



agenda

Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	2023-08-10
Scheduled Start:	1300h
Scheduled End:	1500h
Location:	Microsoft Teams

SECTION 1 NGĀ KUPU ARATAKI | PRELIMINARIES

1. Karakia Tīmatanga | Opening Prayer
2. Mihi Whakatau | Welcome from the Chair
3. Membership
4. Terms of Reference

SECTION 2 STANDING ITEMS

1. Ngā Whakapāha | Attendance, Apologies & Quorate Status
2. Pitopito Kōrero o Ngā Hui | Minutes of the Previous Meetings
3. Mahia Atu | Matters Arising

SECTION 3 MEA HEI WHAKAAE | ITEMS TO APPROVE

1. 2022 Unitec Research Report
2. Early Career Researcher Forum Terms of Reference

SECTION 4 WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

1. Communication Strategy for 2026 PBRF Quality Evaluation

SECTION 5 NGĀ TUKUNGA | ITEMS TO RECEIVE

1. School Research Plans – verbal update from Arun Deo, Research Advisor

SECTION 6 KUPU WHAKAMUTUNGA | CLOSING

1. Ētahi Kaupapa Anō | Any Other Business
2. Komiti Self-Assessment
3. Karakia Whakamutunga | Closing Karakia

SECTION 1 NGĀ KUPU ARATAKI | PRELIMINARIES

Item 1.1 Karakia Tīmatanga | Opening Prayer

KARAKIA TĪMATANGA	OPENING PRAYER
<i>Manawa mai te mauri nuku</i>	<i>Embrace the power of the earth</i>
<i>Manawa mai te mauri rangi</i>	<i>Embrace the power of the sky</i>
<i>Ko te mauri kai au</i>	<i>The power I have</i>
<i>He mauri tipua</i>	<i>Is mystical</i>
<i>Ka pakaru mai te pō</i>	<i>And shatters all darkness</i>
<i>Tau mai te mauri</i>	<i>Cometh the light</i>
<i>Haumi ē, Hui ē, Tāiki ē!</i>	<i>Join it, gather it, it is done!</i>

Item 1.2 Mihi Whakatau | Welcome from the Chair

Item 1.3 Te Komiti Rangahau o Unitec Membership

Marcus Williams (Associate Professor)	Chair and Director Research and Enterprise
Daisy Bentley-Gray (New and Emerging)	Nominee of Director, Pacific Success
Tanya White	Nominee of Director, Māori Success
Dr Helen Gremillion (Professor)	Healthcare and Social Practice
Dr Yusef Patel (Early Career)	Architecture
Vacant	Building Construction
Dr Lian Wu (Associate Professor)	Healthcare and Social Practice
Dr Hamid Sharifzadeh (Professor)	Computing and Information Technology
Dr Leon Tan (Associate Professor)	Creative Industries
Dr Kristie Cameron (Associate Professor/ Early Career)	Environmental & Animal Sciences
Vacant	Applied Business
Carly Van Winkel	Bridgepoint
Dr Norasieh Md Amin (Subject Librarian)	Library
Kate Zeng (Student Rep)	Nominee of Student Council
Arun Deo (Research Advisor)	Tūāpapa Rangahau
In attendance: Brenda Massey (Acting Secretary)	Tūāpapa Rangahau

Item 1.4 Te Komiti Rangahau o Unitec Terms of Reference

The powers and functions of Te Komiti Rangahau o Unitec (URC) shall be to:

- a. Foster the conduct of research, and support the achievement of Unitec's strategic research, enterprise and innovation priorities.
- b. Propose and advise on strategic directions and priorities for research, enterprise, and innovation.
- c. Provide expert advice on institutional policy.
- d. Develop protocols and guidelines and make recommendations in relation to the conduct of research, enterprise, and innovation.
- e. Oversee the Grants Advisory Committee and the reporting of funded projects.
- f. Encourage and enhance the development of the research, enterprise, and innovation culture along with student and staff research capability, with emphasis on the development of Māori and Pacific research capability.
- g. Oversee the monitoring of research outputs and research reporting.
- h. Foster Māori and Pacific, transdisciplinary, collaborative and externally engaged research, enterprise, and innovation.

SECTION 2 STANDING ITEMS

Section 2.1 Ngā Whakapāha | Attendance, Apologies & Quorate Status

RECOMMENDATION

That the committee accepts the apologies of today's meeting.

Section 2.2 Pitopito Kōrero o Ngā Hui | Minutes of the Previous Meetings

refer to [pg5](#)

RECOMMENDATION

That the committee approves the minutes of the meetings of 2023-05-11 and 2023-07-13.

Section 2.3 Mahia Atu | Matters Arising

refer to [pg17](#)

SECTION 3 MEI HEI WHAKAAE | ITEMS TO APPROVE

Section 3.1 2022 Unitec Research Report

refer to [pg18](#)

Section 3.2 Early Career Researcher Forum Terms of Reference

refer to [pg103](#)

SECTION 4 WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

Section 4.1 Communication Strategy for 2026 PBRF Quality Evaluation

refer to [pg107](#)

SECTION 5 NGĀ TUKUNGA | ITEMS TO RECEIVE

Section 5.1 School Research Plans

Verbal update from Arun Deo, Research Advisor

SECTION 6 KUPU WHAKAMUTUNGA | CLOSING

Section 6.1 Ētahi Kaupapa Anō | Any Other Business

Section 6.2 Komiti Self-Assessment

refer to [pg118](#)

Section 6.3 Karakia Whakamutunga | Closing Karakia

TE KARAKIA WHAKAMUTUNGA	CLOSING PRAYER
<i>Ka wehe atu tātou</i>	<i>We are departing</i>
<i>I raro i te rangimārie</i>	<i>Peacefully</i>
<i>Te harikoa</i>	<i>Joyfully</i>
<i>Me te manawanui</i>	<i>And resolute</i>
<i>Haumi ē, Hui ē, Tāiki ē!</i>	<i>We are united, progressing forward!</i>



minutes

Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	2023-05-11
Scheduled Start:	1300h
Scheduled End:	1500h
Location:	Microsoft Teams

MEETING OPENED:	1300h
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SECTION 1 – NGĀ KUPU ARATAKI | PRELIMINARIES

Item 1.1 Karakia Tīmatanga | Opening Prayer

Item 1.2 Mihi Whakatau | Welcome from the Chair

The Chair warmly welcomed members of the committee to the meeting.

SECTION 2 – STANDING ITEMS

Item 2.1 Ngā Whakapāha | Attendance, Apologies & Quorate Status

Members Present

1. Marcus Williams (Chair)
2. Kristie Cameron
3. Nora Md Amin
4. Helen Gremillion
5. Leon Tan
6. Hamid Sharifzadeh
7. Tanya White
8. Falaniko Tominiko (proxy for Daisy Bentley-Gray)
9. Lian Wu

Total members represented: 9 members

Apologies

1. Daisy Bentley-Gray
2. Robyn Gandell
3. Duaa Alshadli
4. Arun Deo

5. Yusef Patel

Total apologies: 5 members

Absent

1. Mitra Etemaddar

Total absent: 1 member

MOTION

That the committee accepts the apologies for today's meeting.

Moved: Kristie Cameron

Seconded: Lian Wu

MOTION CARRIED

Quorate Status

A minimum of 9 representatives is required; the meeting was quorate.

Hunga Mahi | Staff in Attendance

1. Brenda Massey, Acting Secretary

Item 2.2 Pitopito Kōrero o Ngā Hui | Minutes of Previous Meeting**MOTION**

That the committee approves the minutes of the 2023-04-13 meeting as a true and accurate record.

Moved: Helen Gremillion

Seconded: Hamid Sharifzadeh

MOTION CARRIED

Item 2.3 Mahia Atu | Matters Arising

The Chair warmly welcomed new committee member Tanya White to the meeting. Tanya replaces Dr Cat Mitchell on the committee and is the nominee of the Director, Māori Success.

Agenda Item(s)	Action	Responsible	Outcome
3.1	Advise Dr Hinekura Smith of the approval of the appointment of Dr Cat Mitchell as an Honorary Research Fellow within Ngā Wai a Te Tūi.	Marcus Williams / Brenda Massey	Complete
3.2	Advise Prof Peter de Lange of the approval of the appointment of A/P Dan Blanchon as an Honorary Research Fellow within the School of Environmental and Animal Sciences.	Marcus Williams / Brenda Massey	Complete
4.1	Update the Research Strategy Action Plan by deleting the Action under Priority Two: "Structure the Unitec symposium around Groups" and adding an Action under Priority Two's Action Summary titled "Support and resource postgraduate student research" along the lines of "high quality resources are available through the library that support postgraduate students".	Marcus Williams	Complete
4.2	Present the committee's position on the consultation to the external PBRF SRG discussion forum.	Marcus Williams	Complete

4.3	Communicate the committee's decision to suspend the 2023 Research Symposium to research staff.	Marcus Williams	Complete
5.2	Write to the four 2022 ECR Funding recipients thanking and acknowledging them for their final reports.	Brenda Massey	Complete
6.1	Request that Schools report against their Research Plans, as per the committee's 2023 Work Plan.	Arun Deo	In Progress – see below for update.

Regarding matter 6.1, the timelines for the school research plan review for 2023 are very similar to that of last year:

- » 16th May - Plans and guidelines sent to schools.
- » 14th June - First draft of the plan due
- » 21st June - Arun to provide feedback on first draft
- » 28th June - Second working version due
- » 5th July- Arun to provide feedback on second draft
- » 12th July - Final version due
- » 13th July -28th July - Arun to finalise all the plans and get them ready for URC
- » 28th July - URC agenda items due
- » 10th August - Plans presented to URC

Given that plans will not be presented until two thirds through the year, they will be called 2023-2024 plans.

SECTION 3 – MEA HEI WHAKAAE | ITEMS TO APPROVE

Section 3.1 **Nomination for Appointment of an Honorary Research Fellow – Ms Gillian Crowcroft**

The nomination for the appointment of an Honorary Research Fellow within Environmental and Animal Sciences was approved.

MOTION

That the committee approves the appointment of Ms Gillian Crowcroft as an Honorary Research Fellow within the School of Environmental and Animal Sciences.

Moved: Kristie Cameron

Seconded: Hamid Sharifzadeh

MOTION CARRIED

Action: Marcus Williams to advise the nominator, Prof Peter de Lange, of this outcome.

SECTION 4 - WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

Section 4.1 **PBRF Sector Reference Group – Consultation Paper 11**

Marcus Williams and Arun Deo are part of a university-led forum that will shortly meet to discuss this latest PBRF consultation paper. The committee agreed that once the forum has met, Marcus will circulate the forum's position on the matters raised in the consultation paper to the committee. If members have any feedback, it will be conveyed to the Rangahau Research Forum (RRF) for

review/discussion, along with any other feedback received from within Te Pūkenga. The RRF will then collate a response on behalf of Te Pūkenga for submission to the TEC.

SECTION 5 - NGĀ TUKUNGA | ITEMS TO RECEIVE

Section 5.1 2022 Research Centre Reports

The committee received annual reports from the Centre for Research in Education for Healthcare Practitioners (CREHP), the Environmental Solutions Research Centre (ESRC), the Digital Heritage Research Centre (DHRC) and Ngā Wai a Te Tūi Māori and Indigenous Research Centre (NwaTT).

A summary of the committee's reflections on the reports is as follows:

NWaTT's report demonstrates remarkable resilience in the face of adversity, following the resignation of its founding Director, Prof Jenny Lee-Morgan, in 2022 and the novation of over \$5m of externally funded research contracts. Hinekura Smith is doing a remarkable job as the new Director. She has won a number of externally funded research grants, has appointed a research administrator to her team, and has secured a proportion of Byron Rangiwai's time as a kaupapa Māori researcher.

ESRC has successfully secured a number of industry funded contracts, a tremendous achievement, as private sector investment in research in the tertiary sector environment is often difficult to secure. The centre is currently awaiting the outcome of a \$10.6m application for MBIE Endeavour Fund Research Programme funding.

CREHP and DHRC are Unitec's newest research centres. CREHP is currently collaborating with ESRC on an externally funded contract with an aged care provider looking at plastic recycling. DHRC is currently awaiting the outcome of a large application for MBIE Endeavour Funding.

Reports from the Applied Molecular Solutions Research Centre (AMS) and the Cybersecurity Research Centre (CRC) will be submitted at the next committee meeting. AMS's report was delayed due to the departure of its Director, A/P Dan Blanchon, while CRC's report has been delayed as the Director, Denis Lavrov, is preparing for a trip to the US to pitch for funding for Phase 3 of a project being undertaken in collaboration with industry partner GeneCrypt.

The Chair reminded the committee that all schools are required to identify research groups in their School Research Plans. Research groups often form the genesis of new research centres, as was the case with the CREHP and DHRC.

The committee acknowledged Marcus' leadership in supporting the establishment and continued operation of Unitec's research centres, which each offer a unique value proposition within Te Pūkenga.

Action: Brenda Massey to draft letters to the centre directors thanking and acknowledging them for their reports and mahi.

SECTION 6 - KUPU WHAKAMUTUNGA | CLOSING

Section 6.1 Ētahi Kaupapa Anō | Any Other Business

- a. Unitec will be launching a digital book on karanga, published by ePress, on 11 June at Te Noho Kotahitanga marae. The launch clashes with the June committee meeting, and the Chair asked if the committee would be amenable to forgoing the June meeting and attending the book launch instead. The committee were supportive of this idea.

Action: Brenda Massey to procure a copy of the book launch invitation and seek the organisers' approval for the committee to attend. If it is confirmed that the committee can attend, the June committee meeting will be cancelled.

- b. Marcus Williams drew the committee's attention to the TLRI's (Teaching and Learning Research Initiative) website which is currently showcasing Dr Hinekura Smith's TLRI funded research project "Toi ora, reo ora, Whatuora – Developing Toi Māori pedagogy to support Māori whanau aspirations for reo and tikanga". The research involves three rumaki reo (te reo Māori immersion units) within the Waitemata Kāhui Ako – Te Uru Karaka (Newton Central Primary), Te Waititiko (Pasadena Intermediate) and Nga Puna o Waiorea (Western Springs College). http://www.tlri.org.nz/tlri-research/research-progress/whatua-tū-aka/toi-ora-reo-ora-whatuora?mc_cid=5514354418&mc_eid=dbb268d080

Action: Brenda Massey to send a copy of the minutes of today's meeting to Hinekura, offering her the committee's congratulations on securing the TLRI grant.

Section 6.2 Komiti Self-Assessment

An opportunity was given for the committee to reflect on their self-assessment provocations. The committee is reminded that feedback on any aspect of the committee's operation can be emailed to the Chair or the Secretary at any time (in confidence if requested).

Section 6.3 Karakia Whakamutunga | Closing Karakia

MEETING CLOSED: 1350 h

SUMMARY OF ACTIONS

Agenda Item(s)	Action	Responsible	Outcome
3.1	Advise Prof Peter de Lange of the approval of the appointment of Ms Gillian Crowcroft as an Honorary Research Fellow within Environmental and Animal Sciences.	Marcus Williams / Brenda Massey	
5.1	Thank and congratulate centre directors for their annual research centre reports.	Marcus Williams / Brenda Massey	
6.1.a	Procure a copy of the ePress karanga book launch invitation and seek the organisers' approval for the committee to attend. If it is confirmed that the committee can attend, cancel the June committee meeting.	Brenda Massey	
6.1.b	Send a copy of the minutes of today's meeting to Dr Hinekura Smith, offering her the committee's congratulations on securing the grant from TLRI.	Brenda Massey	



minutes

Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	2023-07-13
Scheduled Start:	1300h
Scheduled End:	1500h
Location:	Microsoft Teams

MEETING OPENED:	1300h
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SECTION 1 – NGĀ KUPU ARATAKI | PRELIMINARIES

Item 1.1 Karakia Tīmatanga | Opening Prayer

Item 1.2 Mihi Whakatau | Welcome from the Chair

The Chair warmly welcomed members of the committee to the meeting, including a new student representative Kate Zeng.

SECTION 2 – STANDING ITEMS

Item 2.1 Ngā Whakapāha | Attendance, Apologies & Quorate Status

Members Present

1. Marcus Williams (Chair)
2. Kristie Cameron
3. Kate Zeng
4. Nora Md Amin
5. Tanya White
6. Yusef Patel
7. Daisy Bentley-Gray

Total members represented: 7 members

Apologies

1. Hamid Sharifzadeh
2. Lian Wu
3. Leon Tan
4. Helen Gremillion
5. Duaa Alshadli

Total apologies: 5 members

Absent

1. Robyn Gandell
2. Mitra Etemaddar

Total absent: 2 members

MOTION

That the committee accepts the apologies for today's meeting.

Moved: Yusef Patel

Seconded: Daisy Bentley-Gray

MOTION CARRIED

Quorate Status

The Chair noted that as the committee has 15 members, going forward a quorum should be eight members, not nine. Only seven members were present, therefore the meeting was not quorate.

Hunga Mahi | Staff in Attendance

1. Brenda Massey, Acting Secretary

Item 2.2 Pitopito Kōrero o Ngā Hui | Minutes of Previous Meeting

The meeting was not quorate therefore the minutes of the 2023-05-11 meeting will need to be ratified at the next quorate meeting.

Item 2.3 Mahia Atu | Matters Arising

Agenda Item(s)	Action	Responsible	Outcome
3.1	Advise Prof Peter de Lange of the approval of the appointment of Ms Gillian Crowcroft as an Honorary Research Fellow within Environmental and Animal Sciences.	Marcus Williams / Brenda Massey	Complete
5.1	Thank and congratulate centre directors for their annual research centre reports.	Marcus Williams / Brenda Massey	Complete
6.1.a	Procure a copy of the ePress karanga book launch invitation and seek the organisers' approval for the committee to attend. If it is confirmed that the committee can attend, cancel the June committee meeting.	Brenda Massey	Complete
6.1.b	Send a copy of the minutes of today's meeting to Dr Hinekura Smith, offering her the committee's congratulations on securing the grant from TLRI.	Brenda Massey	Complete

SECTION 3 – MEA HEI WHAKAAE | ITEMS TO APPROVE

Section 3.1 Nomination for Appointment of an Honorary Research Fellow – Dr Byron Rangiwai

The nomination for the appointment of an Honorary Research Fellow within Ngā Wai a Te Tūi was approved.

MOTION

That the committee approves the appointment of Dr Byron Rangiwai as an Honorary Research Fellow within Ngā Wai a Te Tūi.

Moved: Tanya White

Seconded: Daisy Bentley-Gray

MOTION CARRIED

Action: Marcus Williams to advise the nominator, Dr Hinekura Smith, of this outcome.

Section 3.2 Reestablishment of the Unitec Early Career Researcher Forum Committee

The Unitec ECR Forum is currently chaired by A/P Kristie Cameron. It is proposed to reestablish the ECR Forum Committee in order that the forum's purpose is formalised, and its value clearly asserted in the face of the ongoing changes within Te Pūkenga.

The Chair and several members of the committee acknowledged Kristie's mahi in the ECR space at Unitec and as part of The Royal Society Te Apārangi's ECR Forum Committee.

A summary of the committee's discussion is as follows:

- The reestablishment of the committee would be helpful to many researchers at Unitec. It would be good to unpack the definition of an ECR at Unitec with a view to seeing how people could be developed to meet the specifications of the definition and be supported to advance into the ECR space if they're not yet at that stage.
- Strengthening Māori influence on the committee may be challenging as there's currently so few Māori researchers in the organisation. It may need to be articulated that the appointment of a Māori Co-chair is an aspirational goal, and that committee membership will suffice in the meantime. Strengthening kaupapa Māori influence, content, awareness, and knowledge will strengthen the mahi of the forum.
- The co-chair model reflects the values in Te Noho Kotahitanga.
- The recent Research Spiel Competition for ECRs demonstrated the breadth and depth of research being undertaken by Unitec ECRs. There's potential for developing more understanding of applying ECR research in the mātauranga Māori space.
- Annual reporting to the URC doesn't have to be onerous. Tūāpapa Rangahau can assist.
- Committee participation can be incorporated into PBRF portfolios as a contribution to the research environment.
- The Director Research and Enterprise and Tūāpapa Rangahau tautoko the ECR forum but are not involved in its operation.

MOTION

That the committee approves that the Unitec Early Career Researcher Forum:

- re-establishes its prior, multi-disciplinary committee,

- the committee meets at least bi-annually,
- considers strengthening Māori influence, for example membership or co-chair,
- reports to the URC annually,
- embeds its aims and terms of reference into a ratified procedure to be posted on Te Aka (The Nest) and presented to the committee's August meeting.

Moved: Tanya White

Seconded: Nora Md Amin

MOTION CARRIED

Action: Kristie Cameron, Marcus Williams and Brenda Massey to develop some terms of reference that would include committee membership, forum membership, meeting times etc. The committee's feedback, as articulated above, should be considered and incorporated. The draft terms of reference should be presented at the committee's next meeting for approval.

Section 3.3 Research Dissemination Opportunities

In view of the suspension of the 2023 Research Symposium, Tūāpapa Rangahau has considered how researchers could be supported to disseminate their research via alternative avenues. Two research opportunity directories have been created:

1. A list of journals and conferences of merit that staff could submit to.
2. A list of externally funded research opportunities that staff could apply for.

Research Leaders from Unitec and MIT have also contributed to the development of the directories.

A summary of the committee's discussion is as follows:

- Daisy Bentley-Gray acknowledged Marcus and the Tūāpapa Rangahau team's mahi in organising previous Research Symposiums. Symposiums had latterly been featuring a Pacific stream which had been positively embraced by Pacific staff at both Unitec and MIT. The Symposium provided a forum for Pacific staff to share, and have an audience for, their research. Prior to Falaniko Tominiko leaving Unitec, he proposed that a Pacific specific forum could be organised for Pacific staff at Unitec and MIT. Research would be the main agenda of the gathering, which may have more of a talanoa flavour, rather than a traditional symposium type format.
- It was requested that Māori and Pacific-specific research dissemination opportunities be added to the list of journals and conferences.

MOTION

That the committee continues to support the suspension of the 2023 Research Symposium.

That the committee approves the establishment of a Research Dissemination Package; a directory of externally funded contestable grants schemes and a directory of opportunities for staff to disseminate their research, such as journals and local and/or virtual conferences of merit, subject to opportunities for the dissemination of Māori and Pacific research being included.

Moved: Daisy Bentley-Gray

Seconded: Kristie Cameron

MOTION CARRIED

Action: Tūāpapa Rangahau to add Pacific and Māori focussed journals and conferences to the directory of research dissemination opportunities.

Action: Marcus Williams to set up a meeting with Daisy Bentley-Gray and her MIT counterpart in early September to progress the idea of running a Pacific research talanoa, shared across Unitec and MIT, to be held in late October or early November 2023.

Action: Marcus Williams to circulate the updated list of journals/conferences and the external funding opportunities list through the research leader networks at Unitec and MIT.

SECTION 4 - WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

N/A

SECTION 5 - NGĀ TUKUNGA | ITEMS TO RECEIVE

Section 5.1 **2022 Research Centre Reports**

The committee received annual Research Centre Reports from the Applied Molecular Solutions Research Centre (AMSRC) and the Cybersecurity Research Centre (CRC).

A summary of the committee's reflections on the reports is as follows:

AMSRC: the centre's mahi is highly integrated within teaching and learning in Environmental and Animal Sciences. The level of co-authorship in QA journals is extraordinary. Most of the applications of applied molecular solutions are in the environmental space. The application into agriculture and horticulture are limited at this stage due to capacity issues, but the potential is enormous. The centre has won a number of grants and has collaborated on several grant applications with the Environmental Solutions Research Centre.

CRC: Denis Lavrov, the centre's director, was recently in the US talking to investors about technology being developed in collaboration with GeneCrypt. The team has commercialised some of its research, a first for Unitec. Work is happening in integrating the centre with teaching and learning. There are interns from the cybersecurity diploma that are working in the centre as part of their work experience.

Tanya White acknowledged the partnership and collaboration between Ngai Kaitiaki and the AMSRC. One project involves monitoring the water quality of Te Puna.

Action: Brenda Massey to draft letters to the report writers thanking and acknowledging them for their reports and mahi.

Section 5.2 **2023 RPTL Report**

The committee received the 2023 Research Productivity Traffic Light (RPTL) Report. The report is based on staff's research activity as recorded in ROMS for the 2021 and 2022 period.

Unitec maintained the consistent gains made since the RPTL was introduced in 2012 to a high extent, considering difficult circumstances. The percentage of green lit programmes went down from 93% in 2022 to 87% in 2023. Eighty-seven percent of the programmes are green lit, and the remaining are amber lit. There are no red lit programmes.

The School of Computing managed to improve its rating under the current circumstances, and not only that, it came on board with two new Masters, both of which are 100% green lit already.

With regards to the Bachelor of Veterinary Nursing, Kristie Cameron advised that many of the lecturers are emerging researchers, so they're not quite at the point where they're able to produce research by themselves. In addition, most of them don't have a research time allocation. The School is working to address this, putting in place a process where people are being mentored to become research active. This should result in them becoming eligible to be considered to receive a research time allocation, which will assist with their research capability and productivity.

SECTION 6 - KUPU WHAKAMUTUNGA | CLOSING

Section 6.1 Ētahi Kaupapa Anō | Any Other Business

Yusef Patel passed on his thanks to Tūāpapa Rangahau for its ongoing support. The School of Architecture has had a very busy semester and everyone at Tūāpapa Rangahau has helped its staff out tremendously.

Section 6.2 Komiti Self-Assessment

An opportunity was given for the committee to reflect on their self-assessment provocations. The committee is reminded that feedback on any aspect of the committee's operation can be emailed to the Chair or the Secretary at any time (in confidence if requested).

Section 6.3 Karakia Whakamutunga | Closing Karakia

MEETING CLOSED:	1415 h
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SUMMARY OF ACTIONS

Agenda Item(s)	Action	Responsible	Outcome
3.1	Advise Dr Hinekura Smith of the approval of the appointment of Dr Byron Rangiwai as an Honorary Research Fellow within Ngā Wai a Te Tūi.	Marcus Williams/ Brenda Massey	
3.2	Develop terms of reference for the ECR Forum Committee that includes committee membership, forum membership, meeting times etc. The committee's feedback from today's meeting should be considered and incorporated. The draft terms of reference should be presented at the committee's next meeting for approval.	Kristie Cameron/ Marcus Williams/ Brenda Massey	

3.3	<p>Tūāpapa Rangahau to add Pacific and Māori focussed journals and conferences to the directory of research dissemination opportunities.</p> <p>Set up a meeting with Daisy Bentley-Gray and her MIT counterpart in early September to progress the idea of running a Pacific research talanoa, shared across Unitec and MIT, to be held in late October or early November 2023.</p> <p>Circulate the updated list of journals/conferences and the external funding opportunities list through the research leader networks at Unitec and MIT.</p>	<p>Marcus Williams/ Brenda Massey</p> <p>Marcus Williams</p> <p>Marcus Williams</p>	
5.1	Draft letters to the research centre annual report writers thanking and acknowledging them for their reports and mahi.	Brenda Massey	

MATTERS ARISING

Agenda Item(s)	Action	Responsible	Outcome
3.1	Advise Dr Hinekura Smith of the approval of the appointment of Dr Byron Rangiwai as an Honorary Research Fellow within Ngā Wai a Te Tūi.	Marcus Williams/ Brenda Massey	Complete
3.2	Develop terms of reference for the ECR Forum Committee that includes committee membership, forum membership, meeting times etc. The committee's feedback from today's meeting should be considered and incorporated. The draft terms of reference should be presented at the committee's next meeting for approval.	Kristie Cameron/ Marcus Williams/ Brenda Massey	Complete – on agenda
3.3	Tūāpapa Rangahau to add Pacific and Māori focussed journals and conferences to the directory of research dissemination opportunities.	Marcus Williams/ Brenda Massey	Complete
	Set up a meeting with Daisy Bentley-Gray and her MIT counterpart in early September to progress the idea of running a Pacific research talanoa, shared across Unitec and MIT, to be held in late October or early November 2023.	Marcus Williams	Complete
	Circulate the updated list of journals/conferences and the external funding opportunities list through the research leader networks at Unitec and MIT.	Marcus Williams	Complete
5.1	Draft letters to the research centre annual report writers thanking and acknowledging them for their reports and mahi.	Brenda Massey	Complete

Unitec New Zealand Limited

Meeting of URC – Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 2023-08-10

Title	Unitec 2022 Research Annual Report
Provided by:	Marcus Williams, Director, Tūāpapa Rangahau
Authored by:	Arun Deo & Marcus Williams, Tūāpapa Rangahau
For:	APPROVAL

Recommendation/s

That the URC endorses the Unitec 2022 Research Annual Report.

Purpose

Accompanying this memo is the Unitec 2022 Research Annual Report, produced by Tūāpapa Rangahau; partnering research and enterprise. It provides a comprehensive summary of Unitec's Research and Enterprise activity for the 2022 year.

Background

The URC now Te Komiti Rangahau o Unitec, commissioned this annual report on research, around the time degrees began to first emerge at Unitec in the 1990's.

Next Steps

After the approval, this report will be made available to the internal stakeholders of Tūāpapa Rangahau.

