University of Otago
Te Whare Wānanga o Otāgo
New Zealand

Department of Anatomy
School of Biomedical Sciences

ANATOMY OTAGO

# THE INSIDE STORY

*Issue 39, December 2019*

Photo: Yvette Paulino

## Researcher awarded Rutherford Fellowship

Bio-anthropology researcher Dr Anna Gosling has been awarded a Rutherford Foundation Postdoctoral Fellowship from the Royal Society Te Apārangi. The fellowship recognises her as one of the countries brightest and most promising early career researchers.

Anna began her studies at the University of Otago enrolled in a Bachelor of Biomedical Sciences degree majoring in Immunity and Infection. By chance she took an anthropology paper, and loved it. She signed up for an archaeology degree and completed it alongside her science degree. She then wanted to see how these two disciplines could work together, and biological anthropology was the perfect answer.

*"One of the awesome things about biological anthropology is how it is inherently multidisciplinary which more or less sums up my approach to my research"* she says.

Anna takes an evolutionary approach to her research which focuses on understanding the high metabolic disease burden among Māori and Pasifika.

It is hypothesised that the process of settling the Pacific and adapting to local environments may have affected the genomes of the people of the Pacific. This in turn may be affecting the health of these people as many metabolic diseases have a significant genetic component.

*"Bringing together genomics, health and anthropological understandings of Pacific settlement will give us new insights into what may have contributed to the genetic predisposition in the metabolic diseases we see in Pacific people today"* Anna says.

She hopes her research will continue to bridge the divide between Pacific health and anthropology, and also provide avenues to destigmatise the people of the Pacific.

Her evolutionary approach will be useful for surveying what genetic variation there is in the Pacific, to help identify any new Pacific-specific genetic variants that may be contributing to diseases, and to identify the distribution of some of the known risk variants. She will also use this approach to disentangle why these variants may be occurring at such high frequency.

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Questions she is looking to answer include: were the variants beneficial in the past? Can we see evidence that they may have been subject to natural selection?

*"Understanding these could be very useful for engaging with Pacific communities and unravelling some of the negative stigma surrounding diseases like gout and diabetes. The more people who seek help to manage their disease, the better."*

The Fellowship will give Anna more independence to establish herself as a researcher and also allow her to continue the work she has been doing with collaborators in Guam.

She is a co-principal investigator on a $3M Marsden Fund grant alongside Professor Lisa Matisoo-Smith, Professor Tony Merriman (Biochemistry), Dr Paul Pumuye (University of Papua New Guinea) and Associate Professor Frank Camacho of the University of Guam.

The Marsden project ("Ka mura, Ka muri". Walking backwards into the future: An evolutionary investigation into the high rates of metabolic disease in Pacific populations) is an expansion of the work her Rutherford Fellowship will be supporting. Anna will continue to play an integral role in the Marsden project as she has already contributed significantly to the development of the project, and played a key role in making connections with new collaborators in parts of the Pacific.

She has established a collaboration with Frank Camacho and Yvette Paulino at the University of Guam who she says have been critical in facilitating samples for the project by recruiting ~100 people from the CHamoru community who have enthusiastically embraced the project and have provided samples.

It has been a very busy year for Anna, with much deserved reward and recognition. Next year promises to be just as busy as she progresses her research and seeks to provide answers for the people of the Pacific.

# PhD student awarded paper prize

PhD student Oscar Ortega-Recalde won the 2019 award for best student paper, published recently in the journal *Nature Communications*. In this work, Oscar reported that memory in the form of 'DNA methylation' is preserved between generations of fish, in contrast to humans where this is almost entirely erased. While we are all familiar with the common myth that fish have poor memory, Oscar's work shows that their DNA has the capacity to hold much more memory than that of humans.

This award caps off an exceptional year for Oscar - not only was he the sole experimental author for this award winning work, he was also a co-first author of work recently recognised as the best publication within the School of Biomedical Sciences for 2019, alongside multiple other authors from the Gemmell and Hore laboratories within the Department of Anatomy.

To learn more about this research visit the University of Otago website.

