

THE INSIDE STORY

Issue 44, October 2021



Excellence in teaching recognised

[Dr Latika Samalia](#)'s creative approach to teaching and her ability to connect with and inspire her students has been recognised at the highest level with a national Tertiary Teaching Excellence Award with an endorsement for Excellence in Supporting Pacific Learners. And at the national awards ceremony held recently via Zoom, Latika was announced the winner of the Prime Minister's Supreme Award. Congratulations Latika!

Latika has been a Professional Practice Fellow in the Department of Anatomy for twenty-eight years. Each year she teaches, supports and mentors up to 750 aspiring health professional students studying Medicine, Dentistry and Physiotherapy.

She acknowledges that *"Learning anatomy is fascinating, yet daunting"* and values empathy as her most important skill as it enables her to connect and build relationships with her students, especially those who need a little extra support before they find their feet in the dissection lab. By incorporating acronyms and imagery such as mnemonics, body painting and interactive role play into her teaching she creates a fun and inclusive learning environment that helps students understand and remember important anatomical names and structures.

And the students agree ... *"I often find anatomy overwhelming but Latika breaks it down so you're like 'oh what was I so stressed about'."*

Ako Aotearoa is a government-funded organisation committed to supporting the country's tertiary sector. The Excellence Awards were established in 2001 to celebrate and promote sustained excellence in tertiary teaching. This [YouTube profile](#) provides an insight into how Latika connects with her students. You can also read more about Latika's story on the [University of Otago's web page](#).

From the HoDs desk



Prof Lisa Matisoo-Smith

Here we are, the teaching year for 2021 is now done, and what a year it has been! Despite all of the difficulties we have faced in the last year, there has been much to celebrate in Anatomy.

We continue to excel in teaching, research and service and it is wonderful to see this recognised at the University and at the National level — with the Early Career Researcher awards to Charlotte King and Mike Garratt and Latika Samalia's top Ako Aotearoa teaching award, to name just a few.

We have welcomed new staff (Rob Munn, Alana Alexander, and Elise Wolfgram) and farewelled several long-timers (Ruth Napper and Brynley Crosado), and with the number of babies due in the next few months, our Anatomy family is continuing to grow!

I think we can all agree that we have, indeed, all earned a good break, one I hope you are all able to share, safely, with friends and whanau. Wishing you all the best for the rest of the year and let's hope that 2022 brings fewer surprises and a bit of peace for all.

Lisa
Head of Department

Opportunity “an anatomist's dream”

The opportunity to be part of the editing team of iconic Anatomy text *Gray's Anatomy* came as a wonderful surprise for [Associate Professor Stephanie Woodley](#). *“I had no hesitation in say yes! I was so humbled and honoured to be asked. To me this was any Anatomist's dream job”* she says.

Steph was approached in October 2017 by Gray's Editor-in-Chief Susan Standing, to ask if she would be a Section Editor for the 'Pelvic Girdle and Lower Limb' chapter in the 42nd edition of the textbook. Susan Standing is an Emeritus Professor of Anatomy, and Head of Anatomy and Human Sciences at King's College London. She has been involved with the publication for over forty years, and the Editor-in-Chief since the 39th edition.

Steph was particularly excited to have the opportunity to work with Professor Standing and the eight other section editors. *“I met so many amazing people, virtually over Zoom and email, and it was such a great learning process for me.”*

The process of planning, liaising with chapter authors, re-defining some chapters, introducing ancillary material for the accompanying eBook, proof-reading, editing, sourcing and commissioning new images, and finally checking page proofs took more than 30 months to complete. In addition, Steph also co-authored a chapter (Chapter 76 - Pelvic girdle and lower limb: overview and surface anatomy) and developed new content on gait. An accompanying video on gait was also produced here at Otago and can be viewed as part of the eBook.

Steph says a feature of the 42nd edition is the integration of state of the art x-ray, CT, MRI and ultrasonic images which complement the artwork and text.