Contributors

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- » Marcus Williams – Director, Tūāpapa Rangahau

Attachments

Please refer to the attachment: Research Annual Report 2022.pdf

UNITEC RESEARCH ANNUAL REPORT 2022



Hon. David Parker (Minister for the Environment) and Peseta Sam Lotu-liga (Executive Director Region/Rohe 1 Te Pūkenga) meet Professor Terri-Ann Berry (Director, Environmental Solutions Research Centre) at a construction waste recycling trial. Photo by Matt Crawford.



prepared by Tūāpapa Rangahau; partnering research and enterprise

Table of Contents

1	Introduction	1
2	Executive Summary	2
3	Priority One (Research that is aligned with Te Tiriti o Waitangi)	5
3.1	Ngā Wai a Te Tūī, Māori and Indigenous Research Centre.....	5
3.1.1	The 2022 active research projects include:	6
3.1.2	Research dissemination and conference contributions	7
3.1.3	Research awards	8
3.1.4	NWaTT – external research income	8
3.2	2022 MAI ki Wairaka Conference.....	8
3.3	Postgraduate examinations and completions	9
3.3.1	Completions by Māori and Pacific students	10
3.3.2	Dean’s Award for A+ postgraduate students.....	10
3.4	Māori Postgraduate Scholarship	10
3.5	Impact of postgraduate scholarships on student retention and success	10
3.5.1	Observations	11
3.6	Research outputs by Māori and research outputs by Pacific academics.....	11
3.7	Unitec/MIT Research Symposium – Māori context highlights.....	12
4	Priority Two (A flourishing, collaborative research culture)	13
4.1	Building staff capability in research.....	13
4.1.1	Developing our staff – Research Professional Development series.....	13
4.1.2	Writing support	15
4.2	Supporting our researchers – internally funded research projects.....	16
4.2.1	Early Career Researcher (ECR) Fund.....	16
4.2.2	Early Career Researcher (ECR) Fellowships	17
4.2.3	Early Career Researcher Support Fund – Return from Parental Leave Fund.....	18
4.3	Focusing on research productivity – research outputs	18
4.3.1	Total Unitec research outputs	18
4.3.2	Research outputs by School	20
4.4	Research dissemination.....	21
4.4.1	Research dissemination funding.....	21
4.4.2	Collaborative Research Dissemination Fund	22
4.4.3	Wairaka: Natural Environment, History and Culture Fund	24
4.4.4	Student-Integrated Research Output Funding	24

4.5	Professoriate	24
4.6	Research Productivity Traffic Light (RPTL)	26
4.6.1	Research Productivity Traffic Light terms of reference and methodology	26
4.6.2	The 2023 Research Productivity Traffic Light results.....	27
4.6.3	Observations	28
4.7	Research partnering	29
4.8	School research plans.....	29
4.9	Performance Based Research Fund (PBRF)	30
4.9.1	Context	30
4.9.2	Unitec Internal PBRF Quality Evaluation.....	30
4.9.2.1	Highlights of the internal PBRF QE	30
4.9.3	Sector Reference Group consultations.....	31
4.10	Ethics	31
4.11	Postgraduate studies and student-engaged research	32
4.11.1	Postgraduate scholarships.....	32
4.11.2	Scholarship success stories.....	32
5	Priority Three (Partnered research and innovation).....	35
5.1	Increasing external engagement	35
5.1.1	Building external relationships through research.....	35
5.1.2	Institutes of Technology and Polytechnics (ITP) Research and Enterprise Voucher scheme 36	
5.1.3	Industry-funded projects.....	36
5.1.4	Commercialisation.....	37
5.2	Joint research with universities, other Institutes of Technology and Polytechnics (ITPs) and Crown Research Institutes (CRIs).....	38
5.3	Seeking external funding	38
5.3.1	2022 success stories.....	38
5.3.1.1	Teaching and Learning Research Initiative (TLRI): Whatua Tū Aka pathway	38
5.3.1.2	University of Otago/German Federal Ministry of Education and Research (BMBF)/Ministry of Business, Innovation and Employment (MBIE).....	39
5.3.2	Funding-proposal submissions and success rates	39
5.3.3	Organisations funding our research	41
5.4	Delivery of externally funded projects	42
5.4.1	Total Unitec external research income (ERI)	42
5.4.2	External research income by School and Research Centre	43
5.4.3	Performance Based Research Fund (PBRF) ERI	43

5.5	Unitec/Te Pūkenga Research Centres	44
5.5.1	The Digital Heritage Research Centre.....	44
5.5.1.1	Mātauranga Māori	45
5.5.1.2	Summary of activities	45
5.5.1.3	External funding applications	46
5.5.2	The Centre of Research in Education for Healthcare Professionals.....	46
5.5.2.1	Vision Mātauranga	47
5.5.2.2	External funding applications	47
5.5.3	The Cybersecurity Research Centre	48
5.5.3.1	Vision Mātauranga	49
5.5.3.2	Summary of partnerships and student activity in 2022.....	49
5.5.3.3	External funding applications	50
5.5.4	The Applied Molecular Solutions Research Centre.....	50
5.5.4.1	Vision Mātauranga	51
5.5.4.2	Summary of partnerships and student activity in 2022.....	51
5.5.4.3	External funding applications	52
5.5.5	Ngā Wai a Te Tūī, Māori and Indigenous Research Centre.....	52
5.5.6	The Environmental Solutions Research Centre	52
5.5.6.1	Vision Mātauranga	52
5.5.6.2	Summary of partnerships and student activity – 2022.....	52
5.5.6.3	External funding applications	53
5.6	Industry Scholarships.....	54
5.7	Unitec Bold Innovators Scholarship.....	55
5.8	Telling our research stories	56
5.8.1	The 3-Minute Thesis Competition	56
5.8.2	Unitec/MIT Research Symposium	56
5.8.2.1	Panel discussion	57
5.8.2.2	57	
5.8.2.3	Panellist 2 – Professor Jean Ross.....	58
5.8.2.4	Panellist 3 – Yvonne Kainuku (Ngāti Kainuku Ariki, Ngāti Tea’ia Ariki, Ngāti Tangii’au, Ngāti Crummer, Ngāti Collins)	58
5.8.2.5	Panellist 4 – Professor Terri-Ann Berry.....	59
5.8.2.6	Keynote speaker – Mark Roberts	59
5.8.2.7	Research with Impact Awards	59
5.8.2.8	Undergraduate Student Research Excellence Awards.....	60

5.8.2.9	Māori Research Excellence Awards	61
5.8.2.10	Pacific Research Excellence Awards	61
5.8.2.11	Early Career Researcher Excellence Awards.....	62
5.8.3	Institutes of Technology and Polytechnics Research and Innovation Symposium	62
5.9	Unitec ePress.....	63
5.10	Unitec Research Blog.....	64
6	Priorities for 2023.....	65
7	Conclusion	66
8	Appendices	67
8.1	Appendix 1: Unitec Research Strategy 2020–2024	67
8.2	Appendix 2: Unitec Research Strategy Action Plan	72

List of Figures

Figure 1: Theses (90+ credits) submitted for examination.	10
Figure 2: Research outputs by Māori academics.	11
Figure 3: Research outputs by Pacific staff.	12
Figure 4: Staff who enrolled in workshops and retreats in 2022.	14
Figure 5: Staff who enrolled in the specialist skills workshops offered in 2022.	14
Figure 6: Staff who enrolled in workshops aimed at professional development specifically for Level 9 and 10 supervisors in 2022.	15
Figure 7: Quality-assured and non-quality-assured research outputs.	19
Figure 8: Quality-assured and non-quality-assured research output growth.	20
Figure 9: 2022 QA and non-QA research outputs by School.	20
Figure 10: Mauri stones at Wairaka Public Art Trail.	22
Figure 11: Dr Pouroto Ngaropo speaks about Te Whatu Mauri o Wairaka, the gathering of Mauri stones in acknowledgement of Wairaka of Mataatua waka, at the pōwhiri opening ceremony of Te Pātaka Art Trail.	23
Figure 12: Percentage of green-, amber- and red-lit degree programmes 2012–2023.	28
Figure 13: Staff and student ethics applications received and approved.	31
Figure 14: Unitec industry-funded project counts between 2018 and 2022.	36
Figure 15: Schools' contribution to industry-funded projects count.	37
Figure 16: Proposals submitted for external funding 2011–2022.	40
Figure 17: Total grants awarded annually 2011–2022.	40
Figure 18: Unitec ERI between 2010 and 2022.	42
Figure 19: 2022 ERI by School and Research Centres.	43
Figure 20: Bold Innovators Scholarship recipient Kristi Shaw.	55
Figure 21: Panellist 1 – Professor David Tipene-Leach (Ngāti Kahungunu).	57
Figure 22: Panellist 2 – Professor Jean Ross.	58
Figure 23: Panellist 3 – Professor Yvonne Kainuku.	58
Figure 24: Panellist 4 – Professor Terri-Ann Berry.	59
Figure 25: Keynote speaker – Mark Roberts.	59

List of Tables

Table 1: 2022 MAI ki Wairaka conference attendance.....	9
Table 2: 2022 Early Career Researcher Fund projects supported.	16
Table 3: QA research outputs per research-active FTE in 2021.....	21
Table 4: Count research outputs, where the co-authors were current or recent Unitec student(s).....	24
Table 5: Leadership examples from the Unitec Professoriate.....	26
Table 6: Total number and percentage of green-, amber- and red-lit degree programmes 2012–2023. ...	27
Table 7: Sources of ERI in 2022.	41
Table 8: Outcome of submitted applications 2021.	41
Table 9: Funders and amounts of Unitec’s five biggest grants in 2022.	41
Table 10: PBRF ERI weightings and amount by funding source.....	44
Table 11: The Digital Heritage Research Centre’s funding applications.	46
Table 12: The Centre of Research in Education for Healthcare Professionals funding applications.....	48
Table 13: The Cybersecurity Research Centre’s funding applications.	50
Table 14: The Applied Molecular Solutions Research Centre’s funding applications.	52
Table 15: The Environmental Solutions Research Centre’s funding applications.	53

1 Introduction

Whāia te iti kahurangi, ki te tuohu koe me he maunga teitei.

Seek the treasure you value most dearly: if you bow your head, let it be to a lofty mountain.

A research highlight of 2022 was the landing of Phase Two funding of \$120,000 for the GeneCrypt project. Coming out of the Cybersecurity Research Centre, directed by Denis Lavrov, this is the first externally funded research-commercialisation project at Unitec (and possibly in our sector), and involves developing security software for securing the human genome in digital environments, in which Unitec has a 15% share in all potential profits. In some respects, this is the penultimate achievement of the drive to focus research that started from the 2015–2019 Research Strategy and has led to the establishment of six research centres. Two new centres were added in 2022; the Digital Heritage Research Centre directed by Associate Professor Renata Jadresin-Milic and the Centre of Research in Education for Healthcare Professionals, directed by Associate Professor Samantha Heath. As I write this, Denis is in Boston with [GeneCrypt Ltd](#) Director Kris Vette, talking to deep-tech investors.

A very challenging moment in 2022 arrived when Professor Jenny Lee-Morgan resigned from Unitec. I would like to use this opportunity to acknowledge the tremendous contribution that Jenny made since her appointment in 2018, in fact it is impossible to overstate that. She established Ngā Wai a Te Tūi, Māori and Indigenous Research Centre. Jenny built a team from scratch and went on to win well over \$5m of external funding. She helped embed Kaupapa Māori expertise into the postgraduate ecosystem and facilitated the establishment of MAI ki Wairaka, a branch of [Te Kūpenga o MAI](#), and she provided invaluable leadership during the MIT/Unitec leadership integration, leading toward resolution of major change-related challenges beyond research. These are only a few of her endeavours and each of these involves very significant leadership experience, sustained effort and singular vision. The blow of this loss to Unitec was significantly ameliorated when Dr Hinekura Smith stepped up into the leadership role of Ngā Wai a Te Tūi, and with that interim appointment an invaluable partnership with Jenny and her research operation, Pūrangakura, continues.

Meantime, the continued leadership, dedication and sheer drive of the committed research staff and supportive managers at Unitec prevailed to produce the outcomes summarised in this report. Senior Leadership, Directors of Research Centres, Research Leaders in Schools, Principal Investigators of funded projects, committee members, teaching researchers and Tūāpapa Rangahau (the research office) colleagues rose, as they always do, to face every challenge of a sector undergoing profound reform and the relentless disruption which that brings. These pages contain the data and the narratives of a research success story in the context of the Aotearoa New Zealand vocational education sector, which continues to be something we should all be proud of. This document reports on the third year of the Unitec Research Strategy 2020–2024.



Associate Professor Marcus Williams, Director

Tūāpapa Rangahau, Partnering Research and Enterprise

2 Executive Summary

This research report is structured around the Unitec Research Strategy 2020–2024 (Section 8.1). The strategy responds strongly to Manaakitia Te Rito, the purpose statements coming out of the Reform of Vocational Education (RoVE), Te Pūkenga and the learning of the Unitec research community since the previous five-year version. The strategy has three Priorities and three related Goals, with Key Performance Indicators (KPIs) designed to measure progress toward these goals. They are:

- » **Priority One** – Research that is aligned with Te Tiriti o Waitangi.

***Goal One:** Unitec has strong Māori research leadership, capability, excellence, partnerships, processes and governance.*

Report highlights:

- ✦ Ngā Wai a Te Tūi (NwaTT), Māori and Indigenous Research Centre generated \$1,594,141 external research income (ERI), contributing 62% of the total ERI at Unitec in 2022. The Centre also won four new grants with a contract value of \$426,650.
- ✦ Māori academics produced a total of 21 research outputs in 2022 and Pacific academics produced 15 research outputs.
- ✦ NwaTT scooped two awards at the Unitec Staff Excellence Awards:
 - Unitec award for Kaupapa Māori teaching excellence and
 - Unitec research award for research excellence.
- ✦ Successful Unitec/MIT Research Symposium with greater Māori focus and involvement. Highlights are:
 - One of the four panellists of the symposium was a Māori speaker.
 - Māori researchers scooped four out of the 15 awards.

- » **Priority Two** – A flourishing, collaborative research culture.

***Goal Two:** The diverse people of Unitec have fit-for-purpose capability development and support toward sustainable, collaborative research productivity and excellence.*

Note: The highlights, in bold font, represent the KPIs of research at Unitec.

Report highlights:

- ✦ Building staff capability in research – five different workshops and retreats organised in 2022, which were attended by a total of 117 staff.
- ✦ Early Career Researcher (ECR) Fund – four recipients supported.
- ✦ ECR Fellowships – two recipients supported.
- ✦ ECR Support Fund – Return from Parental Leave – one recipient supported.
- ✦ **Research outputs – a total of 516 (329 quality-assured and 187 non-quality-assured, an average of 1.77 quality-assured outputs to FTE of degree teaching staff).**
- ✦ **88 student-integrated research outputs** (research outputs where the co-authors were current or recent Unitec students).
- ✦ As well as Research Dissemination Funding, various other funds were available to staff in 2022. These included: Collaborative Research Dissemination Fund; Wairaka: Natural Environment, History and Culture Fund; and Student-Integrated Research Output funding.
- ✦ **Research Productivity Traffic Light (RPTL) – 87% of degree programmes green-lit.**
- ✦ Ethics – 59 applications approved.
- ✦ Postgraduate scholarships – 49 scholarships awarded.

» **Priority Three – Partnered research and innovation.**

Goal Three: Research that is industry/community partnered and promotes innovation.

Report highlights:

- ↗ **40 industry-funded projects.**
- ↗ 32 proposals for external funding submitted: 21 successful.
- ↗ A total of \$2,133,043 of grants won.
- ↗ **\$2,566,110 as total external research income (ERI).**
- ↗ The Cybersecurity Research Centre contributed \$311,493 as ERI.
- ↗ The Applied Molecular Solutions Research Centre contributed \$127,141 as ERI.
- ↗ The Environmental Solutions Research Centre contributed \$184,381 as ERI.
- ↗ The four Research Centres contributed 86% of Unitec's total ERI for 2022 and the Schools contributed 14%.
- ↗ Five industry scholarships awarded in which students are partnered with community or companies.
- ↗ Unitec/MIT Research Symposium open to ITP sector – with over 246 registrations, 31 ITPs/PTEs/organisations participating, 96 presentations, six posters, five research excellence awards, one keynote speaker and a panel discussion.
- ↗ There were 11 presentations from Unitec staff at the ITP Research Symposium. A total of 20 staff co-authored these presentations.
- ↗ Unitec ePress published quality-assured research outputs for 35 Unitec staff members and 51 staff members from other institutions in Te Pūkenga.

The Research Strategy Action Plan (Section 8.2) provides a detailed breakdown of how we will achieve the three goals and how the six KPIs¹ measure our progress toward these goals.

The six KPIs for research are:

1. **Rangahau Māori Productivity** – productivity in this context is aggregated as quality-assured (QA) outputs by Māori staff, funded projects with named Māori staff, Māori supervisors, Level 9 and 10 Māori postgraduate scholarships, QA outputs that demonstrate excellence in Vision Mātauranga, accredited Vision Mātauranga and Kaupapa Māori rangahau professional development achievements, and rangahau Māori research stories in the media.
2. **Quality Assured (QA) Research Outputs** – recognised research outputs that have been through a peer-review process or have been specifically commissioned. This is presented as a ratio of counts of the number of QA outputs to FTE of degree teaching staff.
3. **Research Productivity** – measure of staff teaching on degree programmes who meet the agreed levels of research in the Research Productivity Traffic Light. This is measured as the ratio of research-active staff to the total number of staff on a degree programme.
4. **External Research Income (ERI)** – income received from external sources for research purposes calculated on the project milestones achieved and spending to date, in a particular year. This is measured in dollars.
5. **Industry-Funded Projects** – research and enterprise projects Unitec is receiving funding for, where the services Unitec is providing are applied contract research or consultancy, from all funders excluding any governmental contestable funding sources. This is measured as a count of the number of projects.
6. **Student-Integrated Research** – a measure of student input into staff-engaged research including authorship, contributions to wānanga, creative outputs, studentships, research-

¹ This hyperlink takes you to Unitec's Power BI Portal. You will need to login into this Portal using your own credentials and once you are into Power BI refer to the **Research Dashboard**.

assistant positions, awards or other contributions (as defined by the PBRF). This is measured as a count of the number of research outputs.

The first section of the report relates to Priority and Goal One, the second to Priority and Goal Two and the third to Priority and Goal Three.

3 Priority One (Research that is aligned with Te Tiriti o Waitangi)

Unitec will ensure that its support for research, governance and processes is aligned with Te Tiriti o Waitangi. In this way, Unitec will exemplify leadership in Māori research in the ITP sector and in Aotearoa. The principle of rangatiratanga expressed through our partnership document, Te Noho Kotahitanga, will apply to research at Unitec: that Māori will have authority over and responsibility for all research related to Māori dimensions of knowledge. Vision Mātauranga will be integrated into all research processes and researchers will be supported to understand and fulfil these requirements. We will resource and grow the numbers and capability of Māori researchers, including Māori supervisors of our postgraduate programmes. We will actively seek and maintain partnerships with iwi, hapū, Māori businesses, institutions and peak Māori bodies. We will evolve our research office appropriately to ensure Māori research governance and rangatiratanga.

This section of the report highlights:

- » The activities of Ngā Wai a Te Tūī, Māori and Indigenous Research Centre
- » Postgraduate examinations (including completions by Māori and Pacific students)
- » Māori postgraduate scholarship
- » Research outputs by Māori and research outputs by Pacific academics
- » Unitec/MIT Research Symposium – Māori context highlights
- » 2022 MAI ki Wairaka conference

It has to be said that the loss of research-active Māori staff, and Kaupapa Māori expertise with it, has been a regrettable feature of 2022 and a disturbing trend in relation to the above-stated strategic aspirations. Although impending changes to the PBRF will benefit Māori research, they are motivating the universities to actively recruit these staff, which is negatively impacting Te Pūkenga in the context of the recruitment freeze and other disruption.

In 2022:

- » Six Māori staff, out of a total of 188 staff, were teaching in degree programmes
- » 10 Māori staff, out of a total of 131 staff, were on the supervision register
- » 8% of the research outputs were contributed by Māori staff

3.1 Ngā Wai a Te Tūī, Māori and Indigenous Research Centre

Established and directed by Professor Jenny Lee-Morgan in 2019, Ngā Wai a Te Tūī (NWiTT) continues its vision to lead transformative and innovative Māori and Indigenous research that responds to the needs and aspirations of whānau, hapū, marae, iwi and communities. NWiTT engages in multi-disciplinary Kaupapa Māori research with a community and vocational research focus to centre mātauranga Māori (the goals, aspirations and issues from an Indigenous lens) using Māori concepts, knowledge, theories and practice to advance and respond to contemporary issues within society.

2022 saw significant change at NWiTT following the resignations of centre director Professor Jenny Lee-Morgan and Professor Leonie Pihama, and the subsequent novation of over \$5 million dollars in externally funded projects. The loss of these projects to Unitec/Te Pūkenga subsequently resulted in a significant decrease in administration and project/contract management capacity in the centre. In total, NWiTT has gone from 32 staff employed on permanent, fixed-term research contracts and supplier contracts across nine research projects in 2020 to 1.8 FTE Māori academic staff, 0.6 FTE in administration and 0.2 FTE contractors in 2022. The current staffing is outlined here:

- » Dr Hinekura Smith (Te Rarawa, Ngāpuhi), 1 FTE, Senior Lecturer, Senior Researcher, Centre Director

- » Irene Kereama-Royal, 0.6 FTE, Research Partner
- » Dr Nalani Wilson-Hokowhitu (Marsden Fast Start)
- » Allana Goldsmith (Ngāti Porou, Ngai Tai), 0.5 FTE Research Administrator
- » Kim Penetito, 0.2 FTE, contractor to TLRI project 2023–25

NWaTT continues in its efforts to first stabilise the centre then revision its purpose moving forward, given the turbulent and uncertain positioning and restructure of research within Te Pūkenga. With increased organisational support, a significant investment in policy, and procedures that enable rangahau and research and the ability and autonomy to direct research, NWaTT has the potential to lead rangahau Māori across the sector.

Despite reduced capacity, NWaTT remains a centre of mātauranga Māori and Kaupapa Māori research at Unitec/Te Pūkenga. This includes eight Kaupapa Māori summer internships, Kaupapa Māori co-supervision relationships, and postgraduate support through MAI ki Wairaka, a Māori postgraduate network programme funded by Ngā Pae o te Māramatanga, Aotearoa New Zealand's Māori Centre of Research Excellence.

The Centre is funded by external research projects, and it is through the critical collaboration with external partnerships that NWaTT aims to continue its self-sustainable viability. Recognition is extended to these partnerships and organisations who funded research projects in 2022–23:

- » TLRI (Teaching, Learning and Research Initiative)
- » Ngā Pae o te Māramatanga
- » Te Whatu Ora Health New Zealand

3.1.1 The 2022 active research projects include:

- » **MAI ki Wairaka:** The Māori and Indigenous (MAI) postgraduate student programme is a nationally organised network comprising key sites throughout Aotearoa New Zealand that support student success. MAI ki Wairaka was established in 2020 – the first ITP-situated MAI site in Te Pūkenga o MAI national network – and is funded by Ngā Pae o te Māramatanga (NPM), Aotearoa New Zealand's Māori Centre of Research Excellence. MAI ki Wairaka works closely with Unitec's MAIA whānau to support MAI postgraduate students through Tuhi MAI (Friday academic-writing sessions), guest speakers, workshops and writing retreats, and attendance at the annual MAI conference. The programme promotes capability-building outcomes and focuses on the specific student-support requirements and models to accelerate and foster the success of MAI postgraduate students.

Principal Investigator: Dr Hinekura Smith
2022 Funding: \$130,000
Funding Agency: Health Promotion Agency (NPM)

- » **NWaTT – Te Whatu Ora Summer Internship:** A funded collaboration with Te Whatu Ora Health New Zealand, NWaTT facilitated this internship for the second year. Its objectives seek to engage and enable Māori communities' right to self-determine health and wellbeing, and to increase capability and capacity in the health research workforce in Aotearoa New Zealand. This project provides a four-month Kaupapa Māori researchship centred around Māori health and wellbeing promotion, which ran from the beginning of December 2022 to the end of March 2023.

Principal Investigator: Dr Hinekura Smith
2022 Funding: \$130,000
Funding Agency: Health Promotion Agency

- » **Toiora, Hauora: Developing Māori Arts-Based Pedagogy for Whānau Wellbeing:** An inter-institutional scoping research collaboration funded by Ngā Pae o te Māramatanga (a Centre of Research Excellence), Toiora, Hauora is a Kaupapa Māori arts-based collaboration to theorise the pedagogy of Māori creative practices that support flourishing Māori whānau wellbeing. This innovative research centres Māori arts-based practice 'as teacher', bringing together three established Māori arts scholar-practitioners (Dr Hinekura Smith, Dr Donna Campbell and Dr Jani Wilson) to expand the currently under-researched field of Māori pedagogies, and to highlight the critical role of Māori arts practice and pedagogy to grow well and flourishing Māori futures.

Principal investigator: Dr Hinekura Smith

2022 funding: \$60,000

Funding agency: Ngā Pae o te Māramatanga

- » **Toi Ora, Reo Ora, Whatuora:** A two-year TLRI-funded educational research project across three Māori-immersion kura settings in Central-West Auckland to address the following research question: *How does Whatuora, a Kaupapa Māori arts-based pedagogy, support and story the intergenerational revitalisation of Māori language, culture, stories and whānau aspirations, across three Māori-medium settings?* This project is a unique intergenerational wānanga arts-based project.

Principal investigator: Dr Hinekura Smith

2022 funding: \$224,650

Funding agency: TLRI (Teaching and Learning Research Initiative)

- » **Storylines of Pacific Women:** A two-year Marsden Fast Start project to explore the complex roles that women have played in voyaging, migration, movement, identity, places and displacements, diasporas and connections. The research hopes to restore the legacies of legendary Pacific Island women voyagers and navigators by retracing the voyaging storylines of Pacific women with a commitment to researching the connections between Hina/Hine/Ine/Sima/Sina and Nim'anoa throughout Oceania.

Principal investigator: Dr Nālani Wilson-Hokowhitu

2022 funding: \$85,000

Funding agency: Marsden Fast Start, Royal Society Te Apārangi

3.1.2 Research dissemination and conference contributions

In 2022, NWAaTT hosted and attended a number of conferences and wānanga. These included:

- » Hosting MAI ki Wairaka Māori and Indigenous post-grad and doctoral conference. 130 attendees, including Indigenous students from Australia and Hawai'i.
- » Attendance and presentation at NAISA (Native American and Indigenous Studies Association).
- » Attendance and presentation at WIPCE (World Indigenous Peoples' Conference on Education), Adelaide, November.
- » Attendance and presentation at AARE (Australian Association of Research in Education), Adelaide, December.

3.1.3 Research awards

In 2022, NWaTT scooped two awards at the Unitec Staff Excellence Awards. These were:

- » Unitec award for Kaupapa Māori teaching excellence
- » Unitec research award for research excellence

3.1.4 NWaTT – external research income

In total, Ngā Wai a Te Tūi generated \$1,594,141 in external research income (ERI) in 2022, from 18 active contracts won and/or novated since its establishment, contributing 62% of the total ERI at Unitec. NWaTT also won four new grants in 2022 with a contract value of \$426,650.

The following projects were active in 2022:

- » MOKO (Marae Ora, Kāinga Ora)
- » He Waka Eke Noa
- » Urban Intergenerational Kāinga Innovations (UIKI)
- » Te Kupenga o MAI
- » Mana Kāinga
- » Hihiko
- » A Māori Modern Learning Environment
- » Manaakitanga as an Urban Response to Covid-19
- » Te Mana o Rangitahua
- » Te Wānanga a Maia
- » Retracing the Storylines of Pacific Women Voyagers and Navigators
- » Hono MAI Matariki 2021
- » Kia Tika te Hi Ika
- » Manaaki Rangatahi
- » Kaupapa Māori Research Internship programme
- » MAI ki Wairaka
- » Kounga MAI

3.2 2022 MAI ki Wairaka Conference

MAI ki Wairaka is a Māori postgraduate network programme funded by Ngā Pae o te Māramatanga, Aotearoa New Zealand's Māori Centre of Research Excellence. This conference is closely linked to the MAI ki Wairaka project [Section 3.1.1].

In November 2022, MAI ki Wairaka hosted a highly successful MAI conference at Te Noho Kotahitanga, Unitec.

One hundred and twenty-three individuals registered for this conference from 18 different MAI whānau and, out of these, 92 participants attended the conference.

MAI whānau	Attendance	Registered to attend
MAI ki Wairaka	17	18
MAI ki Aronui	5	12
MAI ki Otago	11	13
MAI ki Pōneke	10	10
MAI ki Te Wānanga o Aotearoa	1	2
MAI ki Waikato	2	3
MAI ki Waitaha	3	5
MAI ki Manawatū	5	12
MAI ki Te Tai Tokerau	5	6
MAI ki Aoraki	2	2
MAI ki Tāmaki	8	15
University of Melbourne	4	4
University of Queensland	4	4
University of Hawai'i	5	5
Fulbright	2	2
Maia	6	6
Pūrangakura	1	1
Te Pūkenga	1	3
Total	92	123

Table 1: 2022 MAI ki Wairaka conference attendance.

3.3 Postgraduate examinations and completions

Tūāpapa Rangahau manages and administers the examination of all 90-credit and higher theses for Unitec's master's and doctoral programmes. Figure 1 shows the number of theses (90 or more credits) submitted for examination since 2011. The number of submissions of theses in 2022 is lower than the previous years. This is due to the closure of some postgraduate programmes and some students having to pause their studies due to the Covid-19 pandemic.

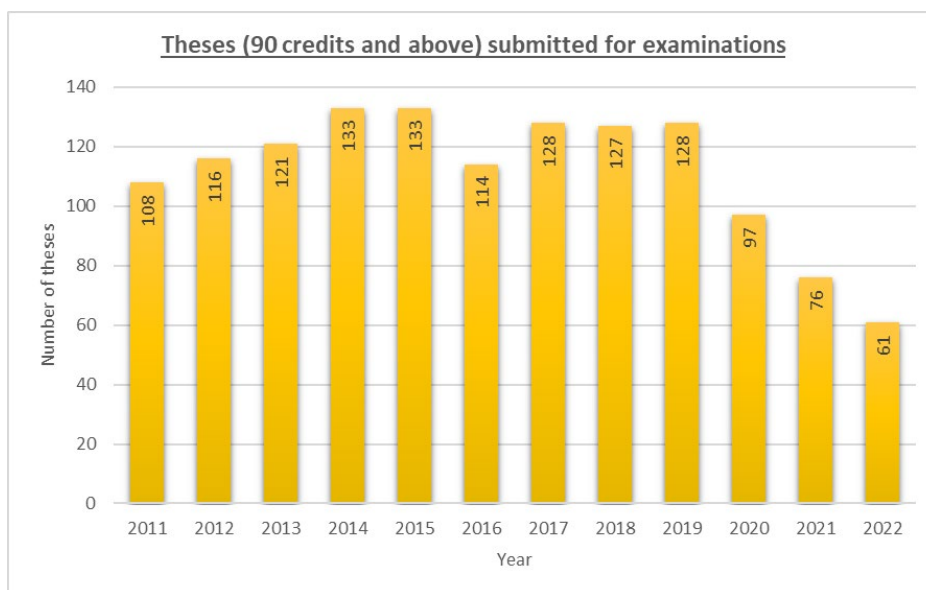


Figure 1: Theses (90+ credits) submitted for examination.

3.3.1 Completions by Māori and Pacific students

In 2022, there were 61 theses (90 or more credits) submitted for examination and out of these 59 were successful completions. Out of these, there were two completions by students who identified themselves as Māori, and nine by students who identified themselves as Pacific.

3.3.2 Dean's Award for A+ postgraduate students

In 2022, there were two master's completions with an A+ grade, both from the Master of Creative Practice programme. Along with these, there were three completions from the Master of Architecture (Professional) with an A grade with a distinction. The award ceremony was attended by family, supervisors and leaders of programmes.

3.4 Māori Postgraduate Scholarship

In 2022, seven Māori Postgraduate Scholarships, valued at \$5,000 each, were awarded to the following recipients:

- » Juli Dewi Thomas – Master of Osteopathy
- » Irene Farnham – Master of Applied Practice – Social Practice
- » Claire Reti – Master of Creative Practice
- » Jasmine Te Hira – Master of Creative Practice
- » Keisha Rawiri – Master of Architecture (Professional)
- » Denise Messiter – Master of Applied Practice – Social Practice
- » Kahurangi Eruera – Master of Architecture (Professional)

3.5 Impact of postgraduate scholarships on student retention and success

In 2022, an evaluation of the effectiveness of postgraduate scholarships was completed and the findings were presented to the Postgraduate Research and Scholarships Committee (PGRSC).

The Master of Osteopathy programme was used as a sample group and the completions data from 2015 to 2019 were investigated.

The following comparisons were done:

- » Average grade of scholarship students versus average grade of non-scholarship students at the completion of the programme.

- » Average grade of Māori/Pacific scholarship students versus average grade of Māori/Pacific non-scholarship students at the completion of the programme.

3.5.1 Observations

- » In the 2015 data, the students receiving scholarships performed at a grade point better than those students that did not receive a scholarship. There were no Māori or Pacific scholarships recipients in the sample group for this period.
- » In 2016 and 2017 data, there were no students with scholarships in the sample group and hence no comparisons were made.
- » In the 2018 data, the students receiving scholarships performed at half a grade point better than those students that did not receive a scholarship. There were no Māori or Pacific scholarship recipients in the sample group for this period.
- » In the 2019 data, the students receiving scholarships performed at one-and-a-half grade points better than those students that did not receive a scholarship. There was only one Māori student with a scholarship. This student performed half a grade point better than those students that did not receive a scholarship. There were no Pacific scholarship recipients in the sample group for this period.

