

# THE INSIDE STORY

Issue 47, November 2022



*Te Oranga ki Ōtākou - Ōtepoti (Māori Medical Students Association) perform waiata during the Thanksgiving Service.*

*Photo: Chris Smith*

## Students honour donors at service of thanksgiving

A very special service of thanksgiving was held in Dunedin on Wednesday 14 September to remember and celebrate the lives of those who have so generously donated their body to the Department of Anatomy.

Around 250 University staff, students, whānau and friends of the donors attended the service which was also live-streamed to allow many who were unable to attend in person to join in the service.

Undergraduate Health Sciences, Science and postgraduate Science students played key roles in the service, performing musical items and giving their own words of thanks and appreciation to the donors and whānau who supported their loved ones wish to donate their body for medical science education and research.

Many guests brought along framed photos of their family member which were placed at the front of the room, providing a poignant focus and reminder of those being honoured. An especially emotional part of the service was when those present were invited to come forward to light a candle in memory of the donors.

This was the first thanksgiving service held in Dunedin since 2019, with Covid restrictions interrupting previously planned services.

A similar service will be held in Christchurch in 2023. More photos from the service appear on page 9.

# From the HoDs desk



Professor Christine Jasoni

Kia ora koutou! This is now the second newsletter that I have the pleasure of contributing to, since I began my appointment as Head of Department. As we head into the end of the year, I have been reflecting on all that has happened during this time, and the many successes that we have enjoyed. Sure there are challenges, those things are always there in one form or another. But one of the things that makes Anatomy such a wonderful place to work and study is that we are really good at navigating and negotiating challenges. From my perspective this is because we are creative and collegial, and we work together really well as a collective for the greater good of the Department and all the people in it.

Reading through the pages of this newsletter makes me so proud to be not just in Anatomy, but also in a privileged leadership role. Our list of achievements is outstanding both in isolation and in comparison across the University, and demonstrate our commitment to and competence in achieving excellence in our core activities of research and teaching.

We have made great strides in understanding, respecting, and upholding our obligations under Te Tiriti o Waitangi, as well as celebrating diversity and providing a safe space for staff and students alike. There's more work to do though, and the fantastic thing here is that there is so much more to come thanks to the hard and creative work of our staff and students, who are leading-out in these spaces; and some of whom feature in this issue.

Our work and achievements are not just excellent. They are also exemplary. Our efforts are being noticed outside the Department, and we are becoming a model that other departments around the University are using to move into these spaces. It is truly amazing to see that our activities are allowing us to whakamana | legitimise | empower our colleagues across the University, so we can all be in the waka moving forward into these spaces together.

I wish everyone well as we head into the holidays for an enjoyable and restful summer season.  
He rangatira he hoa matenga mōu, kia kore koe e whakarērea. Christine

## Distinguished Chair appointment



Congratulations to Professor Lisa Matisoo-Smith who is one of five acclaimed Otago scholars to be appointed as Poutoko Taiea, Distinguished Chairs. Professor Matisoo-Smith's research focuses on biological anthropology and human genetic variation in ancient and modern populations.

In 2019 Professor Matisoo-Smith received the Mason Durie Medal from the Royal Society Te Apārangi of New Zealand for her ground-breaking work that has reshaped our understanding of the last great human migration into the Pacific, and in 2021 she was awarded the Nayacakalou Medal by the Polynesian Society.

You can learn more about all five Distinguished Chairs in the University of Otago [Bulletin](#).

## 400-level Poster Day

With twelve excellent posters, the recent 400-level Poster Day was a great success. The students had obviously put in a great deal of effort to display their research results. The diversity and quality of the posters meant a difficult decision for the panel deciding on the HOD Best Poster Prize.

Joint first prize went to:

*Mosese Dolodolotawake* (pictured top right)

ME TU DEI: Improving clinical anatomy research of the leg for Pacifica.

and

*Cameron Young* (pictured bottom right)

The Polynesian CREBFR458Q gene variant.... How does it affect hormone levels during mouse pregnancy?





