

Whāia ngā pae o te māramatanga: our horizons of pursuit

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Abstracts

Kei te tipu haere te whakaaro i Aotearoa Niu Tīreni he tino iho tonu tō te huitahi ki te Māori me te whakarangatira i a ia puta noa i te ahunga o te pūtaiao me te rangahau kia whakaraetia ai ngā taunahua ā-motu, kia pūrangiaho ai hoki te whakaaro ki ngā āhuatanga motuhake ka taea anahe e te mātauranga Māori te takoha atu ki te puna auaha me te waihanga mōhiohioranga. (Ministry of Education 2013a). E riro mai ai ngā hua o te huri haerehanga o te motu rohenga tangata, e tū ai hoki te Tiriti o Waitangi hei poutokomanawa i te hapori whānui, me tino karanga te Māori kia whaiwāhi mai ia ki ngā rangahau me ngā whakataunga puta noa i ngā akoranga me ngā ahunga katoa. Ka whakaarohia e tēnei tuhinga, pēhea tonu nei ngā takohanga a Ngā Pae o te Māramatanga (NPM) ki te whakaraetia o ngā taunahua me te whakawhanakehia o ngā āheinga kei waengarahi

i te mātauranga Māori me te pūtaiao. E kitea nei e te tuhinga nei, he pai ā NPM takohanga, ā, nā aua takohanga e huri pai nei ngā momo rangahau i Aotearoa Niu Tīreni, otirā i te ao whānui.

In Aotearoa New Zealand there is a growing recognition that Māori engagement and leadership across the science and research sector is essential for addressing national challenges and realising the distinctive contribution of mātauranga Māori to innovation and knowledge creation (Ministry of Education 2013a). To reap the benefits of the nation's changing demographics and to centre Te Tiriti o Waitangi in society, it is critical that Māori are engaged in research and decision making in all disciplines and in all sectors. This article considers how Ngā Pae o te Māramatanga (NPM), New Zealand's Māori Centre of Research Excellence, is contributing towards addressing and developing challenges and opportunities at the interface between mātauranga Māori and science. The article traces the contribution of NPM as a positive transformative contributor to research in Aotearoa New Zealand and internationally.

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Professor Ruru's research has focused on exploring Indigenous peoples' legal rights to own, manage and govern land and water including national parks and minerals in Aotearoa New Zealand and overseas, and she has led, or co-led, several national and international research projects.

Her research interests include: Indigenous Peoples comparative law (including rights to own, govern and manage water, land, marine area, minerals and national parks); Māori land law including Te Ture Whenua Maori Act 1993; Treaty of Waitangi; Family law and Māori; Environmental Law and Māori, Law and landscapes; Aotearoa New Zealand's legal history, Law and Society; and Law and Geography.

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Professor Nikora's specialities are in community psychology, applied social psychology, ethno-psychology and Maori development.

Her research in recent years has focused on Tangi: Māori ways of mourning; traditional body modification; ethnic status as a stressor; Māori identity development; cultural safety and competence; Māori mental health and recovery; social and economic determinants of health; homelessness; relational health; and social connectedness.



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Professor McIntosh's recent research focuses on incarceration (particularly of indigenous peoples), inequality, poverty and justice. She also sits on several external research assessment panels, such as the Marsden Fund Social Science Panel, and on a number of boards, particularly in the area of social harm reduction. In 2012 she was the co-chair of the Children's Commissioner's Expert Advisory Group on Solutions to Child Poverty.

Introduction

Ngā Pae o te Māramatanga (NPM), New Zealand's Māori Centre of Research Excellence, is committed to realising Māori aspirations for positive engagement in national life, providing solutions to major challenges facing humanity in local and global settings, and fostering excellence in Indigenous scholarship both nationally and internationally. NPM's entire research programme is now designed and led by Māori. This may now seem unremarkable but such a vision was barely implementable less than two decades ago, in part because of research capability and capacity issues borne from enduring and substantial inequities, and, in part because the science sector did not proactively foster and, at times, actively impeded, Māori research leadership. This article traces the contribution of NPM as a positive transformative contributor to research in Aotearoa New Zealand and internationally.