3.6 Research outputs by Māori and research outputs by Pacific academics

This section highlights the research productivity of Unitec's Māori and Pacific academics. Detailed reporting on research productivity is presented in Section 4.3.

Figure 2 illustrates the research outputs by Māori academics.

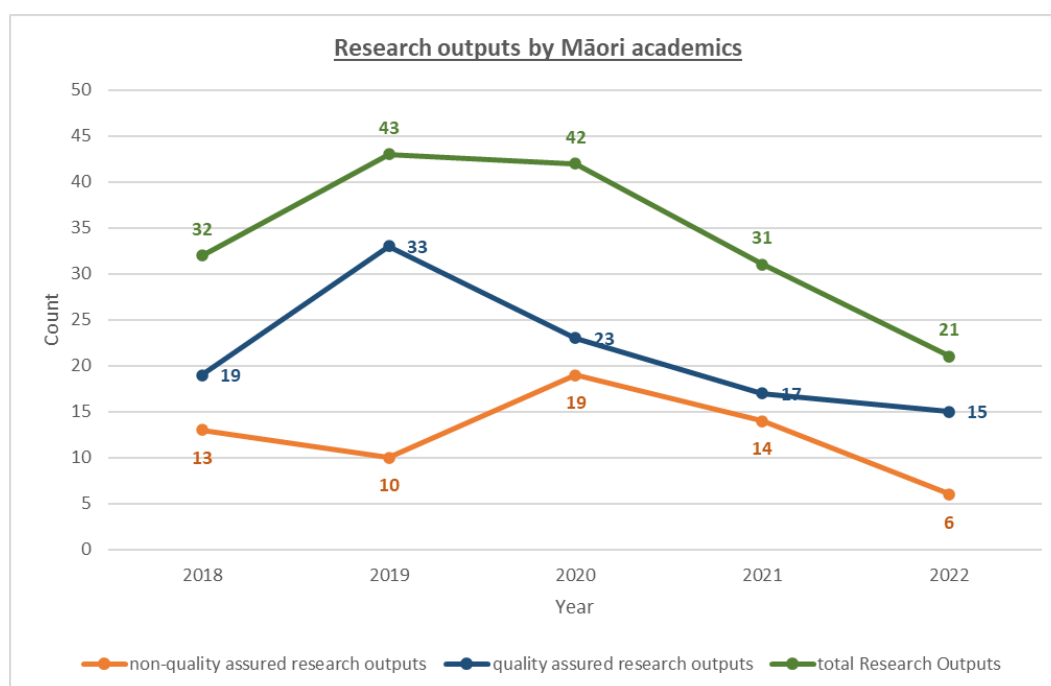


Figure 2: Research outputs by Māori academics.

Figure 3 illustrates the research outputs by Pacific academics.

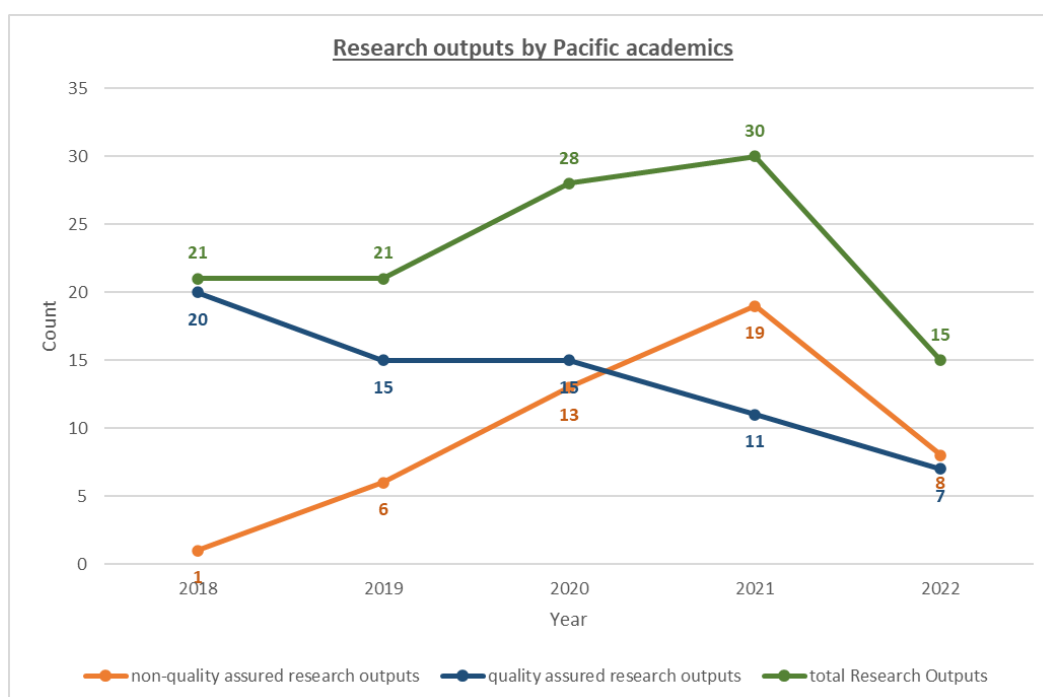


Figure 3: Research outputs by Pacific staff.

3.7 Unitec/MIT Research Symposium – Māori context highlights

The 2022 Unitec/MIT Research Symposium, Rangahau: Te Mana o te Mahi Kotahitanga – Research: The Power of Collaboration, was a Te Tiriti-aligned event with a significant presence of Māori researchers [Section 5.8.1 covers the symposium in detail]. The key highlights are presented below:

- One of the four panellists of the symposium was a Māori speaker, Professor David Tipene-Leach (Ngāti Kahungunu). [Refer to Section 5.8.1.2 for more details.]
- Research with Impact Winner – Dr Hinekura Smith, Māori researcher. [Refer to Section 5.8.1.8 for more details.]
- In the Māori Research Excellence Awards category, numerous impressive research projects were shared. [Refer to Section 5.8.1.10 for more details.]

The winners were as follows:

Winner: Dr Catherine Mitchell (Unitec)

Title: Mā te Huruhuru, Ka Rere te Manu: A Call for Collaboration and Leadership Within Postgraduate Supervision in Vocational Education

Runners Up

- Associate Professor Byron Rangiwai, Caroline Baker and Helena Murphy (Unitec)
Title: From the Frontline of Social Work to the Classroom: Some Indigenous Autoethnographic Insights?
- Lois Naera and Rebecca Crosby (MIT)
Title: Mātauranga Māori and Social Work Practice: A Partnership

4 Priority Two (A flourishing, collaborative research culture)

Unitec will grow a productive, diverse, student-integrated, engaged and sustainable research workforce with the necessary resourcing and infrastructure. There will be an inclusive pipeline of support for developing the capability of our people and empowering them toward transformative outcomes for our communities, from the beginnings of their research independence through to leadership at the highest level, as expressed in Unitec's Research Competencies. Grounded in Te Tiriti and Te Noho Kotahitanga partnership, this will be inclusive and provide opportunity for the diverse cultures and individuals who make up our institution, and the varied nature of that activity we call research and its related enterprises. This pipeline will be aligned with, and actively support, the initiatives at the heart of Te Manaakitia te Rito, Unitec's Renewal Strategy.

This section of the report highlights:

- » Building staff capability in research
- » Supporting our researchers – internally funded research projects
- » Focusing on research productivity – research outputs
- » Research dissemination support to Schools
- » Professoriate
- » Research Productivity Traffic Light (RPTL)
- » Research partnering
- » School research plans
- » Performance Based Research Fund (PBRF)
- » Ethics
- » Postgraduate studies and student-engaged research

4.1 Building staff capability in research

Unitec supports “engaged and inspired staff” who have the capability and expertise to address and respond to a wide range of social, industrial and environmental challenges, including through research activity. Capable staff foster the development of “highly employable lifelong learners” who will contribute to a “highly skilled, innovative and enterprising New Zealand workforce”.

In 2022, Tūāpapa Rangahau continued to prioritise raising the capability of Unitec staff, particularly those teaching on degree-level programmes, to undertake research, disseminate their research findings, and attract external research and development funding to progress their initiatives.

Unitec researchers are at various stages in their research careers, therefore capability-development initiatives were tailored to Unitec staff according to whether they were new and emerging (beginner), early career (well published, intermediate) or advanced (senior leader, professoriate) researchers. The capability-development initiatives were also targeted to respond to the requirement to lift, and to maintain at a high level, Unitec's research productivity (as measured by the Research Productivity Traffic Light [RPTL] in Section 4.6).

4.1.1 Developing our staff – Research Professional Development series

Tūāpapa Rangahau's Research Professional Development series is designed to improve the level of staff research capability, to encourage and assist staff to disseminate the results of their research and to link staff to industry-partnered opportunities. A part-time staff member at Tūāpapa Rangahau, in the role of Research Professional Development Liaison, organises the series each year and facilitates several of its components.

Figure 4 shows the numbers of staff who enrolled in research workshops and writing retreats in 2022. As in the past, uptake in 2022 indicates high levels of staff engagement across the institute.

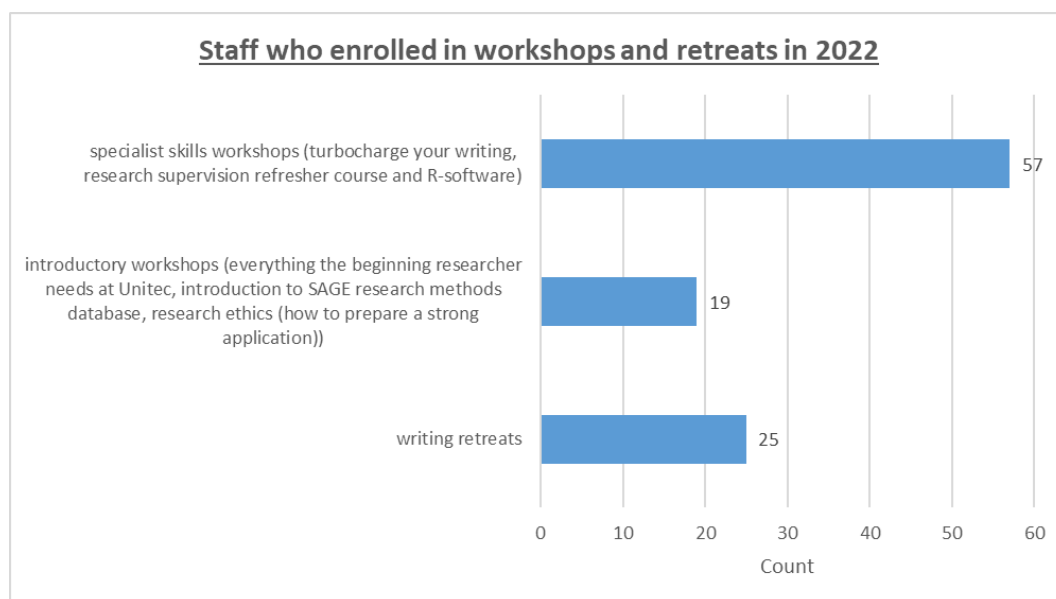


Figure 4: Staff who enrolled in workshops and retreats in 2022.

Writing retreats require an application and selection process, and allow staff members to devote dedicated time and energy to producing research outputs in a supportive and collegial, yet intensive, environment. Early indications are that specialist skills workshops, alongside the writing retreats, led to increased levels of research activity and output dissemination. These events also served to lift staff morale and inspired greater confidence that research is supported and valued at Unitec. The introductory workshops remain popular and serve an important induction function.

Figure 5 shows the numbers of staff who enrolled in the specialist skills workshops.

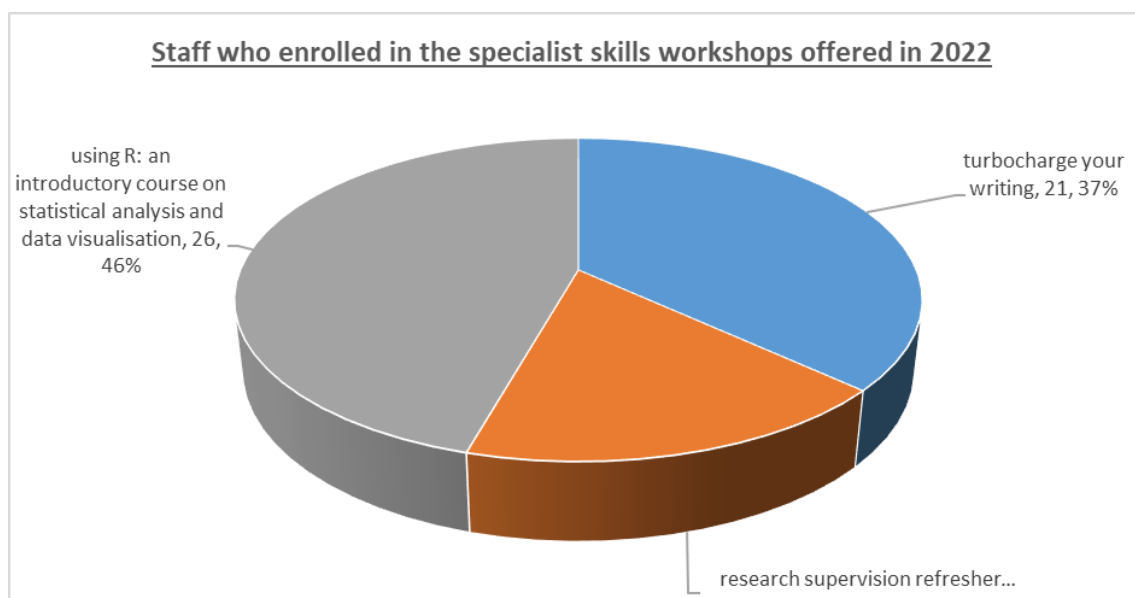


Figure 5: Staff who enrolled in the specialist skills workshops offered in 2022.

Considering the popularity of the R workshop in 2020, this offering was expanded in 2021 and continued to attract a large number of participants in 2022. In addition, in 2022 Tūāpapa Rangahau

continued to run a set of workshops aimed at professional development specifically for Level 9 and 10 supervisors. Figure 6 shows the numbers of staff enrolled in these workshops.

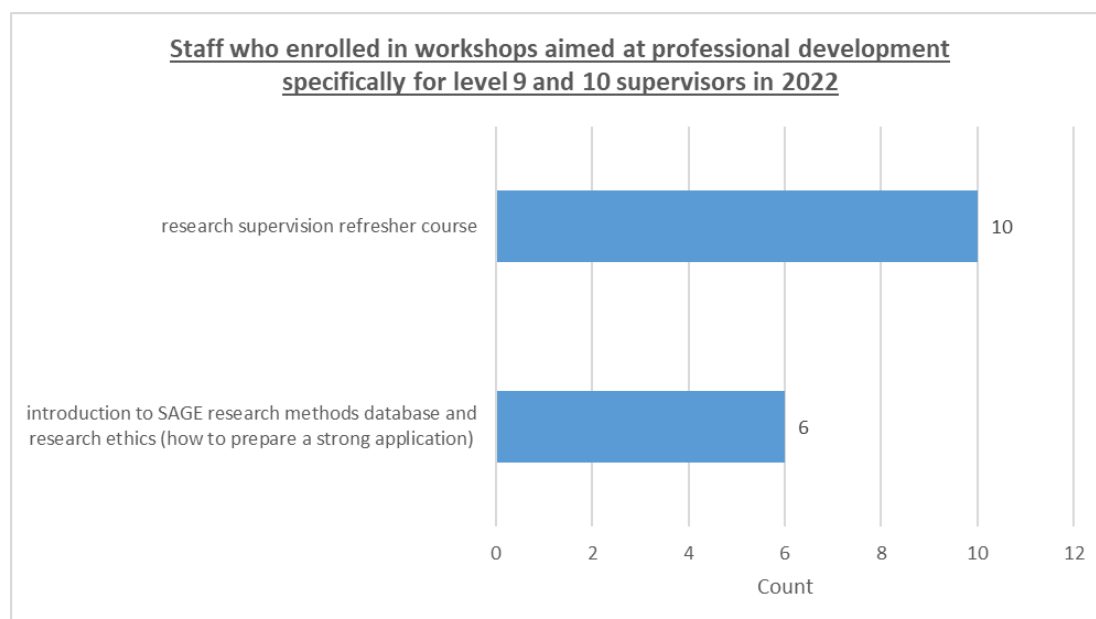


Figure 6: Staff who enrolled in workshops aimed at professional development specifically for Level 9 and 10 supervisors in 2022.

Five staff members completed the Successful Postgraduate Supervision course in 2022. This blended and ‘flipped’ course is very highly regarded and serves as a permanent resource for postgraduate supervision practice. Two additional courses that were on offer (online) in 2022 included Writing a Successful Grant Application and Managing a Research Contract. Course participation is largely self-managed; any Unitec staff member can self-enrol to access course resources and learning activities.

Evaluation data for the 2022 Research Professional Development series reveal very positive reception and benefits. For instance, R workshop recipients rated the value of the workshop overall, on a scale of 0–5, at 4.64 (averaged scores).

4.1.2 Writing support

Tūāpapa Rangahau continued to offer writing support to staff members in 2022, through the services of a contractor, to assist with preparing research text for publication. Staff members receiving writing support are also guided through the process of submission to journals where necessary and are given help with responding to reviewer feedback when requested. This service is particularly valuable for new and emerging researchers, and researchers from programmes not always related closely to academia such as the Bachelor of Applied Technology (BAT). This offering represents a worthwhile investment in Unitec’s staff in supporting them towards achieving quality-assured research outputs. In 2022, assistance was given for seven papers, a book of interviews with visual artists, and two book chapters.

4.2 Supporting our researchers – internally funded research projects

In 2022, Unitec had one annual contestable-funding round for staff-initiated research projects: The Early Career Researcher (ECR) Fund. Applications for ECR funding are appraised by a Grants Assessment Committee, a sub-committee of the Unitec Research Committee.

In 2022, four ECR projects were awarded contestable funding totalling **\$45,785**.

The 2022 awardees are listed in Table 2 below, along with selected highlights from some funded projects.

4.2.1 Early Career Researcher (ECR) Fund

The ECR contestable fund supports both emerging and established early-career researchers at Unitec to develop their capability, capacity and career progression.

Lead Researcher	School	Project name
A/P Kristie Cameron	School of Environmental and Animal Sciences	Relative Numerousness and Absolute Number Discrimination in Dogs, Part 2
Dr Mary Yan	School of Healthcare and Social Practice	Yacon Prebiotic Functional Drinks
A/P Renata Jadresin-Milic	School of Architecture	Digitalisation of Heritage in NZ, Phase Three
Nigel Pizzini	School of Healthcare and Social Practice	Investigating the Supports and Constraints Encountered by Male High-School Students Needing to Engage with the School Counsellor

Table 2: 2022 Early Career Researcher Fund projects supported.

While several of these ECR projects are still underway, a few 2022 highlights to date are:

- » **Kristie Cameron** Relative Numerousness and Absolute Number Discrimination in Dogs, Part 2
This research is the first experimental behavioural project in collaboration with Waikato University. If done well, it will establish Unitec as a hub for quality research in the canine research space – an area which is valuable (42% of households own a dog, Companion Animals New Zealand). This networking will foster the principal researcher's position in the behaviour-analysis community in New Zealand.

The project had three main aims across three experiments:
 - To assess dogs' ability to make more-or-less discriminations (relative numerousness) and to assess the acquisition of learning the discriminations.
 - To assess relative numerosity in dogs using visual stimuli, controlling for surface area and spatial location.
 - To determine whether dogs can learn to respond to a particular number value (absolute number discrimination).
- » **Mary Yan** – Yacon Prebiotic Functional Drinks
The overall aim of the research project is to incorporate yacon juice concentrate (NZFOS+) to the formulation of functional drinks in place of commercialised fructo-oligosaccharides (FOS), and to test the sensory attributes (e.g., the sweetness, smoothness and overall acceptance), antioxidant activity, and the shelf stability of the developed drinks.

» **Renata Jadresin-Milic** – Digitalisation of Heritage in NZ, Phase Three

The project aims to present unknown, vulnerable (in the process of degradation or transformation), and/or abandoned historical heritage through a multimedia presentation on the one hand, and to set up an information tool for restoration, maintenance and valorisation, on the other. It is based on the integration of traditional (analogue) and instrumental (digital) methods of heritage surveying, with an emphasis on using digital technology in work with heritage sites and buildings, which is very much a novelty.

The specific objectives were:

- to raise awareness of the importance of heritage;
- to record heritage buildings;
- to influence a change in existing legislation and regulations in New Zealand.

This research is novel, as it allows the entire process of decay to be recorded and examined, something that heritage research has never before been able to achieve. This work is cutting edge and its impact will extend into the future. This work is important for all Aotearoa New Zealand heritage, and it has an impact on our ability to preserve Māori architectural heritage, which is particularly vulnerable.

» **Nigel Pizzini** – Investigating the Supports and Constraints Encountered by Male High-School Students Needing to Engage with the School Counsellor

The assumption being investigated in this project is that male students are less inclined to meet with a school counsellor than their female peers (low engagement rate). This research attempts to confirm and to understand the detail of that fact, and also to identify factors that support easeful access and willingness of male students to engage with school counsellors.

School enrolment data most frequently still only offers binary notions of sex/gender (male/female) (Hughes et al., 2018; Jang-Jones, Ministry of Education, 2021, personal communication). While an increasing array of sex-identity categories is being claimed by young people, the intention of this study is to examine the specific experience of male students. It is acknowledged that the experiences of non-binary and transgender students are important to explore and deserve investigation (utilisation rates and access issues for non-binary students). This topic lies outside the scope of the current investigation.

4.2.2 Early Career Researcher (ECR) Fellowships

Each year, Tūāpapa Rangahau offers Early Career Researcher (ECR) Fellowships to Unitec researchers. The main purpose of the fellowships is to support and strengthen the establishment and development of ECR careers and the development of new research leadership. ECRs are providing the renewal of research culture at Unitec and will be the future leaders of research and enterprise at Unitec. There are two types of fellowships available: one to support the implementation of research projects, and another to support professional research and research leadership development.

In 2022, two ECR fellowships worth \$15,000 each were awarded to the following two academics:

Robyn Gandell – Senior Lecturer, Bridgepoint

Robyn's research had the possibility of discovering different and successful approaches and solutions to underachievement in mathematics for Māori – a need, issue and priority for mathematics learners. In this way her research could help improve educational achievement for Māori and among low socio-economic groups. The research also addressed the question of how students use movement in mathematical problem-solving.

Tanya White – Taiao/Lecturer/Kaihautū

Tanya utilised this funding on practice-based research that focuses on social change through raranga intervention, namely the weaving of wahakura using tikanga pā harakeke as a methodology. It was disseminated through co-presentation at the Biennial Conference, Stockholm University of Art, and a co-authored journal publication for a special issue of *Third Text*.

4.2.3 Early Career Researcher Support Fund – Return from Parental Leave Fund

In 2020, Tūāpapa Rangahau introduced this new fund to support Early Career Researchers (ECRs) returning from parental leave. ECRs and research diversity in general are increasingly important priorities in research environments such as TEOs, CoREs, CREs and the Royal Society. Tūāpapa Rangahau aimed to grow capacity in these areas by proactively supporting them. Parental leave affects staff in the earlier phases in their career and a very small gesture of support can make a tremendous difference.

In 2022, Dr Sarah Wells received \$2,000 in support.

Sarah utilised this funding to increase the competitiveness of a Marsden Fund proposal, and towards the submission of her research in peer-reviewed articles for journals such as *Zootaxa*, *Marine Biology* and the *Biological Journal of the Linnean Society*.

4.3 Focusing on research productivity – research outputs

Research outputs have been a key measure of Unitec's research performance for some time, which enables longitudinal data to be reported. Research outputs are a key way in which researchers contribute to the store and accumulation of human knowledge. They include articles, books, conference papers and less-traditional forms of research dissemination such as patents, websites, films, exhibitions and reports for industry, government, etc.

4.3.1 Total Unitec research outputs

A total of 516 research outputs were delivered in 2022. Some 329 (64%) were quality assured (QA) and the remaining 187 (36%) were not quality assured (non-QA). Figure 7 shows the overall count, which is quite similar to 2021.

Recording research outputs is a retrospective process because staff continue to add research outputs to Unitec's research output management system (ROMS) each year. As new staff publish, they also add their research activity for previous years. These retrospective additions mean that the research outputs for each year continue to rise.

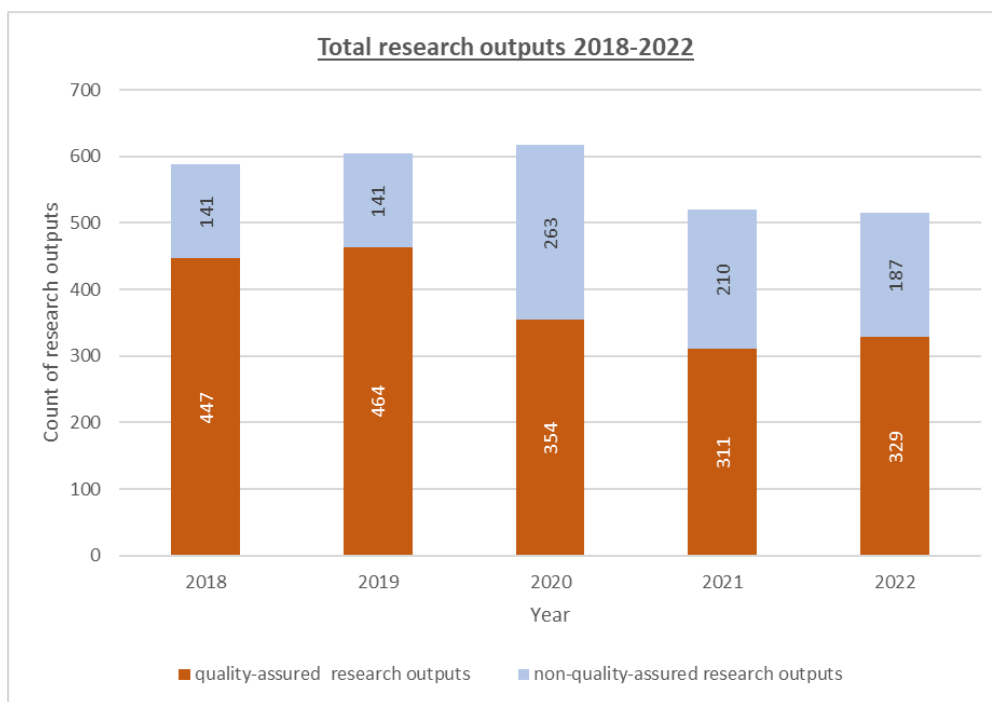


Figure 7: Quality-assured and non-quality-assured research outputs.

The number of QA research outputs as a percentage of total outputs produced annually has showed little growth year on year since 2020. These figures have dropped from 2018, see Figure 8. This may be partly due to an increase in research activity that tends to occur towards the end of a PBRF cycle (2017 was the last year for research publication for the most recent PBRF round).

The year 2022 showed a slight increase (by four percentage points) in the percentage of QA research outputs when compared to the 2021 percentage. This could be due to:

- » the reopening of borders, which were closed due to Covid-19, meaning staff were able to travel and disseminate their research outputs at events and sources that counted as quality assured, and
- » more staff engagement in disseminating their research outputs virtually, which counted as quality assured, and more publishing in journals.

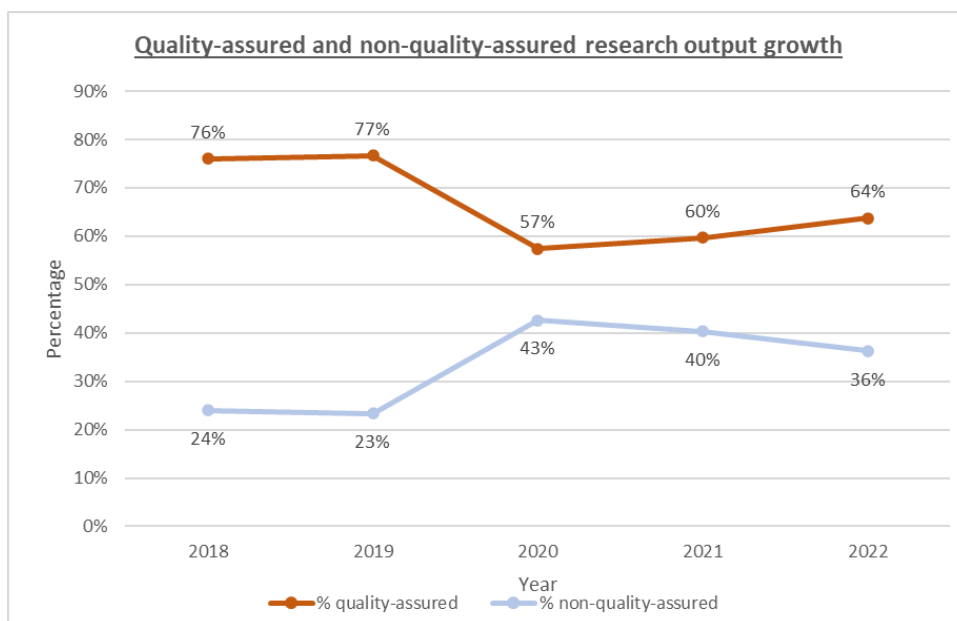


Figure 8: Quality-assured and non-quality-assured research output growth.

4.3.2 Research outputs by School

Figure 9 illustrates the total quality-assured and non-quality-assured research outputs produced by each School in 2022. The category 'Others' represents research outputs from Academic Development, Tūāpapa Rangahau and Ngā Wai a Te Tūi.

Note – School of Bridgepoint and School of Trades and Services do not offer degree programmes, therefore research is not a compliance priority.

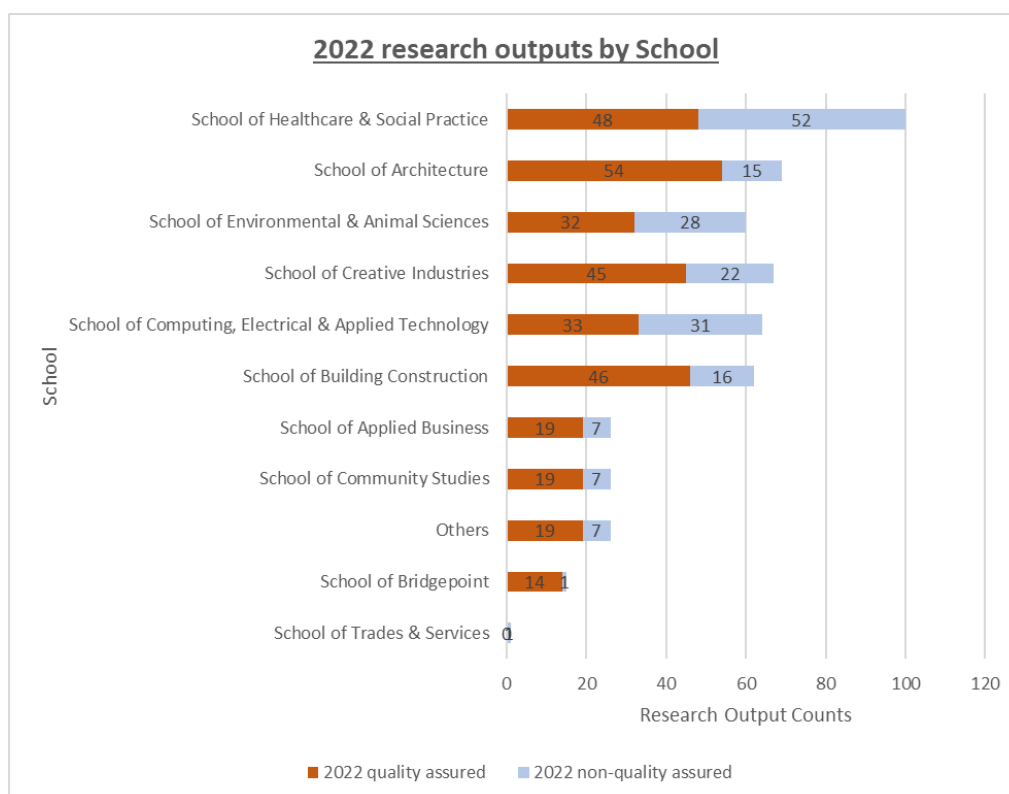


Figure 9: 2022 QA and non-QA research outputs by School.