# Research funding success

## Royal Society Te Apārangi Marsden Fund

Congratulations to Dr Charlotte King, Associate Professor Tim Hore, Dr Laura Gumy and Dr Melanie Laird who have each received funding from the Royal Society Te Apārangi Marsden Fund.

### Dr Charlotte King

*Connecting to the Colonial: Exploring the power of archaeological science to humanise the past.*

Dr Charlotte King and associate researchers Professor Hallie Buckley and Professor Nancy Longnecker (Department of Science Communication) have received \$870,000 for their research that aims to reconstruct the lives of some of the first Pākehā settlers in New Zealand.

### Associate Professor Tim Hore

*Building and breaking the Androgen Clock.*

Assoc Prof Tim Hore receives \$934,000 for his research to create the first “Androgen Clock”, an epigenetic clock to predict long-term exposure to androgen hormones. It also has the potential to improve disease diagnostics and improve understanding about epigenetic clock biology.

### Dr Laura Gumy

*Molecular and cellular organisation underlies the asymmetric regeneration of sensory axons.*

Dr Laura Gumy, along with Dr Rob Woolley (Otago Micro and Nano-Scale Imaging) and associate researchers from the University of Queensland have received \$960,000 for their research which will use cutting-edge techniques to uncover the fundamental cell biology of sensory neurons and identify the mechanism(s) responsible for regulating axon regeneration.

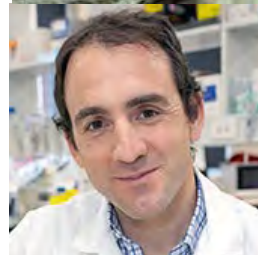
### Dr Melanie Laird

*Seasonal prostate plasticity: a novel model for the regulation of cell proliferation.*

Dr Melanie Laird and associate researcher Professor Rob Miller (University of New Mexico) have received a Fast Start Grant of \$360,000. By studying seasonal breeders the brushtail possum and the red deer, and mammals that breed year-round, the opossum and the black rat, they hope to identify specific genetic patterns that switch the mammalian prostate “on” and “off”.

Visit the [University of Otago website](#) to learn more about each of these research projects.

You can also learn more about Dr Laird’s research by visiting the [Marsden Fund website](#).



## Division of Health Sciences Accelerator Grants

Congratulations to Dr Natasha Flack and Dr Erik Wibowo who have received Accelerator Grants from the Division of Health Sciences. The grants are awarded to early and mid-career researchers in recognition of their innovative and exciting research.

### Dr Natasha Flack

*Me Tu Dei: Improving clinical anatomy research of the leg for Pasifica*

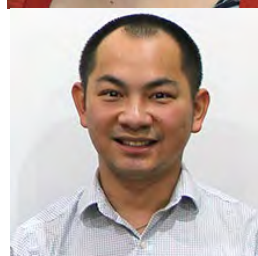
Dr Natasha Flack has been awarded an Accelerator Grant to support a research project that will focus on developing protocols for engaging with Pacific peoples in a clinical anatomy environment. She will be working with postgraduate student Mosese Dolodolotawake, Dr Rebecca Bird (Kaiāwhina Māori Student Support Liaison in the Department of Anatomy) and Ms Gerry Hall (Department of Surgical Sciences) in this project.

Visit the [University website](#) to learn more about Natasha’s research.

### Dr Erik Wibowo

*Better understanding of and support for Pasifika students in Anatomy.*

Dr Wibowo has been awarded an Accelerator Grant for his project which aims to better understanding the experiences of Pasifika students in the Department of Anatomy. Erik will be collaborating with Professional Practice Fellow Dr Latika Samalia and Saane Fakapulua, a postgraduate student in Anatomy. You can read more about the project on the [University website](#).



# Anatomy in the news ...



## Scholarship winner off to Cornell University

Congratulations to Anna Clark who has been awarded a Fulbright New Zealand Science and Innovation Graduate Award. Anna has now relocated to Cornell University in Ithaca, New York where she has taken up the position of Fulbright Visiting Student Researcher. She plans to stay at Cornell for a year to continue her research on potential outcomes of genetic pest control which will also contribute to her PhD studies here at the University of Otago.