Centres of Research Excellence

In 2001, the Government established the Centre of Research Excellence (CoRE) Fund 'to encourage the development of excellent tertiary education-based research that is collaborative, strategically focused and creates significant knowledge transfer activities (Tertiary Education Commission 2018, p. 28). In announcing the most recent suite of 10 CoREs that are funded through to 2020 (Table 1), the immediate past Minister for Tertiary Education, Skills and Employment Steven Joyce remarked: 'CoREs provide an excellent collaborative environment for the delivery of world-leading, innovative and strategically focused research' (Joyce 2015). Prior to the CoRE Fund, there were no large inter-institutional research networks in Aotearoa New Zealand, and certainly no Māori-led national research network of any kind. The CoREs 'compensated for the lack of critical mass in a small country with a widely distributed population by creating research networks' and 'led to a distinct lift

in New Zealand universities' share of the world's indexed research publications and citations' (Crawford 2016, p. 9 citing Smyth 2012).

NPM was founded in the first CoRE round in 2002 under the central leadership of Professor Linda Tuhiwai Smith and Professor Michael Walker. While NPM, along with some of the other CoRES, were formally declined CoRE status in early 2014, a new re-bid process emerged which included a specific stand-alone competitive process for a single Māori CoRE. In 2015, NPM was announced as the country's Māori CoRE for the current round of CoRE funding: 2016–2020 (Table 2).

NPM is unique. It is Māori-focused and has a broad disciplinary engagement from the humanities, social sciences to law, health and the natural and physical sciences unlike the strongly focused science models of the other CoRES. Today, NPM has 21 Research Partners that enables a deliberate national collaboration of diverse research organisations to embrace the spectrum of Māori research strength across New Zealand (eight Universities, two tertiary Wānanga, two Institutes of Technology, a Crown Research Institute, two museums, three Iwi-based research institutions, two independent Māori research institutes, and New Zealand's largest independent research institute: Cawthron Institute).

The contribution of NPM at the interface

The development of NPM's research programme is world-leading (Royal Society 2017), making a significant contribution to 'arguably one of the newest research fields on the block, albeit with ancient veins' (Smith, L.T. 2018, p. 22). Indigenous research is new in a tertiary education sense simply because tertiary institutions for the most part have been a hostile place for Indigenous students and staff (Kidman *et al.* 2015; Potter & Cooper 2016; Henry *et al.* 2017; Chauvel & Rean 2012; Universities New Zealand 2016; Tertiary Education Commission 2015; Pihama *et al.* 2018).



Tahu Kukutai (Ngāti Tiipa, Ngāti Kinohaku, Te Aupōuri) Tahu Kukutai (Ngāti Tiipa, Ngāti Kinohaku, Te Aupōuri) is Professor of Demography at the National Institute of Demographic and Economic Analysis, The University of Waikato. Tahu specialises in Māori and Indigenous population research, and leads the NIDEA research programme Te Para One E Tū Mai Nei: Māori and indigenous futures. She is a founding member of the Māori Data Sovereignty Network Te Mana Raraunga that advocates for Māori rights and interests in data in an increasingly open data environment (<https://www.temanararaunga.maori.nz/>) and co-edited (with John Taylor) Indigenous Data Sovereignty: Toward an Agenda. Tahu has undertaken research for Māori communities, iwi and Government agencies, and provided strategic advice across a range of sectors. She is a member of the Forum of Chief Science Advisors and the Census 2018 External Data Quality Panel.

Daniel Patrick is Executive Director at Ngā Pae o te Māramatanga. Previously he was Centre and Research Manager of the Centre of Methods and Policy Applications in the Social Sciences (COMPASS) at the University of Auckland, which he co-founded, and before that he developed and established the New Zealand Social Statistics Network (NZSSN), New Zealand Social Science Data Service (NZSSDS), and a Survey Research Unit. He also managed the Centre for Health Services Research and Policy and led national programmes of research in primary health care, health services and household whānau wellbeing using New Zealand Census Data.

He has extensive experience in the fields of research planning, business development, data analytics and management, programme management, and strategic planning. With a background in laboratory models, pathology and microbiology, hospital epidemiology and social statistics he now has a focus and interest in Māori and Indigenous research and connection of knowledges.