While it is acknowledged that not all 2022 research outputs were included in ROMS at the time of this report, the current results show a high degree of variability in research output productivity across the Schools. However, these total counts need to also be seen in the context of the total research-active FTE within each School. Table 3 shows the number of QA research outputs achieved per research-active FTE within each School.

School	QA outputs per research-eligible FTE
School of Creative Industries	2.62
School of Architecture	2.48
School of Building Construction	2.02
School of Healthcare & Social Practice	1.70
School of Environmental & Animal Sciences	1.58
School of Community Studies	1.38
School of Computing, Electrical & Applied Technology	1.20
School of Applied Business	1.17

Table 3: QA research outputs per research-active FTE in 2021.

In 2022, Unitec produced an institutional average of 1.77 QA research outputs per research-active FTE. The target for 2022 was 1.5 QA research outputs per FTE of degree teaching staff. The School of Creative Industries was the clear front-runner, followed closely by the School of Architecture and School of Building Construction.

4.4 Research dissemination

Disseminating research through attendance and presentations at academic conferences and publishing in books and journals is an important and necessary part of academic careers. This provides opportunities to generate peer-reviewed research outputs (one measure of an academic's productivity), to provide staff professional development and networking opportunities, and to gain the latest knowledge and advances regarding a specific discipline. Unitec provides the Research Dissemination Fund, managed by Tūāpapa Rangahau, to support academic staff in the dissemination of new knowledge at approved fora, toward the benefit of the stakeholders that we serve.

4.4.1 Research dissemination funding

A total of \$91,480 was available across Unitec's Schools to support research dissemination, but not all of this was spent. Most conference attendances and presentations were done virtually. A sub-total of \$51,238 was used to support 63 individuals to disseminate their research (averaging \$813 per person).

There were 40 international and domestic conference presentations supported by this fund.

The remaining funds were used to assist with writing, publishing and exhibiting research work. A sustainable resourcing model for research dissemination, which builds the foundations for the 2025 PBRF submission, is the basis of the model used for distributing resources. The allocation of resources for research dissemination at Unitec is a collaborative process between Schools and Tūāpapa Rangahau. The process of prioritisation aims to ensure that the resourcing gets to where it is needed most to make the biggest impact on our priorities. In addition to Unitec funding, three staff were partially funded by external organisations to disseminate their research outputs, providing a strong indication of the quality and relevance of their research.

4.4.2 Collaborative Research Dissemination Fund

Covid-19, multiple lockdowns and changing alert levels affected research dissemination at Unitec in 2020 through 2022, with increasing travel costs and with travel's contribution to climate change additional contributing factors. Without mitigating action, these circumstances are likely to have a deleterious effect on our expected PBRF performance in 2026.

The Collaborative Research Dissemination Fund is a response to these challenges. It is a framework for encouraging collaborative research and its subsequent dissemination, through a competitive funding mechanism. The challenge was to invent and describe a collaborative approach to research dissemination that results in research outputs for multiple staff.

In 2022, Tūāpapa Rangahau funded \$16,000 for the following **three** projects.

» Wairaka Public Art Trail – School of Creative Industries

This community creative placemaking project was developed by Unitec academics Bobby Hung, Peeti Lamwilai, Hohepa Renata, Associate Professor Leon Tan, Tanya White, Dr Rebecca Wood and Paul Woodruffe. They received funding from the Albert-Eden Local Board in 2021, and Unitec's Tūāpapa Rangahau, Partnering Research and Enterprise in 2022, to curate a series of temporary public art projects and activations across the current and former campus areas of Te Whare Wānanga o Wairaka Unitec.



Figure 10: Mauri stones at Wairaka Public Art Trail.

Te Pātaka Art Trail, which is part of Wairaka Public Art Trail, at Unitec was opened to the public after a ceremony held on 27 October 2022, helping to highlight the significance of the whenua and its puna, Te Waiunuroa o Wairaka. The opening procession took place as part of Te Whatu Mauri o Wairaka, a part of the trail involving a collaboration between Ngā Kaitiaki, Unitec's School of Creative Industries, Wairaka descendants, Dr Pouroto Ngaropo and Ngāti Awa ki Te Awa o Te Atua. Representatives from Tainui, Mauke and Rarotonga also took part in proceedings.

Stones from the Whakatāne, Oriini, Rangitaiki and Tarawera rivers, together with a mauri stone from Three Kings in acknowledgement of Rakataura's (of the Tainui waka) founding of the aquifer there and its relation to Te Wai Unuroa o Wairaka, were brought to Tāmaki Makaurau and onto Te Noho Kotahitanga marae by representatives from Rarotonga, Mauke Cook Islands, Ngāti Awa and Tainui. They join a mauri stone from our puna.



Figure 11: Dr Pouroto Ngaropo speaks about *Te Whatu Mauri o Wairaka*, the gathering of Mauri stones in acknowledgement of Wairaka of Mataatua waka, at the pōwhiri opening ceremony of Te Pātaka Art Trail.

Leon Tan, Associate Professor Creative Industries, says: “As Dr Ngaropo tells us, Wairaka’s mauri flows through all the waterways associated with her travels ... her life force remains in the waters and has been here for 800 years. It was a privilege to work directly with descendants of Wairaka, to reconnect with this 800-year history. “Finding herself at the grounds now underneath Unitec, Wairaka uttered a karakia and stamped her foot hard on the aquifer and the spring came forth – Te wai Unuroa a Wairaka. This is the place where Unitec is established, and the puna (spring) remains alive and flourishing.” Dr Pouroto Ngaropo.”

» **The Space Between Us – School of Creative Industries** (Project team: Dr Rebecca Wood and Gina Ferguson)

Gina and Rebecca worked with Dorita Hannah to curate *The Space Between Us*, an exhibition and symposium at Unitec, which made visible the creative research practice of our staff to both students and stakeholders. Twelve staff exhibited their work, alongside external stakeholders and students. Covid-19 delayed the project, which was successfully completed early in 2022, as the situation changed sufficiently to allow people to gather again.

» **Climate Change in Māngere – School of Architecture** (Project team: Lucia Melchioris, Associate Professor Matthew Bradbury, Xinxin Wang)

Te Ara-rata Māngere Joint Studio Project aims to organise an edited book/educational material to support the community of Māngere and study the redevelopment of the area as it faces the challenges of housing intensification and climate change. The research is developed as part of a joint studio of Unitec’s Bachelor of Architecture and Bachelor of Landscape Architecture programmes.

4.4.3 Wairaka: Natural Environment, History and Culture Fund

This fund originates from Priority Three in the 2020–2024 Unitec Research Strategy – Action Plan: *Foster research into Wairaka, our place: the natural environment, history and wairua*.

Early Career Researcher **Tanya White** (School of Creative Industries) was the first recipient of this fund in 2021. She was awarded \$10,000.

Her research project was designed to provide an Indigenous mapping of the whenua, and an overview of the unique biodiversity and taonga that exist within the Wairaka campus, Unitec. The aim was to provide strategic direction as to how the Unitec (Te Pūkenga ki Wairaka) community works towards its responsibilities of kaitiakitanga, namely the protection, restoration and sustainable use of the whenua.

Due to Covid and the lockdown restrictions in 2021, the project was completed in 2022.

4.4.4 Student-Integrated Research Output Funding

Student-integrated research is part of Priority Two in the Research Strategy and sets out to encourage the mutual benefits of staff and students working together. The parameters of this Key Performance Indicator (KPI) do not cover all related activity, but it is a significant measure of student input into staff-engaged research, including authorship, contributions to wānanga, creative outputs, studentships, research assistant positions, awards or other contributions (as defined by the PBRF). This is measured as a count of the number of research outputs. This KPI was approved in 2019 by the Unitec Research Committee and 2020 was the first year for reporting this.

Five Unitec researchers received this funding, totalling \$4,862. Table 4 illustrates the research output counts, where the co-authors were current or recent Unitec student(s).

Year	Count research outputs, where the co-authors were current or recent Unitec student(s)
2020	70
2021	77
2022	88

Table 4: Count research outputs, where the co-authors were current or recent Unitec student(s).

4.5 Professoriate

Ko te amorangi ki mua, ko te hāpai ō ki muri.

The leader is in front and the food bearers behind.

The professoriate comprises researchers who have gained national and international recognition and have reputations as leaders in their disciplines. The goal for the Unitec professoriate is to share their knowledge, skills, time, passion, listening ears and selves with colleagues, students and industry stakeholders for the better of society. This is done in a wide range of ways, depending on the strengths and opportunities available to each individual member. The professoriate advocates for its disciplines, teaching and research by collaborating, presenting, engaging in public and building teams across the organisation to catalyse research potential at Unitec. Supervising new and emerging researchers is a key part of the professoriate's mission.

The professoriate runs the Unitec Professorial Research Mentoring Framework, which involves every member mentoring an emerging researcher through to co-authorship in a recognised publication, or supporting researchers to be the lead on their own paper. This framework continues to contribute to NZQA research compliance and toward developing high-quality PBRF portfolios. In addition to matters

research, members of the professoriate show leadership across many aspects of the institute; here is a small selection with examples:

Professoriate name	Leadership examples
Associate Professor Dan Blanchon	Director, Applied Molecular Solutions Research Centre; Head of School, Environmental and Animal Science; Principal Investigator on externally funded research projects; Curator, Unitec Herbarium.
Professor Hamid Sharifzadeh	Achieved full professor in 2022. Principal Investigator on externally funded research projects; Academic Programme Manager, Bachelor of Computing Systems, Graduate Diploma in Computing, Postgraduate Diploma in Computing, Master of Computing, Doctor of Computing; Co-Research Leader for School of Computing, Electrical and Applied Technology.
Professor Peter de Lange	Achieved full professor in 2022. Principal Investigator on externally funded research projects. Extensively published botanist, science communicator, ethnobotanist, early career research mentor and founding editor of new journal <i>Perspectives in Biodiversity</i> published through Unitec's ePress.
Professor Martin Carroll	Deputy Chief Executive – Academic, Unitec and MIT. Martin has research, teaching and learning, and academic quality in his executive portfolio, and leads the Senior Academic Advancement and Promotions process at Unitec. Vice-Provost Chancellor at Charles Darwin University from 2010 to 2017, Martin is a board member of the Universities Quality Assurance International Board and participates in the Rangahau Research Forum Professorial Working Group within the context of Te Pūkenga's development.
Associate Professor Diane Fraser	Transdisciplinary researcher and teacher across environmental and animal sciences. Champion of student-integrated research projects and work-based learning innovator, procuring externally funded studentships and stipends toward research projects and bearing credits toward their degree.
Associate Professor Linda Kestle	Principal Investigator on externally funded research projects; team leader of externally funded, industry-partnered, multi-Unitec-team-member award-winning projects; Co-Research Leader for School of Building Construction.

Professoriate name	Leadership examples
Associate Professor Marcus Williams	Director Research and Enterprise; Principal Investigator on externally funded research projects; leading two workstreams for the ITP sector's Rangahau Research Forum. Chair of two sub-committees of Te Komiti Mātauranga.
Associate Professor Matthew Bradbury	Director of the Master of Landscape Architecture; the programme grew under Matthew's leadership with many significant projects focusing on urban resilience to climate change. Author of <i>Water City: Practical Strategies for Climate Change</i> (2020).
Professor Terri-Ann Berry	Achieved full professor in 2022. Director, Environmental Solutions Research Centre; Chartered Environmentalist and Fellow of the Royal Society of Chemistry; multiple environmental prize-winner; Principal Investigator on over 15 externally funded research projects, many of them funded by the private sector.

Table 5: Leadership examples from the Unitec Professoriate.

4.6 Research Productivity Traffic Light (RPTL)

In order to monitor the extent to which degree-programme teaching and supervision is underpinned by research activity, a NZQA requirement, the Academic Committee approved the use of the Research Productivity Traffic Light (RPTL). The RPTL Report was first presented to the Academic Committee in 2012 and has been repeated every year since then. The longitudinal nature of the RPTL productivity metric means trends and forecasting for the research activity of Unitec's degree programmes can be reported.

The Unitec Research Strategy 2020–2024 outlines Unitec's aspiration regarding RPTL performance, stating that all programmes at degree level and above will be rated 'green' by 2020.

In the context of a tertiary education organisation and a sector that has experienced consistent disruption during the 11 years of RPTL reporting, this document summarises the RPTL results for Unitec's degree programmes up to 2023.²

4.6.1 Research Productivity Traffic Light terms of reference and methodology

Following is an overview of the key terms of reference and methodology approved by Te Komiti Mātauranga:

- » The criteria for inclusion are permanent full time or part time staff, or staff on contracts of 12 months or more, with an FTE of at least 0.2 who significantly taught and/or supervised on degree and above level courses during Semester One 2023.
- » Staff returning from maternity leave are excluded from the RPTL for one year.

² 2023 RPTL results are based on the research outputs data from 2021 and 2022, and hence they are reported in this 2022 Research Annual Report.

- » For the purposes of the RPTL a 'research active' staff member is defined as someone who produces at least two eligible research outputs that are verified in ROMS (Unitec's Research Output Management System) within the past two years. For part-time staff the criteria are at least one research output for the two previous audited years.
- » The current 2023 report is based on staff research activity as recorded in ROMs for the 2021 and 2022 period.

4.6.2 The 2023 Research Productivity Traffic Light results

The RPTL analysis uses a traffic-light colour system to represent levels of research activity in each degree programme:

- » **Green** is the required standard, where at least 75% of staff teaching and/or supervising on the programme are producing the required number or more outputs for the two-year period under review.
- » **Amber** is marginal, with 50–74% of staff producing the required number or more outputs.
- » **Red** is below standard, with below 50% of staff achieving the required number of outputs.

In the 2023 reporting period, Unitec maintained the consistent gains made since the RPTL report was introduced in 2012 (see Table 6 and Figure 12 below). The percentage of green-lit programmes went down from 93% in 2022 to 87% in 2023. In 2023 there were 30 active degree programmes, while in 2022 there were 29: one programme was taught out at the end of 2022, and in 2023 two new programmes were introduced.

Programme Status	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Count of green-lit programmes	9	10	14	19	21	28	27	33	28	31	27	26
Count of amber-lit programmes	7	8	9	12	16	8	5	7	3	0	2	4
Count of red-lit programmes	11	9	7	4	3	5	8	2	3	0	0	0
Total	27	27	30	35	40	41	40	42	34	31	29	30
Programme Status	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Percentage of green-lit programmes	33%	37%	47%	54%	53%	68%	68%	79%	82%	100%	93%	87%
Percentage of amber-lit programmes	26%	30%	30%	34%	40%	20%	13%	17%	9%	0%	7%	13%
Percentage of red-lit programmes	41%	33%	23%	11%	8%	12%	20%	5%	9%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 6: Total number and percentage of green-, amber- and red-lit degree programmes 2012–2023.

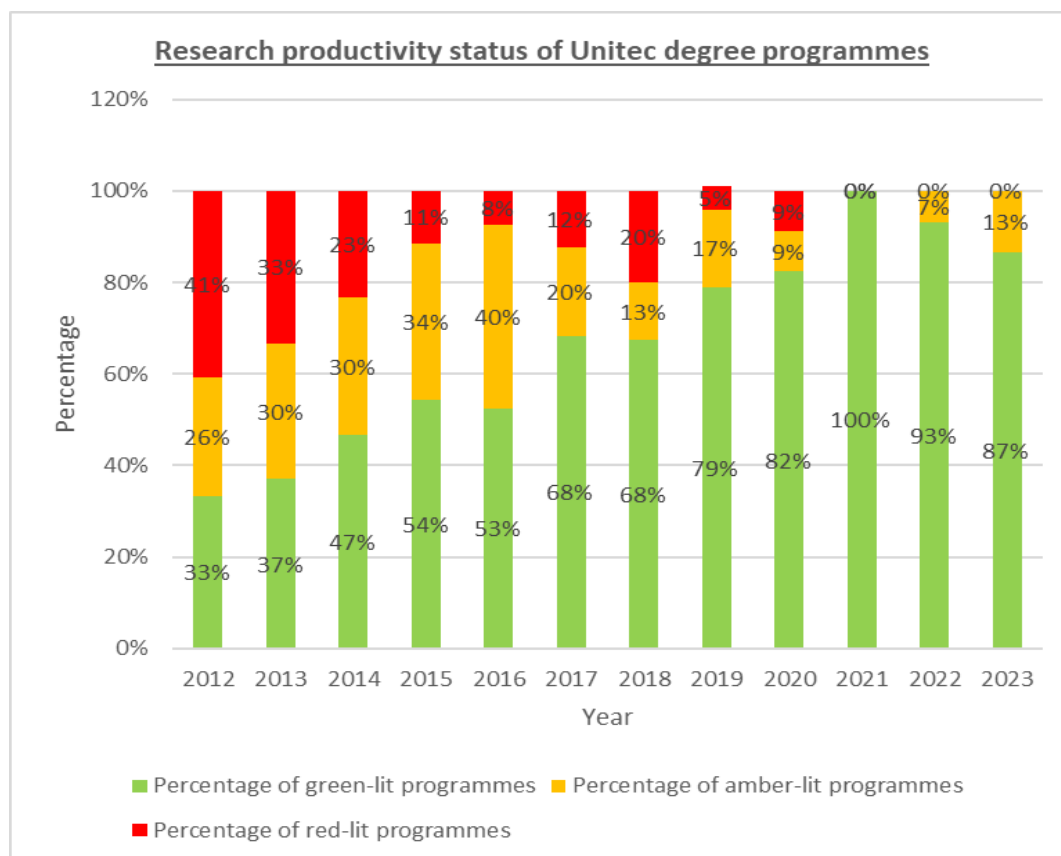


Figure 12: Percentage of green-, amber- and red-lit degree programmes 2012–2023.

Figure 12 also illustrates the research productivity results and trends for the institute over the last 12 years.

4.6.3 Observations

- » 87% of the programmes are green lit, and the remaining are amber lit. There are no red-lit programmes.
- » A total of 23 programmes have more than 80% of their staff green lit. Out of these, 16 programmes have 100% of their staff green lit.
- » Some programmes' green percentage figure was affected by the new staff who joined the programme. A majority of these new staff had either just started their academic career or were research inactive in their previous role.

The excellent progress Unitec has made since 2012 in raising research activity at degree level has been relatively well maintained in 2023, despite the pandemic and the uncertainties of Te Pūkenga's restructure. It is critical that individual and school research planning continues as a dynamic process that is integrated into academic management, and that the necessary actions are collaboratively implemented by Tūāpapa Rangahau's Research Partners with Research Leaders and Heads of Schools, to maintain strong results in the coming years.

4.7 Research partnering

The Research Development Programme (RDP) initiative was implemented eight years ago to support programmes to improve on their research productivity, so staff engage in research activities and develop a strong research culture. To measure research productivity, Tūāpapa Rangahau has tracked individual progress with the Traffic Light system to optimise resources toward the ultimate goal of 100% green-lit programmes. The following measures were first used in 2019 but were adapted to the Covid environment for 2021, where necessary, and moved online during Covid lockdown periods. More recently, we have transitioned to hybrid in-person/online meetings to address that some staff members are still uncomfortable with larger gatherings.

- » Attendance, where appropriate and accessible, at School staff meetings to promote our funding mechanisms and services. Many meetings were moved online due to pandemic impact.
- » Clear, concise and regular communication with Research Leaders to ensure they are well informed.
- » Quarterly Research Leaders' Hui set up as a forum for Research Leaders to share their experiences and plan for the upcoming months. These were partially moved online in response to Covid impacts, and when conducted in person an online participation option was offered.
- » Continued implementation of the new co-designed, performance-based systems for research time allocation.
- » Actively encouraging research clusters, mentoring and collaboration, especially in those programmes that needed extra support.
- » Reviewing and improving early career researcher (ECR) initiatives to grow and nurture research capability and leadership, including establishing new annual events such as the Unitec ECR Forum Research Spiel, and a joint event with EIT promoting ECR networking and connection.
- » Continued support for PBRF candidates to implement their research plans (developed as part of a quality evaluation in 2022), so they remain on track for their 2026 PBRF portfolio.
- » Supporting non-degree researchers through the non-degree teaching research track, ensuring staff achieving excellence in research can be eligible for PBRF and have access to funding.

These measures allowed us, despite the pandemic-related disruptions and the uncertain future in the sector, to have 87% of our degree programmes green-lit. Tūāpapa Rangahau plans to support Research Leaders in 2023 by helping to mitigate as much as possible the impact of restructures in the organisation on staff research activity. Tūāpapa Rangahau recognises the extra pressure on workloads due to the pandemic impact and hiring freeze, and that this could adversely affect these outcomes and require additional support.

4.8 School research plans

All Schools that have degree programmes at Unitec are required to develop research plans. The purpose of the plans is to help Schools undertake research that is:

- » integrated into programme curricula, teaching and learning;
- » Te Tiriti aligned and growing Māori and Pacific capability;
- » working toward the six Unitec research KPIs (Section 2);
- » clustered, collaborative and maximising resources, with research groups identified;
- » co-ordinated into a cohesive and shared vision.

These are reviewed annually by the Unitec Research Committee and serve as an important artefact for programme reviews and degree monitor visits. They also encourage collaborative research through the required formation of Research Groups. Two of these groups became Research Centres in 2022.

In 2022, Tūāpapa Rangahau worked closely with Research Leaders and Heads of Schools, and implemented the review of the School research plans created in 2020/2021. All Schools successfully reviewed and updated their School research plans in 2022.

The School of Bridgepoint and School of Trades and Services were excluded because they offer sub-degree programmes and do not have the NZQA research-compliance requirements.

4.9 Performance Based Research Fund (PBRF)

Due to Covid-19, the TEC moved the next PBRF Quality Evaluation (QE) by two years, which makes 2026 the next assessment year and December 2025 the final deadline for reporting outputs and outcomes. Originally planned for 2021, the Unitec Internal PBRF Quality Evaluation happened in 2022, so is reported here.

4.9.1 Context

The Unitec Research Committee (URC) decided that mid-2021 was the best time for an internal evaluation, noting that Unitec has traditionally run a rehearsal for the PBRF Quality Evaluation (QE), halfway between the last QE and the next. The Ministry of Education confirmed its response to the panel recommendations of the 2019 NZ Tertiary Education Commission review of PBRF in early 2021, supporting most of the recommendations. However, only after the implementation of the Sector Reference Group consultation would the framework for the 2025 PBRF QE be totally clear. Consequently, the URC decided to base the internal evaluation on an informed prediction, rather than on the framework of the last QE in 2018, soon to be redundant. Some investment was made in the software used for documenting portfolios (ROMS) to assist staff to begin to understand the new PBRF framework, with an emphasis on partnership and impact. This shift from a purely output-based framework to one that allows researchers the opportunity to communicate details about the depth of partnerships they have with stakeholders and the impact they are aiming for and achieving, is very much aligned with the existing emphasis of the Unitec Research Strategy. Guidelines for the Internal PBRF QE were developed by Tūāpapa Rangahau, a review team assembled, online workshops run and one-to-one tutorials offered, providing support for research staff toward the forthcoming rehearsal, which required them to submit a draft portfolio through ROMS. Then the August 2021 lockdown hit and it became impossible to continue with the internal evaluation, which was postponed until 2022.

4.9.2 Unitec Internal PBRF Quality Evaluation

The 'PBRF rehearsal' was successfully implemented in the first half of 2022, with 75 participants receiving detailed feedback on their submissions and advice on how to improve performance within the newly restructured Quality Evaluation.

4.9.2.1 Highlights of the internal PBRF QE

- » A cohort of 127 staff members was identified as possible candidates for submitting a PBRF evidence portfolio (EP).
- » Seventy-five staff submitted their EPs.
- » Seventy-two EPs were reviewed by our internal assessors and feedback was communicated to the staff.

Internal Rating for the EPs	Count of EPs
Could rate with major effort	14
Rate	38
Rate highly	18
Unlikely to rate	2
Total	75

- » The feedback was positively received by the staff.

4.9.3 Sector Reference Group consultations

Throughout 2022, Unitec actively participated in the Sector Reference Group consultations led by the Tertiary Education Commission and focusing on the details of the PBRF in response to the 2019 review. The Unitec Research Committee provided feedback to a member of the national Research Forum, for Dr Angela Beatson to submit on behalf of Te Pūkenga.

4.10 Ethics

The Unitec Research Ethics Committee (UREC) assesses ethics applications for research projects involving human participants. Animal ethics proposals are contracted out to AgResearch. In 2022, UREC, following an MOU with MIT, started processing MIT ethics applications.

In 2022, 67 ethics applications were received from Unitec and MIT staff and students, 59 of which were approved during the course of the year and eight in the first half of 2023. This is a slight increase in the number of applications from 2021 as it includes 12 ethics applications from MIT. About half of the ethics applications were submitted by students completing master's degrees and the rest by academic staff members.

It was noted that MIT applications needed substantial feedback and support from UREC readers, especially for the early applications. Steps were taken toward the end of the year to recruit MIT UREC representatives with the purpose of providing context to the MIT applications and doing ethics capacity-building for MIT. Following review and implementation of significant recommendations by both Tūāpapa Rangahau and UREC, the quality of applications from both Unitec and MIT staff and students is improving, with significantly less revision being needed before approval.

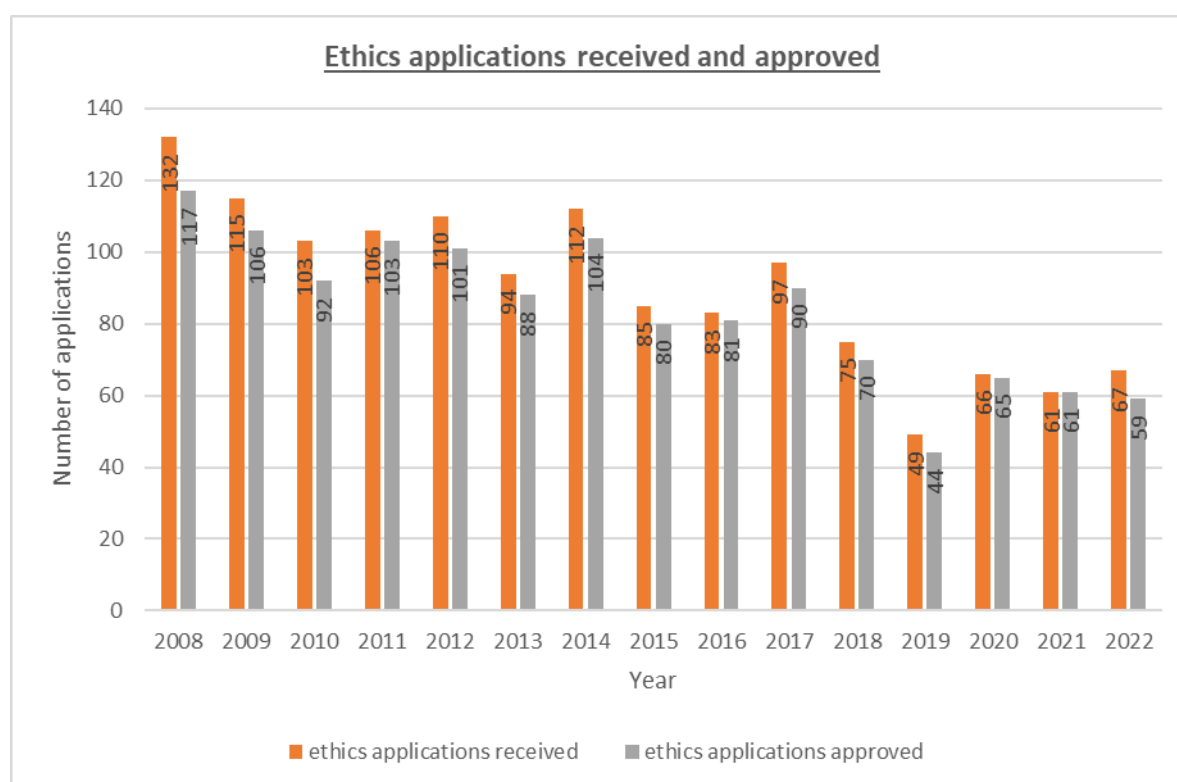


Figure 13: Staff and student ethics applications received and approved.

4.11 Postgraduate studies and student-engaged research

Engaging students in research is an important way to broaden their educational experience and to make the taught subjects more accessible to them.

4.11.1 Postgraduate scholarships

Each year, Tūāpapa Rangahau provides postgraduate scholarships to students across Unitec's postgraduate programmes, supporting our students to succeed. These scholarships are advertised, awarded and administered by Tūāpapa Rangahau in close partnership with the relevant Academic Programme Managers.

In 2022, \$250,000 of scholarship funding supported 49 students from seven postgraduate programmes. The funding also supported two priority groups (Māori-specific scholarships and Pacific-specific scholarships) plus a Bold Innovator Scholarship and five Industry Scholarships.

4.11.2 Scholarship success stories

Below are some of the 2022 postgraduate scholarship success stories:

Rohan Sadhu – *Master of Architecture (Professional) Scholarship*

"I've used my scholarship to travel to my site in India so that I can pursue the thesis topic of my choice. It would have been really tough for me to have to spend my own money to do so. I've also had to purchase camera equipment for my site survey there, and the scholarship is also helping me get to the ICOMOS GA23 in Sydney later in 2023."

Maloni Tu'itupou – *Master of Computing Scholarship*

"The research scholarship came in handy, especially for travel, printing and other costs. I was able to devote myself totally to my study since it provided me peace of mind. Finally, I would like to express my gratitude for the chance I was given by the scholarship fund. I can say that the fund was very beneficial and contributed to the success of my study at Unitec in 2022."

Tabesh Foroughi – *Master of Computing Scholarship*

"Last year Unitec granted me a generous scholarship of \$2,000, which enabled me to purchase some hardware and software to help me with my project. This money was also spent on transportation to the Mt Albert site every day. Without this scholarship I would be in more difficulties to afford what I wanted to purchase, besides my test bed which was supported and ordered by the Head of School, Mrs Bennett. Here I would like to thank my supervisor, Dr Sam Kolahi, and all the academics, namely Dr Sharifzadeh and Dr Ardekani, and our department technician Mr Russell Archer, and Mr Aleeh Hedayati, head of Hitec Telecom in the Washington State, USA, for needed CAT cables."