# Team Anatomy is up for the challenge

RELAY FOR LIFE Cancer Society

Team Anatomy will be taking part in the Cancer Society's Relay for Life event in Dunedin in March 2020. We are already busy fundraising and to date have raised over $380, but we need your help to raise more. Earlier this year we raised over $2,000 in the University Student Relay for Life event and we'd love to raise even more in 2020.

If you would like to donate to the team's fund and help support this very worthwhile cause, you can do so via the Department of Anatomy team page on the Cancer's Society's website. Thank you so very much!

# Marsden grants support new research

More than $4.5M in research money has been awarded to Anatomy researchers from the Marsden Fund to support innovative research projects within the University and Department. In total, the University of Otago received $22M in grant funding from the Royal Society Ta Apārangi which administers the Marsden Fund.

The successful Anatomy recipients and their projects are:

*Walking backwards into the future: An evolutionary investigation into the high rates of metabolic disease in Pacific populations.*

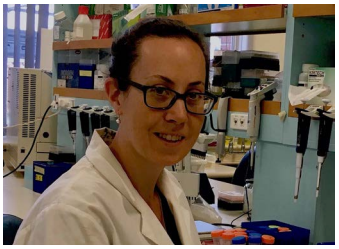
Professor Lisa Matisoo-Smith, Dr Anna Gosling, and Dr Andrew Clarkson, along with other co-Principle and Associate Investigators, have been awarded a $3M Marsden Fund Council Award to investigate genetic links to metabolic diseases in the Pacific.

Māori and Pasifika populations are disproportionately affected by metabolic diseases such as diabetes, gout, obesity, renal and heart disease. Hyperuricaemia, or high levels of urate in the blood, is a unifying factor to many of these diseases. Several genetic markers associated with hyperuricaemia and metabolic disease have been identified in Polynesian populations. The research team hypothesises that this high rate of metabolic disease is associated with their Pacific ancestry (either deep or more recent ancestry) and that selection by infectious disease exposure, and particularly malaria, may have played an important role in shaping Pacific genomes, their tendency towards hyperuricaemia and thus metabolic disease. Researchers will test these hypotheses through the strategically designed collection of new genome, biochemical and health data, from a range of Pacific populations with different settlement histories to Polynesia, and combine these with their existing data from New Zealand. They will investigate the Pacific-wide distribution of previously identified population-specific genetic markers associated with metabolic disease and, using the latest genomic and bioinformatics tools and modelling, determine how ancestry, selection, drift and admixture have shaped Pacific genomes. Finally, they will directly test the hypothesis that malaria may have played a role in selection for a hyperuricaemic phenotype.

*Why do males have prolactin?*

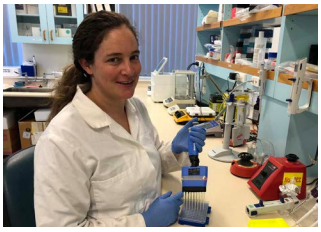
Professor Dave Grattan has received $960,000 to investigate the hormonal basis of parental behaviour in males. The role of fathers in promoting healthy development of their offspring is acknowledged, but just what is happening in the paternal brain during this important process is largely unknown. The research team aims to test the hypothesis that the pituitary hormone prolactin, which they have recently shown is critical for maternal behaviour, has an analogous function in the male. This would provide an explanation for the longstanding question about what this “lactation hormone” actually does in males.

*Piecing together Pacific prehistory using genomics and the commensal model*



Dr Catherine Collins receive’s a Fast Start Grant of $300,000. Advances in ancient DNA (aDNA) technologies have prompted researchers to re-think views on human settlement across the globe, including the Pacific region. Despite recent publication of genomic data from ancient humans in this region, a number of questions about the settlement and interactions in the Pacific remain. The origins of the Lapita people, and their interactions with other people in the Pacific, remain unclear. Current datasets are also not sufficient to understand the settlement of Central and East Polynesia. Dr Collins’s team will apply the latest aDNA techniques to the commensal model, to generate new genomic data from modern and ancient Pacific rats and ancient chickens to greatly improve the resolution of their data compared to existing datasets. This will be the first commensal study in the Pacific to investigate what nuclear DNA can tell us about the origins and admixture (interbreeding) of Pacific people, which is not possible using mtDNA (mitochondrial DNA) alone. As human remains are rarely excavated in the Pacific, applying the commensal model will open up the possibility to study island groups for which we do not have ancient human data. Generating genomic data for commensal species will allow researchers to answer specific questions with the most appropriate data.

