how colleagues have embraced our new identity and begun to explore the cross-disciplinary possibilities. The journey has only just begun, but the outlook is very bright.

The faculty also enjoyed strong student enrolments in 2025 across all of our programmes, confirming us as study destination of choice with school leavers, postgraduate students and working professionals. We continue to evolve and innovate our programme offerings, and the way in which they are delivered.

Of course, the student experience remains an utmost priority for the faculty, and we continue to support a rich range of co-curricular activities. These include our highly successful Formula SAE racing team, the Rocketry Club, as well as the Auckland Programme for Space Systems, to name but a few. We also continue to support diversity initiatives within the student body, including the Women in Engineering Network and Rainbow Engineering. The end-of-year student project exhibitions are also always an uplifting highlight of the year, with Modos+ (Architecture and Planning), ReDesign (Design) and Final Year Project Display Day (Engineering) showcasing what our talented students are capable of.

Our staff received significant recognition in 2025, with Dr Nasser Giacaman (Electrical, Computer, and Software Engineering) receiving a prestigious National Tertiary Education Award in acknowledgement of his sustained excellence and leadership in Engineering Education. Professor Charles Clifton (FRSNZ, DistFEngNZ) was made a Companion of the NZ Order of Merit in the King's Birthday Honours for services to Structural Engineering. Associate Professor Lee Beattie was made a Fellow of the NZ Planning Institute, Professor Seosamh Costello, Associate Professor Doug Wilson, and Dr Ashkan Hashemi were made Fellows of Engineering New Zealand. And alongside her co-authors Ngarino Ellis (Arts and Education) and the late Jonathan Mane Wheoki, Professor Deidre Brown (FRSNZ) received a number of international accolades for her recent publication, Te Toi Mana, including the prestigious Apollo Award.

The faculty continued to innovate at the frontiers of research, with our researchers advancing knowledge and solutions in areas such as the development of longer-lasting EV batteries, new frameworks for reducing transport emissions, low-carbon concrete and timber, and reduction of building energy use through shallow geothermal systems.

The faculty also saw the launch of its first satellite, TPA-1, designed and built by researchers within Te Pūnaha Ātea - Space Institute, now orbits the globe testing new technologies for monitoring the real-time health of small satellites and sending back home stunning images. It is soon to be followed by its successor, TPA-2.

The quality of the research undertaken within the faculty was reflected in our strong performance with securing competitive funding, including a $9m MBIE Endeavour Programme to look at how our future Urban Industrial Zones can be designed to better drive economic and social resilience in the face of an increasingly uncertain future. The Royal Society Marsden Fund also supported research into antimicrobial resistance in freshwater microorganisms and seawater based rechargeable batteries. This is in addition to the many other research projects supported by public-funding bodies, commercial contracts and generous philanthropic support, more details of which can be found in this report.

And so, as we reflect on a busy and productive year, I am immensely proud and grateful to our community, and those who support us in the important work that we do. In this report, I do hope that you will enjoy learning more about the very real positive difference that the faculty is making.

Richard Clarke

Manukura Te Herenga Auaha
Dean of Engineering and Design

From the Director of Faculty Operations

2025 has been unique for the Faculty Operations team, partnering with our colleagues and students across the faculty to bring the realities of the new Faculty of Engineering and Design to life. In the early part of the transition, the team has been focused on giving careful thought to understanding and establishing shared, integrated processes to operate the new programmes and activities and build new teams. In addition, the team were tasked with learning to run a new technical services structure while simultaneously maintaining the delivery of existing services across the rest of the faculty's operational portfolios.

Faculty operations team includes approximately 180 permanent staff across Academic Services, Student Support and Engagement, Marketing and Communications, Technical Services, Group Services, Research Services, and Finance, supported by central university services.

Health, Safety, and Wellbeing have remained a high priority and focus. To progress our ambitions the faculty operates a staff-led Wellbeing Committee and an active Health, Safety, and Wellbeing Committee, chaired by the Dean and Director of Faculty Operations. Meeting on a monthly basis the committee sets plans, monitors the faculty's HSW performance, and ensures our health, safety, and wellbeing obligations are met. A focus of the HSW committee this year has been on structuring proactive 'lead' practices and bringing in an external lens to ensure our operations are regularly updated.

Led by the newly joined up Technical Services team, the faculty began a trial to improve the maturity and digitisation of our current health and safety operations – these included a particular focus on proactive inspections and records of activities required by legislation. The trial implementation of Safety Culture has already provided an early indication of the improvements to be made, including proactive retirements of defective equipment, consistent record-keeping of key inspections, and the ability to conduct and record cross-inspections between faculty staff. The trial has transitioned to both a faculty-wide implementation, which, in 2026, will also be adopted by four other faculties and both large-scale research institutes.

To complement the work undertaken by the technical team, the faculty leadership team have conducted monthly Health and Safety Walks by the Dean, Director of Faculty Operations, Technical Services Manager, Health and Safety Manager, and department leadership across all of the faculty's critical risk areas.

Staff voice was another defining feature of 2025. The Kōrero Mai Staff Engagement Survey highlighted strong alignment around purpose, meaning, and collegial support, alongside opportunities to improve clarity of vision and confidence that action will follow feedback. Following in-person feedback sessions, staff identified innovation – even when outcomes are uncertain – as a faculty-level priority. In response, a new $40k innovation fund will be introduced to support strategic ideas beyond existing funding mechanisms.

2025 has been an important year for establishing a strong foundation for resilience and adaption for what lies ahead. I am proud of the way our operational teams have delivered a collective impact in partnership with colleagues across the faculty that has been far greater than the sum of individual contributions.

Michael Willimott

Manutaki Kapeka Mahi Whakahaere
Director of Faculty Operations

Our history

From our beginnings in the early 1900s as the School of Mines – housed in a tin shed on Alfred Street – with approximately 20-30 students, our faculty has now grown to have over 7,000 students.

Now known as Te Herenga Auaha | the Faculty of Engineering and Design, we bring together the disciplines of Architecture, Design, Engineering, and Urban Planning.

Milestones in our history

1883: Auckland University College opens (now known as the University of Auckland)

1905: Engineering subjects begin to be offered at the University

1906: School of Mines is founded at the University, where Engineering subjects continue to be taught

1917: School of Architecture is founded at the University

1923: School of Mines becomes the School of Engineering

1948: School of Engineering moves to Ardmore for more space and acts as fully residential school

1955: Department of Town and Country Planning is established within the School of Architecture

1969: School of Engineering (later renamed as the Faculty of Engineering) moves back to the city to its current location, 20 Symonds Street

1980: New efforts are being made to encourage women to pursue study in Engineering

1982: Department of Town and Country Planning represents three-quarters of New Zealand's planners

1988: Faculty of Engineering Professors John Boys and Grant Covic pioneer Inductive Power Transfer (IPT)

2004: The University of Auckland's Formula SAE team – F:SAE:47 competes in first competition

2006: School of Architecture merges with the Department of Town and Country Planning to form the School of Architecture and Planning, within the National Institute of Creative Arts and Industries (later renamed as the Faculty of Creative Arts and Industries)

2015: Newmarket Campus opens: A state-of-the-art hub for multi-disciplinary research activity

2019: Engineering Haka makes its debut

2020: New Engineering building opens at City Campus, with tailor-made spaces to improve learning and collaboration

2020: New Zealand's first student-built satellite is launched by the University's Auckland Programme for Space Systems (APSS) students

2025: The School of Architecture and Planning and the Design programme merges into the Faculty of Engineering, forming the newly named faculty – Te Herenga Auaha, Faculty of Engineering and Design

Te Herenga Auaha | Faculty of Engineering and Design Pōwhiri

In February 2025, a pōwhiri was held at Waipapa Marae to formally recognise the establishment of Te Herenga Auaha, the Faculty of Engineering and Design, bringing in the disciplines of Architecture, Design, and Urban Planning, with Engineering. Ngā Tauira Māori warmly welcomed faculty staff back to the faculty buildings with a memorable haka and waiata, followed by a faculty-wide lunch that brought colleagues together to mark this important milestone.

About us

Our departments

The Faculty of Engineering and Design is comprised of:

- Engineering
  - Department of Chemical and Materials Engineering
  - Department of Civil and Environmental Engineering
  - Department of Electrical, Computer, and Software Engineering
  - Department of Engineering Science and Biomedical Engineering
  - Department of Mechanical and Mechatronics Engineering
- School of Architecture and Planning
- Design Programme

auckland.ac.nz/engineering/about-the-faculty

Our programmes

Undergraduate study

Within the faculty, we offer four undergraduate programmes available to study:

- Bachelor of Engineering (Honours)*

auckland.ac.nz/be-hons

Specialisations:

Biomedical Engineering, Chemical and Materials Engineering, Civil Engineering Computer Systems Engineering, Electrical and Electronic Engineering, Engineering Science, Mechanical Engineering, Mechatronics Engineering, Software Engineering, Structural Engineering

- Bachelor of Architectural Studies

auckland.ac.nz/bas

- Bachelor of Urban Planning (Honours)

auckland.ac.nz/burbplan-hons

- Bachelor of Design

auckland.ac.nz/bdes

**The Bachelor of Engineering (Honours) programme can be combined with a bachelors degree in Design, Arts, Commerce, or Science to broaden career opportunities.*

Postgraduate study

We have 30 study areas available to pursue across our postgraduate and doctoral programmes. These include:

- Aerospace Engineering
- Architecture
- Bioengineering
- Civil Engineering
  - Environmental Engineering
  - Construction Engineering
  - Construction Management
  - Geotechnical Engineering Structural Engineering
  - Transportation Engineering
  - Water Engineering
- Chemical and Materials Engineering
- Computer Systems Engineering
- Design
- Earthquake Engineering
- Electrical and Electronic Engineering
- Engineering Science
- Engineering Project Management
- Engineering Management
- Infrastructure Asset Management
- Materials Engineering
- Mechanical Engineering
- Mechatronics Engineering
- Medical Engineering
  - Biomechanics
  - Medical devices and technologies
- Robotics and Automation
- Software Engineering
- Urban Planning
- Urban Design

auckland.ac.nz/engineering/postgraduate-study

Faculty Executive Committee

- Richard Clarke, Dean
- Deidre Brown, Te Tumu
- Jason Ingham, Deputy Dean
- Michael Willimott, Director of Faculty Operations
- Suzanne Pohlen, Director of Faculty Finance
- Eralynne Ryan, Human Resources Manager
- Steve Roberts, Kaiarahi
- Chris McClymont, Strategic Projects Manager
- Chris Ford, Strategic Projects Manager
- Michael Davis, Head of Design
- Jayden Kah, Student Representative
- Tim Bradefield, Student Representative
- Prerna Hatyal, Student Representative
- Michael Hodgson, Associate Dean – Academic
- Jenny Malmstrom, Associate Dean – Research
- Paola Boarin, Associate Dean – Teaching and Learning
- Enrique del Rey Castillo, Associate Dean - Teaching and Learning
- Mark Jones, Associate Dean – Postgraduate Research
- Ashvin Thambyah, Head of Chemical and Materials Engineering
- Rick Henry, Head of Civil and Environmental Engineering (Acting)
- Piaras Kelly, Head of Engineering Science and Biomedical Engineering
- Simon Bickerton, Head of Mechanical and Mechatronics Engineering
- Partha Roop, Head of Electrical, Computer and Software Engineering
- Lee Beattie, Head of Architecture and Planning
- Catherine Watson, Associate Dean – Equity and Diversity
- Cody Mankelow, Associate Dean – Postgraduate Taught
- Febelyn Reguyal, Assistant Dean – Teaching and Learning
- Andrew Mason, Assistant Dean – Academic
- Lama Tone, Associate Dean Pacific
- Theuns Hennings, Associate Dean International
- Abhinaw Sai Erri Pradeep, Director of Graduate School of Engineering
- Saeid Baroutian, Director of Sustainability Committee