Table 1. CoREs in Aotearoa New Zealand

CoRE name	Duration of CoRE status	Host University
Allan Wilson Centre for Molecular Ecology and Evolution	2002–2015	Massey
Bio-Protection Research Centre	2003–2020	Lincoln
Brain Research New Zealand Rangahau Roro Aotearoa	2015–2020	Auckland/Otago
The Dodd-Walls Centre for Photonic and Quantum Technologies	2015–2020	Otago
Gravida: National Research Centre for Growth and Development	2003–2015	Auckland
MacDiarmid Institute for Advanced Materials and Nanotechnology	2002–2020	Victoria
New Zealand Institute of Mathematics and its Applications	2002–2011	Auckland
The Maurice Wilkins Centre for Molecular Biodiscovery	2002–2020	Auckland
The Medical Technologies Centre of Research Excellence	2015–2020	Auckland
Ngā Pae o te Māramatanga New Zealand’s Māori Centre of Research Excellence	2002–2020	Auckland
Quake CoRE: Centre for Earthquake Resilience	2016–2020	Canterbury
Te Pūnaha Matatini: Data Knowledge Insight	2015–2020	Auckland
Riddet Institute: Food Innovation Health	2008–2020	Massey

Thus, while other Centres of Research Excellence were likewise in creation mode, they were embedded in established science infrastructure, in many cases dating back hundreds of years (Ministry of Education 2013b).

By contrast, NPM has had to develop and implement new processes and structures to support Indigenous research in an adverse environment. In building this infrastructure NPM has helped enable the formation of a new scholarly community as well as national and international confidence in Indigenous-led research. Laying this groundwork was an immense task enabled by many Indigenous researchers. Collectively they helped to rapidly increase the number of Māori researchers that could design and lead critical research projects, extend the breadth and significance of Kaupapa Māori research, develop transdisciplinary research methods and theories to respond to national and community need, and ensure appropriate and multiple outlets for the research.

In 2002 there were probably fewer than a dozen Māori researchers who were Principal Investigators in their own right in nationally contested, externally funded research. Or, as commented by Linda Tuhivai Smith, Māori Principal Investigators then: ‘could probably have squeezed into a red telephone box’ (Smith, L.T. 2016). Confounding the problem was that many Māori researchers were locked into perennial Associate Investigator positions which stifled their

ability to build and lead comprehensive and cohesive research programmes even while their research contributions added real, often critical, value to the projects. While it did mean that many Māori researchers had the opportunity to gain real breadth of experience, it was mainly in service to mainstream research and supporting non-Māori research careers and aspirations. Seventeen years later (2002–2019), it is now commonplace for Māori-led teams to have designed and implemented *every* part of the design process, drawing on mātauranga Māori, kaupapa Māori and other Indigenous research methodologies. Māori researchers have always served Māori communities but NPM has further strengthened their ability to determine the research questions as the fundamental core of a research project. Today, Māori Principal Investigators, of research projects funded externally to their home institutions, would likely fill an Air New Zealand Airbus A320.

The development of two internationally peer-reviewed journals is an example of this research infrastructure development: *AlterNative: An International Journal of Indigenous Peoples* and *MAI Journal: A New Zealand Journal of Indigenous Scholarship*. Critical, robust, culturally informed peer-review processes and dissemination have been crucial for the development of conceptual, foundational and applied Indigenous research. Other flagship foundation activity of

Table 2. NPM leadership 2002-2019

Period (Contract)	Board Chair	Directors	International Research Advisory Panel/Board Chair	Research Committee Chair
2002–June 2008	Prof. Michael Brown (2002–2005); Sir Tīpene O’Regan (2006–)	Prof. Linda Smith (2002–2007); Assoc. Prof. Michael Walker (2002–); Assoc. Prof. Tracey McIntosh (2007–)	Est. in 2006 with Prof. Sir Mason Durie as Chair.	Assoc. Prof. Michael Walker
July 2008–2015	Sir Tīpene O’Regan	Assoc. Prof. Michael Walker (–2010); Assoc. Prof. Tracey McIntosh (–2010); Prof. Charles Royal (2010–2014); Assoc. Prof. Tracey McIntosh (2014–)	Prof Sir Mason Durie (2008–2013); Prof. Harald Gaski (2014–2015)	Assoc. Prof. Michael Walker (–2010); Assoc. Prof. Tracey McIntosh (–2010); Prof. Charles Royal (2010–2014)
2016–2020	Tā Tīpene O’Regan (–2018); Kerensa Johnson (2019–)	Prof. Jacinta Ruru (2016–); Assoc. Prof. Tracey McIntosh (2016–Oct 2017); Prof. Linda Waimarie Nikora (Oct 2017–)	Prof. Linda Smith (2016–)	Prof. Huia Jahnke (2016–)

