agenda

Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	**2024-04-11**
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

N/A

SECTION 4 WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

N/A

SECTION 5 NGĀ TUKUNGA | ITEMS TO RECEIVE

1. University and Science Advisory Groups and PBRF Quality Evaluation 2026 Cancellation
2. 2023 ECR Contestable Funding Final Reports
    a) Dr Mary Yan
    b) Dr Caralyn Kemp
    c) Madhusudan Vyas

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

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 (Emerging)	Nominee of Director, Pacific Success
Tanya White (Early Career)	Nominee of Director, Māori Success
Dr Helen Gremillion (Professor)	Healthcare and Social Practice
Dr Yusef Patel (Early Career)	Architecture
Kambiz Borna	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
Khaled Ibrahim	Applied Business
Carly Van Winkel (Emerging)	Bridgepoint
Dr Norasieh Md Amin (Subject Librarian)	Library
Vacant (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 meeting of 2024-03-14.

Section 2.3 Mahia Atu | Matters Arising

refer to pg10

SECTION 3 MEI HEI WHAKAAE | ITEMS TO APPROVE

N/A

SECTION 4 WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

N/A

SECTION 5 NGĀ TUKUNGA | ITEMS TO RECEIVE

Section 5.1 University and Science Advisory Groups and PBRF Quality Evaluation 2026 Cancellation

refer to pg11

Section 5.2 2023 ECR Contestable Funding Final Reports

refer to pg23

a) Dr Mary Yan *pg24*
b) Dr Caralyn Kemp *pg31*
c) Madhusudan Vyas *pg43*

SECTION 6 KUPU WHAKAMUTUNGA | CLOSING

Section 6.1 Ētahi Kaupapa Anō | Any Other Business

Section 6.2 Komiti Self-Assessment

refer to pg46

Section 6.3 Karakia Whakamutunga | Closing Karakia

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

minutes

Te Komiti Rangahau o Unitec | Unitec Research Committee

Date:	2024-03-14
Scheduled Start:	1300h
Scheduled End:	1500h
Location:	Microsoft Teams

MEETING OPENED: 1300h

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. Arun Deo
3. Yusef Patel
4. Nora Md Amin
5. Kristie Cameron
6. Daisy Bentley-Gray
7. Khaled Ibrahim
8. Kambiz Borna
9. Hamid Sharifzadeh
10. Leon Tan
11. Lian Wu (from 1.30pm)
12. Tanya White (from 1.30pm)

Total members represented: 12 members

Apologies

1. Helen Gremillion
2. Lian Wu (for lateness)

Total apologies: 2 members

Absent

1. Carly Van Winkel

Total absent: 1 member

MOTION

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

Moved: Marcus Williams
Seconded: Daisey Bentley-Gray

MOTION CARRIED

Quorate Status

A minimum of seven 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 2024-02-08 meeting as a true and accurate record, subject to changing Terri-Ann Berry's title from Adjunct Professor to Professor (items 3.1 and 3.2 referred).

Moved: Kristie Cameron
Seconded: Leon Tan

MOTION CARRIED

Item 2.3 Mahia Atu | Matters Arising

The chair warmly welcomed new committee members Kambiz Borna from the School of Building Construction, and Khaled Ibrahim from the School of Applied Business to the meeting.

Agenda Item(s)	Action	Responsible	Outcome
3.1 & 3.2	Advise Professor Terri-Ann Berry of the approval of the appointment of Joanne Low and Shannon Wallis as Honorary Research Fellows within the School of Environmental and Animal Sciences.	Marcus Williams	Complete
N/A	The committee was scheduled (in its workplan) to review the Unitec Research Strategy Action Plan this month*.	All	We will delay this review by at least one month as the institution's Takitahi is still pending.

** Update: the review of the Unitec Research Strategy Action Plan is actually scheduled to occur in June this year, not March as it was in 2023, so the review will be scheduled to occur then.*

SECTION 3 – MEA HEI WHAKAAE | ITEMS TO APPROVE

There were no items to approve.

SECTION 4 - WHAKAWHITI KŌRERO | ITEMS FOR DISCUSSION

There were no items scheduled for discussion.

SECTION 5 - NGĀ TUKUNGA | ITEMS TO RECEIVE

Section 5.1 Conference Seed Funding

The committee was provided with an overview of the purpose of the Conference Seed Fund, its priorities and eligibility criteria, and were asked to assist to promote its availability to staff in their Schools.

The application form and guidelines are available on Te Aka | The Nest.

It is expected that the average application will be less than $5,000 but the maximum amount available is $10,000. Applications are submitted to this committee for approval on an 'as received' basis and are assessed on the quality of the opportunity in terms of academia.

Kristie Cameron received a grant from the fund which was intended to be allocated to cover the up-front costs of rental of a conference venue and food (costs that needed to be paid before conference fees were received). If the conference hadn't been moved online due to Covid, the conference fees would have been utilised to repay the seed funding, however delegates' fees were refunded and only ~$300-$400 of the conference seed funding was utilised, going towards student prizes.

The CITRENZ conference was allocated $10k, however only ~$5k was utilised, which was returned after the conference.

Once applications are approved by the committee, conference convenors must liaise with Research Partner Enterprise, Gregor Steinhorn, to develop a business case. Gregor can assist convenors to determine, for example, how much delegates should be charged to attend, how much catering might cost etc. The seed funding is intended to underwrite conferences, so that up-front costs are covered and in case events aren't as successful as anticipated, then Schools aren't left to wear the costs.

School or discipline specific symposiums and conferences are in many ways more valuable and effective than all-staff Research Symposiums. Symposia that are culturally or discipline specific often provide better opportunities for peer review and the inclusion of external participants relevant to the context, and generally lead to the generation of Quality Assured (QA) outputs.

It was noted that it is more cost effective and productive to host conferences that generate outputs for multiple staff, rather than spending similar amounts of funding to support individual staff to attend international conferences.

The RRAU conference has been generating QA outputs for staff in the School of Architecture, providing, for example, a good opportunity to publish in Springer, something that they normally wouldn't be able to do. Young lecturers who have never published in a journal were able to go through the process of writing up their research, submitting a paper and having it reviewed.

Learnings from the RRAU conference were that it would have paid to liaise with Tūāpapa Rangahau earlier in the process of developing the conference. This is particularly important for convenors who have not organised a conference before.

The School of Business is in the process of organising the Auckland Regional Accounting Conference for December and is interested in accessing Conference Seed Funding, however Khaled Ibrahim noted that the Conference Seed Funding Guidelines state that "*this is **not** a fund to cover the costs of holding a conference, it is to assist staff to undertake the development of a business case to stage a new conference or to make a bid to host an international conference and to seed some of the initial costs, ultimately towards repayment, providing all goes to plan"*. Marcus Williams clarified that the funding **is** intended to help host conferences, however he concurred that the above statement is open for misinterpretation. In fact, the guideline was intended to articulate that it is expected that the seed funding will be recovered after the conference, if it is successful.

Action: Brenda Massey and Marcus Williams to review and update the Conference Seed Funding Guidelines to ensure it is clear that the funding **is** intended to help host conferences, and that the point of contact to assist convenors to prepare seed funding applications and business cases is Gregor Steinhorn.

Action: Brenda Massey to ask Penny Thomson to table the Conference Seed Funding memo and updated guidelines at the next Research Leaders Hui.

Section 5.2 Verbal Updated on Te Pūkenga Research from the Director Research and Enterprise

Marcus Williams recently emailed a research update to Unitec Research Leaders, MIT Academic Leads (Research) and research committee members in both Unitec and MIT. A combined summary of Marcus' email and his verbal update today is as follows:

- Te Pūkenga's disestablishment will take between 12 and 18 months. Unitec and MIT remain separate business divisions. Marcus is the Director of Research and Enterprise for both Unitec and MIT, while in Te Pūkenga there is a national Research Director, Jamie Smiler (this position has not been disestablished).
- The way that research is managed has not been restructured and Tūāpapa Rangahau continues to operate as it did before, although within a very disrupted environment. Support units including HR and Finance are under a lot of duress and patience is required (e.g., in the case of approvals), both from Tūāpapa Rangahau and from the staff they serve.
- Research budgets (which remain separate between Unitec and MIT) were greatly delayed but have now been resolved and are robust. Tūāpapa Rangahau is progressing the implementation of important funding priorities in both organisations, e.g., the 2024 Research Professional Development Suite, led by Professor Helen Gremillion and shared as much as possible across Unitec and MIT, and funding products such as the Wairaka Natural Environment, History and Culture Fund. There has been a considerable increase to Research Dissemination Funding.
- The Rangahau Research Forum continues to function effectively, meeting monthly and now led by Jamie Smiler. The Rangahau Research Forum has been running for over 10 years and comprises research managers in Vocational Education from across the mōtu. Jamie is leading

a strategic piece of work on how we can continue to collaborate, no matter what happens post Te Pūkenga, and is leading a working party on readying ROMS for the next PBRF.

SECTION 6 - KUPU WHAKAMUTUNGA | CLOSING

Section 6.1 Ētahi Kaupapa Anō | Any Other Business

There were no other items of business.