Faculty Advisory Committee

- Simonne Eldridge (Chair) – Tonkin + Taylor
- David Carter – BECA
- Summer Collins – OneNZ
- Troy Coyle – HERA
- Jane Cutler – Independent Director
- Andrew Grant – NEXT Foundation
- Fady Mishriki – Apple
- Shaun O'Donnell – RocketLab
- Andrew Sommerville – Fisher and Paykel Healthcare

Faculty Staff-Student Consultative Committee

Staff members

- Jane Williams, Student Support and Engagement Team Leader
- Joanna Luo, Student Experience Adviser
- Natasha Morsch, Student Experience Adviser
- Febelyn Reguyal, Assistant Dean – Teaching and Learning
- Michael Macdonald, Senior Lecturer in Mechanical and Mechatronics Engineering
- Angela Prado, Facilities Coordinator
- Allan Fowler, Senior Lecturer in Design
- Iresh Jayawardena, Deputy Head of School of Architecture and Planning
- Duleepa Thrimawithana, Associate Professor in Electrical, Computer, and Software Engineering

Student representatives

- Alex Jobbin (Chair), Engineering Science and Biomedical Engineering
- Kelly Hunt, Engineering (Part I)
- Florence Parker, Engineering (Part I)
- Emily Wu, Engineering (Part I)
- Georgina Lacayo, Engineering Science and Biomedical Engineering
- Kaleb Pickerill, Engineering Science and Biomedical Engineering
- Jayden Kah, Civil and Environmental Engineering
- Prerna Hatyal, Civil and Environmental Engineering
- Alex Brown, Electrical, Computer, and Software Engineering
- Arnesh Sharma, Electrical, Computer, and Software Engineering
- Caleb Wedgwood, Mechanical and Mechatronics Engineering
- Xander Snyman, Mechanical and Mechatronics Engineering
- Nathan Barber, Chemical and Materials Engineering
- Leigh Walters, Architecture and Planning
- Samara Khan, Architecture and Planning
- Tim Bradefield, Design

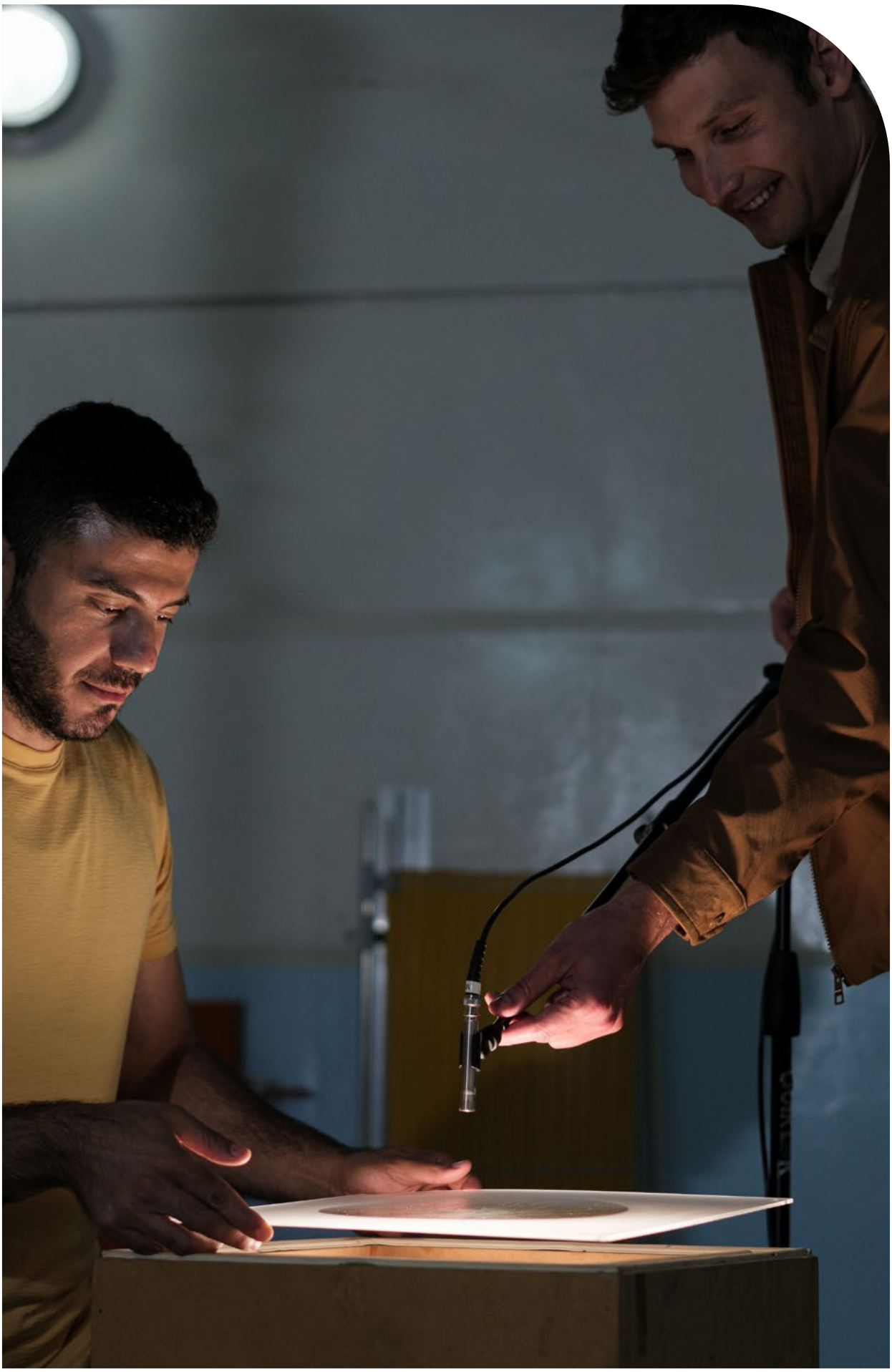
Clubs and associations

- Auckland University Engineering Society (AUES)
- Auckland University Robotics Association (AURA)
- Biomedical Engineering and Engineering Science Student Association (BESA)
- Civil Engineering Students Association
- Chemical and Materials Engineering Students Association (CMESA)
- Design Students Association (DSA)
- Engineering Postgraduate Student Association (EPSA)
- Engineering Revue
- Engineering for Sustainable Development (ESD)
- Institute of Electrical and Electronics Engineers (IEEE) student branch
- Mechanical and Mechatronics Students Association
- Project Wellbeing
- Rainbow Engineering Network
- Robogals Auckland
- Software Engineering Students Association (SESA)
- South Pacific Indigenous Engineering Students (SPIES)
- Space Hub
- Students of Urban Planning and Architecture (SUPA)
- University of Auckland Aeronautics Club (UAC)
- University of Auckland Rocketry Club (UARC)
- Women in Engineering Network (WEN)

Our staff

Bringing a wide range of expertise, perspectives, and experience, our staff work collaboratively to support our students, strengthen our teaching and learning environment, and contribute to the effective operation and leadership of the faculty.

- Academic staff: 233
  - Lecturers: 14
  - Senior Lecturers: 73
  - Associate Professors: 39
  - Professors: 53
  - Professional Teaching Fellows: 36
  - Research Fellows: 18
- Professional staff: 182



Education and student experience

At the heart of the Faculty of Engineering and Design is a vibrant community of students whose curiosity and ambition are supported by staff with expertise that underpins high-quality teaching, learning, and leadership.

Together, they form a diverse and connected academic environment with a shared commitment towards creating impactful knowledge and solutions.

Programme enrolments

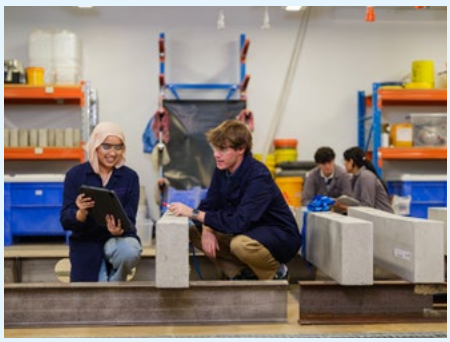
Level	Domestic	International	Grand Total
Undergraduate	**4640**	**423**	**5063**
Architecture	352	35	387
Design	230	72	302
Engineering	3831	285	4116
Urban Planning	227	31	258
Postgraduate	**947**	**611**	**1558**
Architecture	257	40	297
Design	13	44	57
Engineering	636	509	1145
Urban Planning	41	18	59
Doctoral	**251**	**527**	**778**
Grand Total	**5838**	**1561**	**7399**

Undergraduate Engineering enrolments by specialisation

Specialisation	
Engineering Part I	1123
Biomedical Engineering	100
Chemical and Materials Engineering	152
Civil Engineering	621
Computer Systems Engineering	283
Electrical and Electronic Engineering	284
Engineering Science	240
Mechanical Engineering	431
Mechatronics Engineering	307
Software Engineering	388
Structural Engineering	187
Grand Total	**4116**

Programme graduates

Level / Programme	
Undergraduate	**1123**
Bachelor of Engineering (Honours)	827
Bachelor of Architectural Studies	143
Bachelor of Design	78
Bachelor of Urban Planning (Honours)	75
Postgraduate	**516**
Architecture	92
Design	15
Urban Planning	12
Engineering	397
Doctoral	**83**



First-Year Engineering Specialisation Event

The annual First-Year Engineering Specialisation Event is designed to help first-year Engineering students choose their specialisation. The event features 10 speakers from engineering companies, each representing a different specialisation, and sharing their experiences from study to industry. Through the event, students are also provided with the opportunity to network and build early industry connections

Academic events

Each year, the faculty celebrates the creativity, capability, and real-world impact of our graduating students through a series of public showcases. Together, they offer industry, prospective students, and the wider community a window into how our students think, create, and contribute as the next generation of architects, designers, engineers, and urban planners.

Engineering Project Display Day

Through their Final Year Project, Bachelor of Engineering (Honours) students are assessed on their ability to utilise both theory and practice. They are encouraged to tackle problems the same way engineers do in their professional careers. The Final Year Project Display Day is a key component of the students' fourth and final year: they select a research project, work on it over seven months, and present their work through a practical demonstration and an exhibition at the end. Industry professionals are invited to review and judge the projects, with prizes awarded to the outstanding projects in each department.

ReDesign Graduate Showcase

The ReDesign Graduate Showcase features the work of our graduating Design students. It is a key opportunity for the public to view our students' investigations into various social, environmental and political issues. Our Design Programme at Waipapa Taumata Rau, University of Auckland, challenges traditionally siloed design disciplines by exploring the power of design thinking across industries. This showcase encourages the future of design with graduate exhibitions. Inspiring a new generation of purpose-led designers, design is one of the only disciplines that bridges many fields and it's at this intersection that great things are possible.

redesign.ac.nz

Modos+ Architecture and Planning End-of-Year Exhibition

The Modos+ End-of-Year Exhibition is Te Pare School of Architecture and Planning's largest and most prominent event. It is a key opportunity for the public to view our students' investigations into a wide range of social, political and design issues within the built environment. This exhibition features work by students in Architecture, Urban Design, and Urban Planning and reveals our graduates' capacity to create innovative solutions that improve people's everyday experiences and provides an excellent opportunity for anyone considering studying architecture to experience the breadth and calibre of our students' work.

modos.ac.nz

Student support and engagement

Our faculty's Student Support and Engagement team has demonstrated powerful and far-reaching impact through their work, across Architecture, Design, Engineering, and Urban Planning.

This is evident through a range of initiatives, such as Welcome BBQs, Clubs Mixer, Systems Week breakfasts, the Student Success and Leadership event, and a wide range of wellness activities delivered with clubs and Hiwa (including art and craft workshops, International Movie Week, sports classes, a 3D-printing workshop, and a beeswax wrap workshop) – all significantly boosting student engagement and wellbeing.