Sadly, she didn't get to plan a trip to London to attend the book-launch in person as the far-reaching effects of Covid-19 meant a virtual book launch was held instead in November 2020.

“It was an amazing experience though and I am so grateful to have had the opportunity to contribute to this prestigious textbook. As part of the Zoom launch we also celebrated Susan's involvement as this is her final edition as editor, so to me it was extra special to be involved in this edition.”



Associate Professor Stephanie Woodley

New Dean of Biomedical Sciences

Professor Neil Gemmell will become the new Dean of the School of Biomedical Sciences in early 2022.

He is looking forward to the new challenges the position will bring. *"The School is growing in size, in fact it is the largest academic School in the University. We need to be strategic in our planning for where we want to be in the future"* he says.

Neil has taken on a number of leadership roles since arriving at the University of Otago in 2008 to take up the AgResearch Leading Thinkers Chair of Reproduction and Genomics. He was the Head of the Department of Anatomy from 2014 - 2017, and was also the Director of the Centre for Reproduction and Genomics.

Visit the [University of Otago](#) website to learn more about Neil's appointment.



Pacific migration research recognised

Professor Lisa Matisoo-Smith has been awarded the Nayacakalou Medal (pictured right) by the Polynesian Society in recognition of her research into the migration of peoples from Africa to Aotearoa and the Pacific Islands.

Her research focuses primarily on identifying the origins of Pacific peoples and their commensal plants and animals in order to better understand the settlement, history and prehistory of the Pacific and New Zealand.

Lisa and her research team have been involved in major research collaborations, including National Geographic's Genographic Project; Africa to Aotearoa: A genetic ancestry study of New Zealanders; and a genomic study of the people of Wairau Bar: health, history and origins of the first New Zealanders.

Visit the [Department of Anatomy](#) website to learn more about Lisa's research.



Rōpū waiata

Recent lockdown restrictions have not been a barrier for staff and students keen to take part in the Department's rōpū waiata/te reo sessions to explore and sing waiata and learn some Māori language basics.

Visit the [Anatomy Facebook page](#) to hear the group's lovely rendition of Hutia Te Rito.

The rōpū meets every week on Wednesdays at 1pm, either via Zoom or in person in Hercus 312. The group is for all levels of the University - undergrads, postgrads and staff are all welcome - no experience necessary! Please get in touch with [Charlotte King](#) or [Alana Alexander](#) if you are keen and haven't been receiving emails about the rōpū.



Researchers awarded grant funding

Researchers in the Department of Anatomy have been successful in gaining funding for new research projects from the University and national funding bodies.

Health Research Grants

The Health Research Council of New Zealand has awarded three project grants and two explorer grants to primary investigators based in the Department of Anatomy. These grants support high-impact research aimed at improving the lives of all New Zealanders. Visit the Health Research Council's [Research Repository](#) to learn more about these projects.

Project Grants

Visualising and controlling the cause of hot flushes at menopause

[Professor David Grattan](#), Dr Jenny Clarkson (Physiology), Dr Sharon Ladyman

This project aims to examine if hot flushes can be abrogated by reducing the hyperactivity of the kisspeptin neurons. The team evaluate the efficacy of several non-steroidal hormone therapies on suppressing the hyperactivity of these neurons in a low-estrogen model system.

A novel brain pathway involved in pathogenesis of obesity and type-2 diabetes

[Professor David Grattan](#), Dr Mohammed Rizwan, Dr Alexander Tups (Physiology), Professor Peter Shepherd (Maurice Wilkins Centre)

Human genome-wide association studies suggest that genetic variations in the Wnt-signalling pathway might be involved in the pathogenesis of type-2 diabetes, a disease disproportionately evident in Māori and Pacific people. This study aims to determine the specific neuronal pathways mediating the effect of Wnt-signalling, providing novel advances in the understanding of the mechanisms of obesity and type-2 diabetes.

