



# Ngā Pae o te Māramatanga Summer Internship Projects 2021-22

Published for student review and applications for summer internships only.

**Students – please read the project descriptions of the internship projects you are interested in and select the three to put into your application form.**

Complete the application form and upload with the required information to the [online application](#) portal.

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## Projects – Reference list

Review the projects listed below and link to the project description –

*Note in your application you select your 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> choice*

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## Project 1 – Investigating traditional mahinga kai practices of preservation throughout Aotearoa

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**Name:** Associate Professor Anne-Marie Jackson

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**Project Title:** Investigating traditional mahinga kai practices of preservation throughout Aotearoa

**Project location:** The University of Otago, Dunedin Campus

**Project Summary:** The coastal environment of New Zealand contains a large number of archaeological midden sites that contain the remains of food preparation, consumption and discard. These food remains provide a reliable record of mahinga kai practices at particular times and places. It is possible, however, that the food may not have been consumed immediately and was preserved and transported for later use. Although food preservation is widely practised in te ao Māori, little is known about the diversity of practices involved either historically, or archaeologically.

In this project the intern will compile a comprehensive database of preservation practices in Aotearoa based on archival and historical resources, which will inform future work on understanding the practices that underpin the formation of archaeological midden (food refuse) sites. Preservation practices in te ao Māori have been expanding since European colonisation (e.g., bottled preservation of kahawai) so once the historical data set is completed it will also form a baseline for investigating contemporary food preservation practices.

The intern will be working with the SPAR team, a research unit in the Archaeology Programme at the University of Otago, that has a team of experienced researchers specialising in the archaeology and early history of Aotearoa. The work will be based in Dunedin where the intern will examine archival and historical records to understand the types of preservation methods that were practiced in the 19th and early 20th centuries.

Research activities will include a literature review of mātauranga Māori preserving techniques across regions, seasons and ecologies throughout New Zealand and the findings of this will be submitted as a report and compiled as a bibliographic resource. The intern should have a basic understanding of te reo, and of the historical literature.

### **Programme of work to be carried out:**

- Consultation with cultural and academic experts
- Literature searching and review of archival and historical records
- Recording of historical data in digital format
- Preparation of peer-reviewed publication

### **Day to day nature of the work:**

- Discussions with supervisors and other relevant historical and cultural experts (mainly on campus) to develop a list of potential resources.
- Design and recording format
- Select and set up appropriate databases (probably EndNote and ArcGIS)
- The data gathering stage will involve an exploration of all the identified resources.
- Information will be entered into the digital databases
- Preparation of the datasets as a searchable resource
- Preparation of a publication

### **Research skills the student will learn:**

The intern will develop reading in te reo Māori and archival research skills through reviewing relevant literature and academic writing through working on report of findings and limited skill development in digital recording, archiving and presentation of data.

## Project 2 – Te Au Roa – Predator sound lure trial: Draw possums out of those difficult to reach places on Taranaki Mounga

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**Name:** Mr Tama Blackburn and Miss Sera Gibson

**Institution:** Taranaki Mounga Project Limited (TMPL)

**Email:** [sera@taranakimounga.nz](mailto:sera@taranakimounga.nz) or [tama@taranakimounga.nz](mailto:tama@taranakimounga.nz)

**Project Title:** Te Au Roa – Predator sound lure trial: Draw possums out of those difficult to reach places on Taranaki Mounga

**Project location:** New Plymouth - The intern could be located anywhere in Taranaki as most things are only a drive away but preferably, they would be located in the New Plymouth area.

**Project Summary:** Taranaki Mounga Project Limited (TMPL) and DOC have been working relentlessly on the Kaitake ranges to eradicate possums and other pests and predators. Taranaki Mounga Project is now at a point where they know for certain that their possum populations are at the lowest, they have been since their introduction, however Taranaki Mounga Project and DOC think there are still residents present and invaders are pushing in from the surrounding farm and bush boundaries.

Auroa primary school kids, with the assistance of Principal Myles Webb and electronics guru Andrew Hornblow, have been working on an audio sound lure for various pests and predators since 2018. They have refined the devices to a point where they are bush ready in regard to basic sound file programming and waterproofing (see video here - <https://youtu.be/dqfi-GTrOPE>).