Women in Engineering Network (WEN)

The Women in Engineering Network's (WEN) impact in 2025 was driven by 33 dedicated leaders and an engaged community

The Operations and Finance team secured a record 18 sponsors, completed a full marketing revamp, and launched a new equity and wellbeing programme. The events pillar delivered more than 30 social, professional/industry, mentoring, Part I and postgraduate events, 20 of which sold out – bringing together over 1,600 attendees.

The initiatives pillar strengthened WEN's outreach pipeline by welcoming 92 Year 9 and 10 students to hands-on Engineering workshops on- and off-campus, as well as supporting more than 90 senior students through the Year 11–13 Buddy Programme throughout the year.

One of the network's major highlights was Enginuity Day, where 36-40 WEN members volunteered to give senior high school women authentic exposure to Engineering by assisting and leading practical workshops. Selling out more than a month in advance, the event drew students from 45 schools across Auckland, Whangārei, Waikato, and Wellington, and had a waitlist of 50+.

The keynote and panel featured former WEN leaders now working at organisations such as Tonkin + Taylor, Fisher & Paykel Healthcare, Air New Zealand, and Alimetry, showcasing the inspiring pathways WEN alumni continue to forge in the engineering profession.

Rainbow Engineering

Rainbow Engineering is the Faculty of Engineering and Design's LGBTQIATakatāpui+ network. Its purpose – engineering queer excellence – guides the network's vision to create an inclusive and supportive environment where LGBTQIATakatāpui+ students feel empowered, valued, and have equal opportunities to excel academically, professionally, and personally within engineering.

Rainbow Engineering's values are:

- Community – community is an intrinsic part of queerness. The network embraces uniqueness and diversity, celebrates achievements and successes, and, above all, has fun.
- Advocacy – advocacy is at the core of the Rainbow Engineering's identity. The network passionately champions causes they believe in, amplifies voices that need to be heard, and tirelessly works towards positive change.
- Opportunities – opportunities are integral to the essence of engineering. We value our relationship with Industry, and we are dedicated to fostering connections and professional development.

The network's highlights for 2025 include:

- Reached 170+ active members
- Held 15+ major events across social, advocacy, and professional development spaces
- Engaged with 38,000+ accounts monthly through Instagram
- Partnered with 13 industry sponsors
- Connected students with industry through professional development
- Raised $5,000 for Sweat with Pride, one of the largest inter-faculty events
- Established dedicated Rainbow Community and 'Happy Hour' wellbeing safe spaces
- Strengthened partnerships with QSA and Queerspace
- Represented on SSCC, QSC, and the Equity Committee

Apollo Programme

The Faculty of Engineering and Design is committed to supporting and complementing the excellent work undertaken in secondary schools, particularly at NCEA Levels 2 and 3, to ensure a seamless transition into tertiary study. The Apollo Programme is an annual series of free, tutor led day wānanga designed specifically for Year 12 and 13 Māori and Pacific students who are considering pathways into Engineering.

The programme supports students across a range of proficiency levels in both calculus and physics, whether they are strengthening foundational understanding or developing more advanced capability. Experienced teachers, assisted by current University of Auckland Engineering students as tutors, provide personalised needs based guidance within a university learning environment, enabling students to build confidence, capability, and academic readiness.

In addition to academic support, the Apollo Programme offers first hand exposure to University life, insight into the Faculty of Engineering and Design, and clear, step by step guidance on University admission and application processes.

Collectively, these elements position this programme as a targeted and effective pathway that supports student success while reinforcing continuity between secondary education and University study.

Notable achievements from 2025 include:

- Significant year on year growth in student participation in the Apollo Programme, reflecting increasing demand and engagement with the programme.
- Strong progression outcomes supported by the Apollo Programme, with 20 students accepting offers into the Bachelor of Engineering (Honours) programme and a further 29 students gaining admission to other University of Auckland degree programmes.
- Following a successful pilot in 2024, physics was fully integrated into the Apollo Programme, strengthening academic breadth and alignment with Bachelor of Engineering (Honours) entry requirements.
- The Apollo Programme's reputation has extended beyond New Zealand, evidenced by a delegation from the University of the South Pacific (USP) visiting to observe the programme in delivery. As a direct outcome of this engagement, USP will be launching a programme modelled on the Apollo Programme in February 2026.

Graduate School of Engineering

The Professional Development workshops run by the Graduate School of Engineering (GSE) in 2025 covered key topics, including professional skills development, industry awareness, and personal growth. These GSE workshops provide students with practical insights and hands-on learning opportunities, supporting both academic success and career readiness.

They aim to enhance students' academic performance and employability post-qualification. These fall into several categories, including skills-based workshops on leadership, communication and presentation, resilience, and self-optimisation. These are reviewed annually to ensure alignment with student and industry demand for specific skill sets.

Semester One workshops:

- Building Your Mental Strength and Resilience by Jamie Ford
- Conflict Resolution by Roseann Gedye
- EQ – The Leadership Advantage by Jamie Ford
- Public Speaking by Roseann Gedye

Semester Two workshops:

- The Art of Negotiation by John Scott
- Communicating with Competence and Confidence by Roseann Gedye
- Effective Work Performance Problem-Solving by Jamie Ford
- Interview Skill by Roseann Gedye
- How to Gain a Reputation as an Outstanding Communicator in your Leadership Role by Jamie Ford

Due to high turnout in Semester Two, a fifth workshop was added for the students to participate in – with very positive feedback from students.

Tuākana Programme

The Tuākana Programme is an academic and mentoring support programme available for Māori and Pacific students in the Faculty of Engineering and Design.

Throughout 2025, the Tuākana Engineering programme provided consistent and culturally responsive academic and pastoral support, engaging a growing cohort of students across the year. The programme supported five MAPTES students and delivered weekly Tuākana Part I Engineering tutorials across all core courses, which were well attended and open to both MAPTES and general entry students.

Attendance steadily increased over the year, with tutorial numbers growing from approximately four students in early Semester One, to up to sixteen students by the end of Semester Two, reflecting increased engagement and trust in the programme. Beyond academic support, strong rapport was built between tutors and students, with tutorials also serving as spaces for mentoring, peer connection, and cohort building.

Tuākana Engineering also merged with Tuākana Design, Urban Planning, and Architecture, in 2025, strengthening cross-programme collaboration. The Tuākana Design programme was supported by three mentors representing their respective schools, who facilitated weekly drop-in sessions and led cohort-building and celebratory events throughout the semester, including Orientation and end-of-semester wrap-ups.

In the postgraduate space, the team delivered its first combined event with the School of Architecture and Planning, and Design Tok Talks, showcasing Pacific postgraduate research and strengthening interdisciplinary and Pacific research visibility. Collectively, these initiatives contributed to improved student engagement, leadership development, and a stronger sense of belonging across undergraduate and postgraduate cohorts.

Our faculty's student clubs have expressed deep gratitude, noting that these collaborations have helped them feel more connected to fellow students, supported by the faculty, and genuinely valued during challenging periods. Through this work, the team has strengthened cross-faculty community, elevated student wellbeing, amplified student voice, and created inclusive spaces where all students feel they belong – shaping a more cohesive, supportive, and vibrant faculty culture.

Dean's Leadership Programme

Established in 2016, the Dean's Leadership Programme (DLP) was designed to develop the leadership skills of our students who have the greatest potential to make a positive difference in New Zealand. The DLP selects exceptional all-rounders who have demonstrated a natural aptitude for leadership, and while academic achievement is considered, the selection committee places greater emphasis on candidates' community involvement and engagement within the University.

In 2025, the programme proudly welcomed its tenth cohort, celebrating its 10-year anniversary in September – a milestone that reflects a decade of growth, achievement, and community support.

Beyond leadership development, the programme is designed to strengthen personal resilience, enhance communication and teamwork skills, and expand students' professional networks. Students are encouraged to approach complex challenges from multiple viewpoints, navigate situations without ideal solutions, and integrate insights from various disciplines – all while considering the wider societal impact of their work.

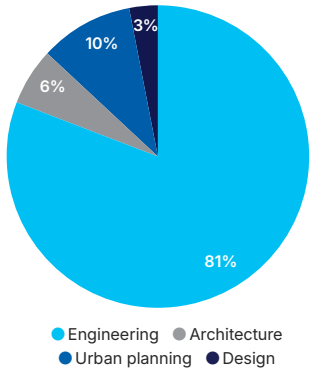
Ultimately, the Dean's Leadership Programme aims to ensure that graduates are well-prepared to "hit the ground running" as they enter the workforce, enabling employers to confidently entrust them with leadership and management responsibilities early in their careers.

Celebrating 10 years of the Dean's Leadership Programme

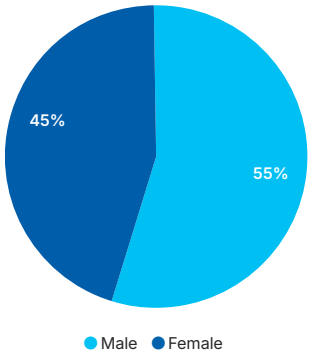
The faculty celebrated the 10-year anniversary of the Dean's Leadership Programme (DLP) in September 2025, bringing together more than 100 alumni, current students, industry representatives, donors, and faculty staff. The event recognised the many people who have shaped the programme over the past decade, with two DLP alumni sharing reflections on their journeys with the programme. The occasion highlighted the strong connections among DLP alumni and the lasting impact of the programme on their personal and professional growth.

A total of 31 students were selected and inducted into the Dean's Leadership Programme for 2025. The following shows the composition by programme, gender, and ethnicity.

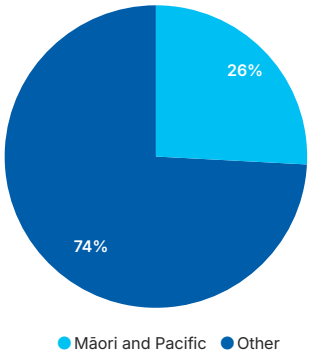
Cohort composition by programme



Cohort composition by gender



Cohort composition by ethnicity



Breakfast sessions

Over the course of the programme, seven in-person breakfast sessions were hosted on campus, featuring a total of 15 guest speakers representing a diverse range of leadership experiences. These included current CEOs, senior leadership, and emerging leaders in early senior roles. Each session provided students with valuable insights into leadership journeys, industry challenges, and career development.

The breakfast session speakers included:

- Troy Brockbank, Te Mana o te Wai Lead at Beca (alumnus)
- Emily Afoa, Pou Whakarae at Tektus Consultants Ltd (alumna)
- Kunal Bhargava, Hardware Manager at Apple New Zealand (alumnus)
- Andrew Connell, Engineering Programme Manager at Apple New Zealand (alumnus)
- Patrin Illenberger, Engineering Manager at Apple New Zealand (alumnus)
- John Clarke Executive General Manager Future Grid at Transpower
- Brighid Kelly Executive General Manager People at Transpower
- Craig Moller Director at Moller Architects
- Amelia Linzey, CEO at Beca
- Siobhan Hartwell, Regional General Manager New Zealand Pacific at GHD
- Auckland University Engineers Association (AUEA) panel:
  - Sifa Pole, Manager of Design & Constructions at Beca (alumnus)
  - TJ Yohendiran, Product Development Manager at F&P Healthcare (alumnus)
  - Kate Simmonds, Director of Operations (Water- ANZ) at Jacobs
  - Rupert Hodson, Executive Director at Committee for Auckland
  - Emma Hjorth, Civil Engineer at Tonkin + Taylor (alumna)

Over the 2025/26 summer, at least 18 DLP students successfully secured paid internships directly aligned with their fields of study. Dedicated support was also provided by the faculty's Employer Liaison Manager, Courtney King, for students encountering challenges in securing roles.

Engineering companies hosting these DLP students include:

- Air New Zealand
- AoFrio
- Cameron Partners
- Canva
- Dennisson Technologies
- Downer
- Fisher & Paykel Healthcare
- Fisher & Paykel Appliances
- Fulton Hogan
- KiwiRail
- Rocket Lab
- Sandfield
- Transpower
- Zenno Astronautics.