Novel targets to enhance axonal repair after spinal cord injury

[Dr Laura Gumy](#), Dr Simon O'Carroll (University of Auckland), Professor Peter Fineran (Microbiology & Immunology), Dr Torsten Kleffmann (Biochemistry), Dr Melissa Andrews (University of Southampton)

Traumatic injury to the spinal cord results in disconnection of axons from their target organs, leading to permanent disability because the severed axons fail to regrow. The research team recently discovered axon regeneration can be enhanced by modulation of intracellular transport pathways. The team will establish the importance of transport pathways for regulating axonal repair in vivo. This study is critical for identifying new therapeutic targets to improve functional recovery after spinal cord injury.

Explorer Grants

Auricular stimulation to improve cough sensitivity after stroke

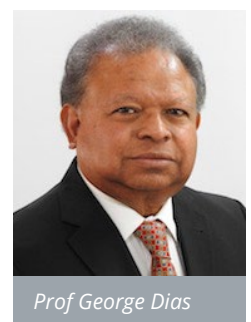
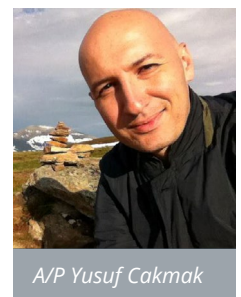
[Associate Professor Yusuf Cakmak](#), Professor Maggie-Lee Huckabee (University of Canterbury), Dr Karen Ng (University of Canterbury)

Neurological disease, such as stroke, has a devastating effect on sensations in the throat and the cough reflex. Without the ability to detect food or fluid entering the lungs and eject it with a cough, stroke patients are at a high risk of developing a chest infection. Probing the ear canal during a medical examination or having impacted ear wax can elicit coughing. The team aims to develop a protocol and explore the effect of light electrical stimulation of the nerves within the outer ear to improve cough sensitivity after stroke.

A smart toothpaste for the twenty-first century

[Professor George Dias](#), Dr Niranjan Ramesh, Associate Professor Vincent Bennani (Oral Rehabilitation)

Management of dental disorders such as decay, gum disease, and implant failures are a major economic burden to New Zealand. The research team aims to produce a novel bioactive smart toothpaste using bioceramics and a natural anti-inflammatory and antimicrobial agent to provide an inexpensive clinical-grade formulation to mitigate oral infections and ensure implant longevity while also offering the traditional benefits of plaque removal and whiter teeth.



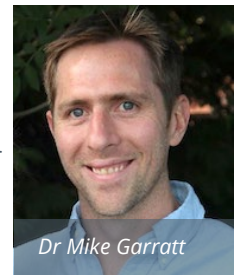
Early Career Awards for Distinction in Research

Two early-career Anatomy researchers have been awarded University of Otago Early Career Awards for Distinction in Research. The awards recognise their outstanding achievements as early career researchers.

Dr Michael Garratt

Senior Lecturer Dr Mike Garratt has been described as “an exceptional talent” by Head of Department Professor Lisa Matisoo-Smith. His research encompasses the fields of reproduction, physiology behaviour and evolutionary biology. His main focus lies in understanding how reproduction influences life-history, health and ageing.

Visit the University of Otago website to learn more about [Dr Mike Garratt's](#) research.



Dr Charlotte King

Lecturer Dr Charlotte King already has an international reputation in the field of biological anthropology. Her research focusses on the emergence of agricultural societies and the ways transition has helped shape human culture and biology. She uses isotopic systems to investigate the diet and mobility of prehistoric populations.

Visit the University of Otago website to learn more about [Dr Charlotte King's](#) research.



Accelerator Grants

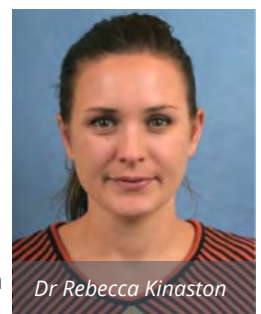
Three mid-career Anatomy researchers received Accelerator Grants from the Division of Health Sciences. This is the first year these grants have been awarded. They aim to support the development of meaningful relationships with Māori and Pasifika communities, and strengthen research collaborations or proof-of-concept experiments for future grant applications.