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
5.1	Review and update the Conference Seed Funding Guidelines to ensure it is clear that the funding is intended to help host conferences, but that it is expected that the seed funding will be recovered after the conference, if it is successful, and that the point of contact to assist convenors to prepare seed funding applications and business cases is Gregor Steinhorn. Ask Research Partner Penny Thomson to table the Conference Seed Funding memo and updated guidelines at the next Research Leaders Hui.	Brenda Massey/ Marcus Williams Brenda Massey	

MATTERS ARISING

Agenda Item(s)	Action	Responsible	Outcome
5.1	Review and update the Conference Seed Funding Guidelines to ensure it is clear that the funding is intended to help host conferences, but that it is expected that the seed funding will be recovered after the conference, if it is successful, and that the point of contact to assist convenors to prepare seed funding applications and business cases is Gregor Steinhorn.	Brenda Massey/ Marcus Williams	Complete
	Ask Research Partner Penny Thomson to table the Conference Seed Funding memo and updated guidelines at the next Research Leaders Hui.	Brenda Massey	Complete

Unitec New Zealand Limited

Meeting of Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 11 April 2024

Title	University and Science Advisory Groups and PBRF Quality Evaluation 2026 Cancellation
Provided by:	A/P Marcus Williams, Director Research and Enterprise
For:	**INFORMATION**

Recommendation

That the committee notes that:

- A new Science System Advisory Group has been established to provide advice on how to improve the effectiveness and impact of the science sector in New Zealand.
- The University Advisory Group has been established to investigate issues and aspirations of the university sector.
- The PBRF Quality Evaluation 2026 will not take place.

Purpose

The purpose of this paper is to update the committee on the Government's plans to "transform New Zealand's science and university sectors to boost the economy".

Information/Background

The Ministry of Business, Innovation and Employment (MBIE) has established a new Science System Advisory Group to provide advice on how to improve the effectiveness and impact of the science sector in New Zealand. The Group will deliver two reports on the system, with the first due end of June, and the second end of October. It will build on the first part's advice and provide final recommendations on longer-term changes. Professor Sir Peter Gluckman will chair the Group, and the members will be published in the coming days.

Separately, the University Advisory Group (UAG) has been established to investigate issues and aspirations of the university sector. The UAG will also be chaired by Professor Sir Peter Gluckman, who will draw connections between the two Groups as appropriate.

The UAG will consider the effectiveness of the current university system in supporting excellence in teaching and research. This work also includes looking at the PBRF, ways to best achieve equity for all learners, including Māori, Pacific, and disadvantaged learners, and the role of international education. It will consider policy settings including funding mechanisms, incentives, and allocation strategies for research and teaching (in particular the PBRF), with a focus on the university sector but recognising the relevance to the wider higher education sector.

Because of this, the Minister has decided that PBRF Quality Evaluation 2026 will not take place and the TEC will stop all work related to it. PBRF funding will continue to be allocated on 2018 results for the moment.

Key Points[1]

- The most interesting points in the University Advisory Group TOR were:
  - the planned dates of the interim and final reports (30 Aug 2024 and Feb 2025);
  - the focus on universities (not higher education as a whole); and
  - the cancellation of the 2026 PBRF Quality Evaluation.
- The most interesting points in the Science System Advisory Group TOR were:
  - the planned dates of the interim and final reports (30 Jun and 31 Oct 2024);
  - the focus on strengthening the research contributions of universities, while CRIs were to have their "functions, scopes and structures" reviewed to "ensure they are better placed to deliver impact for NZ" (universities seemed to be the favoured group, but they may face structural reforms in the UAG work); and
  - the absence of settings announced in the previous Government's Te Ara Paerangi White Paper (National Research Priorities had already been shelved, while the Embedding Te Tiriti focus is largely gone).
- Prof Sir Peter Gluckman will chair both reviews and will obviously have a major influence on them. Koi Tū: The Centre for Informed Futures, an Auckland University centre that he heads, will provide the secretariat for the science group (TEC and MOE will support the university group). If you're looking for some further reading, check out his March 2022 Response to Te Ara Paerangi – Future Pathways Green Paper (22 pages), written under Koi Tū letterhead. It's a well-informed, and detailed paper. Gluckman proposed a Ministry covering MBIE's science, and MOE's university, responsibilities, along with a single NZ Research Council. He suggested amalgamating all CRIs into a single entity.

Frequently Asked Questions

Who are the members of the UAG?

The UAG is chaired by Professor Sir Peter Gluckman, and will collectively bring diverse expertise in higher education, research, funding policy, business, stakeholder engagement and connections, university governance, the Treaty of Waitangi | Te Tiriti o Waitangi, and mātauranga Māori. The membership of the UAG will be announced shortly.

Will the work of the UAG result in a new approach or a revised PBRF?

The UAG will report to the Ministry of Education in February 2025. Following that, the Ministry of Education, in consultation with the Tertiary Education Commission and the Minister for Tertiary Education and Skills, will determine which proposals to take forward, conduct detailed policy development and consider the wider implications of any proposals the UAG makes about the PBRF before Cabinet makes any decisions on changes.

[1] Source: Ed Insider's Tertiary Insight email dated 27 March 2024

What is the timeframe for any changes to or replacement for the Quality Evaluation?

The UAG will produce a final report proposing levers and policy changes for government and the sector to consider for the future direction of the university system in February 2025. This report will include recommendations on the PBRF. The Ministry of Education, in consultation with the Tertiary Education Commission and the Minister for Tertiary Education and Skills, will work to determine which proposals to progress and will communicate timeframes for any changes.

Why has Quality Evaluation 2026 been cancelled?

The Minister has determined it is appropriate to stop Quality Evaluation 2026 for all participating TEOs while the UAG conducts its work. While universities are not the only organisations who participate, they collectively receive over 95% of PBRF funding.

What will happen to PBRF funding now that Quality Evaluation 2026 is not taking place?

PBRF Quality Evaluation component funding will continue to be allocated on 2018 results. The total value of the PBRF remains unchanged at $315 million.

I have been preparing my Evidence Portfolio for my institution's Quality Evaluation submission. What will now happen to it?

Work on the Quality Evaluation is stopping. This means that planned institutional submissions to the TEC, including Evidence Portfolios, will no longer take place.

Attachments

- Terms of Reference for the University Advisory Group
- Terms of Reference for the Science System Advisory Group

University Advisory Group
Terms of Reference

Context

The Government is committed to maintaining a thriving higher education system for the benefit of all New Zealanders. Higher education – generally defined as education offered at degree level and above – is a key contributor to New Zealand's economic performance, our ability to grow and innovate, and achieving better social outcomes.

The higher education sector, which includes universities, Te Pūkenga (and its future form), Wānanga, and private training establishments, is facing major financial pressure. Universities in particular are collectively forecasting a deficit for the 2024 year for the first time on the Tertiary Education Commission's record. It is timely to consider broader and longer-term challenges for universities, including questions about their overall performance, and how the funding system could incentivise better outcomes.

In 2023, the Ministry of Education conducted initial scoping for a review of the wider higher education system signalled by the previous Government. The Ministry is now convening an expert advisory group (the Group) to provide a report outlining challenges and opportunities, looking primarily at the university system, to support future policy development.

The Group's work will be undertaken in parallel with the work of MBIE's Science System Advisory Group which will assess the current state of the science system and provide advice. Considering the systems together provides an opportunity for a cohesive consideration of the role of universities in the research and knowledge system alongside the role of the science, innovation and technology system.

Purpose

This document sets out the Terms of Reference for the Group.

The purpose of the Group is to provide advice to the Ministry of Education that outlines challenges and opportunities in the university system, informed by engagement with the sector.

The Group's report will support future policy development.

Scope and approach

The Group will consider the effectiveness of the funding system in supporting the university system to deliver high quality higher education provision.

In the current fiscal environment, it is important to know that we are getting the best possible outcomes from our investment in universities and the Group will also be expected to consider where opportunities to improve efficiency of the system may exist.

The Group will consider the effectiveness of the current university system to:

- Produce excellence in teaching and research for the benefit of New Zealand.
- Deliver graduates that address national workforce needs and challenges.
- Building a strong, diverse, and inclusive workforce.
- Connect to wider New Zealand society through effective and efficient collaboration and partnerships.

While the Group's work is likely to be of relevance for all tertiary education organisations to the extent that they deliver higher education provision, the focus is on New Zealand's eight universities, which collectively receive approximately 85 per cent of higher education funding and 96 per cent of the Performance-Based Research Fund (PBRF). The PBRF will be a particular focus for the Group.

The Group will respect the principles of academic freedom and autonomy set out in the Education and Training Act 2020 and take into account the university system's Treaty of Waitangi / Te Tiriti o Waitangi obligations in formulating its advice.

The Group's topics of focus are set out below.

The work of the Group will proceed in two phases. The first phase will be completed by 30 August 2024, and the second is intended to be completed by February 2025.

- Phase 1 (interim report) will identify key challenges facing the university system and opportunities for the future direction, as well as providing high level principles for university system, including funding, and initial proposals for changes to the Performance-Based Research Fund (PBRF).

- Phase 2 (final report) will propose levers and policy changes for government and the sector to consider for the future direction of the university system.