Regan Harrison – *Master of Architecture (Professional) Scholarship*

"After receiving my scholarship, I went and purchased an extra SSD for my computer to help with data storage, as I was constantly full. I bought one terabyte of space, and this sits separate to my computer and can be removed, keeping all data safe. A week after having this new data storage installed, my computer blew up and I lost everything that was on my main computer drive. This main drive is where I used to keep everything, including all my architectural work before swapping it over to the removable drive. Many of my files were not uploaded to the Cloud as I could not afford to upgrade the size of that, either, so this scholarship money saved a month's worth of my new master's work, alongside many years of my old files, which I would have been devastated to lose. My priority now is to always have backups of all my work."

Abigail Temby Spence – *Master of Architecture (Professional) Scholarship*

"I am grateful to have received a Master of Architecture (Professional) Scholarship in 2022, as it made the year much easier for my family. My husband and I have two children in primary school, who are well-known to my lecturers! The scholarship helped us with household and childcare expenses, reducing our financial strain so I could continue with the master's degree immediately after completing the bachelor's. As part of the master's programme we are required to complete 480 hours of architecture-related work. Due to a health condition that would not get diagnosed and treated until this year, my mobility worsened throughout the second semester. The Scholarship allowed me to take some time off paid work so I could concentrate on my studies, and it is most likely the reason I was able to sustain my grades. For this, I am most thankful."

Haotian Tang – *Master of Computing Scholarship*

"I am very grateful to the School of Computing and Unitec for giving me this valuable scholarship opportunity. This scholarship has helped me a lot in my studies. Firstly, as a master's student at Unitec, there is a full-year research project in the programme's second year. Good equipment is essential for computing studies, and I used part of this scholarship to buy a new laptop to help me with my studies. My old laptop is over seven years old and has become slow. Therefore, the first role of this scholarship was to help me update my learning equipment. The second point is that this scholarship is a kind of affirmation and encouragement for my postgraduate study. Therefore, I plan to continue to study for a doctorate in New Zealand after the master's study is completed. I plan to continue to study computer cyber security. After all, cyber security in New Zealand and the world has become the most important and urgent issue. I would like to thank the teachers who taught me, Dr Samad Salehi Kolahi, Bahman Sarrafpour, Dr Iman Ardekani, etc., the Department of Computing, and Unitec Institute of Technology for giving me this precious scholarship. Very appreciated."

Tamara Anderson – *Master of Applied Practice (Social Practice) Scholarship*

"If I was to keep this 100% – the scholarship has definitely helped towards the overall end-goal to complete the MAP programme. The scholarship also helped with the financial strains and costings involved to study at a postgraduate level. Working full-time and the cost of living in Auckland nowadays – the scholarship and the MAP staff have added value in my life."

Joseph Bjelic-Webster – *Master of Architecture (Professional) Scholarship*

"The scholarship enabled me to spend more time focusing on and going deep into my studies. In particular it enabled me the time, attention and focus to spend time really developing a high-quality model for ARCH 8311 (Architectural Technology 5), where the Dominus Winery was closely researched and an accurate, made from realistic materials, 1:2 detail was made from that knowledge. The model was a highlight of the year and developed my knowledge of architectural making."

Alex de Vries – *Master of Creative Practice Scholarship*

"Since completing my MCP, I have been entangled in the worlds of film, theatre and music. The MCP Scholarship enabled me to begin investing in my creative passions, and since completing my MCP I have consulted with the NZ Film Commission on diversity and inclusion policy, I have had my first play read through the BCA Showcase, I have secured full-time employment at Basement Theatre as the Programme Administrator, and I have released my first single, 'Bubble Bath', which was made in collaboration with other Unitec film graduates. I have also recently received the Bold Innovators Scholarship, which will see me produce an audio-visual album called Trust Issues, set for release in February. On top of this I have also been commissioned to write a piece for Auckland Theatre Company's Youth Company to be performed in November,

have had my music playlisted on South African radio and have written countless theatre reviews for Bad Apple and Rat World. I am also working with my community to establish NZ's first Black screen collective, to start upskilling Black creatives who wish to find meaningful employment and enjoyment in the screen industry. My first short screenplay, Coloured Less, was also awarded Best Student Short Screenplay at the Vision Feast Film Festival in 2022. None of this would have been possible had Unitec not provided me with the financial stability required to help my creative work flourish, as a lot of the groundwork for these accomplishments was laid during the course of my study."

Melissa Knight – *Master of Architecture (Professional) Scholarship*

"Everyone who has done an architectural degree understands how all-absorbing it is, at times at the expense of normal life and being able to support and help friends. This can feel very disheartening, and make uni work hard-going and anxiety inducing. To then achieve a high standard and be recognised with a monetary prize is very gratifying and encouraging. It has enabled me to have a breather, recharge and then be able to apply myself to my work as well as help my friends. I am very grateful."

5 Priority Three (Partnered research and innovation)

Research at Unitec will concentrate on opportunities and problems identified by Māori, industry and community partners. Strong, enduring partnerships will be facilitated and valued, with investment in capacity building, innovation and leadership in this space. The reciprocity created by these partnerships will enhance opportunity for student work-integrated learning.

This section of the report highlights:

- » Increasing external engagement
- » Joint research with universities, other ITPs and CRIs
- » Seeking external funding
- » Delivery of externally funded projects
- » Greater research focus
- » Industry scholarships
- » Unitec Bold Innovators scholarship
- » Telling our research stories
- » Unitec ePress
- » Unitec Research Blog

5.1 Increasing external engagement

Building partnerships to meet the needs of industries and to improve student success is central to achieving Unitec's vision and Research Strategy.

5.1.1 Building external relationships through research

Unitec continues to forge valuable industry partnerships, and its reputation for focusing on applied and impactful research has built confidence with its partners that it can deliver both breakthrough discoveries and practical, low-cost solutions that are readily implementable.

Unitec's Environmental Solutions Research Centre (ESRC) is recognised as a nationally unique resource for knowledge-intensive approaches to building a circular economy, and is being sought out by the Ministry for the Environment, industry organisations and companies for the expertise developed at Unitec. This has led to significant externally funded research projects, such as a Ministry for the Environment Plastics Innovation Fund-supported project by recycler and construction materials' manufacturer Marley in which ESRC holds a subcontract of more than half a million dollars.

Unitec also maintains strong partnership connections with local industry and community groups, which provides opportunities for applied research translating to immediately realisable benefits for sponsors as well as academic development opportunities for Unitec's students.

Dr Yusef Patel from the School of Architecture is a champion of this approach, utilising his students' design talents for community projects with real utility. One such example is the design and fabrication of moveable, integrated library furniture for Ngākōroa School. The school took delivery of an innovative, practical suite of integrated seats and bookshelves while, in return, the student received a scholarship and credited practical experience in fulfilment of course requirements. Dr Patel has extended this approach into designing a Pop-Up Pavilion for Eke Panuku Development, Auckland Council, and partnering with Abodo Wood utilising their timber offcuts to create CNC hearts, with both projects utilising significant student input.

5.1.2 Institutes of Technology and Polytechnics (ITP) Research and Enterprise Voucher scheme

The ITP Research and Enterprise Voucher scheme aims to seed new relationships with communities, iwi and businesses by subsidising the cost of our research services to kick-start research collaborations and develop staff capability. In the course of delivering on a contract, we are facilitating professional development for staff in the commercial arena (outside of traditional academia) and engaging directly with end users. Where practical, we are involving students in the projects to give them valuable exposure to the industry and community research environment. This creates real-world opportunities for staff and students through increased industry engagement, as well as the opportunity to foster joint projects around commercialisation and the creation of intellectual property.

In 2022 two research projects were supported:

- » **Totally Connected** – The project explored and reported on the opportunities for the use of blockchain technology in the space of charity funding.
- » **SARNZ** – The project identified and quantified waste from the SARNZ (Scaffolding, Access and Rigging New Zealand) sector and provided opportunities to enable effective management and diversion from landfills. For this research project, the team worked with the plastics industry, key suppliers and manufacturers, SARNZ members, and the waste management sector to identify opportunities for change.

These examples demonstrate how the ITP Research and Enterprise Voucher scheme can kick-start research of national importance to Aotearoa New Zealand and help our academics to create significant impact.

5.1.3 Industry-funded projects

Industry-funded projects are defined as research and enterprise projects Unitec is receiving funding for, where the services Unitec is providing are applied contract research or consultancy, from all funders excluding any governmental contestable funding sources. This is measured as a count of the number of projects. Figure 14 shows the counts of industry-funded projects for Unitec from 2018 to 2022.

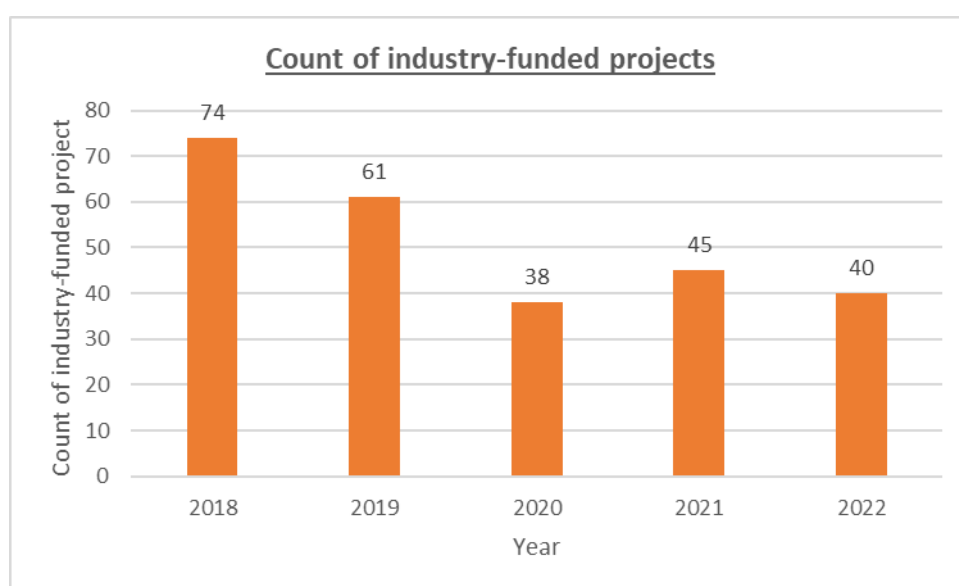


Figure 14: Unitec industry-funded project counts between 2018 and 2022.

Figure 15 shows the Schools' contribution to industry-funded projects in 2022.

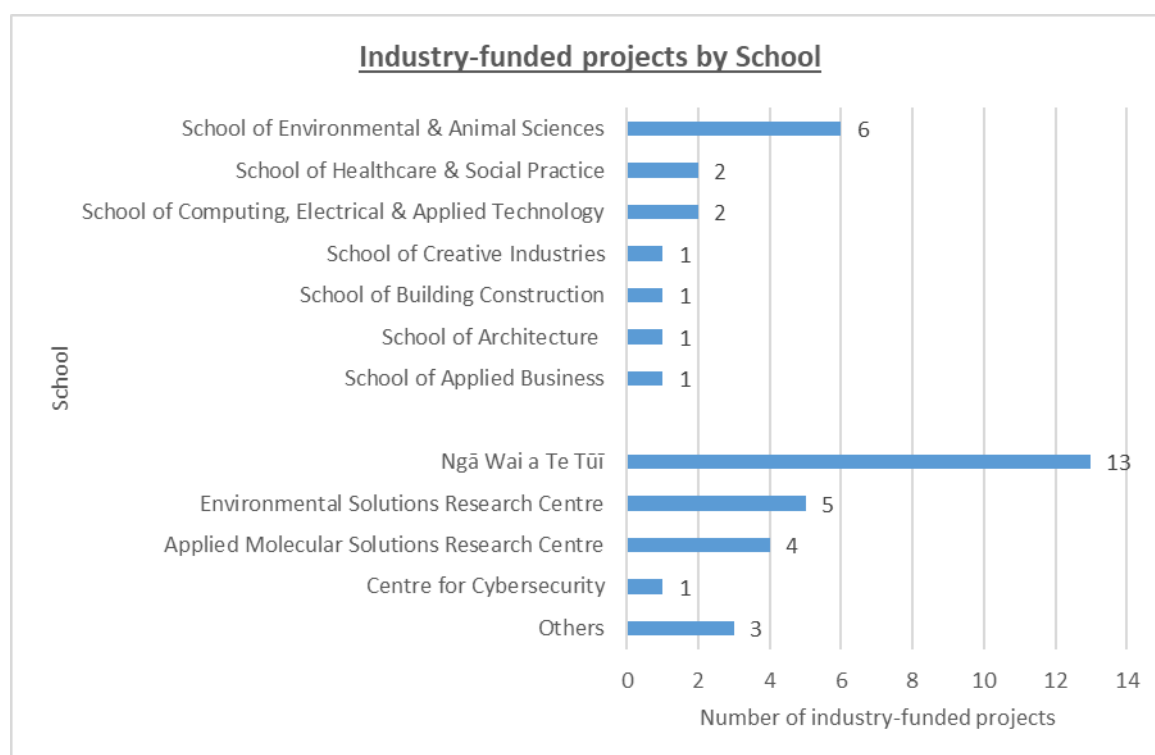


Figure 15: Schools' contribution to industry-funded projects count.

5.1.4 Commercialisation

Unitec's Cybersecurity Research Centre continued its successful collaboration with Tāmaki Makaurau Auckland genetic information security start-up GeneCrypt. Initial research had in 2021 led to an agreement to commercialise technology developed by the Unitec team as part of the MBIE-funded STRATUS project. A \$120,000 research contract was secured and successfully executed in 2022, providing a very significant opportunity for Unitec to partner with GeneCrypt during their growth journey. A further \$150,000 research contract with GeneCrypt was secured for 2023. Due to the rapidly increasing threat level in cybersecurity, there is a great market demand for novel cybersecurity solutions and interest in research teams being able to deliver them. Unitec's deep reservoir of intellectual property developed during the STRATUS projects sets it up well for future commercialisation opportunities in this booming field, and we are growing our capabilities, including the hiring of a bio-informatician and data analyst funded by the GeneCrypt project, whose contract was successfully extended, financed by external research income.

In 2021, major Aotearoa New Zealand ventilation-system company HRV entered into a research collaboration with Unitec's Environmental Solutions Research Centre (ESRC) to test the quality of their products in real-world applications, using indoor air-quality sensors developed in collaboration between ESRC and Unitec's School of Computing, Electrical and Applied Technology. The industry partner expressed great interest in developing these sensors further and licensing the underlying design to include them in future generations of their product family. This work has led to a \$206,000 research contract for work in 2022 and 2023, with considerable future commercialisation potential. Due to pandemic impacts the project had to be delayed, but the flexible approach of ESRC allowed it to retain the contract and successfully set up everything for a measurement campaign in winter 2023.

5.2 Joint research with universities, other Institutes of Technology and Polytechnics (ITPs) and Crown Research Institutes (CRIs)

Unitec's reputation is constantly recognised when our research academics are engaged for their specific expertise by other tertiary education institutions in fulfilment of externally funded research. A notable example is Associate Professor Jonathan Leaver's contribution to the University of Otago's MBIE-funded research into new scalable hydrogen-storage technologies. Associate Professor Leaver's focus is the techno-economic modelling of hydrogen storage integration in the Aotearoa New Zealand energy system.

Another example of high recognition is Dr Hinekura Smith's research leadership role as Pou Rautaki Kouna – MAI in collaboration with Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence (NPM) hosted at the University of Auckland. Dr Smith has a critical role in the delivery of NPM's rautaki (strategy) by (among other duties) concentrating its research and thought leadership on research programme activities and directions, assessing and recommending future research directions, and evolving strategic impact and transformation pathways.

Conversely, Unitec draws upon its network of international university partners when it leads on research projects. Senior Lecturer in Applied Business James Stewart was engaged by the Ministry for Primary Industries (MPI) to consult on proposed fisheries reforms using data-driven evidence examining the deemed values regime. In achieving this critical piece of work, Unitec also contracted Dr Ralph Townsend, a leading fisheries economist from the University of Alaska, to be a co-investigator on the project. Dr Townsend had previously been Chief Economist for the New Zealand Ministry of Fisheries, bringing significant contextual knowledge. Although the project was delivered in 2022 over a tight timeframe, the findings were nevertheless well received by MPI.

5.3 Seeking external funding

Unitec has a reputation for focusing on applied and impactful research, delivering breakthrough discoveries and practical, low-cost solutions that are readily implementable. Research at Unitec concentrates on opportunities and problems identified by industry, community and iwi/hapū.

Without support from funding organisations, Unitec researchers would not be able to conduct research. Funding for research at Unitec comes from central and local government agencies, philanthropic and charitable trusts, and industry. While competition for grants has never been more intense, Unitec punches above its weight in terms of its success in winning external funding.

5.3.1 2022 success stories

The stories below highlight Unitec's success in gaining external funding, the depth and breadth of Unitec's funded research activity, and the variety of organisations that fund Unitec research.

5.3.1.1 Teaching and Learning Research Initiative (TLRI): Whatua Tū Aka pathway

The TLRI seeks to support research addressing themes of strategic importance to education in Aotearoa New Zealand that will lead to an improvement in outcomes for learners. Partnerships between researchers and practitioners are central to the TLRI. For the Whatua Tū Aka pathway, applications are invited from researchers seeking to conduct Kaupapa Māori educational research.

Dr Hinekura Smith was awarded \$224,650 from the Whatua Tū Aka pathway for her project Toi Ora, Reo Ora, Whatuora – Developing Toi Māori Pedagogy to Support Māori Whānau Aspirations for Reo and Tikanga. Toi Ora, Reo Ora, Whatuora is a practice-led, arts-based project to story the reo aspirations of three connected rumaki reo whānau in the Waitematā Kāhui Ako through the Māori pedagogy and

practice of whatu. This research contributes to scholarship and practice on toi Māori/Māori arts-based pedagogies as key language and cultural revitalisation practices within rumaki reo education. Importantly, this research sets out to strengthen Māori language-community relationships through the pedagogy of whatu wānanga, to better support kura understandings of, and responses to, whānau aspirations for flourishing reo and tikanga.

Of the 34 proposals submitted to the 2022 TLRI funding round, three were selected for funding, two from the Open pathway and only one, Dr Smith's, from the Whatua Tū Aka pathway.

5.3.1.2 University of Otago/German Federal Ministry of Education and Research (BMBF)/Ministry of Business, Innovation and Employment (MBIE)

In 2022, the University of Otago sub-contracted Associate Professor Jonathan Leaver to assist with the delivery of a research project, Safe, Low-Cost Hydrogen Storage Materials from NZ Resources. The value of the sub-contract was \$45,000.

Green hydrogen is a key commodity chemical and a carbon-zero fuel, so has potential to become a key vector to carry and store renewable energy, but it is challenging to store compactly. Currently, it is stored either by compressing it to high pressure, or by liquification through cryogenic cooling. Both reduce the volume substantially, but neither is appropriate for large-scale, long-term storage due to system leakage losses, safety concerns and cost.

The research programme aims to support Aotearoa New Zealand's and Germany's transformation into green hydrogen economies by targeting the development of commercially viable metal-alloy materials capable of safe and compact storage of hydrogen at close to ambient pressure and temperature.

5.3.2 Funding-proposal submissions and success rates

Tūāpapa Rangahau assists researchers to identify potential sources of external funding for their research and to match researchers and teams of researchers with advertised opportunities. The team includes a dedicated Senior Grants Advisor, whose role it is to match researchers and research projects to externally funded opportunities, and two Research Partners, who provide specialist expertise across the institute in private- and public-sector partnerships, commercialisation activity, technology transfer and the management of intellectual property. Where expertise in a particular discipline or field does not exist within Unitec, Tūāpapa Rangahau works with the research offices of universities, Te Pūkenga and CRIs to contract their staff onto Unitec-led projects.

Figure 16 illustrates the number of proposals submitted by Unitec researchers for external funding, the number of successful proposals and the proposal success rates since 2011.

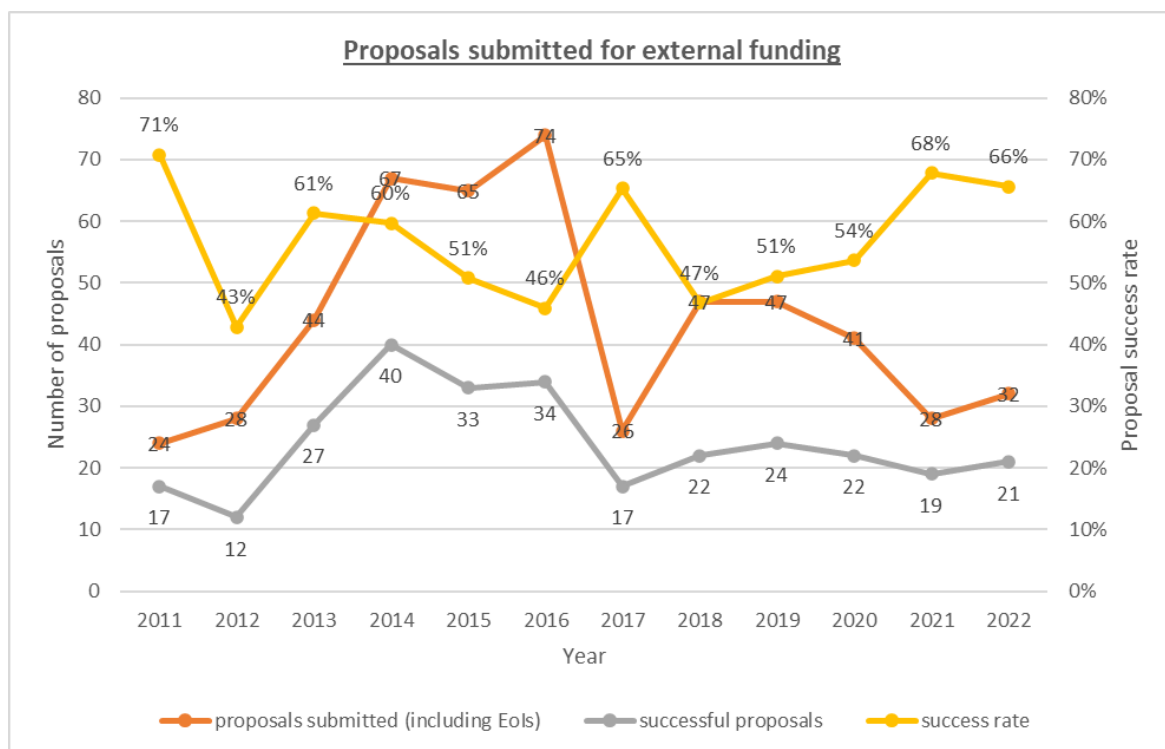


Figure 16: Proposals submitted for external funding 2011–2022.

Figure 17 illustrates the total grants Unitec has won since 2011.

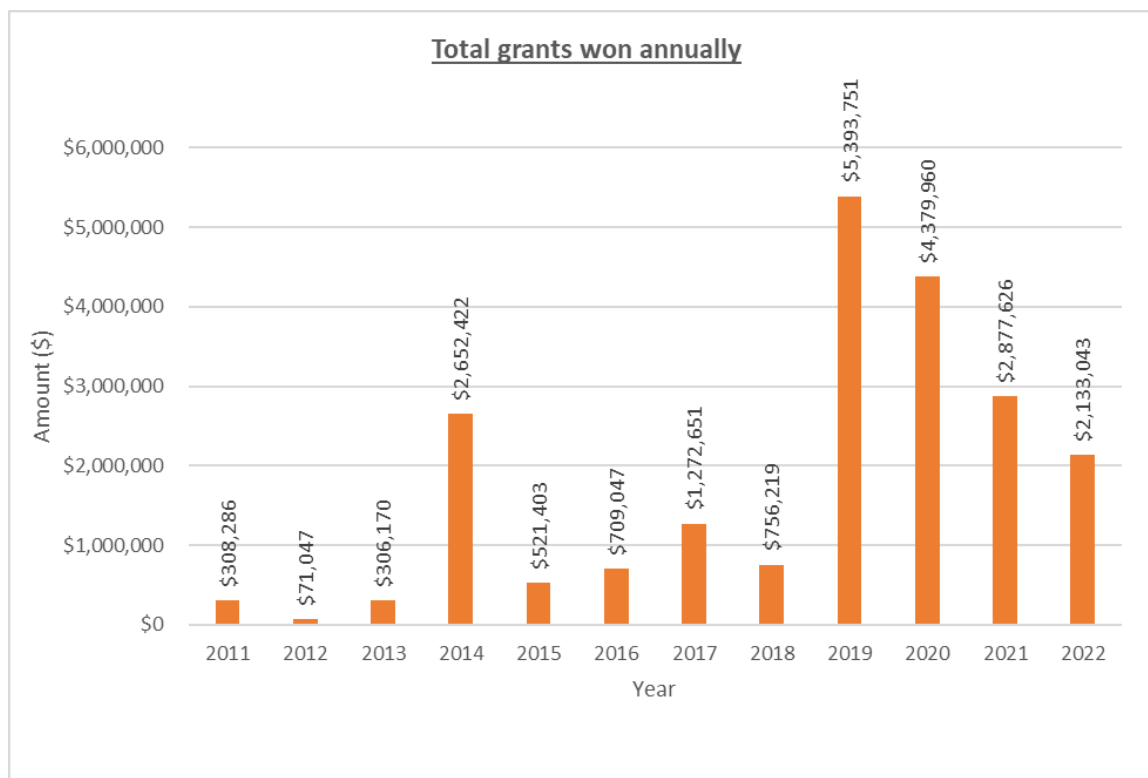


Figure 17: Total grants awarded annually 2011–2022.

NB: At the end of 2022, grant applications to the value of \$2.9m were awaiting outcomes.

5.3.3 Organisations funding our research

External research income (ERI) is included as a performance measure in the PBRF on the basis that it provides a good proxy for research quality. The underlying assumption is that external research funders are discriminating in their choice of who to fund and that they allocate their limited resources to those they see as undertaking research of a high quality.

Most of Unitec's external research funding comes from government agencies, with a much smaller percentage of grants (23% of grants won) coming from businesses and not-for-profits.

Funding source	Total funding received
Non-government	479,999
Government	\$1,653,044
Total	\$2,133,043

Table 7: Sources of ERI in 2022.

In 2022, \$29,235,378 of funding was sought. A breakdown of the outcomes of these applications is depicted in Table 8.

Application status	Total funding sought
Awarded	\$2,133,378
Declined	\$24,154,229
Awaiting outcomes	\$2,948,106

Table 8: Outcome of submitted applications 2021.

The funders and amounts of Unitec's five biggest grants in 2022 are depicted in Table 9.

Marley NZ Ltd	Ministry for the Environment Plastics Innovation Fund	\$592,396	Prof. Terri-Ann Berry
New Zealand Council for Educational Research	Teaching and Learning Research Initiative	\$224,650	Dr Hinekura Smith
HRV	N/A	\$206,247	Prof. Terri-Ann Berry
University of Auckland	Marsden Fund	\$153,082	Prof. Jenny Lee-Morgan
Building Research Association of New Zealand	N/A	\$149,052	Prof. Terri-Ann Berry

Table 9: Funders and amounts of Unitec's five biggest grants in 2022.

5.4 Delivery of externally funded projects

The successful delivery of an externally funded research project hinges on the Principal Investigator's ability to lead, co-ordinate and perform the research. Operational and administrative assistance and advice from institutional support teams including Tūāpapa Rangahau, Finance, HR and IMS is vital to ensuring the smooth and timely delivery of contracted research.

In 2022, Tūāpapa Rangahau provided research management and research administration support to Unitec Principal Investigators in the delivery of 45 active externally funded projects worth over \$9 million in contract value.

5.4.1 Total Unitec external research income (ERI)

The total external research income (ERI) for any given year is a strong indicator of the external value and magnitude of research efforts for that year. For these reasons, it is one of Unitec's KPIs within the Research Strategy, where Unitec seeks to increase the total value of ERI by 10% per annum.

Total ERI is an annual measure of the amount of income Unitec earned delivering research services to external parties. ERI is the income we have earned during a financial year, not what we have been awarded. Unitec measures the ERI earned each year by determining the percentage of project progress made that year for each active research project. Each project's percentage is then multiplied by its respective awarded amount to provide the project ERI for that year. Total 2022 ERI is the sum of ERI calculations from all 45 active externally funded research projects.

Longitudinal data from 2010 onwards shows that Unitec significantly increased its external research efforts in the years 2015–17, dropped in 2018, and significantly increased in 2019. The major drop in 2018 was due to the change in the accounting principle that is used to calculate ERI. Due to this new process, the ERI will be low at project start-up but will gradually increase as the percentage of the project completed increases and is recognised. The investment-plan calculation did not incorporate the complexity discussed above and requires adjustment for future years.

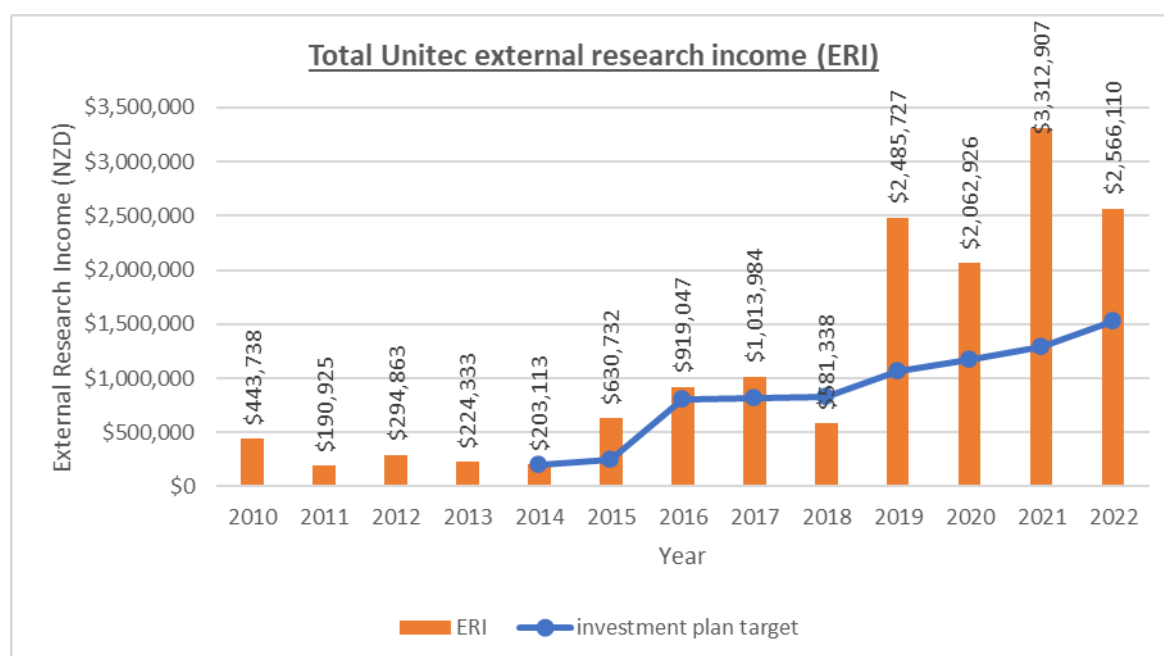


Figure 18: Unitec ERI between 2010 and 2022.

5.4.2 External research income by School and Research Centre

To promote School-level engagement in externally funded research opportunities, ERI is reported at School and Research Centre level.