NPM included the bold creation of a national network of Māori postgraduate students with the now well surpassed vision of 500 Māori PhDs (designed and instigated initially by Professor Graham Smith) (Smith, L.T. 2017; Smith, G.H. 2016; Ormond & Williams 2013); a suite of grants and awards to support Māori research and researchers (including supporting Māori to study and research in the United States with the Fulbright Ngā Pae o te Māramatanga Awards) and the biennial International Indigenous Research Conference.

NPM has emerged as an international benchmark with an international profile in Māori and Indigenous research. The New Zealand Institute of Economic Research (2014) independently assessed the economic and social impacts of NPM research and found that:

- NPM has established an unprecedented and extensive network of cooperation between its partner research institutions
- 80% of NPM research projects are designed and shaped by home communities
- A majority of NPM's projects improved the practices, processes and policies of end-users
- The impacts of NPM projects are localised and highly relevant to the communities involved
- NPM researchers are highly engaged with Māori communities
- Almost half of NPM's projects received additional direct funding
- NPM is a unique organisation, where the assessors were not aware of any international benchmark with which it could be compared.

The legacy of NPM has been immense for fostering the carving out of a space for mātauranga Māori, te reo and tikanga Māori within science research leadership in Aotearoa New Zealand. As Professor Angus Macfarlane, a NPM Principal Investigator has stated:

What we at the University of Canterbury like is the collaborative spirit that exists between a CoRE such as Ngā Pae, and the academy. We like the fact that Ngā Pae invites research partners to 'reach in', to peruse and consider the opportunities that they offer emerging and experienced researchers working within the Māori and Indigenous paradigms. More importantly, Ngā Pae is proactive, that is they 'reach out' to academics and members of the broader research community that have cultural diversity as a central focus. (Macfarlane, A. pers. comm. 2017)

NPM's research vision

NPM articulates a strong research vision of Māori leading New Zealand into the future; this vision is demographically grounded (Māori are a youthful and fast-growing population) and solutions-focused (Māori can contribute evidenced-based, culturally informed and novel solutions for many of our societal issues and challenges). NPM's research programme is activist-driven, which is unsurprising given that societal transformation is part and parcel of Indigenous research. As L.T. Smith observes: 'Indigenous research aims to make positive transformations for indigenous nations and

communities that overturn colonial paradigms of thinking and working and that create new spaces for indigenous knowledges, cultures and peoples to thrive' (2018, p. 28). NPM's research programme is also foundation building. In the absence of the infrastructure that long-established disciplines such as physics, history or botany enjoy, NPM research and researchers have had to create the lexicon and literature for base theories and methods. Mātauranga Māori is embedded within NPM's research programme because many solutions for transformative societal change lie within the ancestral knowledge systems and practices, and because mātauranga provides a means to study the universe from a Māori worldview (Waitangi Tribunal 1999, 2011). By valuing mātauranga Māori, te reo me ngā tikanga Māori, the NPM research programme uses dual knowledge systems (Indigenous and discrete disciplinary knowledge) and is a leader in research design, outputs and impact. There is now a burgeoning literature on the mātauranga-science interface (Smith, L.T. *et al.* 2016; Leonard & Mercier 2016), much of it contributed by past and present NPM researchers.

An important component that gives life to mātauranga Māori embedded research is the development of the wānanga, not just as a meeting practice but as a critical research method. At a pragmatic level NPM is determining and exploring 'spaces of integrity' for mātauranga Māori to facilitate a process of Māori exploring and understanding mātauranga enabling creation of new knowledge and answers to critical questions. In these circumstances wānanga on the marae provide a framework for how, why and where we meet together, including how we listen to one another and how we engage with the kaupapa at hand. Not only is this underpinning NPM's activist-driven research, but wānanga also establishes a space to explore and express our mātauranga in creative and innovative ways (Royal 2009; Addis *et al.* 2011; Edwards 2013).