Following the Group's final report, the Ministry of Education, in consultation with the Minister for Tertiary Education and Skills, will determine which recommendations to take forward, conduct detailed policy development and consider the wider implications of the Group's recommendations for the rest of the higher education funding system. It is expected this work will commence from March 2025.

Topics of focus

The Group will provide advice on the following topics of focus:

- Funding policy settings including funding mechanisms, incentives, along with the role of international education, and allocation strategies for research and teaching (in particular the Performance-Based Research Fund) – with a focus on the university sector but recognising relevance to the wider higher education sector.

- Systems for assessing the quality and outcomes of teaching, research (including the PBRF), and broader engagement.

- Excellence and efficiency in governance and administration in universities.

- Resourcing of research and teaching activities and supporting infrastructure in universities.

- Shape of the university sector, including collaboration and partnerships, and differentiation and consolidation of programmes.

- Use of technology in the provision of higher education programmes in universities.

- Regulatory frameworks, incentives, and policies (including tuition fee setting arrangements) relevant to universities.

- Policies and strategies to achieve equity for disadvantaged groups in the university system, including Māori, Pacific and disabled learners.

The Group will consult with stakeholders and the sector. This will include seeking out expert consultation and input, and a range of perspectives, including those of university

students, staff and leadership, iwi/Māori, employers of graduates, as well as international perspectives. The Group's work will draw on existing expertise within and held by the Panel, the Ministry, and the Tertiary Education Commission, and may include document reviews, comparative analysis of higher education systems in other countries, and data analysis.

Membership

The Group will be chaired by Professor Sir Peter Gluckman. Members will be appointed by the Ministry of Education, and collectively bring diverse backgrounds and expertise in higher education, research, funding policy, business, stakeholder engagement and connections, university governance, the Treaty of Waitangi / Te Tiriti o Waitangi, and mātauranga Māori.

As determined by the Chair and in agreement with the Ministry of Education, the Group may establish a reference group(s) and/or seek external specialist advice to support its activity.

Group members are appointed:

- As individuals and are expected to provide impartial advice.
- Until 28 February 2025, but this may be extended if agreed by the Chair and the Ministry of Education.

Meeting frequency

The Group will meet (either in person or virtually) at a frequency determined by the Chair and agreed by the Ministry of Education. Other work and meetings may be required of all or some members between meetings of the Group.

Reporting

The Group will report at a frequency determined by the Chair and agreed with the Ministry of Education.

Timeline

The timeline for key deliverables is:

Deliverable	Completed by
Group appointed and Terms of Reference approved	March 2024
Group members announced	March 2024
Phase 1 report provided to the Ministry of Education	30 August 2024
Phase 2 report provided to the Ministry of Education	February 2025

Conflicts of Interest

Members should be aware of all actual, perceived, and potential conflicts of interest and notify the Chair before any meeting. The Secretariat will maintain a register of notified conflicts.

If any conflicts of interest should arise for Group members during their term, the Chair is responsible for determining mitigations to address them.

Secretariat

Secretariat support will be overseen by the Chair and provided by the Ministry of Education and the Tertiary Education Commission as outlined below.

Remuneration

Remuneration will not be paid to members who are employees of government agencies listed in Schedule 2 of the Public Service Act 2020. Their employer is responsible for meeting all costs associated with their membership on the Group.

All other members are entitled to compensation per day of meeting or other work agreed by the Chair and the Ministry of Education. Remuneration will be set according to guidance set out in Cabinet Office Circular CO (22)2: Revised Fees Framework for members appointed to bodies in which the Crown has an interest.

Where appropriate travel and accommodation will be booked and paid for by the Secretariat or reimbursed.

Funding

The Ministry of Education and the Tertiary Education Commission will provide secretariat services through access to Ministry staff resources for writing and analysis, project coordination and for expense claims and travel bookings.

Other cost-generating activities will be agreed by the Chair and Ministry of Education before the costs are incurred.

Terms of Reference: Science System Advisory Group

Purpose

1. MBIE is convening a Science System Advisory Group (the Group) to develop a set of evidence-based recommendations to strengthen the science, innovation and technology system and ensure its future success.

2. This document sets out the Terms of Reference for the Group.

The aspiration

3. The Government is committed to building a thriving science, innovation and technology system (the system) that delivers growth for New Zealand's economy, environment and society by:
   - Driving innovation and accelerate the shift towards a knowledge-based, diversified economy.
   - Developing innovative solutions to emerging challenges such as climate change, biodiversity loss, and sociological change.
   - Adapting to, and making good of opportunities provided by, a rapidly evolving global research landscape.
   - Enhancing Government's effectiveness through the use scientific data, knowledge, and new technologies.

The challenges

4. The systematic issues limiting the performance of the system include:

   - **Funding**: The adequacy, sustainability and balance of funding in areas of national and system importance, and effectiveness of funding mechanisms.
   - **Research infrastructure**: Uneven access to research facilities and equipment, hindering research progress and collaboration.
   - **Regulatory frameworks and incentives**: These may not be conducive to the most effective management of research and research innovation or commercialisation.
   - **System inefficiencies and fragmentation**: The system experiences inefficiencies, such as excessive managerialism, complex funding mechanisms, fragmented research efforts, and limited collaboration between different stakeholders.
   - **Workforce:** Career pathways are uncertain, diversity is limited, Māori and Pacific Peoples are under-represented and under-served, and there are difficulties in attracting and retaining the best talent.
   - **Competition:** Competition between research organisations limits collaboration and benefit to New Zealand.

- **Industry:** co-ordination across government and industry needs strategic redevelopment, Industry co-operation and support is not well positioned to adapt to emerging markets (for example, India).
- **International:** New Zealand, as a small country, needs to exploit international partnerships in both research and innovation (including access to capital). International science funding is largely ad hoc and not co-ordinated across government to assist diplomatically.

Function, scope and approach

Function

5. The purpose of the Group is to provide strategic recommendations to MBIE on options to improve the effectiveness and impact of New Zealand's science, innovation and technology system, as informed by the aspirations and systemic challenges described above.

Scope

6. Except where noted below, the Group may consider any matters within New Zealand science, innovation and technology system that are relevant to the completion of its reports.

7. The following areas are out of scope:

    - The Research and Development Tax Incentive, as a statutory independent evaluation is mandated by Parliament for the coming calendar year.
    - The planned Biotechnology Regulator, given the highly specific and technical issues involved.

8. The Group will be connected to, but is not responsible for, a parallel review into aspects of higher education including the future of the Performance-Based Research Fund and related incentive structures.

9. The Group is not required to produce fully costed options or completely detail any structural arrangements necessary to achieve the recommendations presented.

Approach

10. The work of the Group will proceed in two phases. The first phase will be completed by 30 June 2024, the second by 30 October 2024.

11. Phase 1 will determine a set of principles, provide preliminary advice on the topics of focus as set out below, and recommendations that can be considered and actioned quickly.

12. Phase 2 will continue to address the topics of focus but provide final recommendations and longer-term changes that would ensure the effective operation of the system in coming decades.

Topics of focus

13. The Group will provide advice on the following topics of focus.

Institutions

- What are the appropriate functions, scopes and structures of Crown Research Institutes and other Crown-owned research organisations to ensure they are better placed to deliver impact for New Zealand?
- What is needed to effectively deliver science services of ongoing importance to New Zealand, such as national monitoring systems for weather and geohazards, national surveys, national databases and collections?
- How can the research contributions of universities be strengthened within the overall science system?

Funding

- What sort of mechanisms could be established to identify funding priorities?
- What could be done to improve the effectiveness of our funding mechanisms?
- How can the funding system better serve under-represented and under-served communities, such as Māori and Pacific Peoples, and increase diversity within the science, innovation and technology workforce?
- What is an appropriate balance of funding between:
    - Areas of system importance? For example, competitions, short versus longer term contracts, institutions, workforce initiatives, infrastructure, and commercialisation.
    - Areas of national importance? For example, sectors, science disciplines, wicked problems.

Advanced technology and commercialisation

- What form should Government's investments in advanced technology take?
- How can we strengthen and grow commercialisation pathways?
- How can we strengthen our ability to take advantage of opportunities around eResearch? This should consider the future of our High Performance Computing infrastructure and the role of artificial intelligence.
- How can we improve the role and function of Callaghan Innovation? What role and function do industry, incubators, and other government agencies, for example, NZTE play in this?

Government as a commissioner, funder and user of science

- How can Government most effectively prioritise and commission science where it is the main user of the outputs?
- How could public funders of science, innovation and technology be best configured?

Workforce and connectedness

- What is needed to ensure we are developing a science, innovation and technology workforce that will meet our future needs and challenges?
- How can opportunities and solutions for Mātauranga be better realised within the system?
- What is needed to deliver greater diversity with the science, innovation and technology workforce, and participation of under-represented and under-served groups such as Māori and Pacific Peoples?
- How can we grow key international linkages and strengthening the role of science in diplomacy?
- How can we lift awareness and appreciation of the role and impact science, innovation and technology have on the economy, society and environment?
- How can we develop better connectedness with the higher education system?