Teaching awards

Dr Nasser Giacaman recognised as one of New Zealand's top tertiary educators

Dr Nasser Giacaman from the Department of Electrical, Computer, and Software Engineering was recognised as one of the top tertiary educators in New Zealand for 2025, as part of the Te Whatu Kairangi Aotearoa Tertiary Educator Awards – for innovation in learning, teaching, and curriculum.

These awards recognise outstanding and sustained commitment to teaching excellence across the tertiary sector. Nasser was recognised amongst 27 tertiary educators across 11 award categories.

Nasser has continuously innovated in all aspects of his teaching through the development of interactive web-based resources, highly responsive formative feedback through GradeStyle, and the AI Agent Co-Thinker. His influence is wide ranging through involvement on innovative projects such as the global INTRACOMP Horizon Europe and Māori-Mai-Me virtual reality te reo Māori conversation app.

His approach to education exhibits real generosity with his time and innovations; some of which he has co-developed with learners and made open source to share with the world. Nasser describes his approach to learners from day one – "[they] aren't just academic learners – they're emerging software developers and engineers with professional careers ahead. By addressing them as the professionals they're becoming, I establish expectations and build confidence."

Teaching Development Awards

The Faculty of Engineering and Design Teaching Development Awards recognise initiatives that our staff have trialled and help foster a culture of teaching experimentation. Five to six of these awards are granted each year with a prize of $300.

The Faculty of Engineering and Design Teaching Development Award recipients for 2025 include:

- Dr Abhinaw Sai Erri Pradeep (Department of Civil and Environmental Engineering) for his initiative *'From Case Studies to Conversations: Using GPTs for Experiential Learning of Engineering Risk Management'*
- Dr Yang Zou (Department of Civil and Environmental Engineering) for his initiative *'Fostering Student Collaboration and Communication in Engineering Education through Digital Innovation and Experiential Learning'*
- Dr William Lee and Dr Jesin James (Department of Electrical, Computer and Software Engineering) for their initiative *'Tipping the ICEberg: Embedding collaborative skill-building into technical problem-solving via In-class Collaborative Exercise (ICE) in large-class settings'*
- Peter Bier and Elliot Varoy (Department of Engineering Science and Biomedical Engineering) for their initiative *'Contextual Academic Integrity: Encouraging students to behave appropriately via quiz questions founded on real-life, discipline specific contexts'*
- Associate Professor Marian Macken and Lynda Simmons (School of Architecture and Planning) for their initiative *'From Text to Drawing Through Four Integrated Tasks'*

Teaching Excellence Awards

Our University- and faculty-level teaching awards recognise staff who demonstrate outstanding commitment to student learning, innovative teaching practices, and educational leadership.

University Teaching Excellence Awards

Each year, the University of Auckland recognises, encourages, and rewards our staffs' excellence in teaching and learning through awarding Teaching Excellence Awards, with recipients being presented with a medal and prize money of $6,000.

In 2025, the following colleagues received University Teaching Excellence Awards:

Sustained Excellence in Teaching

Dr Hazim Namik (Department of Mechanical and Mechatronics Engineering)

Hazim's approach to teaching Mechanical and Mechatronics Engineering is defined by clarity, creativity, and a strong student-centered ethos. Since joining the University in 2013, he has coordinated several core Engineering courses, consistently earning praise for his engaging lectures, practical demonstrations, and carefully designed learning materials. Known for his innovative practices like 'Silly Hats Day' and gamified assignments, Hazim creates an inclusive and enjoyable learning experience that makes complex engineering concepts accessible and memorable.

He draws upon constructivist and space-based learning approaches, with a focus on active problem-solving and feedback-driven improvement. He utilises a wide range of educational technologies – from formative quizzes and

peer assessments to custom-built knowledge bases – he fosters meaningful engagement in large cohorts. His leadership roles, including Assistant Dean and Deputy Head of Department, reflect his broader impact on learning and teaching across the faculty.

Early Career Excellence in Teaching

Dr Valerio Terragni (Department of Electrical, Computer and Software Engineering)

Valerio's dynamic teaching style (as Programme Director for the Bachelor of Engineering (Honours) in Software Engineering) blends innovation, inclusivity, and a deep commitment to student success. His teaching philosophy centres on empowering students to think and act like professional software engineers, and his approach – grounded in the TeachWell framework – features interactive live coding, real-world analogies, and hands-on projects.

Valerio has led significant curriculum innovations, including the development of automated tools for assessing coding style and design, and his contributions have been recognised with multiple awards, including the IEEE Best Paper Award (Education category) at the International Conference on Software Testing (ICST 2025).

Faculty Teaching Excellence Awards

The Faculty of Engineering and Design Teaching Excellence Awards recognise staff who demonstrate excellence in teaching through the development of a significant teaching portfolio and reflection on the impact of their teaching practice. With a prize of $500, these awards are a stepping stone towards the University of Auckland Teaching Excellence Awards. The Faculty of Engineering and Design Teaching Excellence Award recipients for 2025 are:

Sustained Excellence in Teaching

Dr Allan Fowler (Design Programme)

Allan's teaching demonstrates a long-standing commitment to creating meaningful, hands-on learning experiences that genuinely support student growth. His approach blends learning by doing, thoughtful reflection, and steady improvement, helping students build confidence as they engage with new tools and ideas. Allan's use of game jams and practical project work fosters creativity, teamwork, and problem-solving, while his careful attention to diverse learner needs ensures an inclusive and supportive environment. His dedication to reflective practice, curriculum innovation, and accessible learning has had a clear and lasting impact on student engagement and success.

Early Career Excellence in Teaching

Dr Michael Gravatt (Department of Engineering Science and Biomedical Engineering)

Michael exemplifies teaching excellence through a philosophy grounded in connection and belonging, ensuring students feel meaningfully connected to content and each other. His relatable, authentic approach – infused with humour, empathy, and interactive learning – creates inclusive environments where students feel seen, supported, and motivated to succeed. In large first-year engineering classes, he fosters community and engagement, while his innovative international geothermal short courses demonstrate pedagogical creativity, global impact, and industry relevance. His consistently outstanding course survey results, commitment to reflection and improvement, and meaningful supervision of postgraduate research highlight a teacher who not only educates but inspires.

Sustainability Teaching Award

Dr Gabriela Baron (Design Programme)

The Sustainability Teaching Award recognises outstanding teaching that embeds sustainability in meaningful, innovative, and impactful ways. Gabriela has made a significant contribution to innovative sustainability teaching within the Design Programme, with particular strength in embedding sustainability across the curriculum and providing leadership for its integration across Design courses. She adopts culturally responsive teaching practices, incorporating her Design4Conservation toolkit as a central pillar in Design courses. Student projects and feedback demonstrate transformative learning of sustainability knowledge, skills and values.

Faculty of Engineering and Design Students' Choice Top 15 Teacher Awards

The Students' Choice Top 15 Teacher Awards recognise teaching staff who have made an outstanding impact on the student learning experience, as voted by students.

The Students' Choice Top 15 Teacher Award recipients for 2025 are:

- Aaron Fry (Design Programme)
- Dr Alex Shegay (Department of Civil and Environmental Engineering)
- Dr Amar Al Auckaili (Department of Chemical and Materials Engineering)
- Associate Professor Andreas Kempa-Liehr (Department of Engineering Science and Biomedical Engineering)
- Dr Ashkan Hashemi (Department of Civil and Environmental engineering)
- Dr Bryan Li (Department of Chemical and Materials Engineering)
- Associate Professor Duleepa Thrimawithana (Department of Electrical, Computer, and Software Engineering)

- Professor Guglielmo Aglietti (Department of Mechanical and Mechatronics Engineering)
- Dr Hazim Namik (Department of Mechanical and Mechatronics Engineering)
- Dr I-Ting Chuang (School of Architecture and Planning)
- Dr Michael Hoffman (Department of Engineering Science and Biomedical Engineering)
- Professor Olaf Diegel (Department of Mechanical and Mechatronics Engineering)
- Peter Bier (Department of Engineering Science and Biomedical Engineering)
- Dr Seho Kim (Department of Electrical, Computer, and Software Engineering)
- Dr William Lee (Department of Electrical, Computer, and Software Engineering)

Research and innovation

The University of Auckland operates a decentralised research support model, with specialist teams across the Research and Innovation Office, Faculty Research Centres and Large-Scale Research Institutes, Research Operations and Finance, and UniServices. These teams work collaboratively to support researchers by identifying funding opportunities, developing proposals, negotiating contracts, and managing grants and contracts.

Within this ecosystem, the Faculty Research Services team is the first point of contact for researchers, providing end-to-end research support, including advisory and consulting services, grant management, and administrative assistance.

Research centres

Across 14 research centres, the Faculty of Engineering and Design leads transdisciplinary research that addresses complex challenges, generating knowledge, innovation, and impact across New Zealand and globally.

auckland.ac.nz/engineering/research-centres

Research areas

At the Faculty of Engineering and Design, we aim for our research to benefit the diverse communities that we work with. Some of our key focus areas include:

Energy

Encompassing energy efficiency, geothermal development, battery technologies, smart grids, wireless power transfer, and energy systems.

Led by Associate Professor Sadiq Zarrouk, co-director of the Geothermal Institute, researchers are exploring how underground heat can be harnessed to cut water heating costs. In collaboration with Drill Force NZ Ltd, they're collecting temperature data from a well in Takanini to assess the feasibility of using geothermal energy to supplement home and business heating systems.

The technology works by drilling a shallow well near the property and running a water pipe through it. As the water flows through the pipe, it absorbs natural heat from the ground. This raises the water temperature by a few degrees, meaning less electricity is needed to heat it to the desired level – ultimately reducing overall energy use and power bills.

As the first study of its kind in New Zealand, this research has the potential to change the country's energy use, paving the way for more sustainable and affordable heating options.

Space

Including spacecraft operations and engineering, space governance, space technologies.

An estimated 130 million pieces of space junk are in low earth orbit, which pose a risk to the growing space sector. Dr Ben Taylor, Senior Research Fellow at the University's Te Pūnaha Ātea - Space Institute, and co-founder of Frond Space Systems is advancing solutions in managing space junk.

His spin-out company has designed a drag sail which can fold up into a small box and is attached to a satellite before launch. At the end of the satellite's life, the box opens, the sail unfolds, and its surface area creates a drag on the spacecraft, enough to pull it into the earth's atmosphere, where it will burn up. This system is designed to accelerate a satellite's deorbiting lifetime – bringing satellites down within five years, but ideally within one year.

Infrastructure

Including transportation, construction, urban planning and design, water management and quality.

As cities in New Zealand grow denser, noise pollution and poor ventilation are becoming major concerns for residents – and traditional building materials often failing to address these issues. Dr Andrew Hall is leading cutting-edge research to develop advanced materials that could transform building design and address this challenge.

His work focuses on developing specially designed materials that can block noise while allowing airflow, helping to improve sound insulation and ventilation in homes, particularly in windows, walls, and doors.

By exploring how sound waves interact with these materials and how different materials work together, Andrew aims to create a new class of high-performance building solutions that enhance comfort, energy efficiency and overall well-being. This could pave the way for quieter, healthier, and more affordable homes – reshaping the future of urban living in New Zealand.

Environment and sustainability

Including architecture, circular economy, resource use, and remediation approaches.

Concrete is one of the world's most polluting materials, with global cement production responsible for 5-8 percent of total CO2 emissions. At the Structures Testing Laboratory at our Newmarket Campus, Dr Enrique del Rey Castillo is using volcanic ash (pumice) and seashells to create a low-emissions concrete alternative rooted in local wisdom.

This blend of materials may have self-healing properties, with small cracks capable of mending themselves over time. Enrique's research is being carried out in partnership with mana whenua, who are affected by the impacts of traditional concrete production and stand to benefit from more sustainable use of these natural resources.