Visit the [Otago Daily Times](#) website to learn more about her story. More information on her research project is also available via the [University of Otago](#) website.



## Research uncovers DNA history

Research published in the *Zoological Journal of the Linnean Society* by PhD candidate and lead author Pascale Lubbe has uncovered the origins and evolutionary history of kōkako, huia and tīeke saddlebacks. Research data shows the birds' tupuna (ancestors) arrived in Aotearoa 20 million years ago. However it is not yet known whether the tupuna were present on both main islands of Aotearoa or on one of the islands and they then migrated across the straits.

Pascale says further investigation of fossils yet to be discovered is required to answer this question.

Visit the [University of Otago Bulletin](#) to learn more about this research.



## Prototype device granted US patent

A device being developed by researchers in the Department of Anatomy and scientists in the University of Otago and New Zealand innovation agency Callaghan Innovation has been granted a US patent. The device targets the delivery of drugs directly to specific parts of the brain.

Lead Investigator Professor John Reynolds is excited about obtaining the patent and says it would not have been possible without the expert knowledge and assistance of Otago University Business Development Manager Tomas Ribeiro.

The patent will help researchers secure further funding and development opportunities, and hopefully the eventual manufacture and use of the device. Professor Reynolds says the prototype device has been in development since 2009.

Visit the [University of Otago Bulletin](#) to learn more about this story.



## Life on the Goldfields not what we thought

Dr Charlotte King proved to be a sell-out success at the Central Otago Heritage Trust Winter Warmer talks held at the Cromwell Museum in September. Her talk "Women on the Otago Goldfields" sold out so quickly a second talk was scheduled to accommodate public demand.

Dr King was pleased to have the opportunity to reset popular preconceived ideas that women living on the Otago Goldfields all lived scandalous lives. In fact, it may not be that surprising to learn that many women were involved in professions that provided camp sites and emerging towns with much needed facilities and business opportunities.

Visit the [Otago Daily Times](#) website to learn more.

# Spotlight on emerging researchers

## Their Stories

Eight of our talented young emerging researchers have shared their journeys to becoming postgraduate students and researchers in the Department of Anatomy. Go to the [Emerging Researchers Group](#) website to learn more about their stories or click on their individual links below.

### [Anna-Claire Barker](#)

Anna-Claire began a Bachelor of Arts in Archaeology before pivoting to complete a BA(Hons) and Masters degrees in Biological Anthropology. She is now an Assistant Research Fellow with Prof Siân Hacrow. Her research interest lies in early childhood and maternal health in the past.



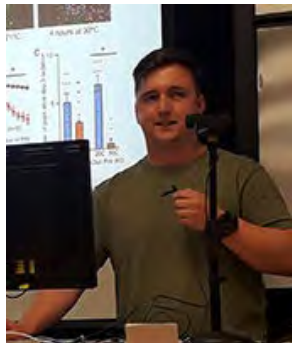
### [Celine Camon](#)

A self confessed anatomy nerd, Celine travelled all the way from Dublin to Dunedin to start her PhD in Anatomy. Her undergrad degree in human physiology fuelled her fascination in endocrinology and the impact hormones play at all stages of life, from puberty to menopause.



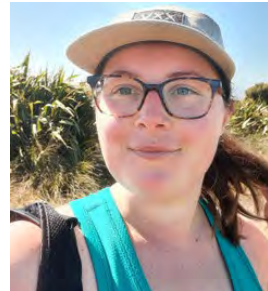
### [Matt Gillett](#)

Matt's own health journey in second year ignited his passion to learn more about neuroendocrinology and how hormones affect energy balance. His PhD research focuses on metabolic adaptations that occur during pregnancy.



### [Lucy Kavale Henderson](#)

Lucy has combined her passion for arts and science to complete a Masters degree in childhood physiological stress experiences in mid-nineteenth century Otago. She is now embarking on a PhD on a similar topic, incorporating dental histology to elucidate early lived experiences of physiological stress. Her findings will contribute to the understanding of life in 19th Century New Zealand.