14. The Group is not limited by the above topics and questions and may provide advice on other matters it sees fit.

15. The review will include, but is not limited to document reviews, stakeholder and expert consultation and input (including internationally), site visits and data analysis.

16. MBIE or the Minister of Science, Innovation and Technology may seek advice from the Group about other questions or proposals as needed.

Administration

Membership

17. The Group will be chaired by Professor Sir Peter Gluckman. Members will collectively bring diverse backgrounds and bring expertise in science, research, innovation, technology, mātauranga, policy, and stakeholder engagement.

18. Members are appointed:
    - as individuals and expected to provide impartial advice.
    - until 30 October 2024, but may be extended if agreed by the Chair and MBIE.

Meeting frequency

19. The group will meet, either in person or virtually, at a frequency determined by the Chair and agreed by MBIE. Other work (including site visits, workshops or similar) and meetings may be required in-person of all or some members between meetings of the Group.

Reporting

20. The group will report at a frequency determined by the Chair and agreed with MBIE, with the primary reports being provided to MBIE in two phases:

- Phase 1 report, by 30 June 2024
- Phase 2 report, by 30 October 2024

Conflicts of interest

21. Members should be aware of all actual, perceived and potential conflicts of interest and notify the Chair before any meeting. The Secretariat will maintain a register of notified conflicts.

22. The Chair is responsible for determining mitigations to address any conflicts of interest that arise.

Secretariat

23. Secretariat support will be overseen by the Chair and provided by Koi Tū: The Centre for Informed Futures.

Remuneration.

24. Renumeration will not be paid to members who are employees of government agencies listed in Schedule 2 of the Public Service Act 2020. Their employer is responsible for meeting all costs associated with their membership on the Group.

25. All other members are entitled to compensation per day of meeting or other work agreed by the Chair and MBIE. Remuneration will be set according to guidance set out in Cabinet Office Circular *CO(22)2: Revised Fees Framework for members appointed to bodies in which the Crown has an interest*. Travel and accommodation will be booked for and paid through *Koi Tū: The Centre for Informed Futures*.

Funding

26. MBIE will fund the University of Auckland to enable *Koi Tū: The Centre for Informed Futures* to provide secretariat support for the Group.

27. Other cost-generating activities will be agreed by the Chair and MBIE before the costs are incurred.

Unitec New Zealand Limited

Meeting of Te Komiti Rangahau o Unitec | Unitec Research Committee

Date of Meeting: 11 April 2024

Title	2023 Early Career Researcher (ECR) Funding Final Reports
Provided by:	Brenda Massey, Senior Grants Advisor
For:	**REVIEW**

Recommendation

That the committee receives final reports from three of the five recipients of 2023 Early Career Researcher (ECR) Funding.

Purpose

The purpose of this paper is to report to the committee concerning the outcomes and expenditure of the 2023 ECR funded projects.

Information/Background

The ECR Fund provides annual, contestable funding to emerging and established early career researchers at Unitec in order to develop their capability, capacity and career progression as a Principal Investigator on a high quality, externally partnered, applied research project that meets the evaluation criteria. Provision of one progress report and one final report is required as part of the accountability requirements of the fund.

Attachments

- 2023 ECR Final Report – Dr Mary Yan
- 2023 ECR Final Report – Dr Caralyn Kemp
- 2023 ECR Report – Madhusudan Vyas

2023 UNITEC EARLY CAREER RESEARCHER FUND Final Report

Email your completed report to bmassey@unitec.ac.nz before **5pm on Thursday, 28 March 2024.** Instructions in red italics may be removed before submission.

Researcher:	Dr Mary Yan
Project Title:	Probiotic effects of yacon extract residual saccharides on gut microbiota: a preliminary study
Amount of Grant:	$3,000

Executive Summary

The project was co-funded by Unitec ECR Fund, AUT, and Yacon New Zealand Ltd.

The major activities in the past year:

1. Microbiota in cow gut is very abundant in species. The current project is a preliminary study to evaluate the prebiotic effects of yacon extract residual saccharides on cow gut microbiota. We applied a seed funding and targeted bifidobacterial and lactobacilli (beneficial bacteria), and enterococcus. Due to the limitations of fund and facilities, we cannot measure the total population of the three bacteria. Therefore, we will measure the populations of their main species in cow gut.

   Literature research has been undertaken to define the main species of the targeted bacteria in cow gut, they are:

   Bifidobacterium *pseudologum*

   Bifidobacterium *ruminantium*

   Lactobacillus *acidophilus*

   Lactobacillus *ruminus*

   Enterococcus *faecium*

2. To get advice from the expert in AgResearch, Mary contacted Dr Arjan Jonker in the Animal Nutrition and Physiology team of AgResearch. Dr Jonker's main research focus is on enteric methane emissions and nitrogen excretion by ruminants and utilisation of food industry by-product for livestock feeding. Hopefully we can have some advice in the future for in vivo study.
3. We have Dr Jemila Kester (a microbiologist at AUT) joined the team to help advise and supervise the microbiology part of the project. She modified the methods and suggested replacing cow faecal samples with cultural media.
4. Due to the climate impact, the main manufacture is postponing the production of yacon concentrate. Therefore, we decided to process yacon fruits in a AUT food laboratory. We collected about 5 kg yacon fruits from the yacon farm in Kerikeri, then processed yacon through washing, cutting, processing, and produced 1 kg yacon pomace.

Figure 1. Yacon pomace

5. All the consumables have been ordered.
6. Background information, experimental design and trials preparation completed (pls see Methodology).
7. The project has been presented in December 2023, at the Healthcare and Social Practice Research Forum, Unitec Institute of Technology.
8. The experimental trials have been behind schedule. An extension to the project completion date is needed.

   The micro experimental trials need to be in a physical containment level 2 lab at AUT. We have a AUT student (supervised by Dr Rothman) doing this part. All the background information, experimental design, and trials preparation have been conducted. We were expecting to finish the trials in the summer holiday. However, the student got a summer student job; then he got a full-time employment, so he will not be pursuing research anymore. We are getting another student to carry on the micro experimental trials.

Background

Methane from cattle represents a significant proportion of anthropogenic greenhouse gas emissions. These emissions are caused by a relatively small group of methanogenic archaea found in the rumen of cattle. While microbial community interactions in the cattle rumen are complex, there is evidence to support that modification of the rumen bacterial community may be a means to suppress methanogenic activity indirectly. In particular, the fermentation of fructooligosacharides (FOS) to short-chain fatty acids, and promotion of growth for lactic acid bacteria, may retard the growth of archaea in the rumen.

The yacon (*Smallanthus sonchifolius*) is a species of daisy originating from South America, which produces edible tubers referred to as yacon "fruit" due to their sweetness. These tubers are rich in FOS, particularly inulin, which act as soluble dietary fibre. High value yacon products are produced in New Zealand, which involve juicing the yacon and processing the syrup, while the pomace is regarded as waste. This process is relatively gentle to avoid nutritive degradation, so it is unlikely that all inulin is fully extracted from the yacon pomace.

Aims and Objectives

The purpose of this research is to investigate whether yacon pomace can be efficiently utilized as a carbon source for a range of bacteria associated with the suppression of

methanogenic archaea in the cattle rumen, and the nutritional composition of yacon pomace through proximate analysis.

We hypothesis that the application of yacon extract residual saccharides will have meaningful effects on the performance of gut microbiota. A meaningful increase in the level of *bifidobacteria* and *lactobacilli* will be observed.

Methodology

Five different bacteria will be tested by inoculating a minimal-salts and yacon (MSY) broth, and a positive control broth, before plating them onto an appropriate colony-count agar and measuring their growth after 48 hours at 37 °C, as well as a non-inoculated MSY growth as a negative control.

Organism	Liquid medium	Solid medium
E. faecium	Positive BHI broth	TSA Blood
E. faecium	Minimal salts + Yacon pomace	TSA Blood
E. faecium	Minimal salts	TSA Blood
B. psuedolongum	Positive MRC broth	TSA Blood
B. psuedolongum	Minimal salts + Yacon pomace	TSA Blood
B. psuedolongum	Minimal salts	TSA Blood
B. ruminantium	Positive RCM broth	TSA Blood
B. ruminantium	Minimal salts + Yacon pomace	TSA Blood
B. ruminantium	Minimal salts	TSA Blood
L. acidophilus	Positive control MRS broth	MRS
L. acidophilus	Minimal salts + Yacon pomace	MRS
L. acidophilus	Minimal salts	MRS
L. ruminis	Positive MRS + Cysteine	MRS + Cystiene
L. ruminis	Minimal salts + Yacon pomace	MRS + Cystiene
L. ruminis	Minimal salts	MRS + Cystiene
Negative control 1	BHI	TSA Blood
Negative control 2	RCM broth	TSA Blood
Negative control 3	MRS broth	MRS
Negative control 4	MRS broth + Cysteine	MRS + Cystiene
Negative control	Minimal salts + Yacon pomace	Each

The bacteria being tested are E*. faecium,* B. *psuedolongum,* B*. ruminantium,* L*. acidophilus, and* L*. ruminis,* in anaerobic conditions.