Our goal is to draw those possums out of those difficult to reach places on Kaitake ranges to the trap lines or Automatic Lure Dispensers (ALD) and camera trap stations, rather than risk the health and safety of our people, not to mention time and resources involved with such efforts. This is the time for new technology like the possum acoustic sound lure to show its potential.

The intern will be supported by Tama Blackburn and the TMPL/DOC ranger team in the field and office. As mentioned, the TMPL/DOC team is highly skilled to support an intern throughout their research programme and provide any pastoral care needed.

### **Programme of work to be carried out:**

- Set-up sound lure units in conjunction with possum trap mechanisms and cameras in the field on Kaitake ranges; Check and re-bait traps weekly
- Collect cameras after 2-weeks of being in the field, and record predator interactions
- Work with Tama, local sound lure technician, Andrew Hornblow, and predator specialists, Tim Sjoberg and Matt Kaverman, to refine the sound lure focusing on the most effective possum call signatures; and
- Continue trialling sound lures.

### **Day to day nature of the work:**

- Work with Tama Blackburn to refine the research methodology and meet with and learn from all key stakeholders who have been involved in the project to-date.
- Install the sound lure units in conjunction with possum trap mechanisms and cameras in the field on Kaitake ranges, monitor these set-ups on a regular basis, work with Tama Blackburn and sound lure technician Andrew Hornblow to refine sound lures, and continue the trial.
- Write-up findings of research

### **Research skills the student will learn:**

- Search for current and relevant research into this topic
- Methodology creation and application
- Field survival skills in adverse terrain and conditions
- Time and people management (around weather and communities)
- Problem solving and critical thinking
- Strengthen communication skills using different methods

## Project 3 – Tūrou Hawaiki: Morning karakia and waiata as a culturally responsive pedagogy

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**Name:** Dr Matiu Rātima

**Institution:** The University of Canterbury

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**Project Title:** Tūrou Hawaiki: Morning karakia and waiata as a culturally responsive pedagogy

**Project location:** Canterbury University Campus Rehua building (with flexible work from home arrangements)

**Project Summary:** The physiological, psychological and social benefits of singing together are well established in research (see for example Bungay et al., 2010). But relatively little research has investigated the specific benefits of waiata and karakia in the New Zealand context.

Local researchers have established clear links between the strategic use of karakia and waiata to promote wellbeing (see for example Rollo, 2013 and Hodgson, 2018) in the context of Music therapy. Practice-based research in teacher education advocates karakia and waiata as forms of culturally responsive teaching (Ratima et al., 2020, Karaka-Clarke et al., 2021). However, little has been done to shed light on the specific potential for tikanga Māori to help build cohesion and understanding amongst teacher educators and student teachers who need to develop cultural competence in order to negotiate the diversity of learning environments.

The research team are curious to know what effect karakia and waiata can be shown to have on wellbeing. Since its inception, just prior to the world-wide outbreak of the Covid-19 virus in 2020, the practice of holding open regular karakia and waiata in the foyer of Rehua at the University of Canterbury has been lauded for its ability to uplift and empower staff and students. This initiative has assembled a group of regular attendees, an online following (via Facebook Live streaming), and temporary daily additions from visiting groups, meeting attendees or passers-by. Anecdotally, staff report that their well-being is positively affected by participating, as it prepares them for their teaching. Students comment to the sense of belonging they feel singing with staff.

This project will explore the impact of daily karakia and waiata in a tertiary institution. It will use a braided rivers methodological approach (Macfarlane, A & Macfarlane, S., 2019) and data will be gathered through survey responses across a 4-week period, hui and semi-structured interviews.

The supervising researcher and research team the intern will be working with;

Dr Matiu Ratima – Senior Lecturer Teacher Education

Dr Susannah Stevens – Lecturer Child Well-being Institute

Dr Te Hurinui Clarke – Lecturer Teacher Education

### **Programme of work to be carried out:**

- Pro Literature search and Review writing (3 weeks)
- Online survey design and data gathering (3 weeks)
- Semi structured interviews (2 weeks)
- Data analysis and Report writing (4 weeks)

### **Day to day nature of the work:**

- Planning with supervisors
- Literature searching, reading, summarising key findings from literature
- Review writing
- Data gathering and analysis
- *Towards the end of the internship:* Report writing drafts and seeking supervisor feedback
- Revisions to report

### **Research skills the student will learn:**

Literature search and review writing.