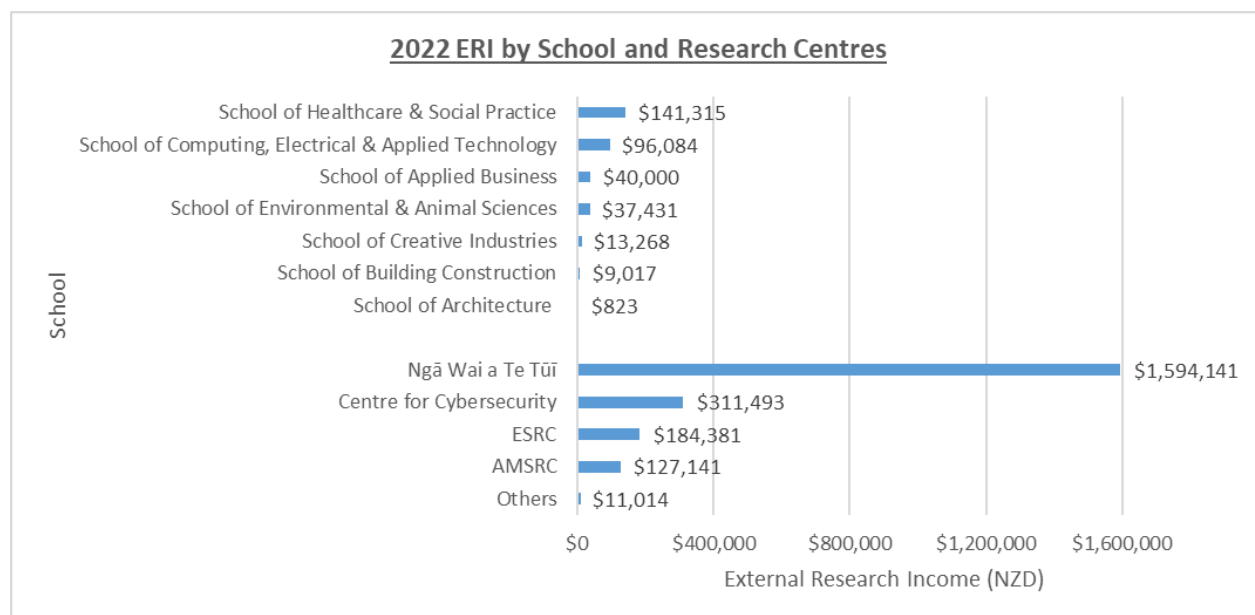


Figure 19: 2022 ERI by School and Research Centres.

Seven out of eight Schools that offer degree programmes achieved some level of ERI in 2022. However, there was significant variability in ERI performance between Schools, ranging from \$823 to \$141,315 (average of \$42,242 per School, excluding the Applied Molecular Solutions Research Centre [AMSRC], the Cybersecurity Research Centre, Ngā Wai a Te Tūi, Environmental Solutions Research Centre [ESRC] and others).

The four Research Centres contributed 86% of Unitec's total ERI for 2022 and the Schools contributed 14%. Ngā Wai a Te Tūi (Section 3.1) contributed 62%, Cybersecurity Research Centre 12%, ESRC 7% and AMSRC 5%. This statistic attests to the effectiveness of the driver in the 2015–2019 Research Strategy, to focus our research at Unitec by establishing Strategic Research Foci. These foci have enabled the growth of new Research Centres.

5.4.3 Performance Based Research Fund (PBRF) ERI

ERI is one of the three assessment elements of the PBRF's mixed performance-assessment regime. ERI is included as a measure because it is a strong proxy indicator of the quality and relevance of the research TEOs conduct. In 2016, the PBRF metric was changed to increase the incentives for TEOs to win ERI, particularly from non-government sources. The Quality Evaluation (individual staff portfolio) portion was reduced from 60% to 55% and the ERI portion was increased from 15% to 20%. Starting in 2015, the government also introduced requirements for ERI to be reported in four different categories, based on funding source. From 2017 onwards, the PBRF funding formula used the category weightings in Table 10 to calculate PBRF ERI funding allocations.

Funding source category	ERI Weighting	ERI Amount	ERI Percentage
NZ government contestable funds	1	\$2,140,027	83.40%
NZ public-sector contract research	1	\$205,691	8.02%
Overseas research income	3.5	\$2,554	0.10%
NZ non-government income	4	\$217,837	8.49%

Table 10: PBRF ERI weightings and amount by funding source.

Central government's changes to the PBRF signal the growing importance of externally funded, industry- and community-relevant research. It also signals a continued push for TEOs to rely less on the public purse to fund research. These signals align well with Unitec's Research Strategy 2020–2024, which aims for greater external engagement, an applied research focus and ongoing ERI growth.

Table 10 also shows the relative split of 2022 ERI by funding source. Nearly 83% of Unitec's ERI was earned from New Zealand Government contestable funds and the remaining 17% from either New Zealand public-sector contract research, overseas research income or New Zealand non-government income.

5.5 Unitec/Te Pūkenga Research Centres

The key priority in the 2015–2019 Research Strategy to *focus* research at Unitec has continued in the current environment. Two new Research Centres were established in 2022:

- » The Digital Heritage Research Centre – Associate Professor Renata Jadresin-Milic (Director)
- » The Centre of Research in Education for Healthcare Professionals – Associate Professor Samantha Heath (Director)

These two new endeavours join the existing four research centres at Unitec:

- » Ngā Wai a Te Tūi, Māori and Indigenous Research Centre – Professor Jenny Lee-Morgan (Director), replaced in September by Dr Hinekura Smith (Interim Director)
- » The Cybersecurity Research Centre – Denis Lavrov (Director)
- » The Applied Molecular Solutions Research Centre – Associate Professor Dan Blanchon (Director)
- » The Environmental Solutions Research Centre – Professor Terri-Ann Berry (Director)

5.5.1 The Digital Heritage Research Centre

The Digital Heritage Research Centre aims to investigate ideas and concepts under three main themes:

1. **Digitalisation of heritage buildings.** This is the main theme of the Digital Heritage Research Centre. Current activity within this field includes existing work in the project Digitalisation of Heritage in New Zealand, with overall aims to, on the one hand, present unknown, vulnerable (in the process of degradation or transformation), and/or abandoned historical heritage through a multimedia presentation; and, on the other, to set up an information tool for restoration, maintenance and valorisation. It has an emphasis on using digital technology in work with heritage sites and buildings, which is very much a novelty. The specific objectives in the project Digitalisation of Heritage in New Zealand overall are:
 - a) to raise awareness of the importance of heritage,
 - b) to record heritage buildings,

- c) to influence a change in existing legislation and regulations in Aotearoa New Zealand.

2. **Retention of cultural heritage for meeting climate-change and environmental-emissions targets.** This is the theme that the Digital Heritage Research Centre aims to develop in co-operation with the Environment and Sustainability Research Group within the School of Architecture, as well as with the Environmental Solutions Research Centre.
3. **Engagement with urban housing issues.** This is the theme that the Digital Heritage Research Centre aims to develop in co-operation with the Housing Research Group, and Te Hononga and Māori Housing, within the School of Architecture, and with Ngā Wai a Te Tūi, Māori and Indigenous Research Centre.

5.5.1.1 Mātauranga Māori

In the research funding proposals the Centre began developing in 2022, the diverse team was co-led by Māori scientist Professor Regan Potangaroa (Massey University), who directly contributes his tangata whenua knowledge, expertise and advocacy for preserving Māori architectural heritage. The Centre's work is guided by a kahui Māori who will ensure that projects' aspirations around Vision Mātauranga are realised.

The tools the Centre aims to develop will assist with the Raetihi community's aspirations for the future of their town and its heritage. This aspect of the project will involve engagement with Ngāti Uenukumanawawiri of Ngāti Uenuku and Ngāti Rangi hapū. The hapū will be supported to actively co-design the creation of augmented reality heritage stories, allowing them to store their traditional knowledge and utilise and securely share their mātauranga in an online space.

Jadresin-Milic and Potangaroa (Ngāti Kahungunu ki Wairarapa) work closely together and have co-developed project proposals. They operate as equal partners under pre-agreed values (including time, space, humour, persistence, generosity and forgiveness). The whole Research Centre team is committed to honouring and upholding Māori perspectives and knowledge systems with profound reverence for Te Ao Māori, particularly as it relates to heritage and te taiao.

With Maia Ratana initially in 2021 and 2022, and with Regan Potangaroa gradually in 2022 and 2023, the centre continued to explore/discuss/draft papers and proposals, and find opportunities for Māori postgraduate students to engage with topics such as Mātauranga Māori and Digital Storytelling: Analysing the Ways in Which Digital Technologies Can Be Used in the Representation and Preservation of Māori Heritage Sites and Buildings.

5.5.1.2 Summary of activities

Dissemination in academic environments – papers prepared for the 5th Edition of the Resilient and Responsible Architecture and Urbanism (RRAU) conference:

- » Renata Jadresin-Milic, Iman Khan, Viola Vadász. Transdisciplinary Digital Heritage Research Centre Development: Applied Research Towards a More Resilient Environment.
- » Hanaa Moosa, Renata Jadresin-Milic, Sameh Shamout. Developing the Model of Reuse of Existing Heritage Buildings in New Zealand: Integrating Political, Social, and Economic Objectives into Adaptive Reuse Strategies.
- » Xingru Song, Paul Baragwanath, Sameh Shamout, Renata Jadresin-Milic. The Power of Communities as a Means of Preserving Heritage: The Case of St David's, Auckland, New Zealand.

Dissemination in media and community so far:

- » “3D-Tech Helps Preserve New Zealand’s Most Important Buildings”, ArchitectureNow, 5 July 2022, <https://architecturenow.co.nz/articles/digitally-driven-conservation/>
- » “3D Technology Being Used to Save Heritage Buildings”, RNZ, 25 May 2022, <https://www.rnz.co.nz/audio/remote-player?id=2018843369>
- » Lecture for ICOMOS NZ and Historic Places Aotearoa (April, 2022), “The Digital Realm and New Zealand Heritage: Bringing Architectural Theory and Practice into the Modern Architects Workflow”. Heritage Bites – digital lunchtime talks on historic heritage matters.

Dissemination in industry media:

- » “Preserving History: Heritage Buildings Go Digital”, *Property and Build*, September 2022.
- » “Digitally Driven Heritage Conservation”, *Asia Pacific Infrastructure*, August 15, 2022, <https://www.infrastructurenews.co.nz/digitally-driven-building-conservation/>

5.5.1.3 External funding applications

Two funding applications were underway in 2022 to be submitted 2023.

Funding source	Amount applied for	Project	Result
Marsden Fund The Royal Society Te Apārangī	Phase 1: Expression of interest	“New Zealand's Cultural Heritage at Risk: A Trans- Disciplinary Approach for Enhancing Multi- Hazard Resiliency”	Pending
Endeavour Fund Research Programme MBIE	\$10.7m	“Transforming Heritage Conservation in NZ: A Transdisciplinary Approach for/towards a More Resilient Environment”	Pending

Table 11: The Digital Heritage Research Centre’s funding applications.

5.5.2 The Centre of Research in Education for Healthcare Professionals

The healthcare workforce has a direct impact on the health and wellbeing of every New Zealander at all ages and stages of their life. As such, the knowledge, skills and attitudes developed by the early career practitioner need to be shaped in such a way as to meet the contemporary health needs of society. Discovering successful and distinctive approaches to teaching and learning that increase such ability will increase understanding about how education contributes to a workforce ready to tackle Aotearoa New Zealand’s health concerns. The vision, then, is of a collaborative Research Centre in which projects undertaken will provide healthcare professional educators with a range of evidence-based tools to support an education response to mitigating inequalities in health now and in the future. The Centre of Research in Education for Healthcare Professionals partners with public and private healthcare providers; charities; non-government organisations; experts from across a range of healthcare disciplines, and in other fields such as engineering, business and computing to develop research initiatives that are pragmatic, and address the real-world problems of healthcare education, and its relevance to improving health inequalities and outcomes.

The Centre's Director, Associate Professor Samantha Heath, won a [Te Whitinga Fellowship](#) from the Royal Society, which allows her two years funded at 0.8FTE to work on her research into the future nursing workforce. Among many other things, she has brought together all the nursing programmes in Te Pūkenga for this project and leads the centre as an intrinsic part of this project. She is also active in assembling teams and putting together industry-partnered research funding applications, see below. Samantha says:

"The Whitinga Fellowship has provided opportunity for engagement across a range of providers of healthcare for older adults. We have formed relationships across communities, charities and experts in their fields. They have been supportive of the work and keen to be involved. The HRC grant application has been undertaken with a private medical-imaging service provider and, if successful, this collaboration will be developed into the full study. We have developed a collaboration with Monash, Malaysia, for the purposes of a future study about reducing ageism in the curriculum. We have a collaborative partnership with Haley Lowe within Vision Mātauranga."

5.5.2.1 Vision Mātauranga

The evidence for disparity and inequality in health is overwhelming in every metric. Addressing these inequalities is a concern for all contributors to healthcare, including education. The centre has worked proactively towards developing relationships with Māori educators and researchers to ensure that the significance of the research is understood and that there is opportunity to generate a Kaupapa Māori perspective in the work undertaken, or to support research that is Kaupapa Māori in origin. The centre has developed a partnership with Mrs Haley Lowe (Tūhoe, Ngāti Raukawa and Director at Otemotu Creations) at the grant application stage of a Marsden Fund application. The intention is to strengthen the health education and research workforce and leadership through these relationships and to work together on solutions for education that will support Māori health through professional education and that respects the distinct contributions that might arise from the innovative potential of Māori knowledge, resources and people.

5.5.2.2 External funding applications

The following funding applications were underway in 2022.

Funding source	Amount applied for	Project	Result
Royal Society Whitinga Fellowship	\$320,000	Future Nursing Workforce	Successful
			Now in process
HRC ECR grant	\$250,000	Optimising Diagnostic X-ray Imaging Technique Using Virtual Clinical Trials	Pending
MBIE SMART ideas	\$1 million	Artificial Intelligence-Based Software Solution to Predict Individual Outcomes of Targeted Radiotherapy	Pending
Funding source	Amount applied for	Project	Result

Marsden Fast Start	\$360,000	Transitions for Fatherhood in the New Zealand Context	Pending
Marsden Standard	\$870,000	Mitigating the Impact of Ageism Among Pre-Registration Healthcare Professionals Using Targeted Educational Interventions: A Longitudinal Study	Pending
MBIE SMART ideas	\$1 million	Personalised Educational Interventions to Mitigate Ageism	Pending

Table 12: The Centre of Research in Education for Healthcare Professionals funding applications.

5.5.3 The Cybersecurity Research Centre

Unitec's longest-established Centre was approved in 2012. The Cybersecurity Research Centre was set up to encourage digital innovation in Schools, including outside of computing and across disciplines. Former director of the Centre, Professor Christian Probst, is now an Adjunct Professor on an MBIE Endeavour-funded project and has been based in Germany since 2020. He continues to lead "Assessing Reidentification Risks of Anonymised Data Sets with Bayesian Probabilistic Programming", which contributed \$311,493 as external research income in 2022.

Denis Lavrov was appointed Director of the Centre in 2022, with significant history in this space, starting with the STRATUS project in 2012 (MBIE Endeavour Research Programme, \$12.5m over six years); he led the STRATUS technical team to successful completion of the project, achieving all milestones. He has produced over 15 novel technologies in the field of cybersecurity. Some have contributed back to academia (rRVM, COR-Honeypot), others have been co-developed together with industry partners (CRaaS, LogSpider). The Centre has significantly contributed to the culture of innovation at Unitec and has a national reputation.

Denis is currently running Cyber&DaaS at Unitec, a cybersecurity consultancy that in 2022 won \$120,000 Phase Two funding from a start-up called GeneCrypt. This is the first commercialisation funding in the history of Unitec, developing security software for securing the human genome in digital environments, in which Unitec has a 15% share in all GeneCrypt's profits. Phase Three funding estimated to be between \$500K–\$1M is under negotiation. Bio-data analyst James Love continues to work with Denis on this exciting project. GeneCrypt Ltd Director Kris Vette is in advanced negotiations with American deep-tech investors toward Phase 3b. The following details the achievements in the two completed phases.

Phase One

- » Secured industry funding of \$15,000
- » Secured License Agreement and the Royalty clause with 15% of profits for Unitec
- » Appointed bio-informatician James Love to the team
- » [Stuff article](#)
- » [Dominion Post article](#)
- » [Scoop article](#)
- » GeneCrypt became an industry partner on a Unitec-led NZ\$1m Smart Ideas project
- » Development of CryptoBAM, a world-first, securely encrypted file format for genetic data

Phase Two

- » Secured industry funding of \$120,000
- » Completion of [Bridge West Ventures](#) Deep Tech Incubator programme with Stanford University
- » *MedTech* [CMDT article](#)
- » Global investment website references: [GlobeNewswire](#), [GlobalData](#), [Ignition Lane](#)
- » GeneCrypt became an industry partner on a Unitec-led NZ\$8m Endeavour Research Programme bid
- » Development of CryptoBCF, a secure file format for genetic variation files
- » Secured Enclave Genomics Analysis Pipeline, ground-breaking genetic information security
- » Deployment of GeneCrypt Technologies to secure world-changing organisations, including [AmaroqTX](#), a cancer-therapy company based on lncRNA, and world-first clinical CRISPR human trial for treatment of familial hypercholesterolemia with partners of Verve Therapeutics

5.5.3.1 Vision Mātauranga

The Cybersecurity Research Centre is partnering with Andrew Sporle (Rangitāne, Ngāti Apa, Te Rarawa), Research Director, iNZight Analytics, and Honorary Professor, University of Auckland, and Adjunct Professor Christian Probst (former Director of the Cybersecurity Research Centre) on an application for MBIE's Endeavour Research Programme on a project looking at data security and sovereignty. The project is a co-led Tiriti-based partnership specifically intended to give effect to MBIE's Vision Mātauranga policy to achieve an outcome that not only works for Māori data holders but will extend data analytics capability in other national and international contexts. This work will involve Māori data scientists (Sporle and Dr Tom Elliott) and the application of Indigenous innovation in collaboration with the [Tūhono Trust](#) to develop mātauranga Māori-informed approaches to safely work collaboratively with whakapapa information and other Māori data.

5.5.3.2 Summary of partnerships and student activity in 2022

The MBIE Endeavour Research Programme project involves:

- » iNZight Analytics (Andrew Sporle, Tori Diamond)
- » IT University of Copenhagen (Raúl Pardo Jimenez, Andrzej Wasowski, Willard Rafnsson)
- » The Tūhono Trust (Daniel Te Kanawa)
- » The University of Auckland (Thomas Lumley, Ilze Ziedins, Tom Elliott)
- » Statistics NZ (Patrick Graham)
- » GeneCrypt (Kris Vette)
- » Genomics Aotearoa (Peter Dearden, Andrew Sporle, Michael Black – through GeneCrypt)

New partnerships made outside of the MBIE Endeavour Research Programme application include:

- » NISAN – National Institute for Stroke and Applied Neurosciences (Valeriy Feigin, Alexandr Merkin)

The Cybersecurity Research Centre is hosting interns from the Unitec Diploma in Cybersecurity and Bachelor of Computing Systems. They are given real-world experience in secure software development for cybersecurity solutions.

Since the last round of reporting, the Cybersecurity Research Centre has hosted:

- » Aya Hashad – Diploma in Cybersecurity
- » Nicholas Burdett – Bachelor of Computing Systems
- » Mohammed Azeem – Bachelor of Computing Systems
- » Wipun Malewwa – Bachelor of Computing Systems

» Kim Woods – Master of Computing – Internship

5.5.3.3 External funding applications

The following funding applications were underway in 2022.

Funding source	Amount applied for	Project	Result
GeneCrypt	\$120,000	CryptoBAM, Phase 2	Approved
GeneCrypt	\$150,000	CryptoBAM, Phase 3a	Approved
Neurological Foundation	\$75,473	Prediction and Detection of Agitation and Aggression in Dementia	Pending
Auckland Medical Research Foundation	\$48,466	Application to the Neurological Foundation: Prediction and Detection of Agitation and Aggression in Dementia Using AI	Pending
MBIE Endeavour Fund Research Programme 2023 (application submitted March 2023)	\$9.1m	Making Informed Privacy Choices: A Platform for Data Collaboration	Pending

Table 13: The Cybersecurity Research Centre's funding applications.

5.5.4 The Applied Molecular Solutions Research Centre

AMSRC partners closely with the Environmental Solutions Research Centre (ESRC) and the School of Environmental and Animal Sciences (EAS) in this space. EAS has a history of appointing Unitec Honorary Research Fellows to help staff to learn about and understand Māori perspectives, to better partner and collaborate. Dr Nick Waipara, the late Kamera Raharaha and Hema Wihongi have all been appointed. Dr Waipara is an active collaborator in projects on climbing asparagus and asbestos.

- » AMSRC had a productive year, with 11 peer-reviewed journal papers, four conference oral presentations and four posters produced.
- » Dr Marleen Baling attended the Royal Society Te Apārangi's 2022 Early Career Research Forum (Te Papa, Wellington), which is a conference for early career researchers (ECRs) to network and learn more about the state of ECRs in Aotearoa New Zealand. Marleen had the opportunity to network with other ECRs from Manaaki Whenua Landcare Research, Ecogene, AgResearch, MPI and other institutions from across Aotearoa. There were 350 attendees for the two-day conference.
- » An agreement is under development between Manaaki Whenua and Dr Sarah Wells to collaborate on a population genomics project stemming from the tūi samples collected from her doctoral thesis. The project aims to use tūi as a model indicator-species for how habitat restoration and pest management impact the population genomics of native species. Funding will be sought in 2023.
- » Sarah Wells secured funding from the Unitec ECR Research Fund to initiate a project investigating population genomics and hybridisation of Northland green geckos (*Naultinus*

grayii) in the Bay of Islands to begin in late 2023, once permitting requirements have been satisfied and iwi engagement has been conducted.

- » Sarah Wells examined a master's thesis of a student from Massey University on DNA barcoding of marine fishes in New Zealand.

5.5.4.1 Vision Mātauranga

For the asbestos project (ESRC and AMSRC collaboration), the Centre has sought collaboration with mana whenua in the Nelson region to work with them in the asbestos deposits in the Cobb Valley area. Discussions have been held with Wakatū Incorporated (made up of four hapū from the top of the South Island) to look at possible collaborative opportunities. Connected with this, staff made contact with Mana Whenua ki Mōhua (Ngāti Rārua, Ngāti Tama and Te Ātiawa) whose rohe contains the asbestos mine. Professor Peter de Lange and Associate Professor Dan Blanchon attended a hui with them in Tākaka, where they discussed the project and sought collaboration. The group supported this in principle, and were enthusiastic about collaboration and potentially holding some wānanga. After further discussion with their respective rūnanga, full support was given for an application for a research permit from the Department of Conservation. AMSRC has approached Mana Whenua ki Mōhua to ask for a representative for a Kāhui Māori for the asbestos research to make their kaitiaki role easier and to share knowledge (including mātauranga Māori if appropriate), and this has been built into an MBIE Endeavour Fund application to be submitted in 2023.

In addition, in the asbestos Endeavour Fund application, AMSRC have proposed to use Kaupapa Māori research methodology to explore how rāhui can provide healing and remediation of asbestos-contaminated sites. Rāhui enables the environment to recuperate and regenerate without the presence/impacts of humans. Its purpose is both physical and spiritual protection. This Vision Mātauranga-centred research will establish a kāhui of knowledge holders and practitioners who enact rāhui to explore appropriate monitoring methods, e.g., 'cultural health indicators' or 'mauri', that would inform regulated environmental reporting. This part of the project will be led by Dr Nick Waipara and Tanya White (kaihautū at Unitec), in collaboration with Associate Professor Dan Blanchon. Funding for a Māori master's student has been included in the Endeavour Fund application.

Professor Terri-Ann Berry and Associate Professor Dan Blanchon have approached Nga Wai a te Tūi about the possibility of collaborating on the indoor air quality/HRV project.

5.5.4.2 Summary of partnerships and student activity in 2022

The Unitec ECR Fund partly supported a summer student in 2021/2022 to collect tracking tunnels for eDNA sampling. A postgraduate veterinary student from Massey University completed her Master of Veterinary Studies in Zoo Animal and Wildlife Health, thesis title: "Pathogen Prevalence and Diversity in Native and Invasive New Zealand Lizards", supervised by Brett Gartrell, **Marleen Baling** and Kate McInnes. **Peter de Lange**, along with Bruce Burns and Lara Shepherd, co-supervised Lauren McKenzie, whose MSc thesis (University of Auckland) examined the population genetics and hybridisation of *Streblus banksii* in the Auckland Region.

Relationships with Auckland Zoo, Auckland Museum, Auckland Council, Massey University, the Moth and Butterflies Trust of New Zealand, HRV, Wakatū Incorporated, and Mana Whenua ki Mōhua have been strengthened. New collaborations with staff at Landcare Research, Auckland Zoo, Project Island Song, and the Department of Conservation have been initiated. As part of the asbestos bioremediation project, a new collaboration has been formed with Professor Mike Manefield at the University of New South Wales, and existing partnerships have been strengthened with the University of Turin (Italy) and Fox Chase Cancer Center (USA).

5.5.4.3 External funding applications

The following funding applications were underway in 2022.

Funding source	Amount applied for	Project	Result
MBIE Endeavour Fund (multiple AMSRC staff)	NZ\$9m	Asbestos (with ESRC) (AMSRC leads, Research Aim 2)	Pending
2022 Kiwa Initiative (Associate Professor Dan Blanchon and Professor Peter de Lange)	€2,980,508	Capacity Building for Evaluating Nature-Based Solutions in Pacific Small Island Developing States (PSIDS) (AMS has a very small part of this project and the Unitec team is led by ESRC)	Unsuccessful

Table 14: The Applied Molecular Solutions Research Centre's funding applications.

The AMRSC contributed \$127,141 as external research income in 2022 from four active projects.

5.5.5 Ngā Wai a Te Tūī, Māori and Indigenous Research Centre

Refer to Section 3.1 of this report for details.

5.5.6 The Environmental Solutions Research Centre

Led by Professor Terri-Ann Berry, the Environmental Solutions Research Centre (ESRC) is highly collaborative; it fosters transdisciplinary research initiatives that push the boundaries of current disciplinary silos, with 24 Unitec researchers on the team, from six different schools and two other Unitec Research Centres.

Established in 2019, the ESRC involves chemists, biologists, engineers, epidemiologists, geographers, and building and construction experts. These members collaborate with industry leaders from various fields, such as waste management and minimisation, air quality, wastewater treatment and civil engineering, who work on complex and multigenerational challenges such as asbestos-contaminated soil, indoor air quality and plastic reduction in construction.

5.5.6.1 Vision Mātauranga

ESRC has connected with and been well supported by mātauranga Māori researchers, students, communities and other groups. For example, its recent Endeavour Fund application included the following experts, groups and/or researchers: Professor Jenny Lee-Morgan (Pūrangakura), Dr Hinekura Smith (Ngā Wai a Te Tūī), Dr Nick Waipara (Plant and Food), Veraneeca Taiepa (Unitec) and Rebecca Gilbert (Cancer Society). This core team will work alongside ESRC to facilitate engagement with iwi and hapū to initiate and inform the format, context and content of the Centre's communication with Māori. In particular, cultural safety agreements and IP protection will be in place before the start of the programme, ensuring the IP of iwi collaborators, Māori knowledge holders and other Indigenous peoples will be recognised and protected.

5.5.6.2 Summary of partnerships and student activity – 2022

Internally, ESRC has joined forces with Associate Professor Dr Samantha Heath to investigate plastic waste from Aged Care Centres, which is to be externally funded by Bupa Aged Care. The ESRC continues

to work with the other Unitec Research Centres, in particular Ngā Wai a Te Tūī, AMSRC and the Cybersecurity Research Centre. Externally, ESRC is now working with Master Builders and Certified Builders on sustainable waste-management practices, with GS1 on enhanced digital systems, and with Mammoth Insulation on PET recycling options. Penny Thomson has joined the ESRC on a part-time basis and is helping to lead two externally funded projects (SARNZ and Marley). Students from multiple schools have been involved in research projects with the Centre. This includes students studying for their final-year development project for the Bachelor of Engineering Technology (Civil) degree, with the New Zealand Diploma in Surveying programme, and also those on the Capstone project course within Computer Sciences. Student-led research has included: waste minimisation for construction research with Alex Bu (BEngTech) and Prajil Thomas (BEngTech); indoor air-quality research with Cameron Brown (BEngTech), Vibesh Bhawan (BEngTech), Trudi Lapwood (NZDS), Davinder Kaur (Capstone, CompSci), Yuyan Zhou (Capstone, CompSci) and Yiwei Gu (Capstone, CompSci); asbestos research with Esha Jati (BEngTech).

5.5.6.3 External funding applications

The following funding applications were underway in 2022.

Funding source	Amount applied for	Project	Result
BRANZ (Plastics)	\$172,000	Sustainable Waste Management	Approved
Marley (Plastics Innovation Fund)	\$426,000	Sustainable Waste Management	Approved
MBIE Endeavour Fund	\$10.7 m	Asbestos management	Pending
MfE WMF (Asbestos)	\$394,000	Asbestos management	Approved
Chemcare	\$5,000	Asbestos management	Approved
Mitre 10	\$5,000	Sustainable Waste Management	Approved
Plastics NZ	\$5,000	Sustainable Waste Management	Approved
HRV (2021)	\$55,000	Indoor Air Quality	Approved
HRV (2022)	\$206,000	Indoor Air Quality	Approved
WMIF (Auckland Council)	\$50,000	Sustainable Waste Management	Approved
saveBOARD	\$5,000	Sustainable Waste Management	Approved
SARNZ	\$9,000	Sustainable Waste Mgmt	Approved
Master Builders Auckland	\$5,000	Sustainable Waste Management	Approved
Bupa Aged Care	\$34,000	Sustainable Waste Management	Approved

Table 15: The Environmental Solutions Research Centre's funding applications.

The ESRC contributed \$184,381 as external research income in 2022 from five active projects.

5.6 Industry Scholarships

Industry Scholarships are dedicated to the purpose of encouraging and supporting industry-partnered postgraduate research and are contestable, implemented by the Postgraduate Research and Scholarships Committee (PGRSC). Students must demonstrate that, in partnership with their supervisor, they have secured an industry or community partner, who is actively supportive, preferably contributing resources.

A sub-committee of the PGRSC selected the candidates who demonstrated the highest-level qualities in adherence to Te Tiriti, applied/industry research and transdisciplinary research. Five scholarships were offered to four Master of Architecture (Professional) students and One Master of Osteopathy student. These were:

- » **Adam Collett – *Master of Architecture (Professional)***
Supervisors: Dr Yusef Patel, Peter McPherson and Keith Mann
Project: Produce a Pavilion for Auranga Village Centre with the Use of Novel Structural Timber Made from Building Waste
Industry/Community Partner: Abodo Wood and MADE group
- » **Julia Hamilton – *Master of Architecture (Professional)***
Supervisors: Associate Professor Renata Jadresin-Milic and Min Hall
Project: Community Revitalisation Through Adaptive Re-Use (adaptive re-use of post-earthquake Christchurch buildings)
Industry/Community Partner: Ōtākaro Limited
- » **Haley Tidswell – *Master of Architecture (Professional)***
Supervisors: Adjunct Professor Hugh Byrd and Graeme McConchie
Project: Provide a Transitional Housing Development Design that Gives Residents Tools to Heal from the Trauma of Being Homeless and Re-Enter Permanent Housing with a Sense of Dignity
Industry/Community Partner: Wider Aotearoa New Zealand community and primarily homeless community, and Assemble, a technical documentation and services firm
- » **Monique Pritchard – *Master of Architecture (Professional)***
Supervisors: Rau Hoskins and Maia Ratana
Project: Preserve Māori Lore, Ancient Practices and Traditions That Have Been Forgotten. These are lore that concentrate on respecting and protecting the land. The research also concentrates on preserving the traditional building techniques that were used in Te Ao Māori.
Industry/Community Partner: Members of the iwi-based kaitiaki hub in Manutūkē, Gisborne
- » **Meg Stott – *Master of Osteopathy***
Supervisors: Associate Professor Samantha Heath and Sue Palfreyman
Project: Specific Focus on the Family Members' Perspectives of Dove Hospice Support Services
Industry/Community Partner: Dove Hospice

5.7 Unitec Bold Innovators Scholarship

The Bold Innovators Scholarship is worth \$15,000 and is awarded yearly, based on the potential of the concept for social, environmental and/or economic impact, the academic and general performance of the applicant, and the ability of Unitec to support the concept. This is determined through a selection process implemented by Tūāpapa Rangahau, involving a panel with relevant expertise.