Anaerobic chamber Anaerobic jar

Figure 2. Anaerobic chamber and anaerobic jar for bacteria incubation and testing.

Proximate analysis will be carried out to determine the moisture, lipid, protein, carbohydrate, mineral content, and FOS content in the yacon pomace. Standard industrial methods to quantify each component are listed below:

Moisture content - AOAC Official Method 925.09 using oven-drying technique.

Lipid content - AOAC Official Method 948.22 using the Soxhlet technique.

Protein content - AOAC Official Method 2001.11 using the Kjeldahl technique.

Carbohydrate - AOAC Official Method 2000 using gravimetric technique.

Mineral content - MP-AES method as described in Chessum et al. (2022a)

Fructooligosaccharide content - HPLC method as described in Chessum et al. (2022b)

Project Milestones

Achievement	**Agreed Date due**	**Status** (Completed, in progress or ceased)	**Revised Due Date** (if still in progress)
Reference cultures and facilities preparation	Apr-May 2023	Completed	
Yacon extract residues collection (yacon is harvested in early winter)	May-Jul 2023	Completed About 5 kg yacon fruits were collected from the yacon farm in Kerikeri, then processed yacon through washing, cutting, processing, and produced 1 kg yacon pomace.	
Faecal samples preparation	Jun-Jul 2023	Completed Dr Jemila Kester (a microbiologist at AUT) joined the team to supervise the microbiology part of the project. She modified the methods and suggested replacing cow faecal samples with cultural media.	
Fermentation and testing	Jul-Aug 2023	An extension is needed: The micro experimental trials need to be in a physical containment level 2 lab at AUT. We have a AUT student (supervised by Dr Rothman) doing this part. All the background information, experimental design, and trials preparation have been conducted. We were expecting to finish the trials in the summer holiday. However, the student got a summer student	
Data compilation	Jul-Sep 2023		Jul 2024
Estimated completion date	Dec 2023		Sep 2024

		job; then he got a full-time employment, so he won't be pursuing research anymore. We are getting another student to carry on the trials.	

Outcomes/findings

The project is still in progress. The expecting results are a meaningful increase in the population of the beneficial bacteria.

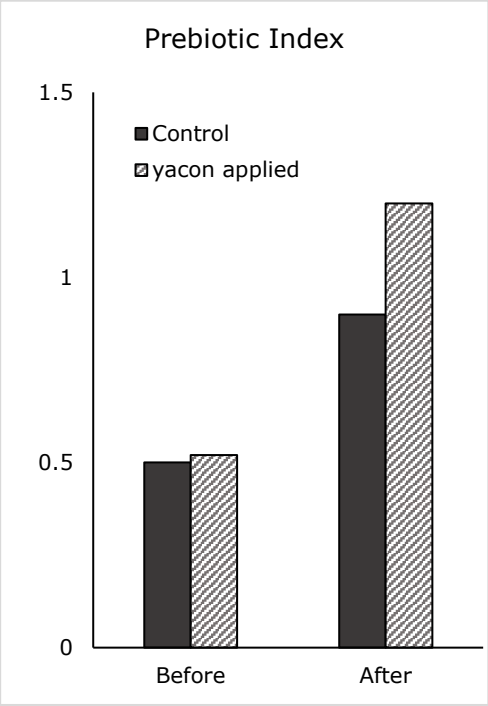

Figure 3. Expecting results of change in population of beneficial bacteria.

Impact

New Zealand is an agricultural country with millions of cows that generate billions for economic growth annually. The sector is now facing challenge to change and adapt to environmental regulations. The proposed project aims to explore sustainable solutions to reduce livestock gas emissions and improve their welfare. In addition, the yacon extract residual saccharides can be used as foodstuff for livestock instead of being disposed back to the farms. The successful outcomes of the study will benefit dairy farmers, yacon growers, and our environment (Taiao). In a longer term, it will benefit our economic growth, air quality, and wellbeing.

Conclusions

To be completed.

Next steps and Ongoing Research Possibilities

This current project is an in vitro study, a preliminary study for further in vivo research on feeding cows with yacon extract residual saccharides to improve gut microbiota and reduce gas generation.

Recommendations (optional)

Publications and dissemination

Output type	**Agreed Date due**	**Status** (Completed, in progress or ceased)	**Revised Due Date** (if still in progress)
Conference presentations	2023-24	The project has been presented at School of Healthcare & Social Practice research forum, Unitec Waitakere, in December 2023. Once the data collection completed, we will present the results in appropriate conference(s).	2024
Peer-reviewed journal articles, e.g., Agriculture, Applied Microbiology	2024	In progress	2025

Financial Reconciliation

Item	**Amount Approved**	**Actual spend in PeopleSoft ($)**
Materials Reference bacterial cultures, and lab consumables (e.g., 50 ml culture tubes, GasPak, chemicals)	$3,000	$2,721.46 (Tryptic soy sheep blood agar plates only ordered 1 pack as the shelf-life is three months, $200 not spent)
Total	**$3,000**	**$2,721.46**

References (if applicable)

1. Speck, E. (2022). Kowbucha could reduce methane produced from cow burps, study shows. Retrieved from https://www.foxweather.com/learn/kowbucha-could-reduce-methane-produced-from-cow-burps-study-shows
2. Tsitko, I., Wiik-Miettinen, J., Mattila, O., et al. (2019). A small in vitro fermentation model for screening the gut microbiota effectes of different fiber preparations. International J of Molecular Sciences. 20, 1925. Doi:10.3390/ijms20081925.

3. Perez Chaia A. & Oliver G. (2003). Interstinal microbiota and metabolic activity. In Fuller F. & Perdigo' G. editors. Gut Flora, nutrition, immunity, and health. Oxford: Blackwell Publishing.
4. Askew, K. (2022). A gut feeling: probiotic delivers methane reduction and improved productivity. Retrieved from https://www.dairyreporter.com/Article/2022/05/19/A-gut-feeling-Probiotic-delivers-methane-reduction-and-improved-productivity
5. Ghoddusi, H.B., Grandison, M.A., Grandison, A.S., & Tuohy, K.M. (2007). In vitro study on gas generation and prebiotic effects of some carbohydrates and their mixtures. Anaerobe. 13, 193-199. doi:10.1016/j.anaerobe.2007.06.002.
6. Jung, T.H., Jeon, W.M., & Han, K.S. (2015). In vitro effects of dietatry inulin on human fecal microbiota and butyrate production. Microbio. Biotechnol. 25(9), 1555-58. doi:10.4014/jmb.1505.05078.
7. Cao, Y., Ma, Z.F., Zhang, H., Jin, Y. & Hayford, X. (2018). Phytochemical properties and nutrigenomic implication of yacon as potential source mof prebiotic: Current evidence and future directions. Foods, 7.
8. Yan, M. R., Welch, R., Rush, E. C., Xiang, X., & Wang, X. (2019). A sustainable wholesome foodstuff; health effects and potential dietotherapy applications of yacon. Nutrients,11(11), 2632.
9. Palframam, R., Gisbon, G.R., & Rasall, R.A. (2003). Development of a quantitative tool for the comparison of the prebiotic effect of dietary oligosaccharides. Lett.Appl. Mcrobiol. 37, 281-284.

Appendixes (optional)

MY_Yacon prebiotic effects.pptx

Reminders:

- You must notify Tūāpapa Rangahau of any outstanding publications and research outputs when they occur (via email to research@unitec.ac.nz) and ensure they are entered in ROMS.
- Please keep in mind that in addition to Tūāpapa Rangahau and the Unitec Research Committee, your report may be viewed by members of the ELT, Heads of Schools and/or external stakeholders. Please also note your research may also be highlighted in the Annual Unitec Research Report and/or in Unitec's research blog.
- Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director Research and Enterprise or with Brenda Massey, Senior Grants Advisor.

2023 UNITEC EARLY CAREER RESEARCHER FUND
Final Report

Email your completed report to bmassey@unitec.ac.nz before **5pm on Thursday, 28 March 2024.** Instructions in red italics may be removed before submission.

Researcher:	Dr Caralyn Kemp
Project Title:	Social benefits of dog parks for dogs
Amount of Grant:	$11,000

Executive Summary

Summarise the highlights of your project, including findings, achievements, and conclusions.

After several years of limited opportunities to run this project due to Covid-19 and animal ethics expenses, it was great to be able to get it off the ground. The funding provided by Tuapapa Rangahau allowed us to get the foundations of a long-term project underway. We focused on the surveying of dog guardians across four dog parks in Auckland, and on the observations of dog guardian behaviour in these spaces. The funding provided allowed us to employ a graduate of the Bachelor of Applied Science as a Research Assitance, which provided support to this former Unitec student in beefing up their CV as they look to apply for Masters programmes in animal behaviour. It was a wonderful opportunity to be able to provide them with the opportunity to learn more about what goes into research, how to troubleshoot research problems, and how research projects are built. We also invested in the training of four undergraduate Bachelor of Applied Science students, two of whom completed the programme, and one of whom is nearing completion. This allows us to showcase to students how students can be involved in their teachers' projects, as well as how to do research and the benefits of applied science.