### [Anya Kardailsky](#)

Anya's passion for biodiversity and nature conservation has led her to a Master's degree in Zoology, based in the Department of Anatomy! Anya is applying genetic techniques to eDNA found in freshwater streams to identify species present in the stream.



### [Meriam van Os](#)

Meriam's undergrad degree in forensic science in The Netherlands and a genetics summer research project at Massey University has led her to Otago to complete a Graduate Diploma and a Master's degree. Her Master's thesis used ancient DNA technologies to detect pathogens that affected humans in the past. She is now embarking on her PhD studies in Anatomy!



### [Lynn Yiew](#)

A love of science, and particularly reproductive biology, has led Lynn to study for a Master's degree in Anatomy. She says it is surprising how much we still don't know about female fertility, and the life cycle of oocytes.



### [Cam Young](#)

Cam came to Otago to study medicine, but ended up completing a BSc in Anatomy, two summer research projects, and now an Honours degree in Anatomy. Cam's Honours research looks at hormones during pregnancy and how their activity changes throughout the gestational period.





# World Anatomy Day - 15<sup>th</sup> October



Anatomy departments around the world celebrated World Anatomy Day on Saturday 15 October. The day marks the anniversary of the death in 1564 of Andreas Vesalius, the founder of modern human anatomy. His book *De Humani Corporis Fabrica Libri Septem*, “*The Fabric of the Human Body*” or more commonly known as “*The Fabrica*”, was the first book to be published on human anatomy (it was published in 1543). His words and images of the various human body systems are still considered to this day to be quite accurate!

To mark World Anatomy Day at the University of Otago the department held an Open Day to celebrate the past, present and future of Anatomy teaching and research.

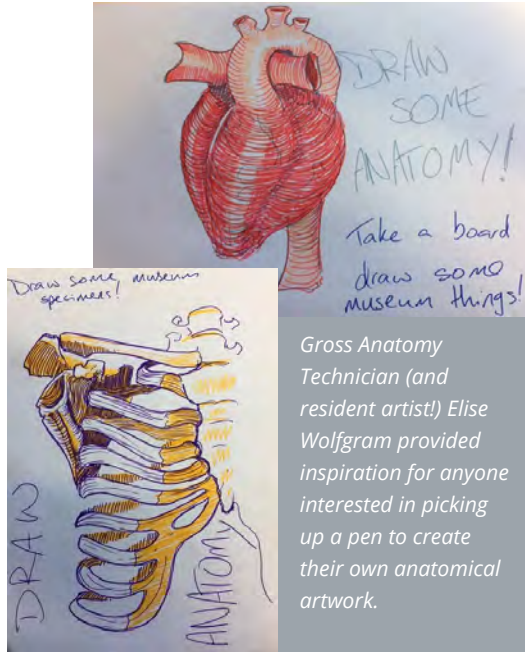
As part of the day's activities, the public had the opportunity to look around the W.D. Trotter Anatomy Museum, listen to a range of focused research talks, take part in fun, interactive anatomical activities and chat with students and researchers.

Image contributors: Vesalius, Titan, van Calker. (Downloaded from lookandlearn.com under CC licence)

## Images from World Anatomy Day:



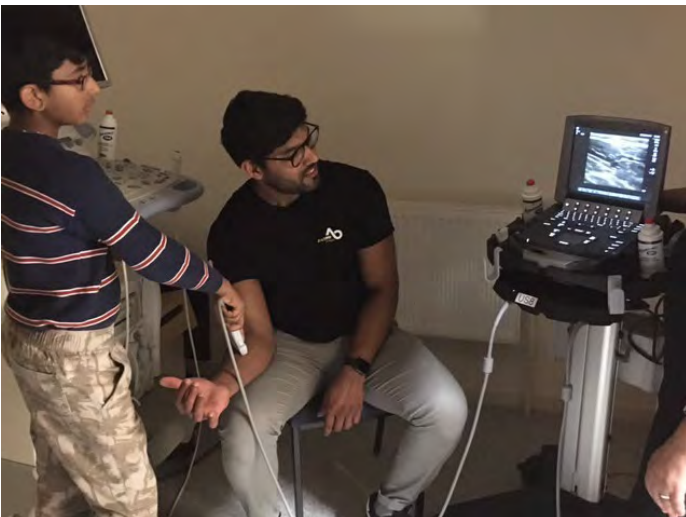
Bachelor of Arts and Applied Science student India Quedley provided an activity based on her ANAT131 project where participants could make their own mini-model of a brain out of playdoh.