NPM's research programme prioritises wānanga as a significant research practice and method. For example, in 2018, NPM Principal Investigators spent three days at Wakatū Marae (in Nelson) to great effect. Associate Professor Māmari Stephens (Victoria University of Wellington), one of NPM's Principal Investigator's, commented:

I got a far clearer sense of belonging to the Ngā Pae whānau, and of where my own work fitted in amongst the work being done by others. It is a powerful feeling having a 'place', so I was very grateful to be able to develop that. I was challenged in my thinking. I felt invigorated and more purposeful as a result of this wānanga. ... I was so grateful to be in the house that was so much the expression of the mana of its people, but also of the vision and genius of Auntie Pubanga Tupaea. Man, what a whare. I'm a bit hard to prise out from under my rock, but I was so glad I came! ... (Stephens, M. pers. comm. 2018)

Spotlighting some of NPM's research

NPM has developed a holistic integrated research programme grounded in mātauranga Māori, Māori science, kaupapa Māori, and tikanga Māori approaches and methods, additionally utilising all appropriate other science knowl-

edge and techniques. NPM has directly enabled more than 160 research projects many of which continue to live on and deliver outputs and impact for the Māori researchers and the Māori communities they work with. Many have been leading-edge projects that have demonstrated next-stage potential impact.

One example is the work of NPM Principal Investigators Professor Rawinia Higgins (Victoria University of Wellington) and Professor Poia Rewi (University of Otago) where their NPM research developed the innovative ZePA (Zero Passive Active) right-shifting Māori language revitalisation model (Higgins & Rewi 2014). This research has now been incorporated into policy throughout many of the Government Departments and has clearly informed replacement legislation: Te Ture mō Te Reo Māori (Māori Language Act) 2016.

Another example is the work of NPM Principal Investigator Professor Rangī Matamua (University of Waikato and Fulbright Ngā Pae o te Māramatanga Scholar Awardee) where his research project developed into a successful Marsden Fund project 'Te Mauria Whiritio: The sky as a cultural resource – Māori astronomy, ritual and ecological knowledge' (2014, \$710,000). Professor Matamua's international profile acknowledges his world-leading work on how astronomy is embedded within the cultural practices of Indigenous peoples. At a national level he disseminates his knowledge in academic and community settings including annually at free public Matariki talks at museums around the country engendering considerable media interest (Matamua 2017a, b). He credits NPM as being '...central in the development of my career' (Matamua, R. pers comm. 2017).

A further example is the work lead by Dr Shaun Ogilvie (Eco Research Associates and Cawthron Institute) whose NPM research 2010–2012 (Ogilvie *et al.* 2010, 2012) led onto a MBIE programme 'Ka Hao te Rangatahi: Revolutionary Potting Technologies and Aquaculture for Scampi' (2013–2019, \$8.9million) (Ogilvie *et al.* 2018). This world-first research that values mātauranga Māori at the interface with science 'all started with my NPM project' (Ogilvie, S. pers. comm. 2017).

Succession planning and mentoring is hugely important to NPM. Dr Anne-Marie Jackson (University of Otago) reflects on how critical her NPM Summer Internship was as a 25-year-old student who wanted to do Māori research for her career: 'I had next to no experience in my training of working with Māori and it was such an important part of my own development' (Jackson, A.-M. pers. comm. 2016). She went on to complete her PhD, be employed as an academic and now mentors and supervises a large contingent of Māori postgraduate students on NPM summer internships in Māori communities all over the country.

These are just a few of the many NPM stories of transformative research.

Conclusion

In less than two decades NPM has contributed strongly to changing the research landscape. Moreover, the tertiary research academy and broader community research capability has grown to recognise the value of Māori leadership in research design and delivery. Māori are championing the

dynamic interface between mātauranga Māori and science domains. With hundreds of Māori researchers across the country, and many iwi, hapū and community partners, NPM is proud of the contribution it is making to our national and local research futures. But there is an acute need to do much more. As Professor Juliet Gerrard, the new Chief Science Advisor to the Prime Minister, acknowledged when taking up her role, 'There's lots of old white guys, not many women, and no Māori voice' in the science advisory roles. Furthermore, with 'only 2% [of Māori and Pasifika] represented in the science workforce' this is 'a really urgent thing to address' (Manhire 2018). We agree.

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