Resilience to natural hazards

Including responses to climate change, earthquake engineering, coastal hazards, hazard recovery.

In 2025, researchers at the Faculty of Engineering and Design conducted a one-of-a-kind, full-scale earthquake test on a two-storey timber structure in New Zealand. The test demonstrated that timber buildings can not only withstand major earthquakes but also return to their original position afterward – thanks to an innovative new technology designed to improve seismic resilience.

The test incorporated a cutting-edge technology known as the Resilient Slip Friction Joint (RSFJ) developed at the University. The RSFJ is a type of damper that absorbs seismic energy and helps the building recentre itself after shaking. The developed solution is now ready for adoption in industry and real-life projects.

Materials and manufacturing

Focusing predominantly on digital manufacturing approaches and industry 5.0.

There is a significant opportunity to grow investment and adoption of digital technologies and innovation to boost the New Zealand manufacturing sector's productivity. However, small and medium-sized businesses often find it hard to adopt digital technology because of high costs and complexity. 'Digital Manufacturing on a Shoestring' is a global project aiming to change that by providing easy-to-use, affordable tools that work alongside existing systems.

The Faculty of Engineering and Design's Laboratory for Industry 4.0 Smart Manufacturing Systems, in conjunction with Auckland Council, is launching a pilot programme to test these Shoestring solutions with 12 New Zealand companies. This work is part of the Digital Manufacturing Light programme and involves partners including AMA and the EMA. The Digital Manufacturing Light programme is an excellent way for SMEs to get started with their digital manufacturing journey.

Health technologies

For daily living, rehabilitation, and diagnosis.

Recovery devices – from orthotics that help you walk after an injury, to bone scaffolds that guide new tissue growth after surgery – are usually made in standard shapes and sizes, meaning patients often have to adjust to the device rather than the other way around.

Dr Maedeh Amirpour, Senior Lecturer in Engineering Science and Biomedical Engineering, is working to change this by developing personalised supports using biocompatible 3D-printed frameworks combined with body-safe gels. Each device can be adjusted for stiffness, flexibility and cushioning, giving patients better, more personalised support instead of relying on standard, rigid devices.

To make sure each design works safely and effectively, the team uses computer simulations to predict how the device will respond to physical forces and the body's biology. The team's vision is to see these next-generation medical devices become part of everyday healthcare and rehabilitation.

In addressing these areas of research, we use our wide range of expertise in design practice, software engineering, materials research, machine learning and artificial intelligence, modelling and simulation, dynamics and control, behaviour analysis, and robotics and automation.

John Boys' legacy powers new research centre

Launched in 2025, the John Boys Transdisciplinary Wireless Power Technology Centre honours Emeritus Professor John Boys, whose pioneering work with Professors Grant Covic, Udaya Madawala, Aiguo Patrick Hu, Associate Professor Duleepa Thrimawithana and Dr Andrew Green, helped turn inductive power transfer (IPT) into one of New Zealand's most globally influential engineering innovations.

Beginning in the late 1980s, John Boys, Andrew Green and Grant Covic cracked a long-standing engineering problem by refining IPT into a safe, efficient, and commercially viable system. In 2013, John and Grant received the Prime Minister's Science Prize, recognising the global impact of their work.

The centre brings together expertise from engineering, physics, computing, and design to pursue next-generation wireless power – from on-the-move EV charging to powering tiny medical implants and industrial sensors.

"Working with our national and international partners, we're pushing the boundaries of what wireless power can do," says Grant.

Sustainability through research and innovation

In research and innovation, the faculty continues to deliver impactful sustainability work across climate action, resilient infrastructure, low-emissions transport, and circular solutions.

One example is the work of Senior Lecturer in Architecture and Planning, Dr Timothy Welch, who developed a framework to measure and value emissions reductions from private and shared micromobility. The pilot achieved measurable outcomes, including an estimated 382 car trips and 687 kg of carbon dioxide emissions avoided – and was New Zealand's first pilot to apply the Gold Standard Foundation's AMS-III.BM carbon-credit methodology.

In addition, faculty researchers are contributing to major international climate-resilience initiatives. For instance, Associate Professor Theuns Henning from the Department of Civil and Environmental Engineering co-leads New Zealand's involvement in the Horizon Europe-funded Minority Report project, developing digital twin and AI-enabled planning tools to help cities model natural hazards and plan adaptation responses.

Beyond these, recent faculty sustainability research highlights include:

- Professor Peng Cao's high-entropy oxide battery materials aimed at longer-lasting EV batteries
- Dr Enrique del Rey Castillo's low-carbon concrete alternatives using locally sourced pumice and shells
- Associate Professor Prakash Ranjitkar's work on improving road safety and reducing pollution with autonomous vehicles
- Geothermal innovation led by Associate Professor Sadiq Zarrouk exploring shallow geothermal heating to reduce building energy use
- Circular, low-carbon timber durability programmes led by Dr Gary Raftery
- Professor Saeid Baroutian's work on circular solutions and award-winning technologies for treating complex and hazardous waste streams

Innovation

Innovation is central to the Faculty of Engineering and Design's mission to deliver real-world impact. Through leading research, applied problem-solving, and strong partnerships with industry and communities, our staff and students translate ideas into informed solutions that address complex societal, environmental, and economic issues.

Supported by a mature innovation and entrepreneurship ecosystem, the faculty actively enables pathways from research to application – fostering commercialisation, collaboration, and the creation of ventures that contribute to a more sustainable, productive and innovative future.

The Faculty of Engineering and Design forges strong relationships with industry through research collaborations, student opportunities, and strategic partnerships. The faculty also has a range of consultancy and testing services using our state-of-the-art-research instruments to support current or new business operations.

Newmarket Innovation Precinct (NIP)

Launched by the faculty in 2019, the Newmarket Innovation Precinct (NIP) is a multidisciplinary, industry-facing research and development community that strengthens collaboration between the University and industry. It connects companies facing technical challenges with world-class experts who are committed to having real-world impact.

The NIP colocation programme sits within the University of Auckland's broader innovation and entrepreneurship ecosystem, contributing to the development of an entrepreneurial campus. It provides space and tailored support for University researcher-founders, helping to de-risk and validate their ventures, and helps drive engagement between companies and the University on emerging technologies for the strategic growth of our research capabilities.

Working closely with UniServices and the University's STEM faculties – particularly the Faculty of Engineering and Design – NIP provides physical spaces and a supportive network to researcher-founders starting up companies which are commercialising intellectual property that has come from University research. The precinct strives for the University's researcher start-up companies to have the best chance of success to maximise all the benefits that come from growing innovative companies in Auckland and across the nation.

For external companies, colocation at NIP comes with a two-way commitment to collaborate on research and unlocks access to key resources around the University. Through alignment with University academics and research groups, these collaborations help grow research revenue, enable researchers to find pathways for real world impact, and contribute to our students experience and employment outcomes by helping make the University a more innovative environment to learn and work.

Through NIP, the faculty has recorded more than 250 industry engagements. Over the past year, the precinct facilitated 210 industry-to-University and industry-to-industry introductions, strengthening research collaboration, enhancing student experience, and supporting graduate employment outcomes.

Many collaborations actively involve students, providing hands-on experience and pathways into internships and graduate roles, while enabling companies to leverage University expertise to solve complex challenges and explore new technologies.

As of 2025, NIP has 144 industry colocation members from 39 different companies. Some examples of NIP's industry-collaborative projects include:

- **Revive Our Gulf | Restoring biodiversity to the Hauraki Gulf**

  Revive Our Gulf (ROG) is working on several innovative projects aimed at restoring mussel reefs in the Hauraki Gulf. Based out of a NIP lab, they are pioneering a specialised use of remotely operated vehicle (ROV) technologies to survey the health of mussel reefs and marine ecosystems.

  This work is shaping future approaches to applying solutions underwater and has led to collaboration with the faculty's Centre for Automation and Robotic Engineering Science (CARES) to develop tools that operate in marine environments. For Dr Jenny Hillman, ROG's Chief Science Advisor and marine scientist at the University, operating out of NIP has provided ROG with not only access to specialist facilities, but also provides opportunities for new collaboration with engineers and computer scientists at the University.

- **RosterLab | AI rostering automation startup showcases University's Innovation Ecosystem**

  RosterLab is transforming what has long been a time-consuming task for healthcare professionals by using advanced AI and algorithmic optimisation to generate complex rosters in minutes. RosterLab originated as a PhD research project by co-founder Isaac Cleland, alongside Associate Professor Andrew Mason and Dr Michael O'Sullivan.

  The research evolved into a promising venture after Isaac won the University's Velocity 100K Challenge, with 2024 seeing them secure their place as a NIP colocator. RosterLab currently has 10 staff members, of which the three founders are University of Auckland doctoral graduates, and six employees are recent graduates of the University.

  Co-founder Sunny Feng says NIP offers a supportive environment for university spin-out companies, providing an affordable workspace that eases early-stage companies' financial pressure and allows teams to focus on innovation, team growth, and scaling their solutions. The team has been expanding into domestic and overseas clinical markets, and are even expanding into adjacent markets, securing non-clinical clients such as SeaLink.

- **Metrovate | Building the future of agriculture technology**

  Metrovate are at the forefront of agritech, looking to maximise crop yields with their planet-friendly precision biostimulants – with the use of AI and physics-based modelling to simulate how novel peptides perform. The team includes expertise in biology, physics, engineering, and computational science that are tightly integrated to ensure peptide design is optimised for a given agricultural outcome.

  Metrovate's co-location at NIP has enabled strong engagement with student talent, with 14 Engineering capstone students contributing to their market and product research, administering surveys, and creating information databases – providing valuable practical experience for the students, and strategic insights for the company. Employing several University of Auckland students at Metrovate, founder Dr Nikolai Macnee says industry immersion is an important layer of education and an opportunity for students to push the boundaries of their field.

Velocity Challenges

Velocity is the University of Auckland's globally renowned entrepreneurship development programme, run through the Centre for Innovation and Entrepreneurship. The programme seeks give momentum to great ideas and innovate the future. Throughout the year, the programme hosts a series of challenges for students and staff across all faculties to participate in to develop their innovative potential.

The Faculty of Engineering and Design is a regular and successful participant in Velocity's challenges, with many of our students and staff going on to turn bold ideas into impactful ventures.

Ideas Challenge

In 2025, 318 venture ideas were submitted by students and staff from across the University for the Velocity Ideas Challenge. Each submission tackled a bold idea, from solving pressing social and environmental issues to seizing exciting new market opportunities, demonstrating the innovative mindset and diverse thinking of the University's community.

Associate Professor Andrea Raith and Juliette Foley, from the Department of Engineering Science and Biomedical Engineering, were selected as one of 22 winners and received a prize of $1,000, for their venture idea 'Green Grocer AI'.

Green Grocer AI cuts both grocery bills and emissions in one smart step. It analyses recipes, matches ingredients to real supermarket products, and optimises for weighted lower-cost, lower-carbon shopping lists – enabling families to save money and reduce climate impact, without changing what they love to cook.

$100k Challenge

The Velocity $100k Challenge is the programme's flagship competition, inviting students and staff from across the University to submit a business proposal showcasing how their idea could become a successful venture. A panel of judges assess the entries and select the ones ready to progress further.

In 2025, the runner-up in the $100k Challenge was Faculty of Engineering and Design-based team – Deployable Space Optics, who were awarded $15,000. The team is working on a compact, lightweight telescopic baffle designed to boost satellite imaging and cut launch costs.

Led by Professor Guglielmo Aglietti and supported by engineers Mark Honeth and Dr Mattia Longato, all from Te Punaha Atea, Auckland Space Institute, the team has a wealth of experience in aerospace structures and mechanisms, space start-ups, mechatronic engineering, structural dynamics analysis, and precision machining.