Collaborative bioarchaeological research with four hapu from Waikato Tainui iwi

Dr Rebecca Kinaston

Dr Kinaston has been working with the Tangata Whenua Working Group (TWWG) of the Waka Kotahi New Zealand Transport Agency's Hamilton Section of the Waikato Expressway for approved research of kōiwi (Māori human remains) found during road construction in 2018. The TWWG represents four hapu from the Waikato-Tainui Iwi (Ngāti Hauā, Ngāti Koroki-Kahukura, Ngā-ti Wairere and Ngāti Māhanga). The grant was used to support the hapu representatives to co-present the research at the New Zealand Archaeological Association conference held in July in Taupō. The grant will also be used to fund a hui with the TWWG to develop the research into a scientific article and public outreach platforms.

Visit the department's website to learn more about the research undertaken by [Dr Kinaston](#).



Mass spectrometry imaging of high- and low-quality mouse oocytes

Dr Michael Pankhurst

Lecturer Dr Mike Pankhurst has received funding for his project on mass spectrometry imaging of high- and low-quality mouse oocytes. His research investigates the regulation of ovarian follicle development and the quality of the oocyte (egg) within. The role that Anti-Müllerian hormone (AMH) plays in this process is a key focus of the laboratory.

Visit the department's website to learn more about the research undertaken by [Dr Pankhurst](#).



What factors influence stress of Pasifika anatomy students

Dr Erik Wibowo

Each year the department (Te tari kikokiko) has about 80-100 Pasifika students at 200- and 300- levels. Using a mixed-method approach, the team of Dr Erik Wibowo, Dr Latika Samalia, and DipGrad student Saane Fakapulia are investigating factors that may affect the academic stress of Pasifika students in Anatomy. They will explore various factors including lifestyle (e.g., sleep, exercise, attendance to lectures/tutorials), social (e.g., religious affiliations, friends, social anxiety) and academic supports (e.g., tutorials, Pasifika liaisons, academic staff). They hope that findings from this research will improve the support structure for Pasifika students in Anatomy.

Visit the department's website to learn more about the research undertaken by [Dr Wibowo](#).



Funding for smart ideas

Two Anatomy researchers have each been awarded Endeavour Fund Smart Ideas grants from the Ministry of Business, Innovation and Employment (MBIE). A full list of projects funded is available on the [MBIE website](#).

Sterilization of pests for conservation of native species using a cell-targeting approach

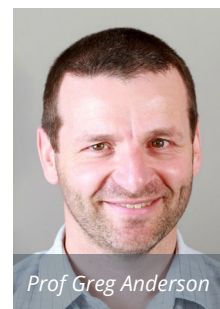
Professor Greg Anderson

This project aims to develop a humane single-application approach to permanently sterilise pest species such as rats, possums, stoats and ferrets that have caused half of the surviving indigenous plant and bird species in New Zealand to be at risk. This approach has the potential to be a replacement for 1080 poisoning.

Rapid, innovative monitoring of pest and native species using aquatic environmental DNA

Professor Neil Gemmell

Environmental DNA (eDNA) is a powerful new tool for investigating the diversity of living things in our environment. eDNA surveys of waterways could provide a cost-effective, efficient, sensitive and reliable pest surveillance tool. This project will determine if aquatic eDNA surveys can rapidly and accurately measure the distributions, densities and movements of pests and other species in our environment. eDNA could revolutionise pest management, provide new tools and approaches that will determine pest presence and abundance quickly and effectively.



Prof Greg Anderson



Prof Neil Gemmell

Fellowship will help tell a story

A new Life at the Bottom of the World: Exploring the Embodied effects of Colonialism in 19th Century Pākehā and Chinese Migrants to New Zealand

Postdoctoral Fellow Dr Anne Marie Sohler has been awarded a two-year MBIE Science Whitinga Fellowship for a research project that aims to recreate the lives of “ordinary” settlers and gold miners who came to live and work in New Zealand in the 19th Century.