Our data collection is still on-going. However, preliminary findings show that:

- Nearly 60% of dog guardians claim to confidently know the leash rules at their park.
- 53% of dog guardians have their dogs off leash in on leash areas surrounding off leash dog parks.
- 50% of dog guardians claim they always play with their dog at the dog park.
- Only 27% of dog guardians were observed playing with their dog at the park.
- 41% of dog guardians claim to use dog parks as they provide opportunities for them to play with their dog.
- The mean stay time at the park is 24 mins.
- 85% of dog guardians think they stay at least 45mins typically.
- Dog guardians view the surrounding reserves as part of the dog park.
- Over 60% of dog guardians have some concerns for their dog's safety in the park.

Anecdotal evidence shows that dog parks are not being utilized by guardians for much more than exercise opportunities for their dog, despite dog trainers and behaviourists recommending a range of use. There is a heavy reliance on dog-dog social interactions and so many guardians are stand offish and do not manage their dog's experiences when

at the park. We have had some guardians tell us that they went to the park but there were no other dogs so they just left; there was no consideration to play with their own dog, to engage in training activities, or encourage sniff-based stimulation.

We also began an informal analysis of parks across Auckland and found that the majority are barren lawn deserts. Many dog not have even the basics such as a bench, shade, and water bowls which would encourage longer stay times. There are rarely features which encourage dog guardians to engage their dog in different activities, or that even meet the needs of dogs, such as play and agility equipment, sensory gardens, or water bodies that dogs were permitted to access.

Despite being impacted by poor weather throughout the year, we did achieve the majority of our goals, or close to, for 2023. Our findings were recently presented to the companion animal community in NZ and the project was very well received and highly popular, with many people approaching to discuss their excitement and their own experiences with dog parks. This showcased how important this study is and how much potential we have to improve an essential facility for a common companion animal, and ultimately improve the welfare of our beloved dogs.

Background

Summarise the background to the project, the need for it and why it was important.

Thirty-four per cent of Aotearoa New Zealand households have at least one dog, with 574,349 across the country (Companion Animals New Zealand, 2020; Department of Internal Affairs, n.d.). This statistic holds true in Auckland, with 32% of households having at least one dog. Increased urbanization across cities in Aotearoa New Zealand has not put off dog guardianship, with reports showing an increase from 27% of households in 2015 to 37% in 2020 (Companion Animals New Zealand, 2016; 2020). This then presents challenges to Councils and Local Boards as to how to provide for the space needs of these animals.

In Auckland alone, there are nearly 3500 places where you can walk your dog (Auckland Council, n.d.). However, only half of these (1852) allow the dog to be off leash. Only 22 are dedicated dog areas, meaning that dogs have priority in these spaces. Therefore, 99% of places where dogs can be taken in Auckland are multi-functional spaces, because green areas are a rare commodity. Dog parks are traditionally landfills which have been turned into reserves. These reserves encourage endangered and taonga species back to urban areas, but are also utilized for children's playgrounds, sportsgrounds, family bicycle paths, and jogger and walker routes. Dog parks tend to come about due to community demand. This is a reactive approach to a basic need for exercise, off-leash opportunities, play and social activities. As a result, dog parks are often barren lawn deserts, providing limited options for dogs and encouraging a strong reliance on dog-dog social interactions by guardians.

There have been numerous high-profile incidents between dogs in dog parks. Fights, injuries and even attacks leading to deaths occur (for example, see REF). As a result, many dog trainers do not recommend dog parks (personal communication). While it is expected that the owners themselves police and guide their dogs through safe, appropriate and positive social interactions (Glasser, 2013), anecdotal evidence suggests that

guardians do not manage their dog's social interactions, and struggle to read dog body language, leading them to misinterpret play and aggression. A study by Jackson (2012) indicates that dog owners may only understand aggressive behaviours based on prior experience; as a result, owners may miss negative behaviours where interference is needed, and early interference would have prevented concerning end results. It may also be difficult for dog guardians to understand that their dog does not want to make friends with every other dog they meet. Instead, dog parks are considered places where "dogs can be dogs", and thus the societal rules governing dogs elsewhere collapse and there is little oversight. This can impact dog park etiquette and is a factor in the proper functioning of dog parks (Jackson, 2012). Therefore, knowing whether prominent interactions between dogs with other dogs, their owners, and human strangers within the dog park are positive or negative can provide insight for dog owners regarding dog welfare and the benefits of the dog park (Ottenheimer Carrier et al., 2013).

Further to this, dog park design can influence the kinds of interactions seen within the dog park; poorly laid out dog park designs can increase the risk of negative interactions occurring (Glasser, 2013). Park design may also impact general use. A lack of features may imply to unimaginative or uninformed dog guardians that exercise is the only purpose to a park. Also, Auckland parks are either fenced or unfenced. Fenced parks tend to be particularly limited in design features but may be considered safer by guardians as dogs are confined and there is no fear they can run off. However, 90-degree angles in fencing and the placement and design of gates can result in dogs being overwhelmed or cornered by other dogs.

Aims and Objectives

List the aims and objectives of the project and note if they changed during the project.

The aims of this project were, and still are, to:

- Investigate the prevalence of positive and negative interactive behaviour occurring between dogs with other dogs, their owners, and human strangers across four dog parks.
- Compare observational data with the owners' perception of the benefits of the dog park for their dogs and themselves
- Compare the social behaviours occurring between different dog parks to determine whether the design of the dog park influences the behaviour of owners and the socialisation of the dogs within these spaces.

Towards the end of 2023, we also added the aim:

- Determine how much of each park is actually being utilised by the dogs to help inform a more engaging design which will maximise usage.

This aim was added to further expand our understanding of how dog parks are being utilised. It allows us to consider park benefits through space and design as well as through behaviour.

Methodology

Summarise the overall approach taken and why this approach was chosen over other options considered.

This study is being carried at Hobsonville Dog Park, Meola Reef Dog Park, Auckland Botanic Gardens off-leash area, and Waiatarua Reserve. Two of these parks are fully enclosed, while the other two are unfenced spaces, but are sign posted. In 2023, we hoped to cover three phases:

- Phase 1 – 100 surveys of dog guardians at each park (400 in total). The survey questions covered the dog's demographics (e.g. age and sex) and the use of the dog park. This phase was aimed at gaining an initial insight into the intended use of the dog park, which could then be compared to the actual use.
- Phase 2 – Observations of dog guardian behaviour, 100 per park (400 in total). Observations included 1) their use of the leash inside and outside the official designated off leash dog park, 2) incidents of play with their dog inside and outside the park, and 3) total length of time stayed in the park. These observations were directly catered to questions asked in the survey which could be compared to dog guardian intentions and thoughts about their behaviour in the park.
- Phase 3 – Observations of dog social behaviour, 100 per park. This phase allows us to move from a human-centric perspective of how dog parks are being used to a dog-centric approach. We are observing dog behaviour, with a focus on social interactions (including with other dogs, their guardian and human strangers), to identify how much time dogs are actually being social in the park. Given the anecdotal evidence of reliance by guardians for dog-dog social interactions in parks, it is important to understand how much time dogs actually spend engaging with other dogs versus being self directed or with people. This phase also allows us to identify positive and negative social interactions, to determine if the time dogs spend being social is of benefit to them, or if there are concerns with the lack of social management by guardians.

Surveys and direct observations are the most useful ways to help us achieve our aims as the former gives us insight into how human users of dog parks view these spaces and how they think they use them, while observations showcase behavioural trends. Consistent methodology across all parks also allows us to make comparisons and determine how park design influences use and dog behaviour. We will be able to use these findings to determine behaviour change strategies which can be trialed at a later stage of the project which might assist in more varied dog park use.

Project Milestones

Translate the Project Milestones from your approved application into the table below and state what is completed, in progress, or ceased (will no longer complete). If these differ from those anticipated in your original application, please provide an explanation for the variation. Where the proposed achievement or milestone is yet to take place, please provide a proposed timeline for completion in the revised due date column.

We had anticipated that Phase 1 and 2 would be completed by the end of 2023. However, poor weather hampered our efforts to collect data due to changes in use of dog parks. Our human ethics approval did not come until over halfway through summer, due to the Christmas break, meaning my students could not start data collection until later than planned. Then we were hit by consistent rain from February onwards. Dog park users did not linger in these spaces, surveys were difficult to conduct due to being on paper, stay times were shorter as people did not want to be out in the rain any longer than necessary for their dog. This has resulted in not all of our data being collected. However, it has allowed us to create the opportunity for additional data to be collected and utilized for this study. As most of the data in 2023 was collected over autumn and winter, we now aim to collect a corresponding dataset over spring/summer with a new student. This will allow us to compare park usage across different times of the year and different weather conditions. We hope to do this in 2024/2025 but it will be dependent on a student being interested. We have sought and been approved for human ethics for this expanded study.