## Project 4 – How does the kuku pattern its shell? Using RNA in situ hybridization to investigate whether kuku use canonical genes to specify where and how its shell is formed

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**Name:** Dr Nathan Kenny

**Institution:** The University of Otago

**Email:** [nathan.kenny@otago.ac.nz](mailto:nathan.kenny@otago.ac.nz)

**Project Title:** Investigating traditional mahinga kai practices of preservation throughout Aotearoa

**Project location:** The University of Otago, Dunedin Campus. There is also the possibility of a short period (~1 week) in Nelson by arrangement with the student, but this is not mandatory.

**Project Summary:** This project involves the identification of important gene sequences in kuku (*Perna canaliculus*). These genes are known to be key signals for shell formation in other molluscs. We will generate RNA probes for these genes, and use them to image if, and where, these genes are turned on in embryonic kuku.

The NPM intern will work in the Biochemistry Department of the University of Otago, with Dr Nathan Kenny (Te Ātiawa, Ngāi Tahu). This project would suit a Dunedin based student.

This work will involve a series of experiments using common skills in molecular biology – identifying gene sequences, generating probes, and performing a technique called “RNA *in situ* hybridisation”, which shows where genes are active. This project is suitable for a student in the biological sciences generally, and especially those with an interest in developmental biology, genetics or aquaculture. It will provide them with skills in molecular biology, embryology and microscopy.

**Programme of work to be carried out:**

- Identification of key genes (the *Perna canaliculus* homologues of *BMP2/4*, *engrailed* and *Gbx*) within kuku transcriptomic resources.
- Design of primers and molecular cloning of genes (PCR, ligation into vector, competent cell transformation, blue/white selection, miniprep and sequencing of clones)
- Spawning of kuku in the lab. Fixation of staged embryos up to 72 hours postfertilization.
- Generation of sense and antisense RNA probes by *in vitro* transcription
- Whole mount *in situ* hybridisation in embryos fixed previously, using colourimetric probes
- Imaging of these embryos (microscopy)

**Day to day nature of the work: Computational and Lab Tasks**

- Learning how to interact with transcriptomes, blast genes in databases
- Spawning of kuku, fixing of embryos, extraction of RNA
- Following protocols to clone genes into bacterial vectors, generate RNA probes. Lots of pipetting!
- Performing RNA *in situ* hybridization experiments
- Reading about the genes we are working on, report writing, imaging on microscopes within the department

**Research skills the student will learn:**

- Proficiency with identifying and working with gene sequences
- Experience working with embryos, and fixing them at specific stages
- A variety of experience in modern molecular biological techniques, of broad utility in biochemistry and related fields. This will include ligations, restriction enzyme digestions, molecular cloning and similar skills.
- Familiarity with mounting and imaging embryos (and general microscopy)

## Project 5 – Whakapapa: Whānau Narratives

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**Name:** Morgan Tupaea and Dr. Rāwiri Tinirau

**Institution:** Te Atawhai o Te Ao: Independent Māori Research Institute for Environment and Health

**Email:** [rawiri@teatawhai.maori.nz](mailto:rawiri@teatawhai.maori.nz)

**Project Title:** Whakapapa: Whānau Narratives

**Project location:** The primary location of this project will be in the student's own home. The student may need to meet with other researchers, but this can be done via phone, Zoom, etc. Additionally, the student will need to have the following:

- A stable and reliable internet connection;
- A working laptop and/or desktop computer; and Access to necessary software to complete the work, such as Microsoft Office, Dropbox and Zoom

**Project Summary:** The Whakapapa Research Project aims to gather whānau narratives from eight whānau case studies. As this project unfolds, whānau responses to challenges they have experienced will be documented, and a whānau research methodology will be developed. Through this project, an innovative space of whānau narratives and whakapapa connections will be created, and provide insight into the organisation, perseverance, and preservation of whānau and whakapapa over time.

As we are nearing the completion of elements of this project, the student will be given access to submissions from whānau researchers which they will be working with. The student does not require deep understanding of their own whakapapa but will be encouraged to mirror the journey of whānau researchers by reflecting on how the key themes within the broader project relate to their own whānau.