The 1800's saw several waves of migration to Aotearoa from the northern hemisphere, first from Western Europe and then from China and North America. The reasons for this diaspora are complex but most migrants came in search of a better life.



Dr Anne Marie Sohler

Historical narratives favour the experiences of the privileged. The physical experiences of women, the disenfranchised, and non-Pākehā migrants are less well known. Was the life they experienced here better than what they left behind?



The historic Drybread Cemetery, Omakau

Photo: Peter Petchey

To answer this question, the remains of thirty-three individuals*, including women and Chinese, from four 19th Century Otago cemeteries (St. Johns Cemetery, Milton; Ardrossan and Gabriel St Cemeteries, Lawrence; Drybread Cemetery, Omakau) will be examined.

Bioarchaeological techniques, including microscopic analysis of bone and teeth, amplification of pathogen DNA, and evidence of pathology in the skeletons will be integrated with archival research to reconstruct the biological history of each migrant, from stresses suffered during childhood in their “home” country to their death in

New Zealand, revealing the biosocial effects of migration and environmental adaptation.

Anne Marie says she is grateful for the opportunity the Fellowship has given her so she can continue her research. *“I am in a very privileged position to have access to these remains, and I hope my research will help record and tell their stories - the life they led, the stresses they endured and possibly how they died.”*

The MBIE Science Whitinga Fellowship is a one-off initiative to support early career researchers who have been impacted by reduced opportunities due to COVID-19. Thirty Fellowships were awarded throughout New Zealand.

* These remains were recovered under the project 'The Best of Times, the Worst of Times: A biocultural investigation of 19th century Frontier mining cemeteries in Australia, New Zealand and California' which is supported by a Marsden grant awarded to Professor Hallie Buckley and Dr Peter Petchey (Anthropology and Archaeology).

Fun activities facilitates learning

Picking up a paint brush and drawing lines on a classmate's body isn't usually acceptable behaviour in the classroom, but for some years now it has been a fun way to facilitate the learning of surface anatomy for second year medical students.

Using ultrasound and following diagrams, students use body paint to trace the intertwining paths taken by nerves, tendons, arteries, veins and muscles in the upper and lower limbs. Each colour represents a different structure. Not only is it a fun activity for the students, it also helps reinforce all that they have learned in lectures and lab dissections.



Emerging Researchers Group

Who we are...

The Emerging Researchers Group (ERG) is a community of early career researchers within the Department of Anatomy. Our members range from BSc(Hon) students, to PhD candidates and Postdoctoral as well as Research Fellows, and everything in between!

What we do...

We provide a forum for our members to increase cohesion and dialogue with each other, and other researchers within the Department. We do this by organising regular opportunities aimed at developing research, networking and career skills. This year we've seen a wide variety of workshops, including tips and tricks for writing a thesis, how to talk to the media about your research, and career planning. We have engaged in fun challenges, such as explaining your research in the 1000 most common words, meditation for beginners, and a theatrical improv session. Several students have also taken the opportunity to practice their presentation skills in a friendly and supporting environment.



Our ERG socials are also popular - a great opportunity to get to know fellow students and colleagues, while enjoying yummy snacks and a refreshing beverage!

You can find more about us on the department's intranet (for staff and postgraduates students) and the [Department website](#).



Participants relax during a meditation session hosted by ERG

We hope to see you soon at one of our events! Everyone is very welcome, including staff and more senior researchers, as well as any 300-level students interested in postgraduate study!

Outreach activities fun for everyone

NZ Brain Bee Challenge, 8 July, 2021

A number of our staff were involved in running the regional Brain Bee Challenge for Year 11 students from high schools all over the South Island. The students had a day filled with neuroscience themed activities that included a visit to the Anatomy Museum, using the Transmission Electron Microscope and taking home images of brain tissue at a very high magnification, and an exciting neuroscience laboratory class. This was followed by a quiz of material they had previously studied online. Congratulations to the winning team from St Margaret's College, Christchurch.



