

# Research & Innovation Position Paper

## Context and Current Performance

Research is a key differentiator for the University of Auckland. The University has a strong track record of carrying out outstanding, innovative and life-changing research across a broad range of disciplines. Recognising and responding to the dynamic and rapidly changing local and global environment will be critical if we are to strengthen our reputation as a place where students and academics come to do the highest quality research. Global events highlight the importance of reflecting on and responding to both local and global considerations. Greater recognition and valuing of our unique cultural heritage and location in Aotearoa New Zealand and the Pacific will enable us to better respond to our communities. Strong relationships underpinned with respect will allow us to view global problems through a distinctively South Pacific lens.

The concepts of engagement and impact are increasingly important to our conception of research excellence in the New Zealand higher education context. This has sharpened awareness of the need to translate knowledge into outcomes and highlights the important role of partnerships with our external communities and the end-users of our research. To truly acknowledge the impact of our work it will be important to take a more holistic approach, to normalise and value participation in activities ranging from policy advice to public engagements and commercialisation. Our challenge is to recognise how impact beyond academia can be measured alongside traditional indicators while recognising the vital importance of fundamental, curiosity driven research.

People are at the heart of our research. Attracting, supporting and rewarding research talent that reflects the diversity of Aotearoa New Zealand, from graduate researchers through to established scholars, will be critical to our future success. This will require transforming the model of PhD training and nurturing and growing our Early Career Researchers, to become the skilled collaborators, innovators and leaders of the future

## Areas of Strategic Focus

### *Tangata Tiriti*

The development of genuine reciprocal relationships with iwi and hapū will provide the foundation for mutually beneficial research partnerships ensuring the University responds to community priorities and aspirations. We have an opportunity to learn from the work of Ngā Pae o te Māramatanga as New Zealand's Māori Centre of Research Excellence, to champion the dynamic interface between mātauranga Māori and research domains to reflect on and respond to the major challenges facing our communities, Aotearoa New Zealand and the world.

Adopting a Kaupapa Māori approach to research and embracing the interaction with the paradigms of western science offers a unique point of difference with the potential to deliver broad benefits to the University, our students and our communities. It would require greater focus on developing Māori research capability and capacity, beginning at the undergraduate level and extending through to the professoriate.

### Challenge question

- How can we embed our distinctiveness and enhance our reach and impact, for example by the wider use of a kaupapa Māori approach to research? How do we advance mātauranga Māori in a way that reflects and responds to our communities and makes us internationally distinct?

### *Community, place and partnerships*

For a university to be truly embedded in its local and regional community, it must be willing to prioritise its relationship with those communities so they can see themselves connected to the institution. Constructive collaborations between universities and communities require moving away from the expert model that prizes academic knowledge alone, toward one that values the building of relationships between researchers and non-academic partners where there is reciprocal understanding of the expertise and insight. The challenge is to grow research and research capabilities aligned with the aspirations and priorities of our diverse communities but making the

University of Auckland an attractive destination for Māori and Pacific students, researchers and their whānau, and a respected partner for iwi and hapū.

Universities face a responsibility of contributing to their communities locally, nationally and globally. New Zealand is viewed as an attractive destination for talented researchers from across the globe and in the light of recent global events this appeal is likely to grow. We must balance the need to broaden our global reach in order to engage with the best international research and innovation while being strongly engaged with our local community.

There is a strong imperative to invigorate and galvanise Pacific-driven research that will enable transformational change in the lives of Pacific peoples within Aotearoa New Zealand and beyond. Systematic and sustained research is required to make informed decisions about fundamental issues such as climate change and resilience, health, education and well-being and the impact of geopolitical dynamics in the Pacific. A strategic focus on advancing Pacific research and researchers has the potential to position the University as a catalyst for the transformation of New Zealand's Pacific communities and for the Pacific region itself.

#### Challenge questions

- How could our research leverage the characteristics of our diverse communities and our place in the Asia-Pacific?
- How can we attract the most brilliant, innovative and creative minds and nurture local and international talent?
- How can we strengthen our approach to forming local and international strategic partnerships to enhance research in areas where we are or wish to be distinctive?
- How can we shape research activities to reflect our unique position in and commitment to the Pacific?
- As a University embedded in a city with one of the largest Pacific populations in the world, how do we conduct research that has meaning and relevance to Pacific peoples in Auckland and the region and is responsive to their rich histories and diversity?

#### ***Excellence and impact***

Adopting 'Grand Challenges' is one way to promote interdisciplinary, cross-sectoral research in areas of local, national and global significance. Such challenges can be plausibly addressed through coordinated efforts to strengthen areas of expertise and foster greater collaboration between faculties, research institutes, the community, students and other partners. Grand Challenges can be used to raise a university's public profile and demonstrate commitment to addressing the major challenges facing society. The UN Sustainable Development Goals provide an example of global challenges that are more likely to be tackled via a collective and interdisciplinary research approach with greater stakeholder engagement.