The student will be tasked with analysing submissions from whānau researchers to identify how whānau researchers write about the process of whānau research in relation to:

- Reclamation of knowledge;
- Capacity for healing; and
- Challenges and barriers to whānau research

Further, the student will be tasked with crafting a reflexive written piece that speaks to the observations they have made and their whakaaro on whānau research as a mechanism for reclaiming intergenerational knowledges and providing templates for navigating contemporary conflicts.

**Programme of work to be carried out:** The student will engage in thematic analysis of whānau researcher submissions to identify:

- Constructions of reclamation of knowledge
- Capacity for healing
- Challenges or barriers that interrupt the whānau research process.

This analysis will be woven together with existing literature reviews about whānau research to craft a piece of writing that contextualises their analysis with literature to support their findings.

The student will keep track of notes generated throughout the internship to craft a reflexive piece of writing that speaks to their positionality in relation to whānau research, their understanding of whānau research and what they believe the capacity of whānau research is for informing our futures, realising well-being, and creating healing trajectories.

**Day to day nature of the work:**

- Reading and familiarising themselves with the whānau researcher submissions;
- Reading and familiarising themselves with the Whakapapa Research Project literature review;
- Researching any additional whānau research related material they wish to include;
- Thematic analysis of whānau researcher submissions;
- Crafting, receiving feedback and editing the two *requested written pieces*; and
- Reporting to supervisors through email and Zoom.

**Research skills the student will learn:**

The Whakapapa Research Project will give the intern opportunities to:

- Engage in thematic analysis of pre-collected data, and receive one-on-one support to do this;
- Practise assessing literature reviews, identifying any gaps relevant to their specific approach;
- Encounter taonga within whānau narratives and mātauranga;
- Hone their writing skills with support in navigating feedback and comments from supervisors;
- Access insight and knowledge of whānau research processes; and
- Access both theoretical and practical research experience within a Kaupapa Māori research environment.

## Project 6 – Unravelling the Whakapapa and Pūrākau of the Waikouaiti Recreation Reserve

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**Name:** Dr Robin Quigg

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**Project Title:** Unravelling the Whakapapa and Pūrākau of the Waikouaiti Recreation Reserve

**Project location:** The internship will be situated in the Department of Preventive & Social Medicine, at the University of Otago.

**Project Summary:** Parks and reserves land, if not conservation or national parks, are governed by local authorities, guided by the Reserves Act 1977. Local authorities must give effect to the principles of the Treaty of Waitangi (TOW), similar to that of the Crown. It is not clear where and how the principles of the TOW fit with the preservation and protection of the reserve given the Reserves Act is specific about the well-being of the reserve, rather than prioritising those with ancestral links to the land now delineated as a reserve.

A historical content analysis is proposed to undertake an investigation of a reserve within the Kāti Huirapap ki Puketeraki rohe, Waikouaiti Recreation Reserve. Some of the land is owned and managed by the Dunedin City Council (DCC) as a publically accessible recreation reserve, but a significant proportion is currently leased for 'stock finishing'. A project will explore the documented whakapapa and pūrākau associated with the reserve using the DCC archives and other similar resource libraries.

The project will be supervised by Dr Robin Quigg. Dr Quigg teaches hauora Māori within the public health curriculum at the University of Otago. With a background as a recreation planner prior to working within the public health discipline, she is particularly interested in decolonising spaces, such as parks and reserves. Parks and reserves reflect the industrial revolution distinction between work and leisure, space taken from indigenous cultures.

The research activities will involve a site visit and archival research.

It is expected that the student will have undertaken study in social science and/or public health.

**Programme of work to be carried out:**

- Waikouaiti Recreation Reserve site visit
- Research of relevant reserve files at Dunedin City Council Archives
- Exploration of relevant documents, images and other content at other sites, such as the Hocken Library.