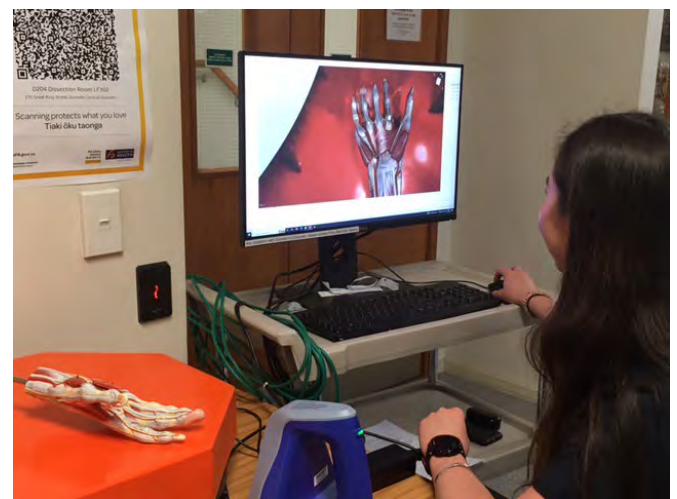
Gross Anatomy Technician (and resident artist!) Elise Wolfgram provided inspiration for anyone interested in picking up a pen to create their own anatomical artwork.



Assoc Prof Jane Girling wears a skirt made by Fieke Neuman and which depicts the menstrual cycle, during her talk on endometriosis and menstrual health.



Dr Jerin Mathews has an ultrasound of his arm taken by a young volunteer.



Postgraduate Diploma in Science student Eva Lloyd demonstrates the 3D Spider scanner.

# PhD theses conferred in 2022

We are very proud to congratulate our students who have successfully defended their PhD theses and had their degrees conferred by the University of Otago so far in 2022. This is such a huge achievement and a key milestone in their research careers. And to those who have just recently submitted or are about to submit, or who are nervously awaiting their oral exam, good luck!!

Congratulations to the following who have had their theses conferred this year by the University of Otago:

## Rebecca Clarke

*"Investigating the early stages of regeneration and wound healing in Botrylloides diegensis"*

Supervisors : Assoc Prof Megan Wilson & Prof Miles Lamare (Marine Science)

## Jade De La Paz

*"The relationship between soft tissue anatomy and skeletal sexual dimorphism in the cranium and clavicle: An anatomical approach to sex estimation in anthropology"*

Supervisors : Assoc Prof Stephanie Woodley, Prof Hallie Buckley, Prof Siân Halcrow

## Robyn Kramer - Awarded exceptional PhD thesis, Division of Health Sciences\*

*"Human mobility in Aotearoa New Zealand and the Solomon Islands: application of strontium isotope and geospatial analyses in the South Pacific"*

Supervisors : Dr Charlotte King, Dr Rebecca Kinaston, Prof Hallie Buckley

## Nellissa Ling

*"Skeletal evidence of the metabolic syndrome and early life stress in mainland Asia"*

Supervisors : Prof Hallie Buckley & Prof Siân Halcrow

## Susy Lumsden - Awarded exceptional PhD thesis, Division of Health Sciences\*

*"Neuromodulation of the pineal gland and sleep via non-invasive electrostimulation with frequency- and dermatome- specific effects"*

Supervisors : Assoc Prof Yusuf Cakmak & Dr Andrew Clarkson

## Sindy Luu

*"Revisiting human and animal relationships in prehistoric Near Oceania: An archaeogenetic approach"*