Dr Ruth Napper presents the winners trophy to the St Margaret's team

Schools Science Day, 9 July, 2021

What a busy time we had at the University's inaugural Schools Science Day. Around 80 high school students visited the Department to participate in three workshops, focusing on mammalian reproduction, ultrasound techniques, and the skeleton in archaeology.

Science Expo, NZ International Science Festival, 10-11 July, 2021

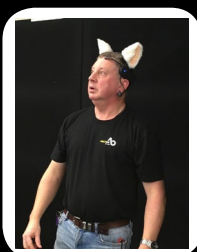
We were run off our feet at the University's Science Expo held as part of the New Zealand International Science Festival. Around 300 little people, and some of their Adults, embraced their inner-artists to paint their choice of a heart, brain, rib-cage, skeleton or free-form design onto a t-shirt. Our live dissections (animal heart and brain) were very well attended with some really interesting questions coming from the audience. Tours of the W.D. Trotter Anatomy Museum were booked out, and the Neuroscience Research Group entertained with their interactive cat-ears and other electrical brain-signalling devices.

We hope we were able to inspire someone to come along in a few years time to study Anatomy at the University of Otago!



There was no doubting the enthusiasm of the Neuroscience Research Group (left) as they engaged with visitors young and old, raising awareness and understanding of brain health and disease. They used a range of equipment for sensing the electrical signals generated by the body and used them to move things and people! The team (from left) was Nico Vautrelle (foreground), Alina Tetereva (Psychology), Mick Watt, Nikita Potemkin, Mariana Leriche (foreground) and Annabelle Voice-Powell.

One man in particular, the one with the big-ears, Dr Mick Watt (below) was a stand-out entertainer, who never failed to have a captivated audience around him.

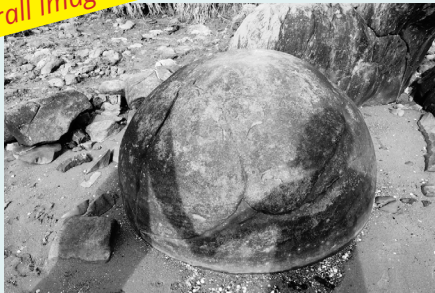


BMS photo exhibition

The Anatomy flag was flying high at the recent School of Biomedical Sciences (BMS) photo exhibition held as part of the New Zealand International Science Festival. Staff and students of the five departments that make up the School were invited to submit photos that reflected the theme of the festival, Reconnect. Photos could be scientific work undertaken at Otago or photos taken during leisure time.

Congratulations to Scientific Officer Dr Teodora Georgescu and PhD candidate Jade De La Paz who were both awarded commendations for their entries. Visit the [Department's website](#) to read more about each image.