Achievement	**Agreed Date due**	**Status** (Completed, in progress or ceased)	**Revised Due Date** (if still in progress)
Project started – Phase 1	January 2023	In progress	Started late due to human ethics not coming through until February 2023. Research on-going, with human ethics approval until 2025.
First undergraduate project as part of NSCI7731 Negotiated Research started	February 2023	Completed	
Phase 2 begins	End February 2023	In progress	Research on-going, with human ethics approval until 2025.
Phase 3 begins	End March 2023	In progress	Research on-going, with animal ethics

			approval until 2026.
First undergraduate student data collection completed	End August 2023	Completed	
Second undergraduate begins as part of NSCI7731 Negotiated Research	August 2023	Completed	
First undergraduate student final report completion	End November 2023	Completed	
Second undergraduate student data collection completed	End March 2024	Completed	
Second undergraduate student final report completion	End June 2024	In progress	July 2024
Estimated completion date	End June 2024	In progress	Phases 2 and 3 will continue into 2025/2026, with a new RA brought on in 2024 and additional students being sought for 2024-2025. This was always a long-term study but consistent rain hampered progress as much as planned. All phases started as planned and students brought on board as planned.

Outcomes/findings

Explain the end result of your research. Did you achieve against the aims and objectives set? Depending on the project, it might include research results, findings, evaluation results, data, etc. If the project created something tangible like software, an artwork or a piece of equipment, describe it or include a photo. Where your reported outcomes differ from those proposed in your original funding application, please outline the reasons for the variation.

With this research still in progress, there is no current “end” result. However, the ultimate end result is that we were able to begin this project with support from Tuapapa Rangahau

by employing a Research Assistant, getting animal ethics approval, and being supported in travel costs between parks which has made the project much more feasible. As a result, we are on track to addressing our 3 main aims we initially set out to investigate:

- Investigate the prevalence of positive and negative interactive behaviour occurring between dogs with other dogs, their owners, and human strangers across four dog parks. – *Phase 3 addresses this aim. This phase began late in 2023 due to delayed animal ethics approval as well as poor weather conditions, but progress is now running smoothly. This phase is anticipated to continue into 2026 due to the high number of dogs required.*
- Compare observational data with the owners' perception of the benefits of the dog park for their dogs and themselves – *Phases 1 and 2 are helping us investigate this aim. We have mostly completed these phases, although Phase 2 is being expanded and this will be conducted hopefully across the 2024/2025 summer. Our results demonstrate that the dog handlers' perceptions of their park use and the benefits their dogs are getting from their experiences in the park do not align with actual behaviour. Indeed, the results of the behavioural observations of dog guardians, such as time spent in the park and guardian play behaviour with dogs, demonstrates that dogs may not be getting much benefit from dog parks beyond exercise. That is not to say that exercise is not beneficial, but parks can be utilised in a variety of ways and dogs may highly benefit from increased interactions with their guardian, sniffing opportunities, and mental stimulation when at the park.*
- Compare the social behaviours occurring between different dog parks to determine whether the design of the dog park influences the behaviour of owners and the socialisation of the dogs within these spaces. – *All phases are assisting us in our understanding of how park design impacts use and allows for positive social interactions for the dogs, with other dogs and with people. We are noting differences in park use between our four parks, including different attitudes regarding leash use, play behaviour, and time spent. For example, unfenced parks have longer stay times than fenced parks, but they are also larger. However, we have noted that guardians view the entire reserve as part of the park, even though Auckland Council defines the park as a specific off-leash area. Stay times will therefore be longer but were not included in our study as we focussed on the off-leash spaces, which guardians should be mostly utilising. Guardians observed playing with their dog, engaging in positive social activities, was highest in one fenced park but lowest in the other. This suggests there may be environmental or cultural differences in the perception of these parks, dependent on set up, community engagement, and the demographics of the users.*

Impact

Indicate who/what has benefitted (or will benefit) from this research. What form do these benefits take and why are they important?

This research benefits a wide community, but first and foremost dog guardians and Local Boards. Beyond this, dog trainers and behaviourists, Companion Animals New Zealand, the SPCA and other shelters, animal management teams, Auckland Council, veterinarians, urban planners, conservationists, and the non-dog owning members of society. The information and insight we generate from this project is helping us to design educational

resources for dog guardians, instruct them on different ways to use dog parks, conduct workshops on reading dog's body language, and utilizing dog trainers to work with guardians on how to manage a dog's experiences in the park. Importantly, it will also help dog guardians understand that not all dogs like the park and it is okay not to go. We have been invited to give a presentation on dog parks, dog behaviour and dog training for the Zoological Society of Auckland, for example, who sees a benefit for the Auckland community from the work we are doing.

Our study is also being utilized to inform Local Boards and Councils on how people are currently using these facilities, what is and is not working, and in help with the development of new, and more effective, parks. We have been in discussions with John McKellar and Melissa Johnstone who are preparing to propose new dog parks on the north shore. While none of our dog parks are located in that area, our findings can be generalized to help them understand what dog guardians are looking for in a park and what dogs need from one. They have been very interested in our research although there are limitations with their budget. However, upon discussion we have found ways to help mitigate some of the cost of features which would greatly enhance their parks.

The above highlights the main benefits, but there are other ways our study will provide insight to other important members of the dog community in Aotearoa New Zealand. For example, the reserves surrounding many of the dog parks are important areas for conservation. Finding ways to mitigate inappropriate behaviour, such as dogs being off leash in these areas, could help to improve relationships with the non-dog owning community and conservationists. Furthermore, many parks also have walking/cycling paths, children's playgrounds and sportsgrounds nearby; there's obviously concerns with dogs being off leash in the wrong areas as it may pose a threat to other users of these green spaces. Keeping dogs on leash and having a community attitude towards this behaviour will improve societal views on dogs in our community.

Our students are also benefitting from this research. Firstly, we have been able to invest in the training of 4 undergraduate students in this project. We were also able to employ a former student and recent graduate and help progress their career. We are also utilizing our findings in our teaching, and showing current students how our research informs general knowledge, some of the challenges in companion animal welfare, and areas that they could go into in the future.

Conclusions

Briefly summarise any conclusions that can be drawn from the research.

Overall, our results show that dog guardians are over-estimating their use of dog parks. Dogs may not be getting as many benefits from these spaces as could be generated. The design of the park does have some influence over use and an interesting and engaging set up could inspire a broader range of activities. Unfortunately, dog parks in Auckland are increasingly barren lawn deserts and the vast majority are set in multi-functional areas with competing needs. There is a heavy reliance, by guardians, on dog-dog social interactions to be the main purpose of visiting the dog park, despite safety concerns for dogs. Improved design could help provide non-social dogs with alternative outlets.

Next steps and Ongoing Research Possibilities

Detail what your intended next steps are for this research, speaking to any future steps you had planned in your approved application (e.g. phase 2 of the project, seeking external funding and growing external partnerships etc). Consider the future implications of your project and how you or others can build on it. What future plans do you have for research in this area? What work needs to be undertaken to realise these plans? Are there ongoing possibilities for other stakeholders? What opportunities are there for further industry partnership and external funding? What external, industry, community, iwi partners are you working with?

This study is on-going. In 2024, our focus is now on Phase 3, and a new phase (4) brought on by the introduction of an additional aim. Phase 4 will involve the GPS tracking of dogs in our four parks to investigate where they go, how much of each park is actually utilized, and to help identify dead zones. In 2024, we have employed a new Research Assistant using further funding from Tuapapa Rangahau. We expect to be continuing to collect data on these phases for the next 2 years. This will require further funding should we wish to continue to employ an RA. We are investigating funding opportunities such as through Companion Animals New Zealand and Healthy Pets New Zealand. The manager at the Auckland Botanic Gardens has also recommended looking into crowd-sourcing, and we have been informally approached by Animates.

The logical expansion of this study, once the base data is collected, is to investigate how we can encourage broader use of dog parks, appropriate dog park behaviour, and improved social management by guardians. To this end, we are investigating the use of focus groups, educational workshops and symposiums, as well as experimental designs which will help us to identify ways to elicit behaviour change. We have had interest from Auckland Botanic Gardens to run focus groups; they have offered their facilities to allow us to do this.

In our talks with John McKellar, a limiting factor for a "good" dog park design is funding. We are therefore exploring opportunities to work with the Unitec architecture and carpentry students to help with urban planning and small construction projects which will benefit the community. We are also looking into equipment and dog-safe sensory plants which could be donated by businesses, such as Bunnings or King's Plant Barn. This will be explored further in 2025.

Recommendations (optional)

List any specific recommendations for the teaching, learning, or research communities.

1.1 Publications and dissemination

Detail below the status of the research outputs planned and state whether they are completed, in progress or ceased in the table below (using the outputs table from your Terms & Conditions funding agreement). If these differ from those anticipated in your original application, please provide an explanation for the variation. Where the proposed publication etc is yet to take place, please provide a timeline for future publications in the Revised Due Date column. Detail concerns you may have had with predatory or vanity publishing, if any. Include internal dissemination activities (eg participation in Unitec's Research Symposium). In addition, provide details of any dissemination back to community, iwi or related external groups.

Kemp, C. & Thorne, J. (2024). Who's having fun at the dog park? Companion Animals New Zealand conference, Hamilton NZ, March 2024.

Weschler, SK, Thorne, J., & Kemp, C. (2023). Benefits and use of dog parks. School of Environmental and Animal Sciences, Unitec-Te Pūkenga Symposium, Auckland NZ, December 2023.