In considering Grand Challenges as a research framework we need to consider our aspirations as a comprehensive University. While the temptation might be to incorporate broad challenges that cover most disciplines in any future research agenda, a focus on excellence will require the selective use of resources where we have, or wish to develop, demonstrated strength and capacity. Do the SDGs provide the right framework, or should we explore other frameworks to identify Grand Challenges that resonate with our researchers and communities?

As the definition of research excellence evolves to better capture engagement and impact and value beyond academia, we need to demonstrate our commitment to supporting a research culture that focuses on the quality and impact of our research. This will include the infrastructure, tools and resources to support deeper engagement with our communities, policy makers, industry, social enterprise and other end users of our research. We have an opportunity to move beyond quantitative measures of research towards valuing quality and impact over quantity. Combining a range of indicators of research excellence, we can produce leading edge research that contributes to improved social, environmental and economic outcomes.

One of the most effective ways of enabling the formation of relationships between academia and external partners is to encourage the flow of people between the University and our external stakeholders. This would require rethinking how researchers perceive their role within the national community and ensuring that we remove barriers to stronger engagement and deeper partnerships.

### Challenge questions

- Should we adopt 'Grand Challenges' as part of a framework that embraces research, education and strategic engagement? If so, how do we embed these within our University in a way that defines our distinctive contribution, enables external collaboration and supports the delivery of high quality outputs, outcomes and impacts?
- How do we define excellence? How do we develop, nurture, celebrate and reward research leaders of the future?
- How can we develop and support our postgraduate students and early career researchers to have the skills and tools to equip them to be the excellent research leaders of the future?
- How should we support researchers in the translation and application of research beyond academia?

### ***Interdisciplinary, transdisciplinary and collaborative research***

Interdisciplinary and transdisciplinary research and practice is widely acknowledged as essential to addressing major societal challenges. Initiatives that promote cross-faculty collaboration are also increasingly commonplace. One of the mechanisms that the University currently uses to foster interdisciplinary research is through our large-scale research institutes (Liggins, Auckland Bioengineering Institute), and nationally we are part of almost all the Centres of Research Excellence and National Science Challenges. However, structural barriers to interdisciplinary and transdisciplinary research remain. We need to explore the mechanisms and incentives that will encourage interdisciplinary teams of skilled researchers to address big questions.

Interdisciplinary and transdisciplinary research cannot thrive without disciplinary excellence. The challenge is to promote a culture that enables such excellence and breadth of curiosity-driven research, whilst harnessing this to address wider strategy-driven objectives.

### Challenge questions

- How do we better leverage inter-and transdisciplinary research to address the complex problems that society encounters?
- How can we value the required disciplinary depth whilst creating a highly collaborative research environment?

### ***Innovation and entrepreneurship***

Universities play a central role in cultivating and strengthening the innovation that is vital to Aotearoa New Zealand's long-term prosperity. The University of Auckland is internationally recognised in innovation and entrepreneurship and was named 2020 Entrepreneurial University of the Year at the Asia-Pacific Triple E Awards in Higher Education. This reflects the enthusiasm and commitment of our students, many of whom come to university seeking to make a difference in society through start-ups, social and creative entrepreneurship, and other ventures of their own creation. It is a distinctive characteristic of the University when coupled with our commercialisation capability.

Innovation takes many forms in Aotearoa. Māori frameworks of thought offer an alternative paradigm to the prevailing Western notion of individualism and consumerism. There will be clear opportunities for Aotearoa New Zealand to build on expertise in championing a dynamic interface between mātauranga Māori and other domains to address challenging local and global issues. There are also opportunities to support Māori and Pacific contributions to innovation, creativity and entrepreneurship.

The importance of strong university-industry collaboration is also a fundamental component of successful innovation systems. The benefits of closer university-industry links are numerous and include greater impact from research, enhanced labour market relevance of curricula and better employability outcomes for graduates.

### Challenge question

- What is our role in cultivating and strengthening the innovation and entrepreneurial mindset that is vital to Aotearoa New Zealand's long-term prosperity, sustainability and wellbeing?

### ***Openness and integrity***

Globally there is a movement towards greater openness in science which aims to increase transparency and accessibility by harnessing digital tools to enable greater local and global research

collaboration. Open Science reduces duplication, increases productivity, boosts innovation and promotes public trust in science.

Social media is playing a key role in spreading (mis)information on issues such as vaccination, climate change, animal research and human rights abuse. This highlights the need for researchers and higher education institutions to be more proactive in developing creative and compelling ways to communicate research findings to broader audiences and, in doing so, ensure that these findings are sound, viable and reproducible. It is therefore important that we encourage a culture of openness and transparency in research, support researchers in engaging with the public, and offer support and training in the integrity of research.

#### Challenge questions

- How do we strengthen and support the university's crucial role in society as trusted 'critic and conscience' and support international movements towards transparency and open data?
- How are new research collaboration tools and technologies such as artificial intelligence adopted as enablers of our research environment?