External funding success

The Faculty of Engineering and Design attracts significant investment to support high-impact research. These funding successes reflect the strength of our research capability and partnerships, enabling projects that address real-world challenges, advance knowledge, and deliver benefits for industry, communities, and society.

Some of the major funding awarded to our faculty researchers in 2025 include:

Public good research income

Faculty research team	Project	Organisation	Department
Sandeeka Mannakarra	Rising Waters, Resilient Homes: A multi-faceted approach towards housing resilience in Aotearoa New Zealand's Flood-Prone Areas.	BRANZ	Civil and Environmental Engineering
Guglielmo Aglietti, Benjamin Taylor, Annalisa Tresoldi, Mattia Longato and Roberto Armellin	Space Engineering Platform	Ministry of Business, Innovation and Employment	Mechanical and Mechatronics Engineering
Guglielmo Aglietti, Benjamin Taylor and Roberto Armellin	SilverEye – Satellite Imaging for Land Vegetation, Environmental Recovery in Ecosystems and Yield Enhancement	Ministry of Business, Innovation and Employment	Mechanical and Mechatronics Engineering
Paola Boarin, Kim Dirks, Meg Parsons, Bruce Burns, Ariel Micaiah Heswall, Priyanka Dhopade, Alessandro Premier, with Robert Amor and Jacqueline Beggs (Faculty of Science)	Future Urban Industry: Integrating economic, ecological and built systems for resilient cities	Ministry of Business, Innovation and Employment	Architecture and Planning
Alireza Akbarnejad, Jenny Malstrom and Kean Aw, with Jadranka Travas-Sejdic and Lisa Pilkington (Faculty of Science), and Simon Swift (Faculty of Medical and Health Sciences)	Harnessing Nature's Energy to Combat Infections	Ministry of Business, Innovation and Employment	Chemical and Materials Engineering
Sadiq Zarrouk, John O'Sullivan, Adrien Croucher, Eylem Kaya	DeepHeat: Unlocking superhot geothermal and national energy security through advanced permeability modelling	New Zealand Institute for Earth Science Limited (formerly GNS)	Engineering Science and Biomedical Engineering
Andrew Hall	Hear Me Out: Building better acoustic privacy and ventilation using Metasystems	Royal Society Te Aparangi (Mana Tūānuku Fellowship)	Mechanical and Mechatronics Engineering

Faculty research team	Project	Organisation	Department
Karamia Müller	Transforming the future of Pacific housing	Royal Society Te Aparangi (Mana Tūāpapa Fellowship)	Architecture and Planning
Aleksey Shegay	Investigating the performance and limits of practical non-structural detailing considering critical seismic interactions	QuakeCoRE (Rfp Projects)	Civil and Environmental Engineering
Liam Wotherspoon	Soil-Foundation-Structure-Interaction for non-symmetrical and flexible foundation systems	QuakeCoRE (PhD Scholarships)	Civil and Environmental Engineering
Jenny Malmström	MacDiarmid 2.5 - PI Funding	The Research Trust of Victoria University of Wellington	Chemical and Materials Engineering
Andrew McDaid	Repair my iHunch! Commercializing a therapeutic platform to counteract and reverse forward head posture and resulting back/neck pain.	The University of Auckland - ABI-Medtech	Mechanical and Mechatronics Engineering
Michael Gravatt	Next-generation ore: towards sustainable mining for regional prosperity and societal resilience	Faculty of Science	Engineering Science and Biomedical Engineering
Vladislav Sorokin	Reducing spat losses to grow New Zealand's Greenshell mussel sector	Faculty of Science	Mechanical and Mechatronics Engineering
Wei Yu and Brent Young	New Zealand precision fermentation: From local bioresources to high value proteins	New Zealand Institute for Bioeconomy Science Limited (formerly AgResearch)	Chemical and Materials Engineering
Sadiq Zarrouk, John O'Sullivan, Adrien Croucher, Eylem Kaya	DeepHeat: unlocking superhot geothermal and national energy security through advanced permeability modelling	New Zealand Institute for Earth Science Limited - formerly GNS	Engineering Science and Biomedical Engineering
Lucas Hogan and Alex Shegay	Next-generation early warning: Forecasting tsunami and multi-hazard impacts as local earthquakes strike	New Zealand Institute for Earth Science Limited - formerly GNS	Civil and Environmental Engineering
Kelly Blincoe, Valerio Terragni, Elliot Wen (FoS)	Finding, understanding, and mitigating vulnerabilities in domestic and global software supply chains	The Research Trust of Victoria University of Wellington	Electrical, Computer, and Software Engineering
Jesin James and Catherine Watson	Culturally Sustaining AI-based Te Reo Māori Pronunciation Coach	Faculty of Arts and Education	Electrical, Computer, and Software Engineering
Steve Matthews	Highly active low-cost electrodes: Exploiting the non-obvious interactions during plasma spray coating	University of Canterbury	Chemical and Materials Engineering

Faculty research team	Project	Organisation	Department
Andrew Stolte	Uncovering earthquake hazards in Aotearoa using next-generation geological and ground motion modelling	University of Waikato	Civil and Environmental Engineering
Colin Whittaker	Advancing understanding of catchment-to-coast sand transport: Lifting environmental and economic benefits	New Zealand Institute for Earth Science Limited - formerly NIWA	Civil and Environmental Engineering
Naresh Singhal	Engineering Metabolic Transitions to Combat Antimicrobial Resistance Development in Freshwater Microorganisms	Royal Society Te Aparangi (Marsden Standard)	Civil and Environmental Engineering
Shanghai Wei	Unveiling the In-Situ Formed Solid-Electrolyte Interphase in Seawater-Based Rechargeable Batteries	Royal Society Te Aparangi (Marsden Standard)	Chemical and Materials Engineering
Michael O'Sullivan	Te Pūnaha Matatini – funding for subcontractor (Genomicus Consulting) for Complexity Community of Inquiry leadership position	UoA CORE Subcontract - TPM	Engineering Science and Biomedical Engineering
Kelly Blincoe	Te Pūnaha Matatini - Postdoctoral Fellowship funding for "Modelling for Impact Lab" project	UoA CORE Subcontract - TPM	Electrical, Computer, and Software Engineering
Kelly Blincoe	Te Pūnaha Matatini -Research Fellow funding for "Modelling for Impact Lab" project	UoA CORE Subcontract - TPM	Electrical, Computer, and Software Engineering
Jenny Malmström	MacDiarmid 2.5 Tranche 2 (2025-2028) PI PhD Scholarship - Nasim Reihani	The Research Trust of Victoria University of Wellington	Chemical and Materials Engineering
Jenny Malmström	MacDiarmid 2.5 Tranche 2 (2025-2028) Contestable PhD scholarship - Faezeh Shams	The Research Trust of Victoria University of Wellington	Chemical and Materials Engineering
			Total Research Income: $27,778,535

People and culture

Staff recognitions

Our staff continue to be recognised nationally and internationally for the impact of their work and the contributions they make across research, teaching, professional practice, and service. Some notable staff achievements and recognitions from across the faculty include:

- Professor Charles Clifton recognised in King's Birthday Honours 2025 as a Companion of the New Zealand Order of Merit for services to structural engineering, and appointed as Fellow of the Royal Society of New Zealand
- Professor Nirmal Nair appointed as Fellow of Institute of Electrical and Electronics Engineers (IEEE), IEEE PES Distinguished Lecturer, Inaugural IEEE Region 11 Director-Elect, and Fellow of the Asia-Pacific Artificial Intelligence Association (AAIA)
- Professor Abhisek Ukil appointed as Fellow of the Institute of Electrical and Electronics Engineers (IEEE)
- Associate Professor Lee Beattie appointed as Fellow of New Zealand Planning Institute (NZPI)
- Professor Seosamh Costello, Associate Professor Doug Wilson, and Dr Ashkan Hashemi appointed as Fellows of Engineering New Zealand
- Associate Professor Meng Wai Woo appointed as Fellow of the Institution of Chemical Engineers (IChemE)

University and faculty recognitions

University of Auckland Research Impact Awards

The University's Research Impact Awards recognise and celebrate our impactful researchers. Award winners receive a $10,000 fund to be spent on impact and engagement activities.

Associate Professor Andrew McDaid (Department of Mechanical and Mechatronics Engineering) was a University of Auckland Research Impact Award recipient for 2025.

Andrew was recognised for improving health outcomes through AI-powered wearable devices. Through his research in medical devices and technologies, Andrew has founded three start-up companies and led over 20 research projects with the New Zealand MedTech industry, improving health outcomes, supporting underserved communities, and helping transform clinical practice in New Zealand and beyond.

Faculty of Engineering and Design Academic Citizenship Award

The Faculty of Engineering and Design Academic Citizenship Award recognises sustained and substantive contributions made by staff in service of their colleagues over a prolonged period of time.

Faculty of Engineering and Design Academic Citizenship Award 2025 recipient:

Mr Kevin Jia (Department of Engineering Science and Biomedical Engineering)

Kevin was recognised for his consistent willingness to serve both his department and faculty in a number of roles, including as the Faculty Representative on Senate.

Faculty of Engineering and Design Sustainability Excellence Awards

Sustainability Research Award

The Sustainability Research Award recognises research that advances sustainability knowledge and practice, aligned with environmental, social and economic dimensions.

Sustainability Research Award 2025 recipient:

Dr Timothy Welch (School of Architecture and Planning)

Timothy's research exploring whether zero-emissions vehicle options could reduce first- and last-mile car trips to public transportation, addresses a key sustainability challenge in transport. Supported by the Waka Kotahi NZTA Hoe ki angitū Innovation Fund, he developed a framework to measure and value emissions reductions from both private and shared micromobility. The project achieved significant results – reducing an estimated 382 car trips and avoiding 687 kg of carbon dioxide emissions.

Operational Sustainability Award

The Operational Sustainability Award recognises projects or initiatives that improve the sustainability of operations within the faculty.

Operational Sustainability Award 2025 recipient:

Dr Sivakumar Kandasamy (Technical Services)

In the past year, Sivakumar has led two significant sustainability initiatives that demonstrate a high level of innovation and scalability, including a Barcode-Enabled Resource Administration System and a Robot Recycling Initiative. Both initiatives are designed for scalability across the faculty and beyond, and have engaged staff and students, fostering a positive cultural shift toward responsible resource management and embedding sustainability into everyday practices.

Faculty of Engineering and Design Professional Staff Excellence Awards

The Faculty of Engineering and Design Professional Staff Excellence Awards are designed to identify and acknowledge non-academic staff members who have made truly distinctive contributions to the faculty.

The Faculty of Engineering and Design Professional Staff Excellence Awards recipients for 2025 are:

Individual awards

- Angel Karan, Associate Finance Business Partner (Faculty Finance)
- Caitlin Scragg, Faculty CAPEX and Asset Manager (Technical Services)
- Anna Chilcott, Sub-doctoral Research Coordinator (Academic Services)
- Laila Sabardin, Research Operations Coordinator (Engineering Research Services)
- Melanie Milicich, Research Programme Manager (Engineering Research Services)
- Ray Hoffmann, Senior Technician (Department of Chemical and Materials Engineering)
- Trishit Ghatak, Senior Technologist (Department of Mechanical and Mechatronics Engineering)
- Gian Schmid, Senior Technologist (Department of Mechanical and Mechatronics Engineering)
- Courtney King, Employer Liaison Manager (Student Support and Engagement)
- Basil Baby, Technologist (Department of Electrical, Computer, and Software Engineering)

Team awards

- Women in Engineering team (Ashleigh Fox, Unayza Nabijan, and Kate Greenslade)
- Student Support and Engagement team (Courtney King, Joanna Luo, Natasha Morsch, Lili Posada, Lil Atalili, Meleane Akauola, and Jane Williams)

Faculty community events

Throughout the year, the Faculty of Engineering and Design hosts a variety of events for staff, providing opportunities to connect and build relationships across departments. These gatherings strengthen our workplace community and allow staff to come together to celebrate and contribute to the faculty's vibrant culture.