The 2022 recipient of the Bold Innovators Scholarship was **Kristi Shaw**, a graduate of the Master of Applied Practice (Social Practice) programme.



Figure 20: Bold Innovators Scholarship recipient Kristi Shaw.

Kristi's project draws on research undertaken for her [Master of Applied Practice \(Social Practice\)](#). Her research, combined with her skills and experience in community development and counselling, her personal experience as a parent caring for a child with anxiety disorder, and a passion for making a difference, led her to design the Extraordinary Parents Project. This project was created to help parents help themselves, their children, and each other in one of the most difficult roles a person can play in their lives – parenting a child with the invisible and ongoing challenges of anxiety.

“Based on my research, I wanted to create a project to help parents caring for a child(ren) with anxiety disorder. Anxiety disorder is one of the most prevalent mental health concerns internationally, with one in four people experiencing it in their lifetime. The rate of anxiety in children is growing, with about one in ten children experiencing moderate to severe anxiety disorder, even before Covid hit.

“We have an individualistic approach to mental health in New Zealand, which often places the problem of anxiety within the person. This has the effect of distancing others from the problem, and leaves the person and their family isolated and struggling. However, research demonstrates that one of the leading causes of anxiety disorder is a lack of meaningful support when dealing with trauma and/or chronic stress. Without good supportive friends or partner, people have a 75% chance of developing anxiety and depression.

“What my project seeks to do is bring together parents with a shared experience of caring for a child with an anxiety disorder in a strengths-based, empowered, generative and active way – building stronger and wider connections in the school and local community. When we have supportive friends and partners, a good supportive network and environment, we can prevent and reduce anxiety and depression significantly.”

The aim is to train school counsellors and teachers in how to facilitate the Extraordinary Parents Project, where the schools are enabled and empowered to build co-creative teams in and around their school community. The Extraordinary Parents Project will enable a variety of parent groups to connect, support and empower each other for their wellbeing, for creating community connection, and for developing an influential voice to make a difference.

Kristi is the first person to graduate from the revamped Master of Applied Practice programme, says Dr Geoff Bridgman, Kristi's supervisor.

“This programme has been designed to support experienced practitioners in fields of human support services to use research to validate and thus promote the innovations they have been developing. Her examiners described her work as an ‘exceptional piece of research’ that presents a ‘radically different approach to how anxiety is considered ... [and which] could be of enormous use to the many parents struggling with anxiety in their family’s lives’.”

Marcus Williams, Director of Research Enterprise, says that in addition to the funding, Bold Innovators receive advice and mentoring from Gregor Steinhorn, who runs the scheme, to help them develop their start-up or innovation. The Bold Innovators initiative is one of a range of products and support mechanisms provided to staff and students at Unitec toward growing an applied, partnered and impactful research culture.

This mentoring process is essential, says Gregor, as it helps support ideas that would otherwise struggle to reach a stage where other funding sources can be accessed.

5.8 Telling our research stories

Tūāpapa Rangahau promotes Unitec research stories via the Unitec/MIT Research Symposium, the ITP Research Symposium, [Unitec ePress](#) and the [Unitec Research Blog](#).

5.8.1 The 3-Minute Thesis Competition

The 3-Minute Thesis Competition was, as always, a highlight. There were eight presentations submitted. Students from the following programmes participated in the competition:

- » Master of Architecture (Professional) – 2
- » Master of Landscape Architecture – 2
- » Master of Professional Accounting – 1
- » Master of Computing – 2
- » Master of Applied Business – 1

The judges for this event were:

- » Annette Pitovao – Director Student Success (Head Judge)
- » Associate Professor Evangelia Papoutsaki – Research Ethics Administrator, Tūāpapa Rangahau
- » Gregor Steinhorn – Research Partner Enterprise, Tūāpapa Rangahau.

The winning presentations were:

- » **Winner:** Pippa Sommerville (Master of Landscape Architecture). Title: Space for Zero
- » **Runners up:**
 - Yue Sun (Master of Architecture [Professional]). Title: A Day Along the River
 - Naziba Marzan (Master of Applied Business). Title: Understanding the Challenges of Female Migrant Workers in New Zealand

5.8.2 Unitec/MIT Research Symposium

The annual Unitec Research Symposium was convened in partnership with MIT in 2022 and themed **Rangahau: Te Mana o te Mahi Kotahitanga – Research: The Power of Collaboration**. The aim of this symposium was to:

- » Connect researchers across the sector;
- » Foster research collaboration between ITPs, industry and community;

- » Disseminate applied, industry- and community-partnered research.

The jointly populated MIT/Unitec Steering Committee pushed for keynote speakers, panel discussions and an extension of the research awards into the Māori and Pacific research domains, which were successfully added to the familiar Research with Impact, Early Career Researcher and Undergraduate Research Excellence Awards.

The symposium was open to participants across the ITP sector and ran over two full days with over 246 registrations, 31 institutions (ITPs/PTEs/Organisations) participating, 96 presentations, six posters, five research excellence awards, a keynote speaker and a panel discussion.

After a joint mihi and karakia by Pae Arihi Hare Paniora (Unitec) there was a panel discussion on **“Perspectives on Research Partnering”**.

5.8.2.1 Panel discussion

The panel discussion aimed to provoke discourse about the symposium’s theme: Rangahau: Te Mana o te Mahi Kotahitanga – Research: The Power of Collaboration. The panellists responded to questions (Section 5.8.1.6) from the panel chair in order to explore themes on the future of research in tertiary education in Aotearoa generally, but particularly in the ITP sector as we rapidly approach a metamorphosis into Te Pūkenga.

There were four panellists from four different institutes: one each from Invercargill and Hawkes Bay, and two from Tāmaki Makaurau. They were:

5.8.2.2

David is a medical practitioner of general practice and public health, but also a researcher and recently a Research Professor at Te Pūkenga (EIT) in Ahuriri Napier. He has undertaken a large body of work in the promotion of a mātauranga Māori approach to SUDI prevention and the prevention of diabetes, and more recently has been able to add research in mental health, renal replacement, cultural safety for medical practitioners and food security in Māori communities to this list. In addition to chairing Heretaunga Tamatea through to Settlement in 2015, he has been involved in archiving of 19th-century manuscripts, repatriation of taonga, hapū development and marine coastal area management as integral parts of post-Settlement times in Ngāti Kahungunu.



Figure 21: Panellist 1 – Professor David Tipene-Leach (Ngāti Kahungunu).

5.8.2.3 Panellist 2 – Professor Jean Ross

Jean Ross is Professor of Nursing, Otago Polytechnic/Te Pūkenga, originally from Wales, UK. Jean has more than 30 years' experience of working with the rural nursing workforce in Aotearoa New Zealand. The cumulation of her work associated with rural nursing includes activism, research and education. Education includes undergraduate, postgraduate and doctoral engagement. Jean's initial work with rural nurses commenced in Wales and continued in 1994 with the establishment of the Centre for Rural Health in New Zealand, of which she was co-director. Jean is also an advocate for sustainable rural community development and nurse education. Jean's focus is a research directive which both informs and directs her practice.



Figure 22: Panellist 2 – Professor Jean Ross.

5.8.2.4 Panellist 3 – Yvonne Kainuku (Ngāti Kainuku Ariki, Ngāti Tea'ia Ariki, Ngāti Tangii'au, Ngāti Crummer, Ngāti Collins)

Yvonne has family connections to the region of Takitumu in Rarotonga and County Tyrone in Ireland. Born and raised in the heart of one of the biggest Pacific populations in the world, Manukau, she is a mother of four adult children and a māmā to two precious mokopuna.

Yvonne holds the position of Programme Lead, Bachelor of Nursing Pacific (BNP), MIT; 2021 sees the programme celebrate its tenth anniversary. Yvonne has done a full circle; graduating as a nurse from MIT in 1993, she has almost 30 years' working experience within the primary healthcare and community sectors, specialising in sexual and reproductive health and adolescent health and development, including service development and writing policy.



Figure 23: Panellist 3 – Professor Yvonne Kainuku.

She is currently an emerging researcher participating in an oral histories research project commissioned by the Nursing Education Research Foundation (NERF) and is completing her master's thesis on the topic of culturally responsive pedagogy for Kūki 'Airani nursing students.

5.8.2.5 Panellist 4 – Professor Terri-Ann Berry

Dr Terri-Ann Berry (MSc, PhD, CChem, CEnv, FRSC) is Director of the Environmental Solutions Research Centre and Professor in the School of Construction and Engineering at Unitec. She is an environmental engineer with significant expertise in environmental chemistry and the management of sensitive environments. Her key research interests include effective waste management for the construction and demolition sector, and managing and mitigating risks associated with asbestiform minerals, such as asbestos.



Figure 24: Panellist 4 – Professor Terri-Ann Berry.

5.8.2.6 Keynote speaker – Mark Roberts

Mark is a Senior Waste Planning Advisor, Waste Solutions at Auckland Council. With 18 years' experience in the field of resource efficiency and waste minimisation, his role works closely with industry to design out waste, brokering the diversion of waste and developing opportunities for businesses, social enterprises and communities. Mark has led innovative projects on deconstruction methods, initiated new research on construction waste, and consulted across the building industry on waste minimisation.



Figure 25: Keynote speaker – Mark Roberts.

In 2019, Mark was awarded a Winston Churchill Memorial Trust Fellowship to study how community-based organisations have become successful in construction and demolition waste minimisation in North America. His fellowship trip took him across the US and Canada, meeting with social enterprises, government and businesses working to reduce construction waste.

5.8.2.7 Research with Impact Awards

The Research with Impact Awards were developed to acknowledge the importance of research impact in the ITP sector and to encourage other researchers to think of their research in terms of impact.

The judges were:

- » Profesor Martin Carroll (Head Judge) – DCE Academic, Unitec/MIT
- » Seulupe Falaniko Tominiko – Director Pacific Success, Unitec/MIT
- » Adrienne Kohler – Senior Communications Partner, Unitec

The nominees for this category were:

- » **Dr Hinekura Smith** (Unitec)
Title: Growing Kaupapa Māori Research Confidence, Capability and Capacity Through a Summer Research Mentorship Programme
- » **Sreenivas Sremath Tirumala** and Michael Andrews (MIT)
Title: A Survey on the Online Content-Sharing Practices of Secondary School Students in Aotearoa New Zealand: Findings and Implications for Cybersecurity Awareness
- » **Dr Aulola Lino** (Unitec), Viliami Tu'itupou (Salvation Army), Lesieli Pope (ADHB), Michael Veukiso (Oranga Tamariki), Anita Toki (ADHB) and Osaiasi Kupu (Tāmaki College)
Title: Ha'amo Taha: A Tongan Social Work Network Collaboration in Aotearoa New Zealand
- » **Joanne Low**, Ruth Boyes, German Hernandez, Penelope Thomson, Shannon Wallis and Professor Terri-Ann Berry (Unitec)
Title: Zero-Waste Initiative for Plastics Generated from a New-Build Residential Construction Site

The awards went to:

- » **Winner: Dr Hinekura Smith** (Unitec)
- » **Runners-Up:**
 - **Joanne Low**, Ruth Boyes, German Hernandez, Penelope Thomson, Shannon Wallis and Terri-Ann Berry (Unitec)
 - **Dr Aulola Lino** (Unitec), Viliami Tu'itupou (Salvation Army), Lesieli Pope (ADHB), Michael Veukiso (Oranga Tamariki), Anita Toki (ADHB) and Osaiasi Kupu (Tāmaki College)

5.8.2.8 Undergraduate Student Research Excellence Awards

The Undergraduate Student Research Excellence Awards were developed to encourage staff–student integrated research and industry/community-partnered student research.

The judges were:

- » Dr Katy Mann Benn (Head Judge) – Team Leader Learning and Achievement, Unitec
- » Sam Lotu-liga – DCE Pasifika, Unitec
- » Associate Professor Evangelia Papoutsaki – Unitec Research Ethics Committee/Associate Professor, Unitec

The awards went to:

- » **Winner: Cameron Brown** (School of Building Construction – BEngTech [Civil])
- » **Supervisor:** Professor Terri-Ann Berry
Title: Investigating Factors Affecting the Transfer of Atmospheric Pollutants into New Zealand Homes
- » **Runners Up**
 - **Gurpreet Singh** (School of Building Construction – BEngTech [Civil])

Supervisor: Associate Professor David Phillips

Title: Māngere Residential Development Civil Engineering Infrastructure Design

- **Emily Burden** (School of Environmental and Animal Sciences – Bachelor of Applied Science, Animal Management and Welfare)

Supervisor: Caralyn Kemp

Title: Consumer Awareness and Value of Shelter Provision for Cattle (*Bos taurus*) in New Zealand

5.8.2.9 Māori Research Excellence Awards

The Māori Research Excellence Awards were developed in response to Priority One in the 2020–2024 Research Strategy, to be Te Tiriti aligned.

The judges were:

- » Dr Hinekura Smith (Head Judge) – Ngā Wai a Te Tūi, Unitec
- » Sandra McDonald – Academic Lecturer, Nursing and Health, MIT
- » Toni Vaughan – Director Māori Success, Unitec

The awards went to:

- » **Winner: Dr Catherine Mitchell** (Unitec)
Title: Mā te Huruhuru, Ka Rere te Manu: A Call for Collaboration and Leadership Within Postgraduate Supervision Within Vocational Education
- » **Runners Up**
 - **Associate Professor Byron Rangiwai, Caroline Baker and Helena Murphy** (Unitec)
Title: From the Frontline of Social Work to the Classroom: Some Indigenous Autoethnographic Insights?
 - **Lois Naera and Rebecca Crosby** (MIT)
Title: Mātauranga Māori and Social Work Practice: A Partnership

5.8.2.10 Pacific Research Excellence Awards

The Pacific Research Excellence Awards were developed in partnership with the Pacific Centre to acknowledge and encourage the emerging research culture in our Pacific communities of staff and students.

The judges were:

- » Aanoalii Rowena Fuluifaga (Head Judge) – Manager – Learning and Achievement, Unitec
- » Rokosiga Morrison – Pacific Success Navigator, Unitec
- » Mihi Nemani – Principal Lecturer, School of Sport, MIT

The awards went to:

- » **Winner: Associate Professor Evangelia Papoutsaki** (Unitec)
Title: Mapping Small Island Communicative Ecologies
- » **Runners Up**
 - **Misa Fia Turner, Krishan Mani, Tia Roos and Naomi Akulu-Haulangi** (MIT)

Title: Exploring the Effective Practice of the Kato Toolkit Framework Amongst Teaching Practitioners

- **Lydia Teatao and Naomi Akulu-Haulangi** (MIT)
Title: Te Bitaki ae e Booou – The New Normal: Transformational Changes of MIT Pasifika Students as a Result of Covid-19

5.8.2.11 Early Career Researcher Excellence Awards

The Early Career Researcher Excellence Awards were developed in partnership with the Early Career Research Forum to acknowledge and encourage the next generation of research leaders.

This was a People's Choice Award. There were 21 contestants and a total of 40 votes cast.

The awards went to:

» Joint Winners

- **Dr Aulola Lino** (Unitec) – 10 votes
Co-authors: Viliami Tu'itupou, Lesieli Pope, Michael Veukiso, Anita Toki and Osaia Kupu
Title: Ha'amo Taha: A Tongan Social Work Network Collaboration in Aotearoa New Zealand.
- **Joanne Low** (Unitec) – 10 votes
Co-authors: Ruth Boyes, German Hernandez, Penelope Thomson, Shannon Wallis and Terri-Ann Berry
Title: Zero-Waste Initiative for Plastics Generated from a New-Build Residential Construction Site

» Runners Up

- **Min Hall** (Unitec)
Co-author: Magda Garbarczyk
Title: Drawing Straws: The Power of Collaboration Between Industry and Research
- **Dr Caralyn Kemp** (Unitec)
Co-author: Brooklyn Nielson
Title: The Effectiveness of Signage at Mitigating Visitor–Bird Interactions at Auckland Zoo

5.8.3 Institutes of Technology and Polytechnics Research and Innovation Symposium

The 10th ITP Research and Innovation Symposium was convened by SIT, 30 November–2 December. As in 2020, it ran completely online, with outstanding participation. For the second time, around 20 peer-reviewed papers will be published in proceedings by Unitec's ePress (2023).

Unitec staff presented in the following presentations at this symposium:

- » Integration of Heterogeneous Software Using XML Webservice Middleware – Case Study: WorkOS and PSA Software (5m), **Siddhartha Thirunahari Thirunahari (Unitec), Guillermo Ramirez Prado (Unitec), Bashar Bramada (Unitec)**
- » 歌当哭-Long Poetry/Lyrics/Singing out Loudly as My Tangi – The Lived Experience of Bereaved Parents of Children Murdered in Intimate Partner Violence: Research Design: Phenomenology as Methodology in Qualitative Research of Parental Bereavement (5m), **Hua Wonder Dai (Unitec)**

- » Stocktake of Existing Aged Care Nursing Curriculum Components in the New Zealand Polytechnic Sector: Literature Review (7m), Michelle Eleno (Southern Institute of Technology), Fiona Soper (Southern Institute of Technology), **A/P Samantha Heath (Unitec)**, Janice Groube (Ara Institute of Canterbury), Peta Taylor (Ara Institute of Canterbury)
- » Student Nurses' Perceptions of Working in Aged Care: Review of Key Literature on the Impact of Clinical Experience (7m), Fiona Soper (Southern Institute of Technology), Michelle Eleno (Southern Institute of Technology), **A/P Samantha Heath (Unitec)**, Peta Taylor (Ara Institute of Canterbury), Janice Groube (Ara Institute of Canterbury)
- » How Safe and Inclusive are Te Pūkenga Campuses for Rainbow Ākonga? (20m), Susan Beaumont (Whitireia and WelTec), Lee Smith (Whitireia and WelTec), Lauren Addington (Whitireia and WelTec), Richard Smith (Toi Ohomai Institute of Technology), Rachael Smith (Toi Ohomai Institute of Technology), **Professor Helen Gremillion (Unitec)**, Fleur Kelsey (Otago Polytechnic), Meg Naris (Ara Institute of Canterbury)
- » Study of Real-Time Electricity Pricing Pattern in New Zealand (20m), **Suresh Palapati (Unitec)**, **Niranjan Singh (Unitec)**
- » Awhina Mai Tatou Katoa Trust: Creative Practice as Community Engagement in Auckland Central (20m), **Paul Woodruffe (Unitec)**
- » Skills Shortage in New Zealand Prefabricated Construction (5m), **Sreymom Um (Unitec)**, **Sadegh Aliakbarlou (Unitec)**, Rehan Masood (Southern Institute of Technology), **Luban Chen (Unitec)**
- » Weaving Hauora and Wellbeing in Early Childhood Teacher Education: Implications for ITP (20m), **Pauline Bishop (Unitec)**, Mary-Liz Broadley (The Open Polytechnic of New Zealand), Jacoba Matapo (The University of Auckland), Andrew Gibbons (Auckland University of Technology), Yo Heta Lensen (Auckland University of Technology), Rainie Yu (Auckland University of Technology), Rebecca Hopkins (Auckland University of Technology), Kiri Gould (The University of Auckland), Justine O'Hara Gregan (The University of Auckland)
- » Intelligent Beehive Monitoring Using Machine Learning Models (20m), **A/P Iman Tabatabaei Ardekani (Unitec)**, **Masoud Shakiba (Unitec)**
- » Project-Based Learning: A Successful Capstone Project Experience at Unitec School of Computing (20m), **Masoud Shakiba (Unitec)**, **Maryam Erfanian (Unitec)**, **Susan Bennett (Unitec)**

5.9 Unitec ePress

Unitec's ePress is an online publisher of peer-reviewed, quality-assured academic work by Unitec staff, students and associates, as well as authors in the wider Te Pūkenga group. It publishes academic work in a range of formats on the ePress website (<https://www.unitec.ac.nz/epress/>) and provides a supportive publishing environment for current and emerging researchers.

The ePress publishing schedule for 2022 was as follows:

- » One issue of the journal *Perspectives in Biosecurity* published
- » Inaugural issue of the new journal *Perspectives in Animal Health and Welfare* published
- » One issue of the architectural journal *Asylum* published
- » *Unitec Research Symposium 2021 Proceedings* published
- » *ITP Research Symposium 2021 Proceedings* published
- » One Occasional and Discussion Paper published
- » One Research Report published
- » Two Occasional and Discussion papers under review
- » One monograph in production, published Q1 2023
- » One issue of *Whanake: The Pacific Journal of Community Development* in production, to be published Q2 2023
- » One guest-edited issue of *Asylum* in production, to be published Q2 2023
- » One book in production, to be published Q2 2023

The completed publications above represent quality-assured research outputs for 35 Unitec staff members and 51 staff members from other institutions in Te Pūkenga, an increase from 2021.

A high point in 2022 was the inauguration of another journal in the *Perspectives* series, *Perspectives in Animal Health and Welfare*. The journal has one editor from Unitec and one from Otago Polytechnic.

ePress published the MIT/Unitec Research Symposium 2021 proceedings as well as the proceedings of the 2021 ITP Research Symposium, hosted by the Open Polytechnic, and Whitireia and WelTec. The two proceedings combined represent 29 papers published by researchers from Unitec and the wider Te Pūkenga group. The ePress editor has begun to tap into this widening pool of published authors as reviewers for papers submitted to subsequent proceedings, which further builds staff capability in the publishing arena, and represents their valuable contributions to the research environment.

ePress Editor and Executive Editor, Marie Shannon and Associate Professor Evangelia Papoutsaki, are part of Te Pūkenga Publications and Dissemination Work Stream, who are forming a proposal for the future of research publishing in Te Pūkenga. The group members offer each other mutual collegial support, and sharing of resources and information as they ensure best practice is followed in all published outputs across Te Pūkenga.

ePress is committed to giving new and emerging researchers access to an open-source publishing platform, while maintaining high standards of academic integrity through the double-blind peer-review process. The ePress editor is able to support new and emerging researchers by reviewing papers prior to submission and giving authors guidance on structure and writing clarity.

5.10 Unitec Research Blog

The blog proudly presents our research stories, news and other information about research at Unitec (<https://www.unitec.ac.nz/UnitecResearchBlog/>), and feeds into Tūāpapa Rangahau's social media platforms via Facebook (<https://www.facebook.com/UnitecResearch>) and Twitter (<https://twitter.com/UnitecResearch>).

The blog is an important means of telling our research stories, particularly now that *Advance* is no longer being published.

The decision that in 2021 the blog writing would be shared among a group of staff members, co-ordinated and edited by ePress, has been very successful, and has resulted in regular and engaging posts about a range of applied research projects.

Posts published in 2022 were:

- » Community Researcher with a Focus on Ethnic Migrant Communities' Wellbeing
- » It Takes a Village: Externally Funded Collaborative Research and Innovation
- » Research Striving to Better Support Veterinary Nurses in Their Work Environment
- » Cybersecurity Research and Development as a Service: A New Way to Provide Cybersecurity Innovation to Aotearoa Users
- » Te Aka Pūkaea: Exploring Māori Modern Learning Environments
- » Unitec Researchers Study the Health Impacts of Indoor Air Quality
- » Unitec Science Students Win Scholarships to Study Invasive Beetle
- » Culture, Clinical Supervision and a Catalyst for Better Care in Mental Health
- » Waste Management in the Construction and Demolition Industry
- » Hihiko o Mangarautawhiri: Power Sovereignty in Te Rohe Pōtae

6 Priorities for 2023

We will continue to ensure that our systems and processes are clear and available for the hand-over to the new Te Pūkenga structure, when it is announced. The enterprise model of research development will also continue, with over \$32m of grants in development at the end of 2022. We will strengthen our Research Centres and attempt to advocate that the excellent work they are doing, along with many other independent researchers, can continue in the new structure.

7 Conclusion

Change continues to accelerate, and it is about to become much bigger again with Te Pūkenga's operating model being rolled out as we speak. 2022 was the second year of the integrated executive leadership model with MIT. A second, outstanding joint symposium was run with many other ITPs participating and 96 presentations. The potential for collaborative, applied, impactful research in this sector that is meaningfully partnered into community and industry will be enhanced under Te Pūkenga's model. This type of research is not well served in Aotearoa and the country needs it. Te Pūkenga provides a golden opportunity to take this to the next level.

8 Appendices

8.1 Appendix 1: Unitec Research Strategy 2020–2024

UNITEC Research Strategy 2020–2024

NB – in keeping with Unitec process on strategies, a separate action plan will outline how we implement the actions, how we show the progress of that implementation and what indicators we use to measure success.

Vision

To undertake research of excellence that aligns to Te Tiriti o Waitangi and has transformative outcomes for the communities we serve.

Mission

We undertake impactful research in order to provide significant economic, social, cultural and environmental benefits to Māori, Aotearoa New Zealand communities, industries and the environment. We do this by igniting the power of our founding document, Te Tiriti o Waitangi, partnering with tangata whenua, our communities and industry. This partnering is at the heart of our value proposition and is fundamental to research from the beginning of the process, through to the dissemination of the outcomes. Unitec's strengths lie in its Kaupapa Māori capability, its applied and practical focus, its mixture of programmes involving research and enterprise at postgraduate and undergraduate levels, and its strong relationships with community and industry. We will develop these strengths through focused, sustainable research and enterprise activity that is Treaty aligned, integrated with teaching and learning, and undertaken within networks of stakeholders and partners, enabling effective knowledge transfer. In these networks we aim to contribute to better knowledge bases for decision making, improved wellbeing, socioeconomic resilience, cultural diversity, flourishing communities and improved productivity, policy, technologies, products or processes.

Background

During the 2015–2019 Research Strategy period, three Strategic Research Foci were developed: the Cybersecurity Focus, the Applied Molecular Solutions Focus and the Kaupapa Māori Focus. Through mechanisms such as the Research Voucher Scheme, the strategy successfully drove institutional change toward higher levels of industry-partnered research, resulting in many funded projects. Coupled with an emphasis on building staff capability and research leadership, Unitec has experienced growth in its research, with externally funded research increasing by 450%, increased external partnering with 184% more industry-funded projects, improvement in excellence with a 97% success rate through the PBRF Quality Evaluation, and increased NZQA compliance with 91% of degree programmes research compliant. The Kaupapa Māori Focus led to the appointment of two highly respected Māori professors, and the establishment of Ngā Wai a Te Tūī, Māori and Indigenous Research Centre, which is now leading numerous externally funded projects, including an Endeavour Research Programme and a National Science Challenge project.

This next strategic period will see Unitec continue investing in our Strategic Research Foci with an emphasis on rangatiratanga, embedding a flourishing, diverse and sustainable research culture and weaving strong, enduring industry/community partnerships.

Te Tiriti o Waitangi and Te Noho Kotahitanga

Unitec will uphold Te Tiriti o Waitangi, the founding document of our nation and its principles, through our research. Our commitment to Te Noho Kotahitanga, which expresses Unitec's Treaty partnership and its principles, underpins the values and kaupapa of our organisation, including our approach to research.

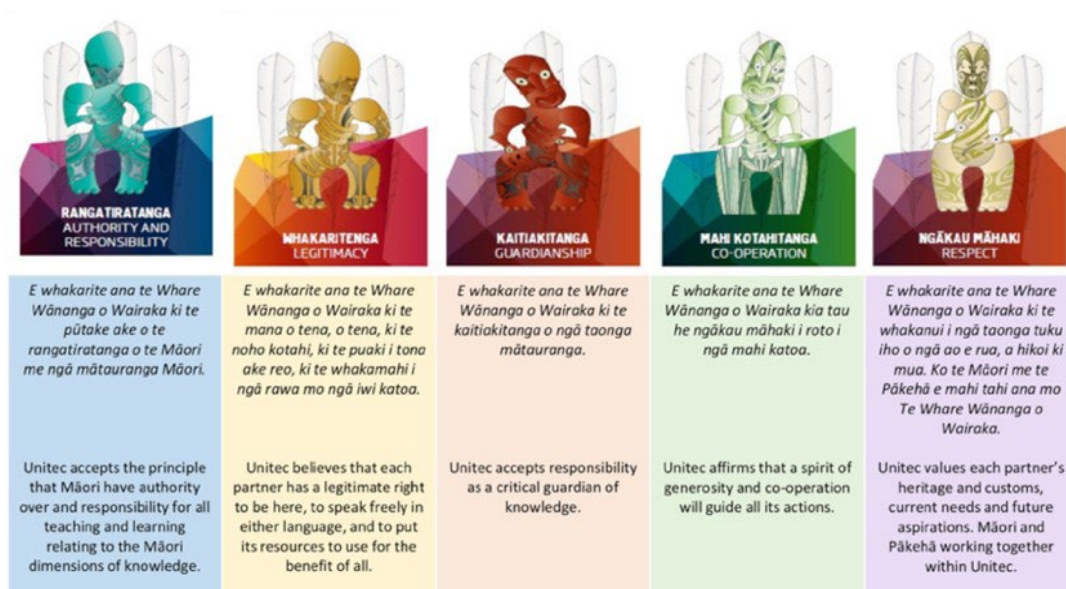
Rangatiratanga – Authority and Responsibility

Whakaritenga – Legitimacy

Kaitiakitanga – Guardianship

Mahi Kotahitanga – Co-operation

Ngākau Māhaki – Respect



Vision Mātauranga

Unitec acknowledges and actively supports staff in engaging with the Vision Mātauranga policy as outlined by the Ministry of Business, Innovation and Employment. The policy aims to unlock the innovation potential of Māori knowledge, resources and people to assist New Zealanders to create a better future.

Code of Practice and Research Ethics

Research at Unitec will function within Ngā Tikanga Whakahaere (Unitec's Code of Conduct) and the research-specific Code of Professional Standards and Ethics developed by the Royal Society Te Apārangi. All human research is conducted with guidance from the Unitec Research Ethics Committee, an accredited research ethics committee, and animal research is overseen by an approved committee.

Priorities

The Unitec Research Strategy 2020–2024 has three key priorities that underpin our goals, our actions and the way we measure success:

Priority One – Research that is aligned with Te Tiriti o Waitangi

Priority Two – A flourishing, collaborative research culture

Priority Three – Partnered research and innovation

Priority One – Research that is aligned with Te Tiriti o Waitangi

Unitec will ensure that its support for research, governance and processes is aligned with Te Tiriti o Waitangi. In this way, Unitec will exemplify leadership in Māori research in the NZIST sector and in Aotearoa. The principle of rangatiratanga expressed through our partnership document, Te Noho Kotahitanga, will apply to research at Unitec: that Māori will have authority over and responsibility for all research related to Māori dimensions of knowledge. Vision Mātauranga will be integrated into all research processes and researchers will be supported to understand and fulfil these requirements. We will resource and grow the numbers and capability of Māori researchers, including Māori supervisors on our postgraduate programmes. We will actively seek and maintain partnerships with iwi, hapū, Māori businesses, institutions and peak Māori bodies. We will evolve our research office appropriately to ensure Māori research governance and rangatiratanga.