Supervisors : Prof Lisa Matisoo-Smith & Prof Glenn Summerhayes (Archaeology)

## Ashim Maharjan

*"Neuromodulation of the human autonomic nervous system using peripheral nerve stimulation techniques"*

Supervisors : Assoc Prof Yusuf Cakmak, Dr Mei Peng (Food Science) & Assoc Prof Bruce Russell (Pharmacy)

## Giovanni Pedone

*"Relationship between molecular changes in the amygdala and the emergence of associative learning in the rat"*

Supervisors: Prof John Reynolds & Dr Ryan Ward (Psychology)

## India Sawyer

*"Characterising the stress-related functions of RFRP neurons"*

Supervisors : Prof Greg Anderson & Dr Karl Iremonger (Neuroscience)

## Susie Szakats

*"Sex, brains & RNA: Origins of sex-biased gene and microRNA expression in the developing mouse brain"*

Supervisor: Assoc Prof Megan Wilson

## Joanna Tomlinson

*"The innervation of the hip joint capsular complex: A micro- to macro-scopic perspective on the proprioception, neuromechanics, and stability of the hip joint in relation to total hip arthroplasty with capsular repair"*

Supervisors : Prof Niels Hammer, Prof Dorothy Oorshot, Assoc Prof Daniel Cury Ribeiro (Physiotherapy) & Assoc Prof Ming Zhang

## Stephanie Workman

*"Lhx9: a key factor in ovarian function from development to maturity"*

Supervisors: Assoc Prof Megan Wilson & Dr Michael Pankhurst

## Jessy Zhang

*"The impact of maternal immune activation on offspring: implications for schizophrenia"*

Supervisors : Prof Ping Liu & Dr Hu Zhang (Pharmacy)

\* A thesis is awarded exceptional status when all three examiners agree it is among the top 10 percent of theses examined and is of an exceptional standard in research content, originality, quality of expression and accuracy of presentation.




# Otago Summer School 2023

The 2023 Otago Summer School will run from 9 January - 17 February. Anatomy is offering two papers for students wishing to pick up a few extra points to complete their degree, or perhaps try a completely different subject.

Applications will close on Wednesday 14 December. More details are available on the [University website](#) or click on the paper links below.

## ANAT 131 - Origins of Anatomical Language


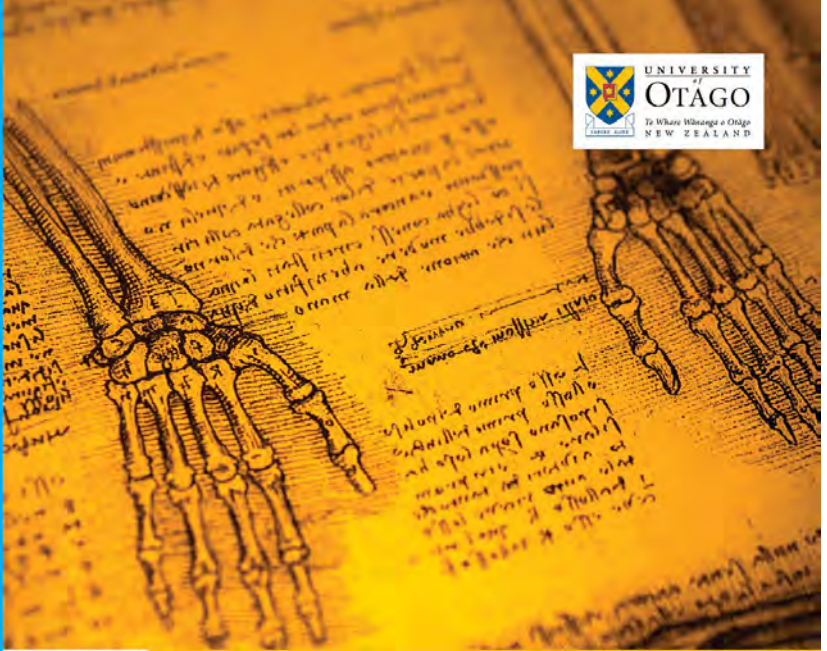


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Te Kura Raumati

### Get ahead with Summer School.

**9 January–17 February**

[otago.ac.nz/summerschool](https://otago.ac.nz/summerschool)