Matariki Celebration

In 2025, the Faculty of Engineering and Design marked Matariki with a staff celebration attended by more than 150 colleagues. Organised by the faculty's Wellness Committee and hosted by Cade Norton, Group Services Coordinator (Engineering Science and Biomedical Engineering), the event opened with a mihi, waiata and a presentation exploring the significance and origins of Matariki.

Staff took part in assembling interactive Matariki LED activity kits, encouraging reflection on the values and practices associated with the Matariki and providing an opportunity for shared learning and connection. The celebration concluded with a karakia and shared kai.

Cultural Day Lunch

Our Cultural Day Lunch is an annual staff event hosted by the Faculty of Engineering and Design's Wellness Committee, designed to fostering unity and appreciation for diversity among our staff. In 2025, the event brought staff together from Architecture, Design, Engineering, and Urban Planning in a shared celebration of culture and community.

Staff contributed a wide range of dishes representing various countries, showcasing the culinary talents and rich diversity within our faculty community. Many attendees also wore traditional attire, adding to the cultural expression throughout the day.

The event was underpinned by a spirit of manaakitanga and was well received by staff, with feedback noting the lasting connections formed. As the first Cultural Day Lunch to bring together staff from across Architecture, Design, Engineering, and Urban Planning, it was a memorable occasion for all involved.

Diwali Celebration

Coordinated by the faculty's Wellness Committee, the Faculty of Engineering and Design's celebration of Diwali in 2025 brought staff together through a programme of cultural experiences, shared food, and connection.

The celebration opened with a welcome from Michael Willimott, Director of Faculty Operations, and was supported by the leadership of Priscilla Lobo on behalf of the Wellness Committee. The event featured a Bollywood dance performance and traditional henna designs, followed by an Indian-style lunch with a selection of savouries and sweets.

The Diwali celebration was well attended, offering staff an enjoyable and interactive environment to connect across teams and celebrate together.

Student awards

University of Auckland Blues Awards

The Blues Awards are an annual celebration of the outstanding talent at the University of Auckland. These prestigious awards recognise students who have achieved excellence in extracurricular activities at a national or international level, or made a significant impact in their community.

In 2025, 116 Blues Awards and 18 Major Awards were presented to students who excelled across four categories – Arts and Cultural, Business and Innovation, Service and Leadership and Sports, at the University's Blues Awards.

These included the following students from the Faculty of Engineering and Design:

- **Most Meritorious Performance (Arts and Cultural)**
  Joshua Bamfield
- **Most Meritorious Innovation (Business and Innovation)**
  Hiraia Haami-Wells
- **Business and Innovation Blue Winners**
  Amanda Tze Min Lee and Grace Elizabeth Kerr
- **Service and Leadership Blue Winners**
  Angela Benedicta Horta and Dylan Chand
- **Sports Blue Winners**
  Alexander Revell-Lewis, Ashtuti Kumar, Bee Townsend, Campbell Stanton, Chris Benzie, Ella Arnold, Flynn Howarth, Frazer Tavener, Hamish Mclaren, Hannah Findlay, Jesse Mutton, Joshua Hyde, Joshua Teitelbaum, Josi Andres, Markus MacDonald, Samuel Ruruarau Hiha, and Vincent Jin-Hao Tao.

Partnerships and engagement

The Faculty of Engineering and Design delivers tangible impact on society through innovations that shape industries and strengthen communities across New Zealand and beyond.

Breakthrough research in wireless power transfer technology – now used globally in applications such as mobile device charging – originated within our faculty. Our academics have also developed seismic building joints that flex during severe earthquakes, which become rigid again post-earthquake, significantly reducing structural damage and helping to save lives. These joints are now widely used across New Zealand and increasingly adopted internationally.

Our faculty-developed software has also been adopted by the New Zealand Electricity Authority as a tool to monitor market performance and assess New Zealand's security of energy supply. Alongside these technical advances, within the faculty, we have award-winning academics in Architecture, who continue to be recognised for their innovative and impactful building designs.

International partnerships

Due to broader international education trends and certain geopolitical developments, there was increased interest from international students and universities in fostering strong relationships with the University of Auckland. The Faculty of Engineering and Design, in particular, is attractive for collaboration, given our high standing and strong international reputation. During 2025, we had official faculty visiting delegations from China (9), India (3), Malaysia (1), Indonesia (2), Hong Kong (1) and Fiji (1).[1]

Hosted delegations

In 2025, the faculty welcomed a range of visitors, including government ministers and international delegations, providing opportunities to showcase our research, innovation, and real-world impact.

- **Minister Hon Chris Penk visits the faculty to learn about the global 'Digital Manufacturing on a Shoestring' project**

  In July 2025, Minister for Small Business and Manufacturing Hon Chris Penk visited the University of Auckland's Faculty of Engineering and Design to learn about 'Digital Manufacturing on a Shoestring', a global project helping small manufacturers use simple, low-cost digital tools made from widely available parts.

  As part of the Digital Light Manufacturing programme, the faculty's Laboratory for Industry 4.0 Smart Manufacturing Systems, in conjunction with Auckland Council, is launching a pilot programme to test these Shoestring solutions with 12 New Zealand companies.

  "From my point of view, just viewing this from a central government lens, we're really excited about what you've achieved and are achieving but also the possibilities for further collaboration... you've given us a lot to think about," Minister Penk says.

- **Minister Hon Dr Shane Reti visits the Geothermal Institute geothermal energy's role in a clean energy future**

  Minister of Science, Innovation and Technology, and Minister of Universities, Hon Dr Shane Reti visited the faculty's Geothermal Institute in August 2025, as an opportunity to discuss the role geothermal energy can play in New Zealand's clean energy future, and the opportunities it presents globally.

  Minister Reti toured the research centre's advanced geothermal modelling and 'Reducing Carbon Emissions' (RCE) labs, where cutting-edge research is advancing the frontiers of geothermal science and engineering. He also met with students – speaking with them about their projects and observing them in action.

  The Geothermal Institute greatly appreciated Minister Reti's interest in their work and the future of geothermal energy, both as a driver of sustainable development and as a priority field for education and research.

- **Creativity and innovation take centre stage during Minister Hon Paul Goldsmith's visit**

  As part of a wider visit to experience the creative talent and cutting-edge research happening across

1 Visitations only include visits since June 2025 and exclude University-level visits that have been hosted by the International Office.

the University, Minister Hon Paul Goldsmith visited the faculty's Newmarket Innovation Precinct (NIP) – a hub where entrepreneurs, researchers and start-ups collaborate to drive innovation for New Zealand's future.

Minister Goldsmith also toured the Centre for Advanced Materials Manufacturing and Design, which creates bespoke high-tech components aimed at improving sustainability in manufacturing. His visit then ended at the Structures Testing Laboratory, a state-of-the-art facility with specialised equipment like an earthquake simulation table and a strong floor for testing buildings and structures.

The visit served as an opportunity for the Minister to see first-hand how our students and researchers are shaping a more creative and innovative future.

- **Te Pūnaha Ātea – Space Institute welcomes delegation from New Zealand Trade and Enterprise's (NZTE) space cluster**

In October 2025, Te Pūnaha Ātea – Space Institute welcomed a delegation from NZTE's space cluster. The visit began with an overview of the Space Institute, followed by introductions and a roundtable discussion between the delegates and University of Auckland researchers to explore potential areas of collaboration.

The delegation included representatives from international space-related companies, government agencies, universities, NZTE, and Auckland Council. Following the discussions, the group toured the Space Institute's facilities and received a briefing from Benjamin Taylor on Frond Space Systems.

- **EU Delegation, National Contact Point for Horizon Europe in Space, and Referees Robotics visit Te Pūnaha Ātea – Space Institute**

Te Pūnaha Ātea – Space Institute hosted a visit from the European Commission's Directorate General for Trade and Economic Security representatives, as well as the National Contact Point for Horizon Europe in Space, Jannik Haas, in November 2025. Both visits included an overview of the Space Institute, followed by a brief tour of the facilities including the Mission Operations Control Centre, Fabrication and Clean Room, and the National Satellite Testing Lab.

In addition, the Space Institute hosted a visit from Referees Robotics, a community-based youth robotics club. The group toured the Space Institute and its facilities to learn about current activities and gain inspiration. The visit opened discussions on potential collaboration, including mentorship opportunities from University students, joint part manufacturing projects, and ways to connect younger students with the University's Engineering community.

Alumni

The Faculty of Engineering and Design has a total of 35,915 living alumni, of which 66% are in New Zealand, and 34% are based internationally across 114 countries.

The top 20 countries where our internationally based alumni are located are:

1. Australia (22.5%)
2. Malaysia (13.7%)
3. United States (8.4%)
4. China (6.9%)
5. India (5.8%)
6. United Kingdom (5.4%)
7. Indonesia (5.1%)
8. Hong Kong (4.1%)
9. Singapore (3.0%)
10. Canada (2.7%)
11. Philippines (1.8%)
12. Thailand (1.5%)
13. Fiji (1.5%)
14. Taiwan (1.4%)
15. France (1.1%)
16. Germany (1.1%)
17. South Korea (1.1%)
18. Kenya (0.9%)
19. United Arab Emirates (0.7%)
20. Japan (0.6%)

Alumni recognitions

In 2025, several of our alumni received notable recognition for their achievements and contributions.

- Alex Kendall, CEO and co-founder of Wayve, awarded OBE (Order of the British Empire) in King's New Year Honours 2025 for contributions to artificial intelligence
  Bachelor of Engineering (Honours) in Mechatronics Engineering
- Jade Leung, co-founder of the Centre for the Governance of AI at the University of Oxford, appointed as UK Prime Minister's AI Adviser
  Bachelor of Engineering (Honours) in Civil Engineering
- Hengjie Wang, CEO and co-founder of Kami, recognised as EY Entrepreneur of the Year New Zealand 2025
  Bachelor of Engineering (Honours) in Software Engineering
- Craig Piggott, CEO and founder of Halter, awarded University of Auckland Young Alumnus Award
  Bachelor of Engineering (Honours) in Mechanical Engineering

University of Auckland 40 Under 40

The University's 40 Under 40 recognition celebrates alumni aged 40 and under who are making significant contributions in their chosen professional fields or communities. It seeks to showcase the breadth and diversity of the University's global alumni community, while also inspiring the next generation of alumni leaders to make a positive difference in the world.

In November 2025, we celebrated four alumni from the Faculty of Engineering and Design being recognised in these awards:

- Dan Teo, CEO at Radically
  Bachelor of Engineering (Honours), Master of Engineering Management
- Jennifer Jones, Founder of Auckland Design Week
  Master of Engineering Studies
- Piyush Verma, Senior Fellow, Energy and Climate Policy Lead at Observer Research Foundation America
  Doctor of Philosophy in Electrical and Electronic Engineering
- Steven Shutong Jiang, CEO and Product Lead at Soarability
  Bachelor of Engineering (Honours), Master of Engineering

There are now 40 alumni from the Faculty of Engineering and Design who have received this prestigious accolade, with our Alumni Relations Faculty Manager working closely with this group of esteemed alumni to strengthen meaningful engagement.

Alumni events

In 2025, the faculty hosted a variety of events to foster engagement within our alumni community. Some of our key events included:

- **Annual lunch in Ardmore**

  Held in March 2025, this annual luncheon brought together alumni who studied Engineering at the University when courses were delivered in Ardmore between the late 1940s and late 1960s, during its period as a fully residential Engineering school. The event provides a valued opportunity for alumni to reconnect with former classmates, reminisce about their time at Ardmore, and engage with members of the faculty community.

- **Auckland University Engineers Association (AUEA) spotlight event: The Future Delivery of New Zealand Infrastructure**

  Spotlight events are held annually for all Engineering alumni of the University of Auckland, offering seminars exploring pressing issues in the engineering sector. The 2025 event provided alumni with the opportunity to engage in a thought-provoking discussion on shaping the delivery and funding of infrastructure for future generations.