GOAL ONE:

Unitec has strong Māori research leadership, capability, excellence, partnerships, processes and governance

Actions:

- Review research policy, guidelines and processes to ensure rangatiratanga
- Review all funding frameworks, guidelines and processes to incorporate Vision Mātauranga
- Increase Māori postgraduate supervisors and student scholarships
- Provide professional development by Māori for Māori researchers and postgraduate supervisors
- Support and resource Ngā Wai a Te Tūi appropriately
- Review capability and plan for institutional research co-governance and leadership
- Tell stories of Māori research projects, outcomes and success

Priority Two – A flourishing, collaborative research culture

Unitec will grow a productive, diverse, student-integrated, engaged and sustainable research workforce with the necessary resourcing and infrastructure. There will be an inclusive pipeline of support for developing the capability of our people and empowering them toward transformative outcomes for our communities, from the beginnings of their research independence through to leadership at the highest level, as expressed in Unitec's Research Competencies. Grounded in Te Tiriti and Te Noho Kotahitanga partnership, this will be inclusive and provide opportunity for the diverse cultures and individuals who make up our institution and the varied nature of that activity we call research and its related enterprises. This pipeline will be aligned with and actively support the initiatives at the heart of Te Manaakitia te Rito, Unitec's Renewal Strategy.

GOAL TWO:

The diverse people of Unitec have fit-for-purpose capability development and support toward sustainable, collaborative research productivity and excellence

Actions:

- Provide high-quality, diverse, multi-level research professional development
- Implement formalised research planning at individual and School levels
- Support degree teachers to be research engaged
- Increase research excellence and productivity
- Develop Research Groups in every School offering degree programmes
- Develop Research Centres, facilitate concomitant business planning and annual evaluations
- Support Strategic Research Foci
- Support emerging and early-career researchers; grow leaders
- Collate, authenticate, sustainably disseminate and publicise research
- Support and resource postgraduate student research
- Increase student involvement in research
- Foster research into Wairaka, our place, its natural environment, history and wairua
- Embed sustainability into all funding guidelines

Priority Three – Partnered research and innovation

Research at Unitec will concentrate on opportunities and problems identified by Māori, industry and community partners. Strong, enduring partnerships will be facilitated and valued, with investment in capacity building, innovation and leadership in this space. The reciprocity created by these partnerships will enhance opportunity for student work-integrated learning.

GOAL THREE:

Research that is industry/community partnered and promotes innovation

Actions:

- Weave, ignite and nurture long-term partnerships across community, academia and industry
- Facilitate subsidised research consultancy
- Implement industry/community-partnered postgraduate research scholarships
- Provide industry partnering, IP, innovation and commercialisation advice and practical support
- Develop reputation through the establishment of Research Centres with strong partnerships
- Identify areas of future importance and opportunity; Research Sandpits

Glossary

Ngā Tikanga Whakahaere – Unitec’s Code of Conduct

NZIST – the New Zealand Institute of Skills and Technology incorporating 16 Institutes of Technologies and Polytechnics

Research Centres – Formally structured research institutes governed by the Unitec Research Committee
Research Competencies – Detailed description of what it means to be research competent at Unitec

Research Groups – Informal groups of researchers around a theme, identified in School Research Plan

Research Sandpits – areas of future research importance and opportunity

Strategic Research Foci – Research Centres that receive seed funding from Unitec

Te Manaakitia te Rito – Unitec’s Renewal Strategy 2019–2022

Te Noho Kotahitanga – Unitec’s Partnership agreement under Te Tiriti o Waitangi, the founding document of Aotearoa New Zealand

8.2 Appendix 2: Unitec Research Strategy Action Plan

Unitec Research Strategy – Action Plan				
Priority One	Goal One	KPI	Action Summary	Actions
Research that is aligned with Te Tiriti o Waitangi. Unitec will ensure that its support for research, governance and processes is aligned with Tiriti o Waitangi. In this way, Unitec will exemplify leadership in Māori research in the NZIST sector and in Aotearoa. The principle of rangatiratanga expressed through our partnership document, Te Noho Kotahitanga, will apply to research at Unitec: that Māori will have authority over and responsibility for all research related to Māori dimensions of knowledge. Vision Mātauranga will be integrated into all research processes and researchers will be supported to understand and fulfil these requirements. We will resource and grow the numbers and capability of Māori researchers, including Māori supervisors of our postgraduate programmes. We will actively seek and maintain partnerships with iwi, hapū, Māori businesses, institutions and peak Māori bodies. We will evolve our research office appropriately to ensure Māori	Unitec has strong Māori research leadership, capability, excellence, partnerships, processes and governance.	Rangahau Māori productivity; QA outputs that demonstrate excellence in Vision Mātauranga; QA outputs by Māori staff; funded projects with named Māori researchers; accredited Vision Mātauranga and Kaupapa Māori professional development.	Review research policy, guidelines and processes to ensure rangatiratanga.	Consult with Māori researchers on how we do the management of contracts and the appropriate appointment of Māori researchers for these projects. At the appropriate interval, review policy to ensure rangatiratanga. Review funding frameworks to update Vision Mātauranga sections.
			Review all funding frameworks, guidelines and processes to incorporate Vision Mātauranga.	Review guidelines and processes as above. Ensure appropriate Māori representation on research funding application assessment panels.
			Increase Māori postgraduate supervisors and student scholarships.	Appoint an expert Kaupapa Māori Supervisor/Advisor. Work with the Postgraduate Committee to increase Māori scholarships. Develop strong Mahi Kotahitanga between programme and Māori scholarship committees. Facilitate writing retreats for Māori postgraduate students.
			Provide professional development by Māori for Māori researchers and postgraduate supervisors.	Support and provide administrative backup to the Kaupapa Māori Supervisor/Advisor to provide professional development for Māori researchers and supervisors. Provide administrative support for the Māori and Pacific Postgraduate Support Roopu.
			Support and resource Ngā Wai a Te Tūi appropriately.	Provide contract oversight, compliance support and administrative expertise.
			Review capability and plan for institutional research co-governance and leadership.	Consult with Ngā Wai a Te Tūi on a research governance model in line with Te Tiriti. Consider research office structure in line with above. Consult with Unitec Research Committee on this. Submit a relevant proposal to ELT.
			Tell stories of Māori research projects, outcomes and success.	Advocate to Unitec Corporate Comms for Māori research stories. Publish Māori research in ePress. Include Māori research stories in the Unitec Research Blog.

research governance and rangatiratanga.				
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Priority Two	Goal Two	KPI	Action Summary	Actions
A flourishing, collaborative research culture. Unitec will grow a productive, diverse, student-integrated, engaged and sustainable research workforce with the necessary resourcing and infrastructure. There will be an inclusive pipeline of support for developing the capability of our people and empowering them toward transformative outcomes for our communities; from the beginnings of their research independence through to leadership at the highest level, as expressed in Unitec's Research Competencies. Grounded in Te Tiriti and Te Noho Kotahitanga partnership, this will be inclusive and provide opportunity for the diverse cultures and individuals who make up our institution and the varied nature of that activity we call research and its related enterprises. This pipeline will be aligned with and actively support the initiatives at the heart of Te Manaakitia te Rito, Unitec's Renewal Strategy.	The diverse people of Unitec have fit-for-purpose capability development and support toward sustainable, collaborative research productivity and excellence.	QA outputs; student-integrated research; research-engaged programmes.	Provide high-quality, diverse, multi-level research professional development.	Provide a range of research-blended workshops. Provide research master classes. Run writing retreats. Offer developmental research for emerging researchers.
			Implement formalised research planning at individual and School level.	Provide continuously improved templates for Individual Research Plans. Support and oversee compliance. Implement a School Plan review and improvement process.
			Support degree teachers to be research engaged.	Monitor Research Traffic Light to identify staff most needing support. Prioritise Research Dissemination funding to improve Traffic Light. Run writing retreats. Offer developmental research funding for emerging researchers. Run an externally engaged research symposium
			Increase research excellence and productivity.	Monitor ROMS to identify staff most needing support. Prioritise Research Dissemination funding to build strong portfolios. Run an internal review and publicity campaign in preparation for PBRF. Provide Research Partners. Provide support for the professoriate.
			Develop Research Groups in every School offering degree programmes.	Provide Research Partner support to develop Research Groups in schools. Structure the Unitec symposium around Groups.
			Develop Research Centres, facilitate concomitant business planning and annual evaluations.	Provide Research Partner support to Research Centres. Provide expert administrative, contractual and IP support. Implement annual reviews and tri-annual re-accreditation as per the procedure. Publicise to Groups the procedure to become a Research Centre.

			Support Strategic Research Foci.	<p>Provide research assistants and associates.</p> <p>Provide research materials and equipment.</p> <p>Help resolve accommodation, facility and branding needs\.</p> <p>Provide support with publicity.</p>
			Support emerging and early career researchers; grow leaders.	<p>Provide expert administrative, contractual and IP support to ECRs.</p> <p>Provide ECR research support funding (Parental Leave Support, etc.).</p> <p>Provide ECR contestable research funding.</p> <p>Provide ECR Research Fellowships.</p> <p>Provide support to PIs of ECR funded projects toward external funding.</p> <p>Support ECRs with external funding grant development and writing.</p> <p>Support the ECR Forum.</p> <p>Fund ECR Forum Chair to attend Royal Society meetings.</p> <p>Provide Emerging Researcher Start-Up Funding.</p> <p>Provide comprehensive PD opportunities for emerging researchers.</p>
			Collate, authenticate, sustainably disseminate and publicise research.	<p>Publish double-blind peer-reviewed papers with ePress.</p> <p>Publish five journals at ePress: <i>Whanake</i>, <i>Perspectives in Biodiversity</i>, <i>Perspectives in Biosecurity</i>, <i>Perspectives in Animal Health and Welfare</i>, <i>Asylum</i>.</p> <p>Publish Unitec Research Symposium proceedings.</p> <p>Provide advice to manage predatory and vanity publishing risks.</p> <p>Oversee Research Output Management System and verify all research outputs.</p> <p>Report research outputs in the Annual Research Report.</p> <p>Monitor research at programme level for Research Traffic Light.</p> <p>Liaise with Corporate Comms</p>

				to publicise Unitec research.
			Support and resource postgraduate student research.	<p>Lead and administer the Postgraduate Research and Scholarship Committee.</p> <p>Administer all scholarships.</p> <p>Review the effectiveness of scholarships.</p> <p>Review the accessibility of scholarship processes for students.</p> <p>Implement improvements which emerge from the reviews.</p> <p>Promote all scholarships.</p> <p>Offer specialist scholarships to Māori and Pacific students.</p> <p>Offer Bold Innovator Scholarship and mentor the recipient.</p> <p>Ensure high-quality professional development for supervisors.</p> <p>Facilitate writing retreats for Pacific postgraduate students.</p> <p>Offer and maintain high-quality, specialist postgraduate study space.</p> <p>Provide specialist research software for postgraduate students and related PD.</p>
			Increase student involvement in research.	<p>Offer contestable Industry Scholarships with strong partnerships criteria.</p> <p>Develop criteria for 5th research goal – Student-Integrated Research.</p> <p>Ratify a 5th research goal at Academic Committee for Student-Integrated Research.</p> <p>Modify ROMS to allow input of Student-Integrated Research data.</p> <p>Monitor and report productivity of this goal in Annual Research Report.</p> <p>Offer expert administrative support for Research Studentships.</p> <p>Ensure Student-Integrated Research is a criterion for Research with Impact Award.</p> <p>Ensure Student-Integrated Research is a criterion for internal contestable funding.</p>

			Foster research into Wairaka, our place; the natural environment, history and wairua.	Liaise with roopu Kaitiaki, Ngā Wai a Te Tūi, Sustainability Manager and Pae Arihi. Pilot a 2021 contestable fund, Wairaka – natural environment, history and culture. Create an ongoing fund, Wairaka - natural environment, history and culture.
			Embed sustainability into all funding guidelines.	Review all internal funding documents to ensure sustainability questions are asked.

Priority Three	Goal Three	KPI	Action Summary	Actions
Partnered research and innovation. Research at Unitec will concentrate on opportunities and problems identified by Māori, industry and community partners. Strong, enduring partnerships will be facilitated and valued, with investment in capacity building, innovation and leadership in this space. The reciprocity created by these partnerships will enhance opportunity for student work-integrated learning.	Research that is industry/community partnered and promotes innovation.	Industry/community-funded research. External research income.	Weave, ignite and nurture long-term partnerships across community, academia and industry.	Seed fund industry-partnered conferences and seminars at Unitec. Encourage strong industry partnerships in contestable funding frameworks. Provide expert industry partnership support (Research Partner Enterprise). Provide expert legal, contractual and administrative support.
			Facilitate subsidised research consultancy.	Fund and administrate the Research Voucher scheme. Assist in growing resulting partnerships.
			Implement industry/community-partnered postgraduate research scholarships.	Create guidelines for Industry Scholarships. Fund and administrate Industry Scholarships. Assist in growing resulting partnerships.
			Provide industry partnering, IP, innovation and commercialisation advice, and practical support.	Provide expert commercialisation support (Research Partner Enterprise). Provide expert legal, contractual and administrative support. Ensure contracts and agreements protect IP appropriately as per policy.
			Develop reputation through the establishment of Research Centres with strong partnerships.	Provide funding to Research Centres which are Strategic Foci. Work with the Unitec Communications Team to publicise achievements.

				<p>Provide support to develop funding applications.</p> <p>Provide support to maximise collaboration between Research Centres.</p>
			<p>Identify areas of future importance and opportunity; Research Sandpits.</p>	<p>Ensure school plans have Research Groups.</p> <p>Keep schools aware of the Research Sandpits and other areas of priority in Auckland, New Zealand and the Pacific.</p>

Unitec New Zealand Limited

Meeting of Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 10 August 2023

Title	Early Career Researcher Forum Terms of Reference
Provided by:	A/P Kristie Cameron and A/P Marcus Williams
For:	Approval

Recommendation

That the Unitec Research Committee reviews and approves the Early Career Researcher (ECR) Forum Terms of Reference.

Information/Background

The Unitec ECR Forum aims to provide space for identification and discussion of the particular issues faced by ECRs at Unitec, with a long-term goal of developing and sustaining ECRs' careers and Unitec's research culture and performance. The forum engages in networking events, workshops and conferences that aim to enhance ECRs' success and form a support structure for ECRs.

Purpose

At its July meeting the Unitec Research Committee agreed that the ECR Forum should develop formal Terms of Reference, the adoption of which will more clearly assert the purpose and value of the ECR Forum in the face of oncoming change.

Attachments

Draft Terms of Reference for the Early Career Researcher Forum



TERMS OF REFERENCE FOR THE EARLY CAREER RESEARCHER FORUM

Purpose

The purpose of this procedure is to:

- Define the Terms of Reference for the Early Career Researcher Forum.
- Ensure that the Early Career Researcher Forum is Te Tiriti aligned.
- Ensure that all Early Career Researchers are supported, including those approved on a Non-Degree Teaching Track.
- Ensure that Emerging Researchers are also supported and included where practicable.
- Ensure that there are robust processes in place to ensure the Early Career Researcher Forum is supported and provided an institutional voice.

Scope

This procedure applies to:

- Full-time or part-time tenured staff who meet the definition of an Early Career Researcher and are teaching on a degree programme 0.2 FTE or more.
- Full-time or part-time tenured staff who meet the definition of an Early Career Researcher and are approved to the Non-Degree Teaching Track.
- The relevant Academic Leader of each eligible staff member.
- The Director of Research and Enterprise.
- The Co-Chair(s) and membership of the Early Career Researcher Forum Committee.
- The Unitec Research Committee.
- The Research Partners.

The Early Career Researcher Forum Committee

- Membership: Co-Chair Māori - Early Career Researcher Forum Committee.
Co-Chair Te Tiriti Partner - Early Career Researcher Forum Committee.
Pacific representation.
Kairangahau representation.
Early Career Researcher representation from at least three different disciplines.
Emerging Researcher representation from a different discipline to above.
Research Partner representation.
- Terms of Reference:
The committee meets once per semester.
The committee is Te Tiriti aligned.

The committee recognises and celebrates diversity.

The committee operates in a high ethical and values-based framework.

The committee keeps an accurate membership record which differentiates Early Career Researchers and Emerging Researchers.

The committee strives to provide communications, opportunity, and advocacy for the membership.

The committee provides representation on the Unitec Research Committee.

The committee provides a brief annual report of its activities, achievements, and challenges to the Unitec Research Committee by March 31st of the year following.

Responsibilities

Role	Responsibilities
Co-Chairs	<ul style="list-style-type: none"> • Work together collaboratively • Ensure ToR are adhered to
Director Research and Enterprise	<ul style="list-style-type: none"> • Ensures there is funding for Early Career Researchers • Advocates for the Early Career Researcher Forum • Ensures research strategy concisely includes Early Career Researchers and Emerging Researchers • Supports the Co-Chairs • Ensures Research Partners have time resource to support Early Career Researchers and the Forum
Research Advisor	<ul style="list-style-type: none"> • Supports the development of the Early Career Researcher Forum Annual Report • Gathers relevant data for the Unitec Annual Research Report
Research Partners	<ul style="list-style-type: none"> • Support Early Career Researchers and the Forum.

Reference Documents

- [Unitec Research Strategy 2020-2024](#)

Approval Details

Version number	1	Issue Date	1 August 2023
Approval authority:	Te Komiti Mātauranga Academic Committee	Procedure Owner:	Director Research & Enterprise

Contact Person	URC Secretary	Date of Next Review	August 2025
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DRAFT

Unitec New Zealand Limited

Meeting of Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 10 August 2023

Title	Communication Strategy for 2026 PBRF Quality Evaluation
Provided by:	A/P Marcus Williams, Director Research & Enterprise
For:	DISCUSSION

Recommendation

That the committee considers a communications strategy for staff who will be participating in the 2026 Performance-Based Research Fund (PBRF) Quality Evaluation (QE).

Purpose

The next PBRF QE will be held in 2026. The QE is an important source of research revenue for which to support our rangahau/research kaimahi and serves to enhance the reputation of individual researchers through peer recognition and review.

It is important that staff are aware of and understand the changes that have been made to the 2026 QE, and that they are supported to prepare and submit a quality Evidence Portfolio (EP).

Information/Background

Each QE assesses the quality of research conducted at Tertiary Education Organisations. Eligible staff are required to prepare an Evidence Portfolio (EP) that records their research outputs, contribution to the research environment, and peer esteem. EPs are then assessed by specialist Tertiary Education Commission peer review panels, and each EP is assigned a quality category. Every quality category, with the exception of 'R', contributes to the portion of PBRF funding that Te Pūkenga will receive for the following six years.

In July 2021, the Government announced [changes to the PBRF](#), based on the independent review conducted in 2019 and further targeted consultation. These include changes to the QE.

The TEC established a Sector Reference Group (SRG) to provide advice and recommendations on operational changes to the design of the 2026 QE. The SRG convened between September 2021 and June 2023. The draft PBRF 2026 QE Guidelines and Summary of Decisions are due to be published on 11 August.

Attachments

Illustrative 2026 Evidence Portfolio Template

2026 Evidence Portfolio Structure Comparison with 2018 Structure

Contributor

Arun Deo, Research Advisor

Section 1- 2026 PBRF (Illustrative EP template)

This illustrative Evidence Portfolio template has been designed to assist staff members and TEOs to understand the new EP submission requirements for Quality Evaluation 2026. It is based on the template provided for the 2018 round.

Note that this EP template is illustrative only and is not to be used as the basis for designing your submissions. It is subject to change based on feedback we receive from the sector as we work through the process of finalising the main PBRF Quality Evaluation Guidelines. A finalised version of this template will be made available when the Guidelines for the Quality Evaluation 2026 are published in 2023.

*Evidence Portfolio Details

All fields marked with * are mandatory

*Evidence Portfolio Identifier (max 10 characters)	Click or tap here to enter text.
*Contains Confidential Research	Choose an item [yes/no]
*Release Permission Obtained	Choose an item [yes/no]
*Send Quality Category to Researcher	Choose an item [yes/no]

*Researcher Details

*PBRF Identifier	Click or tap here to enter text.
Local Identifier	Click or tap here to enter text.
Title	Click or tap here to enter text.
*First Name	Click or tap here to enter text.
Middle Names	Click or tap here to enter text.
*Last Name	Click or tap here to enter text.
*Date of Birth (DD-MM-CCYY)	Click or tap here to enter text.
*New and Emerging Researcher	Choose an item [yes/no]
Date at which NER status first met	DD-MM-YY
*Part-time researcher (per Achievement Relative to Opportunity definition)	Choose an item [yes/no]
Total part-time FTE fraction across period	Choose an item [EITHER 0.2 – 0.49 OR 0.5 – 0.8]

*Researcher Circumstances	Choose an item [None/Career break/Caring responsibilities/Force majeure/Long-term illness/Personal leave] Note it will be possible to select more than one item
Total period of impact across period	Choose an item [EITHER 6 months – 4 years OR more than 4 years]

*Panel Details

*Primary Panel	Choose an item.
*Primary Subject Area of Research (this should be a subject area that is assessed by the Primary Panel)	Choose an item.
*Field of Research Description (max 200 characters)	Click or tap here to enter text.
[Mātauranga Māori and Pacific Research panels cross-referrals processes to be updated following in- principle decisions]	

*Platform of Research –Contextual Summary

*Contextual narrative (max 1000 characters)	Click or tap here to enter text.
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Examples of Research Excellence

When the PBRF IT system is live, the number of EREs required will be automatically generated by the system upon completing the Achievement Relative to Opportunity fields in the Researcher Details section.

Please refer to the tables in Appendix 2 to determine how many EREs will be required for submitting staff members with eligible Achievement Relative to Opportunity circumstances. A minimum of one ERE is required for all EPs, regardless of Achievement Relative to Opportunity circumstances.

Submitting staff who have no Achievement Relative to Opportunity circumstances submit three EREs in their EP.

*Example of Research Excellence

Complete for up to three EREs.

*Component Id	Choose an item [ERE 1/ERE 2/ERE 3]
*Preferred order	Choose an item [1 – 3 depending on required number]
*Contains confidential Research Output or Research Activity	Choose an item [Yes/N]
*Contextual narrative (max 1500)	Click or tap here to enter text
*Core Research Output	
*Research Output Type	Choose an item [Research Output types drop-down]
*Title (max 1000)	Click or tap here to enter text.
*Authors (max 1000)	Click or tap here to enter text.
*Main Research Object (this should be the actual research for assessment i.e. the book, or the composition, or the journal article)	Choose an item [details TBC]
Physical submission rationale (max 1000) (this should be a brief description of why digital submission is not possible)	
Is this a large sound or video file?	Choose an item [Yes/No]
*Quality Assured	Choose an item [Yes/No]
*Year Available (2018 to 2025)	Choose an item [2018 -2025]
*Output Source (This is bibliographic information, max 1000)	Click or tap here to enter text.
Individual Contribution (max 1050)	Click or tap here to enter text.
Additional information (max 1000)	Click or tap here to enter text.

Supplementary Item 1

Supplementary item type	Choose an item [Research Output/Research Activity]
Supplementary item subtype	Choose an item [Depending on item selected above, either Research Output or Research Activity drop-down]
Preferred order	Choose an item [1-3]
Quality Assured	Choose an item [yes/no – note option will only be available if Research Output type selected]
Bibliographic or equivalent details/ description (max 1000)	Click or tap to enter text

Supplementary Item 2

Supplementary item type	Choose an item [Research Output/Research Activity]
Supplementary item subtype	Choose an item [Depending on item selected above, either Research Output or Research Activity drop-down]
Preferred order	Choose an item [1-3]
Quality Assured	Choose an item [yes/no – note option will only be available if Research Output type selected]
Bibliographic or equivalent details/ description (max 1000)	Click or tap to enter text

Supplementary Item 3

Supplementary item type	Choose an item [Research Output/Research Activity]
Supplementary item subtype	Choose an item [Depending on item selected above, either Research Output or Research Activity drop-down]
Preferred order	Choose an item [1-3]
Quality Assured	Choose an item [yes/no – note option will only be available if Research Output type selected]
Bibliographic or equivalent details/ description (max 1000)	Click or tap to enter text

Other Examples of Research Excellence

Complete for up to eight Other Examples of Research Excellence (OERE).

1. Other Example of Research Excellence

Component Id	Choose an item [OERE 1 -8]
OERE Type	Choose an item [Research Output or Research Activity]
OERE subtype	Choose an item [Depending on item selected above, either Research Output or Research Activity drop-down]
Preferred Order	Choose an item [1-8]
Quality Assured	Choose an item [yes/no – note option will only be available if Research Output type selected]

Bibliographic or equivalent
details details/description
(max 1000 characters)

Click or tap here to enter text.

Contributions to the Research Environment

Complete for a minimum of 1 and up to 10 Contributions to the Research Environment (CRE) items CREs should be clustered by type.

EPs submitted by New and Emerging Researchers do not need to include a minimum of 1 CRE. The PBRF IT will require a CRE item for all other EPs

1. *Contributions to the Research Environment

*Component Id	Choose an item [CRE 1 – 10]
*CRE type	Choose an item [CRE type drop down]
*Preferred Order	Choose an item [1 – 10]
*Description (max 1500 characters)	Click or tap here to enter text

Section 2- 2026 EP Structure Comparison with 2018 Structure

The tables below compare the 2026 PBRF Evidence Portfolio (EP) structure with the 2018 structure. These tables should be looked in line with the 2026 Illustrative EP template above.

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
Evidence Portfolio ID	Yes	Yes	A character string that uniquely identifies an EP
Contains Confidential Research	Yes	Yes	Indicate if Evidence Portfolio Components that were supplied contain any confidential content
Release Permission Obtained	Yes	Yes	If 'YES', permission has been given to allow the output to be assessed
Send Score To Researcher	Yes	Yes	Does the staff member want their Quality Category result sent to them by the TEO

Researcher Details

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
Staff member's PBRF Unique Identifier	Yes, source unknown	Yes, previously NSN	The source of this number will be confirmed following further work by TEC and Ministry of Education officials on the use of National Student Numbers
Local Identifier	Yes	Yes	To help the TEO and the TEC identify the staff member
Staff member's title and name, including their preferred name	Yes	Yes	
Staff member's date of birth	Yes	Yes	
New & Emerging Researcher?	Yes	Yes	
If New & Emerging Researcher the date at which they first met the eligibility criteria	Yes	No	
Part time employee?	Yes	No	
If Part time employee proportional employment FTE	Yes	No- see comment	This is not the funding FTE which is given to TEC via the SDR, rather it is the FTE that determines minimum/maximum items allowed in EP
Researcher Circumstance/s type and total duration	Yes	No- though see comment	In 2018 we had Extraordinary Circumstances. This new field replaces the former.

Panel Details

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
Panel & Subject	Yes	Yes	The final Guidelines will include revised guidance on cross-referral including the process for initiating cross-referral to the Mātauranga Māori and Pacific Research panels.]
Field of Research Description	200 characters	200 characters	This information helps the Co-Chairs to assign the EP appropriately.

Platform of Research –Contextual Summary

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
Contextual Summary	1500 characters	2500 characters	Proposed reduction of 1,500 characters.Change of focus away from indicators about staff member's esteem or standing. Also, no longer needs to set out information about the staff member's employment or other circumstances during the assessment period TEC in principle decision released 19 June 2022 changed this from 1,000 which they originally proposed, to 1,500. i.e. a one thousand character reduction.

Examples of Research Excellence

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
Weighting	70%	70%	
Component ID	ERE 1 / ERE 2 / ERE 3	NRO 1 / NRO 2 / NRO 3 / NRO 4	Number allowed in 2026 EP determined by Achievement Relative to Opportunity (ARO) and RC.
Contains a Core Research Output (CRO)	Yes	Yes	
Can determine Preferred Order	Yes	Yes	
Can indicate whether contains Confidential items	Yes	Yes	Yes/No field
Contextual Narrative (ERE)	1500 characters	1000 characters	Summarising nature and significance of the ERE as a whole, contextualising the CRO, and articulating links between the core output and any supplementary items

Core Research Output (RO) type	Yes	Yes	RO type code used here. A new type for 2026 is ' Products and Processes '
Title	1000 characters	1000 characters	The title of the research output as it appears on the output.
Authors	2000 characters	2000 characters	
Main Research Object as direct link; an upload to the TEC's filestore; a physical version	Yes	Yes	
Additional Uniform Resource Identifier (URI) links of supporting information for the main research object	4	5	This is optional, and panel members are not required to assess this information in the same manner as the main research object. In 2018 we included in this field e.g. conference programmes with the NRO listed on it, e.g. table of contents showing NRO book chapter on it e.g. flyer advertising NRO concert item
Physical submission rationale- no longer being included	1000 characters	No	New field of 1,000 characters
Is this a Large sound/video file	Yes	Yes	Tick box
Quality Assured	Yes	Yes	Tick box
Year available	Yes	Yes	Missing from template but in document- Year Available
Output Source	1000 characters	1000 characters	Bibliographic data
Individual Contribution	1050 characters	1050 characters	If joint authors
Additional Information	1000 characters	No	Optional - could explain e.g, nature of quality assurance process, e.g. how research output meets definition of research if not evident e.g. description of new research where there is a version available in previous PBRF period
Supplementary item type	Yes	No	RO or Research Activity (RA) type. Supplementary items are optional
Supplementary item subtype	Yes	No	RO or RA code type
Preferred order	Yes	No	Up to 3 Supplementary items, assessment order 1-3
Quality Assured	Yes	No	Tick box for ROs only
Bibliographic or equivalent details/ description	1000 characters	No	"Supplementary items are briefly described and bibliographic/equivalent details provided to evidence claims

Other Examples of Research Excellence

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
OERE Component Id	Yes	Yes	OERE 1- OERE 8
OERE Type	Yes	No	RO or Research Activity (RA) type
OERE subtype	Yes	Yes	RO or RA code type
Preferred Order	Yes	Yes	Must be grouped by type, then order as desired
Quality Assured	Yes	Yes	Tick box for ROs only
Bibliographic or equivalent details/description	1000 characters	1000 characters	

Contributions to the Research Environment

2026 PBRF Field	Proposed For 2026	Available in 2018	Comments
Contribution to Research Environment Weighting	30%	30%	
Component Id	Yes	Yes	CRE 1- CRE 10
CRE type	Yes	Yes	CRE code type
Preferred Order	Yes	Yes	Must be grouped by type, then order as desired
Description	1000 characters	1500 characters	"Same as previous RC Description field

Te Komiti Rangahau o Unitec | Unitec Research Committee Self-Assessment

Purpose: NZQA requires the Committees of Unitec's Academic Board to provide evidence of self-assessment.

Te Komiti Rangahau o Unitec Self-Assessment Provocations

- Can we improve the way the committee is run?
- Is time well managed?
- Are issues under discussion well-handled and resolved?
- Are the agenda and minutes well handled?
- Are the perspectives of committee members respected and heard?
- Are actions completed and accounted for?
- Were there matters raised and dealt with in the meeting that were particularly helpful or unhelpful?
- Does the committee oversee and ensure compliance within its mandate?
- Does the committee show foresight and proactively engage in continuous improvement?
- Does the committee review and improve the relevant policies, guidelines and regulations?