Commended
Best Overall Image



Mother Nature's Embrace - Jade De La Paz

Commended
Best Overall Image



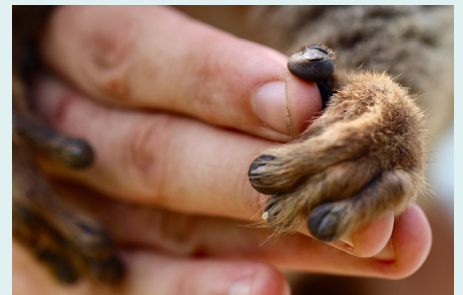
Paws up for the Sky - Teodora Georgescu



Autumn Leaves - Sharon Richard



Refreshed and Relaxed - Sharon Richard



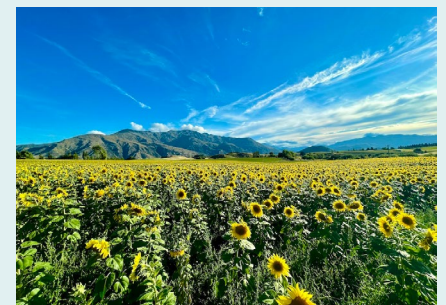
Whakapapa - Allison Miller



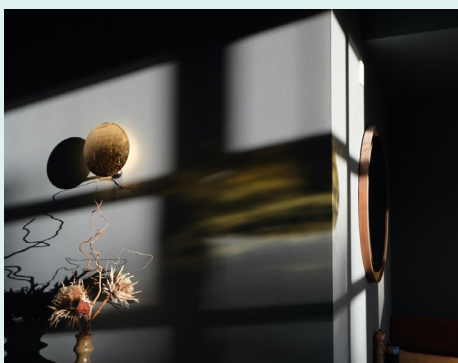
Reconnecting Maui with Mocha -
Lisa Matisoo-Smith



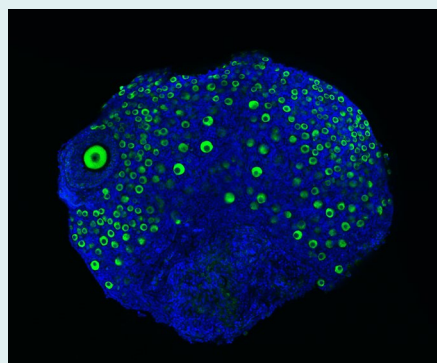
Mountains, Snow and Valley -
Sharon Richard



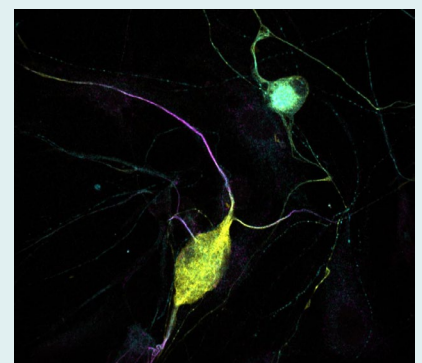
Bright and Beautiful -
Sharon Richard



Taiao - Zin Khant Aung



*Adult Follicle engulfed within a
Neonatal Ovary* - Lynn Yiew



*Interconnectivity and Reconnection
of Neurons* - Macarena Pavez



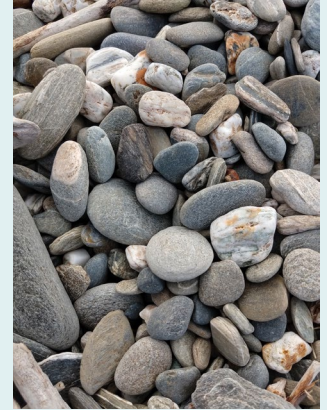
Mangemangeroa Valley Walkway -
Sindy Luu



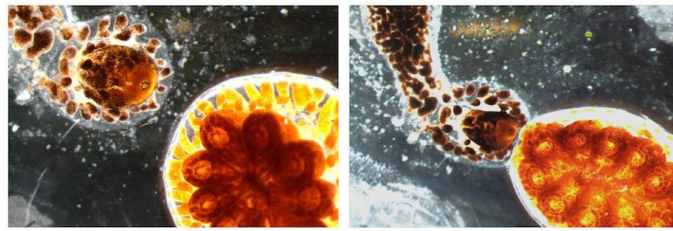
Siblings Reconnect -
Lucy Kavale Henderson



Reconnecting through Light -
Djuna Elkan



The Pebble Beach -
Sharon Richard



Natural chimerism in Te Ao Māori Oceans -
Berivan Temiz

Where in the world are you now?

The Department is in the process of updating its marketing information for undergraduate students. We are looking for new Anatomy Alumni to profile.

Could this be you??

If you are a recent ANAT or NEUR graduate and you have a great job, or a cool story to tell about your journey to where you are now, you could be the person we are looking for!

Get in touch and let us know what you're up to ... anatomy@otago.ac.nz