  The programme featured distinguished guest speakers Leslie Hopkins, Planner and Senior Technical Director at Beca; Angela Neeson, Chief Financial Officer at Watercare; and Professor Paola Boarin (Architectural Technology and Sustainability) from the University of Auckland, who also serves as Director of the Future Cities Research Centre.

- **Dean's Leadership Programme 10-year Reunion**

  In September 2025, the faculty celebrated the 10-year anniversary of the Dean's Leadership Programme (DLP) – a milestone that brought together over 100 guests, including DLP alumni, current cohort members, industry representatives, donors, and faculty staff.

  The evening celebrated the people and partnerships that have shaped the programme over the past decade. Dean Richard Clarke opened the event with a warm and thoughtful welcome, followed by remarks from Engineering alumnus Fady Mishriki, a long-standing supporter of the DLP since its inception. The event also featured reflections from former DLP students Connor McDowall and Aorthi Afroza, who shared inspiring reflections on their journeys before, during, and after their time in the programme.

Donor-supported activities

From alumni and close friends of our students and researchers, to corporations, trusts, and foundations, the Faculty of Engineering and Design has built diverse and long-standing partnerships over time. What they all share is a commitment to enabling access to education, advancing research that benefits society and the planet, and extending the faculty's reach to more students.

Donor support is vital because it allows the faculty to achieve greater impact. Contributions enable research that might not otherwise take place and support strategic programmes addressing the underrepresentation of women, Māori, and Pacific students. They also help us innovate and develop initiatives that elevate the Faculty of Engineering and Design and its mission.

What donor funding helps us achieve

Total donor contributions

In 2025, over $2 million was committed in pledges to support the Engineering research initiatives and faculty strategic programmes, and approximately $200,000 was donated to support Architecture, Urban Planning, and Design scholarships, prizes and programmes.

Scholarships, awards, or fellowships supported

Within the Faculty of Engineering and Design, over 45 prizes and 60 scholarships and awards were supported by philanthropy in 2025, with three new scholarships being opened in Engineering, and three new awards being opened in Design from one new donor.

Student projects impacted

Philanthropy and sponsorship agreements support faculty strategic programmes such as the Women in Engineering Academy and the Apollo Programme, as well as student projects including the Women in Engineering Network (WEN), South Pacific Indigenous Engineering Students (SPIES), and the Rainbow Student Network. In 2025, five student projects in Design were impacted by generous donations, and students taking part in the Timber Technology Vertical Thesis Programme also benefited from donations.

Active donors

The faculty's number of active donors as of 2025 are:

Engineering: 85 active donors

- 70 donors supporting scholarships, awards, and prizes
- 15 donors supporting strategic programmes and research initiatives

Architecture, Urban Planning, and Design: 30 active donors

- 28 donors supporting scholarships, awards, and prizes
- 2 donors supporting strategic programmes

Top donors

The faculty's top donors for 2025 include:

Engineering:

- HERA (Heavy Engineering Research Association) – $760,000
  To support a research and education programme in Structural Steel within the Faculty of Engineering and Design.
- The Tyree Group – $300,000
  To support 10 scholars through their full four-year Engineering degree by 2030.
- Wide Trust (Wood Industry Development and Education Trust) – $237,000
  To support research to explore, test, and refine the design of long-span timber floors, with the aim of making timber more cost-effective, resource-efficient, and attractive to decision-makers.
- The Dines Family Charitable Trust – $150,000
  To support the Apollo Programme.
- Gregory Jarvis – $100,000
  To support scholarships for students who have participated in the Women in Engineering or Apollo Programme.

Architecture, Urban Planning, and Design:

- WIDE Trust (Wood Industry Development and Education Trust) – $42,000
  To support the delivery of the Timber Technology Vertical Thesis Programme and Timber Design Teaching Programme
- Winstone Wallboards – $24,000
  To support the School of Architecture and Planning's Fast Forward Lecture Series (10 lectures per year)
- The Warren Architects Education Charitable Trust – $15,000
  For scholarships in Architecture and general support of Architecture programmes.
- Jasmax Architects – $10,000
  For scholarships in Architecture.
- Architectus – $8000
  For the Rewi Thompson Scholarship in Architecture.

Enabling environment

Our facilities and spaces

The Faculty of Engineering and Design occupies close to 60,000 square meters of floor area across the University of Auckland's City and Newmarket Campuses and Ardmore Research Station, housing state-of-the-art teaching and research facilities. Our teaching facilities include 38 flexible and specialist Multi-Disciplinary Learning Spaces (MDLS), specialist design fabrication laboratories and workshops, and a set of studio teaching facilities which are key enablers of the learning experience in the faculty's programmes.

The faculty operates close to 90 purpose-built research facilities containing specialist research instruments and staff enabling our research output addressing globally significant issues pulling together researchers, technical staff, and students with diverse skills across the faculty. With access to expertise and purpose-built facilities, we extend the offer to you to join us, either as collaborators or as students. The University's research culture is about more than the acquisition of new knowledge – it also leads to a steady stream of highly skilled people moving on to further their careers, be it in industry or academia.

In 2025, we undertook the ambitious task of designing and constructing a new wave flume facility at the Fluid Mechanics Laboratory at the Newmarket Campus. The flume uses a state-of-the-art wave generation system, including active absorption and dynamic control, an improved flume with one wall constructed with glass windows to create opportunities for additional observations and camera-based measurements, an energy absorbing beach, and a modular flooring system that will significantly reduce downtime between projects.

This facility will be commissioned in early 2026 and will provide engineers and scientists with a world-class wave flume for coastal research, as well as providing opportunities to engage in transdisciplinary research in energy, infrastructure and the environment.

In 2026, the faculty will also embark on a significant refit of Building 423 in partnership with our Property Services department, aimed at increasing studio teaching space and further developing our postgraduate student experience in the design-based programmes.

Sustainability

Sustainable operations in practice

In operations, sustainability is being normalised through practical, scalable initiatives and improvements to the campus environment. A strong example is the work of Dr Sivakumar Kandasamy, who led a barcode-enabled resource administration system and a robot recycling initiative, which dismantled and sorted components from 60 robots, diverting e-waste from landfill and enabling reuse in teaching cycles.

The faculty is also strengthening sustainable laboratory practices through an initiative to certify our laboratories under the My Green Lab programme, supporting more efficient and responsible use of energy, water, and consumables, and improved waste management across lab operations.

Community initiatives

A standout community-facing initiative supported through Faculty of Engineering and Design's sustainability leadership is the Repair Café event, which has helped shift behaviour from 'dispose and replace' to 'repair and reuse', while fostering practical skills and connection.

The Repair Café event was highly successful, with students and staff repairing a wide range of items – including small electrical and household goods. Beyond diverting waste from landfill, the initiative demonstrates a positive cultural shift towards circularity, and provides a visible, engaging pathway for staff, students, and the wider community to participate in sustainability action.

The Faculty of Engineering and Design's Sustainability Committee provides the coordinating backbone for many of these efforts. It brings together staff and student representatives, aligns sustainability activity across teaching, research, and operations, and helps identify, support, and scale practical initiatives.

The committee also creates mechanisms to recognise and share good practice – such as the Faculty Sustainability Awards – strengthening a culture in which sustainability becomes part of everyday decision-making across the Faculty of Engineering and Design.

Faculty of Engineering and Design plays key role in hosting the University's first Repair Café

The University's first Repair Café took place in October 2025 – bringing students and staff together with skilled volunteers to fix broken household items. Approximately 50 students and staff attended the event, which the Faculty of Engineering and Design ran in collaboration with Repair Network Aotearoa, the Sustainability Hub, the Circular Innovations Research Centre (CIRCUIT), Ngā Ara Whetū - Centre for Climate, Biodiversity and Society, and the Centre for Innovation and Entrepreneurship. Volunteers successfully repaired about 80 percent of items – with each successful repair diverting waste from landfill, reducing greenhouse gas emissions, and giving items a new lease on life.

Looking to the future

I hope that you have enjoyed hearing about all of the activities and success stories from the Faculty of Engineering and Design in 2025 and agree that much has been accomplished over the past 12 months.

The coming year will see this momentum continue at pace, as we continue to innovate the way we educate and conduct research in an increasingly AI-enabled landscape. The faculty will also continue to foster important new strategic partnerships that will elevate to even higher levels our capacity to achieve great things. As too will our role in the evolution of our Newmarket Campus into the University's innovation campus. And so please do stay connected with us.

Richard Clarke
Manukura Te Herenga Auaha | Dean of Engineering and Design

Connect with us

Stay connected with the Faculty of Engineering and Design to stay up to date with our latest news, explore opportunities, access insights, and be part of the ideas, research, and innovation shaping the future.

For businesses and employers

The faculty actively builds relationships with industry partners through events, internships, and collaborative opportunities. Our Employer Liaison Manager supports organisations to connect with current students and graduates via career expos, recruitment events, internships, work experience, and interview initiatives.

We also publish an employment magazine, *Engineer Your Career*, twice a year, showcasing stories of our students contributing to organisations across industry, helping students gain ideas and resources, and learn more about where engineering can take them.

auckland.ac.nz/engineering/businesses-and-employers

Through our Newmarket Innovation Precinct (NIP), we also connect industry professionals with our researchers to work on complex challenges and create new technologies.

The precinct offers open-plan office amenities, laboratories and workshops to accommodate industry professionals at the heart of our community of experts. Facilitators are available on-site to assist in finding experts throughout the University and innovation system, as well as providing access to our world-class research equipment.

nip.auckland.ac.nz

For schools

Throughout the year, we deliver a range of events designed to connect with schools and future students, offering opportunities to explore our disciplines and inspiring the next generation of architects, designers, engineers, and urban planners.

Engineering and Design Info Evening

Our Engineering and Design Info Evening series invites Year 12 and 13 students to explore life in our faculty and see what it's like to study with us. Students learn about our programmes, career pathways, and student experiences, receive guidance on applying to study, and have the chance to talk with staff and students to help plan their next steps.

Follow our social media channels

- facebook.com/uoaengineering
- @uoaengineering
- Engineering and Design at the University of Auckland
- youtube.com/uoaengineering

Mānawa Mai Info Evening

Future students can join us online as our current students and faculty members discuss all things Architecture, Design, Engineering, and Urban Planning. Covering topics such as school subjects, grades, entry requirements and course information, they can learn what it's like to be a student at the Faculty of Engineering and Design and discover more about our programmes.

Mānawa Mai Open Day

Mānawa Mai Open Day is the University's biggest event of the year. Attendees can meet our students and academics, explore our facilities, participate in activities, and learn first-hand about our programmes. They'll have the chance to experience our campus and discover all that our faculty has to offer.

auckland.ac.nz/engineering/schools

For alumni

We maintain strong connections with our alumni through events, networks, and shared initiatives, fostering relationships with our graduates and celebrating the impact they continue to make across industry and society.

auckland.ac.nz/engineering/alumni

Philanthropic contributions play a vital role in supporting our work, helping us to elevate teaching and research, nurture talented students, and create lasting impact across industry and society.

auckland.ac.nz/engineering/support-us

Events

We host a range of events throughout the year – including community showcases, information evenings, and conferences – creating opportunities for connection, knowledge-sharing, and engagement across the faculty and with our wider community.

auckland.ac.nz/engineering/events

Engineering and Design Research Insights newsletter

The Engineering and Design Research Insights newsletter showcases our faculty's people, ideas, and innovations shaping the future of Architecture, Design, Engineering, and Urban Planning. By signing up, you can stay informed about our latest research breakthroughs, emerging technologies, and real-world impact – highlighting how our we're driving meaningful change in New Zealand and across the globe.

Subscribe to the newsletter

auckland.ac.nz/engineering/research-insights

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