**Day to day nature of the work:**

- Site visit and introduction to the DCC Archives and the Hocken Library.
- Data collection and thematic conceptualisation
- Thematic analysis and project write up

**Research skills the student will learn:**

- Organisational skills
- Collection of historical data
- Thematic analysis of historical data
- Writing and re-writing

## Project 7 – Separatism, or sovereignty? Exploring social media and news media narratives of Maaori tino-rangatiranga in politics and health

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**Name:** Dr Waikaremoana Waitoki

**Institution:** The University of Waikato

**Email:** [moana.waitoki@waikato.ac.nz](mailto:moana.waitoki@waikato.ac.nz)

**Project Title:** Separatism, or sovereignty? Exploring social media and news media narratives of Maaori tino-rangatiranga in politics and health

**Project location:** University of Waikato (work from home is possible)

**Project Summary:** The primary purpose of this project is to explore how selected issues involving race in New Zealand are framed and discussed in social and traditional media, including expression of both overt and more subtle forms of racism.

The interns will be working primarily with Dr Waitoki (led researcher), and a Post Doc Research Fellow (who will start in Nov.) and with Dr Damian Scarf (co-researcher, University of Otago), and Dr Justin Phillips (co-researcher, Tauranga Campus, UoW) who will provide the digital material and some guidance about coding. The intern/s will be based at the Faculty of Indigenous Studies, Te Pua Waananga ki te Ao.

The summer scholar will be tasked with manual content analysis of social and traditional media observations (e.g. Tweets, Facebook posts, selected news articles, etc.) related to political and social issues: constitutional reform; Maaori Health Authority; and COVID-19. This project will therefore hone and further develop the student's qualitative analytic expertise in the areas of media framing, politics, and race, among other relevant subjects. Data will be collected and provided by Dr. Damian Scarf and Dr. Justin Phillips, through appropriate social media platform API's, media libraries, and public repositories.

The academic and discipline knowledge the student should have; Law, Social Sciences, Computer Science; Maaori studies.

**Programme of work to be carried out:** The intern(s) are expected to review media and social media 'scoops' related to specific events. They will manually code each item and assign them to a specific category and provide a preliminary analysis of that potential meaning of the item.

The intern(s) are expected to do a literature review of the topic (1) and prepare a manuscript for publication.

**Day to day nature of the work:**

- Familiarise them to the research project, and team members (whanaungatanga)
- Set up files in preparation for the data
- Begin data analysis – coding.
- Begin literature review
- Weekly narrative to enter into report for Nga Pae
- Literature review ongoing
- Coding completed, analysis begun/confirmed with PostDoc and Supervisor.
- Summary analysis prepared.
- Weekly narratives ongoing.
- Manuscript started

*Towards the end of the internship*

- Literature review completed
- Manuscript draft under review by Supervisor and PostDoc
- Final Nga Pae report completed

**Research skills the student will learn:**

- To gain skills working within a larger team-based research project.
- Learn content analysis, coding, and literature review methods.
- To develop research analytical skills; to gain confidence in writing a co-authored paper for publication

## Project 8 – Whakarauora: Whanganui pātaka construction

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**Name:** Meri Haami Rāwiri and Dr Rāwiri Tinirau

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**Project Title:** Whakarauora: Whanganui pātaka construction

**Project location:** The primary location of this project will be in the student's own home. Additionally, the student will need to have the following:

- A stable and reliable internet connection;
- A working laptop and/or desktop computer; and access to necessary software to complete the work, such as Microsoft Office, Dropbox and Zoom.

**Project Summary:**

The Whakarauora Research Project aims to re-integrate traditional fishing methods used by Whanganui tūpuna into the development of an education curriculum and through facilitating wānanga. Wānanga have been facilitated for a tamariki and rangatahi environmental group, called Te Morehu Whenua, who have been established under the auspices of hapū associated with Rānana Marae, Whanganui. As a case study, Te Morehu Whenua examine taonga species within the Whanganui River area, which include tuna, kākahi, kōura, atutahi and pātiki. Te Morehu Whenua are currently exploring the construction, history and functionality of pātaka, particularly pātaka kai, with the aim of re-integrating its future use within the Whanganui River area.

Further, the student will be tasked with researching the following on Whanganui pātaka:

- Appropriate placement of pātaka according to the tikanga associated with the whenua;
- Appropriate usages of the different pātaka in Whanganui;
- Customary design of the Whanganui pātaka;
- Customary construction of the Whanganui pātaka; and
- Customary maintenance of the Whanganui pātaka kai.