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ON CAMPUS

**ANAT 131**  
Origins of Anatomical Language

## BIOA 201 - Biocultural Human Skeletal Biology



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NEW ZEALAND

ON CAMPUS

**BIOA 201**  
Biocultural Human Skeletal Biology



# Images from the Thanksgiving Service

Photos: Chris Smith



Kleff Tan provides a Scottish welcome for guests as they arrive.



Lizzi Johnson, Parnia Naeimasa, Mia Pugh, Nikki Coltellaro and Celine Camon read donor tribute messages.



Guests, staff and students light candles in memory of the donors.



Photos of donors were placed at the front of the room for the service.



Teresa Gu (piano) and Elio Oh (violin) perform during the service.



Jacob Bond, Jillian Heng, Amy Lee and Janet Lin perform as students prepare to light candles.



Students Connor Kennedy, Charlotte Anderson, Patrick Topp, Amelia Mance, Anna Liu and Kelly Ho wrote their own words of thanks to the donors and whānau.



Grace Spencer performs during the service.



Te Oranga ki Ōtākou - Ōtepoti (Māori Medical Students Association) perform a waiata following the mihi whakatau by Mr Peter Williamson.



The Pacific Island Health Professionals Students' Choir performs during the service.



# The last words go to ...

## Dr Niranjan Ramesh, Teaching Fellow

### ***What is your role in the Dept?***

I have been a Teaching Fellow in the Department of Anatomy since the beginning of 2021. I teach into HUBS191/192, BIOA201 and ANAT242. I first joined the department as a PhD student in 2016 and picked up some valuable demonstrating experience and made some amazing friends along the way!

### ***Whereabouts did you grow up?***

I grew up in Chennai, a small city with a population of 10 million in the South of India.

### ***Do you play sport or a musical instrument?***

I grew up living and breathing cricket (whether I am good at it is a debate for another day), and I made the conscious decision very early in my life to leave the musical instruments to the people who are good at it.

### ***What are your hobbies and interests now?***

I spend the limited Dunedin summers playing cricket for the University team and in the winters, I dabble at dancing salsa, cooking, and listening to podcasts.

### ***What book/movie can you recommend?***

I am not an avid reader, but I go back to *'The Alchemist'* by Paulo Coelho time and again whenever I feel low on motivation and the same goes for the movie *'The Secret Life of Walter Mitty'*, which also has some stunning visuals by the way. Highly recommend them both.

### ***What type of music do you like to listen to?***

My music taste is a mixed bag and spread across seven

languages. But I am big fan of jazz and blues, and fancy some Latin and Bollywood tunes to get that cardio up!

### ***Vegemite or Marmite?***

Never tasted either. Please don't judge!

### ***Peanut butter ... crunchy or smooth?***

If it isn't crunchy, it is no good!

### ***Cat or dog?***

Dogs all day, everyday!

### ***You're hosting a dinner party. Name three people (dead or alive) you would invite and why.***

My mum. The easiest first invite ever. I never have to look too far from home for inspiration. My mum continues to be the glue that holds our family together and works hard to make us feel at home. It would be my pleasure to help her put her feet up and enjoy a feast amongst the greats for at least a night (if not more!).

Sir Alex Ferguson, legendary Manager of Manchester United FC. To manage one of the biggest football clubs in the world is no easy task. To have an extraordinary win record and title runs on top of that involves a lot of leadership, managing expectations and drawing from personal experiences. Sign me up to learn!

Late Dr APJ Abdul Kalam, Renowned Scientist & Former President of India. Epitome of humility, Dr Kalam's rise from being born into a poorly fishing family to become "the first citizen of India" is nothing short of greatness and a lesson in self-belief.