Output type	**Agreed Date due**	**Status** (Completed, in progress or ceased)	**Revised Due Date** (if still in progress)
Unitec symposium student output	End 2023	Completed	
Undergraduate student reports	End 2023 and mid 2024	Completed (2023), in progress (2024)	2024
Phase 1 and 2 written up and submitted to a peer-reviewed journal, potentially Landscape and Urban Planning	2024	In progress	2024
Phase 3 written up and submitted to a peer-reviewed journal, potentially Applied Animal Behaviour Science	2025	In progress	2025
Presentation and/or discussion with Auckland Local Board	Early-mid 2023	In progress	Unsure. Dependent on communication and interest – change in government and mayor caused some issues in Local Board focus.
Potential report written for Auckland Council	End 2025	In progress	2025

Financial Reconciliation

- *Comment on the final status of your project's budget, including the reason for any underspend or overspend if applicable (NB: it is not anticipated that you would have overspent your budget).*
- *If your expenditure does not match the final income and expenditure statement produced by PeopleSoft, provide an explanation for the discrepancy.*

Item	Amount Approved	Actual spend in PeopleSoft ($)
Personnel (Key Researcher)	$8,000	6056.28
Travel to dog parks	$1,000	650.53
Animal ethics application	$2,000	2000
Total	**$11,000**	**$8706.81**

We are under budget. However, it was very difficult to manage this budget as I did not have access to real time data on where things were at with RA employment and receipt processing for fuel vouchers. I had to ask Asma Munir for this information and I did not want to bother her too often; I was also more concerned with going over than being under. Some weeks our RA worked more than others, due to the field-based nature of the work. Therefore, it was not possible to assume consistent use of the budget for the RA per fortnight, and the expenditure could not always be predicted to ensure it was fully utilised. Being able to view the costs in real time would have made this much easier to manage and I would have ensured we used closer to the total budget allowance.

References (if applicable)

List any references to the work of others you have cited. Provide URLs for any materials available on the web.

Companion Animals New Zealand. (2020). Companion animals in New Zealand 2020 report. https://static1.squarespace.com/static/5d1bf13a3f8e880001289eeb/t/5f768e8a17377653bd1eebef/1601605338749/Companion+Animals+in+NZ+2020+%281%29.pdf

Department of Internal Affairs. (2020). Currently registered dogs in New Zealand. https://figure.nz/chart/Rf5rYwXnAzAbbs0z

Glasser, M. R. (2013). *Dog Park Design, Development, and Operation*. Human Kinetics.

Gomez, E., Baur, J. W. R., & Malega, R. (2017). Dog park users: An examination of perceived social capital and perceived neighborhood social cohesion. *Journal of Urban Affairs, 40*(3), 349–369. https://doi.org/10.1080/07352166.2017.1343634

Jackson, P. (2012). Situated Activities in a dog park: Identity and conflict in human-animal space. *Society & Animals, 20*(3), 254–272. https://doi.org/10.1163/15685306- 12341237

Lee, H. S., Shepley, M., & Huang, C. S. (2009). Evaluation of off-leash dog parks in Texas and Florida: A study of use patterns, user satisfaction, and perception.

Landscape and Urban Planning, 92(3-4), 314–324. https://doi.org/10.1016/j.landurbplan.2009.05.015

Ottenheimer Carrier, L., Cyr, A., Anderson, R. E., & Walsh, C. J. (2013). Exploring the dog park: Relationships between social behaviours, personality and cortisol in companion dogs. *Applied Animal Behaviour Science, 146*(1-4), 96–106. https://doi.org/10.1016/j.applanim.2013.04.002

Walsh, C. J., Howse, M., Green, C., Butler, L., & Anderson, R. E. (2011). "Stop that!": People interrupting behaviours in a dog park setting. *Journal of Veterinary Behavior, 6*(1), 77. https://doi.org/10.1016/j.jveb.2010.09.015

Westgarth, C., Christley, R. M., Pinchbeck, G. L., Gaskell, R. M., Dawson, S., & Bradshaw, J. W. S. (2010). Dog behaviour on walks and the effect of use of the leash. *Applied Animal Behaviour Science, 125*(1-2), 38–46. https://doi.org/10.1016/j.applanim.2010.03.007

Appendixes (optional)

Include any appendixes that readers will find helpful to understand the work described or the results.

Reminders:

- You must notify Tūāpapa Rangahau of any outstanding publications and research outputs when they occur (via email to research@unitec.ac.nz) and ensure they are entered in ROMS.
- Please keep in mind that in addition to Tūāpapa Rangahau and the Unitec Research Committee, your report may be viewed by members of the ELT, Heads of Schools and/or external stakeholders. Please also note your research may also be highlighted in the Annual Unitec Research Report and/or in Unitec's research blog.
- Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director Research and Enterprise or with Brenda Massey, Senior Grants Advisor.

Early Career Researcher Fund 2023
Progress Report

Email your completed Progress Report to bmassey@unitec.ac.nz before **5pm on 28.03.2024.**
Instructions in red italics may be removed before submission.

Researcher:	Madhusudan Vyas
Project Title:	Artificial intelligence based software solution to predict individual outcomes of targeted radiotherapy
Amount of Grant:	$8,000

Provide an update on the project's overall progress
Summarise progress towards your aims/objectives; note any highlights of your project to date.
UPSMA project aim since the beginning was to create an AI based solution which can help to detect PSMA avid lesion and help to predict possibility the outcomes of the Lu177-PSMA treatment. It was not an easy task to work on the limited resources although received money from ECR and support from stack holders helped us to make some progress as we planned. We have now successfully created software which can load the images and analyse the quantifications. Now next stage is to evaluate it with clinical database and comparing with the exiting software for interpretation. Overall, we have a made slow but steady progress in positive directions.

Outline progress with respect to the relevant milestones identified in your application for funding

Milestone Date	Anticipated Achievement	Activities and Progress
Dec,2023	Software deployment	Evaluated in early stage and received feedback from clinical team
Jan-Feb,2024	Modelling data collection	Lesion detection is achieved although quantification and validation of the number is still required to be completed.
Feb-June,2024	Modelling evaluation	Currently research team is working on it and uMI will help in the process to achieve this target
August,2024	Estimated completion date	Partial work completion although research team looking for another grant to make this project NZ-China interest.

Outline any variations to your project [if applicable]
If there have been any changes in terms of timeframes, budget, personnel or planned outputs note these here.
No applicable as mentioned earlier we are making progress as planned and some evaluation with the comparable software needs to be done before deploying it in clinical settings.

Outline any new opportunities to come from this project so far

Are there new connections, funding sources or opportunities for your own research, Unitec teams or the work of others which are emerging in this project? How could these opportunities be pursued in this or future projects?

We are currently working with multiple stakeholders including UMI©, AUT, Shanghai University of technology and Mercy radiology to get more funds from NZ-China grant round for this year again. Our aim is to make this product global and even for this making and evaluating some more funding opportunities and capacity of the current project making it more attractive to get more global and local interest.

Financial Update

- *Comment on the status of your project's budget.*
- *In the update, keep to the original budget items.*
- *If it is likely that you will not spend all your allocated funding, please articulate this here, as this will give the Unitec Research Committee the option of reallocating funds to other worthy projects.*

Item	Amount approved	Amount spent to date[1]	Remaining funds (i.e. amount approved less amount spent to date)	Anticipated amount to be spent by the end of the funding term*
Personnel for data analysis	$1,000	0		
Professional services (software developer; 150 hours)	$5,000	1000		
Equipment	$2,000	2000		
Total	**$8,000**	**3000**	**5000**	

* *If the anticipated amount to be spent by the end of the funding term is more or less than the amount approved, please explain why:* I haven't sent anymore invoice yet and more to be send by the end of next month as currently evaluating overall expenses.

Self-assessment: The Early Career Researcher Fund aims to develop early career researchers' capability, capacity and career progression as a Principal Investigator on a high-quality applied research project. How well do you believe you have managed your project to date?

Current project I have successfully managed with arranging continuous meeting and communication with my stack holders and active contributors to keep current project more viable. Continuous engagement of the Co-PI and their productive feedback helped to make this project a huge success so far. Although we still need more money to keep going in future as there will be more to do but happy with my progress till date.

Do you wish to highlight any other matters relevant to this project?

Yes ☒ We are currently working on the modelling of the data and planning to evaluate it against the available clinical data. Modeling will require more time and would be great if we can still have acess to the available fund so it can be used.

[1] If you are unsure, you can check these figures with Asma Muir amuir@unitec.ac.nz

No ☐

Reminders:

- There will be no rollover of funds into 2024.
- All purchase orders, invoices, expense claims and applications to travel connected with your project must be signed off by the Director Research and Enterprise.
- You must notify Tūāpapa Rangahau of publications as and when they occur (via email to research@unitec.ac.nz).
- You must notify Tūāpapa Rangahau of any significant changes to your planned research.
- A final report on your project is due before 31 March 2024.

NB: Any problems or issues that you would prefer not to highlight in this report can be discussed, in confidence if requested, with the Director of Research and Enterprise, your Research Partner and/or with Brenda Massey, Senior Grants Advisor.

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?