**Programme of work to be carried out:**

The research activities to be carried out includes examining Whanganui pātaka, which is an aspect of traditional fishing knowledge that has extensive support from literature and research with tangible accessibility to traditional Whanganui pātaka. However, the processes and practicalities surrounding the history, customary function and usages of traditional Whanganui pātaka require further research. Therefore, our aspiration for the research activities to be carried out through the internship will focus on the history, construction and function of traditional Whanganui pātaka, with a particular focus on Whanganui pātaka kai.

The overall nature of the work will examine the history, construction and functions of Whanganui pātaka with the following research aims:

- To research Whanganui pātaka;
- To locate and research traditional materials of pātaka construction;
- To collaborate with other researchers within the Whakarauora Research Project;
- To give research updates and learnings by attending research hui through Zoom; and
- To produce a final report examining the history, construction and functions of Whanganui pātaka with a particular focus on pātaka kai.

**Day to day nature of the work:**

- Researching literature on Whanganui pātaka;
- Collating literature on Whanganui pātaka;
- Analysing literature on Whanganui pātaka; and
- Reporting to supervisors through email and Zoom, again stable internet, Microsoft Office and Dropbox is required

**Skills the student will learn:**

The student will learn the following skills through the Whakarauora Research Project:

- Valuable knowledge of Whanganui tūpuna;
- Knowledge of Whanganui pātaka; and
- Both theoretical and practical research experience within a Kaupapa Māori research environment.

## Project 9 – Tautohetohe: The Art of Debate, Te Reo Irirangi o Te Hiku o Te Ika (Te Hiku Media)



**Name:** Dr Gianna Leoni

**Partner:** Te Hiku Media

**Email:** [gianna@tehiku.co.nz](mailto:gianna@tehiku.co.nz)

**Project Title:** Tautohetohe: The Art of Debate

**Project location:** Internship can be situated at their location of choice. If possible, some travel may be organised for the intern to meet kaimahi from Te Hiku Media.

**Project Summary:** Papa Reo is a multilingual language research platform grounded in indigenous knowledge and ways of thinking and powered by cutting edge data science. Te Reo Irirangi o Te Hiku o Te Ika (Te Hiku Media) have been trusted gatherers and kaitiaki of te reo Māori data for over 30 years. The overall objective of the summer internship was to investigate the linguistic features of te reo Māori in tautohetohe, formal debates, broadcast in the mid 1990s.

The intern will be working under the supervision of Dr Gianna Leoni, a Data Specialist in te reo Māori at Te Hiku Media and a member of the Papa Reo project team. The intern will be supported by the wider project team, which includes experts in te reo Māori, linguistics, computer science and research.

The intern may be situated in a location of their choice with regular support and engagement provided digitally. Some travel may be organised for the intern to meet with kaimahi from Te Hiku Media and the Papa Reo team, depending on COVID-19 restrictions.

The intern will undertake the following activities:

- Archival search and analysis
- Audio transcription
- Parts of speech tagging
- Analysing and reporting data
- Report writing

Proficiency in te reo Māori is a requirement for this internship in order to engage with the archives. Ideally the intern will be a Māori Studies major, but this is not a requirement. Interest in computer science would also be beneficial.

The intern will develop a working knowledge of the latest natural language processing tools for te reo Māori. They will also develop in depth knowledge of te reo Māori linguistic parts of speech. Other skills include: analysing and reporting on archival data, report writing and working as part of a wider project team.

**Programme of work to be carried out:**

- Archival search and analysis
- Audio transcription
- Parts of speech tagging
- Analysing and reporting data
- Report writing

**Day to day nature of the work:**

Throughout the whole internship, interns will be expected to partake in Te Hiku Media and Papa Reo hui, including daily team stand-ups and fortnightly team-wide hui.

- Familiarising themselves with the archives and natural language processing tools
- Transcribing Te Kākāwahanui debates
- Learning te reo Māori parts of speech guidelines
- Undertaking supervised parts of speech tagging
- Analysing data
- Report writing

**Skills the student will learn:** The intern will develop a working knowledge of the latest natural language processing tools for te reo Māori. They will also develop in depth knowledge of te reo Māori linguistic parts of speech. Other skills include analysing and reporting on archival data, report writing and working as part of a wider project team.