*Battle of the body snatchers: Do co-occurring parasites help or hinder each other?*



Dr Edwina Dowle has been awarded a Fast Start Grant of $300,000. Parasites routinely manipulate their hosts, altering their hosts' behaviour through molecular subterfuge to enhance their own survival and transmission. But what happens when multiple parasites infect one host: do they conflict or collaborate? Multiple hairworms are frequently found in a single wētā. Each hairworm manipulates the host to optimise its own survival and reproductive opportunities, but what is optimal for one hairworm may not be optimal for all. The host behavioural manipulation induced by an emergent or late development hairworm is not only lethal to the cave wētā host, but also to any co-occurring early development or pre-emergent hairworms present within the host. If they are to survive, pre-emergent hairworms must seek to sabotage the host manipulations induced by larger co-occurring emergent hairworms until they too are ready to emerge. This battleground for genetic supremacy is further complicated by the role of kin selection whereby closely related co-occurring hairworms may sacrifice their own survival for that of a closer relative. Dr Dowle's team will couple phenotypic and behavioural assays with powerful molecular techniques to reveal the mechanism(s) that conspecific co-occurring parasites employ to help or hinder each other's development.

# Celebrating with our graduands

*Graduands gather in the W.D. Trotter Anatomy Museum with Head of Department Professor Lisa Matisoo-Smith (bottom left)*

The Department celebrated alongside its graduands at a morning-tea event before the recent University Science graduation ceremony.

Seventy students graduated in degrees and programmes in BSc and BSc(Hons) (Anatomy and Neuroscience), PGDipSci, BBioMedSc (Reproduction, Genomics and Development), Masters (Anatomy and Genetics) and PhD.

Particular congratulations go to our five new doctorate graduands Dr Rachael Ashby, Dr Ashwini Hariharan, Dr Vivek Perumal, Dr Pranav Vemula and Dr Stacey Ward.

At the gathering, Professor Lisa Matisoo-Smith announced the winners of three prizes for the highest grades in ANAT and BIOA papers at undergraduate level.

**The Professor Gareth Jones Award** for the highest grades in their best three 200-level Anatomy and Biological Anthropology papers was awarded to Abhizith Cherukuri (BSc Anatomy Major) and Sarah Woods (BBiomedSc).

Professor Gareth Jones, a neuroscientist and bioethicist in the Department of Anatomy, was a longstanding head of the department who guided the transition from a purely medical teaching-focused department to one that is also a leader in biomedical science research and teaching. The prize consists of $500, and a name acknowledgement on a trophy displayed in the Department of Anatomy Histology Classroom.

**The Dr Elspeth Joan Gold Award** for the highest grades in their best four 300-level Anatomy and Biological Anthropolgy papers was awarded to ANAT major Hayley Gibson (right).

Dr Elspeth Gold (1963-2015) was a researcher and advocate for prostate cancer diagnosis and therapies. She served as a passionate and popular lecturer in the department from 2010-2015, prior to her own untimely passing due to breast cancer. The prize consists of $500, and a name acknowledgement on a trophy displayed in the Histology Classroom.

*Professor Lisa Matisoo-Smith and Hayley Gibson with the Dr Elspeth Joan Gold Award*

# Dr Tim Hore - outstanding in his field

## Early Career Award for Distinction in Research

From Otago farm boy to cutting-edge genetic scientist, Dr Tim Hore's story is one of constant progress.

That progress has led to him being announced as one of this year's University of Otago Early Career Award for Distinction in Research winners.

Brought up on a Maniototo farm, Dr Hore completed secondary school and his undergraduate degree in Dunedin. His PhD, completed in 2008 at the Australian National University in Canberra, was in the rapidly evolving field of epigenetics.

Further progress beckoned, and he moved to Cambridge, England, for his post-doctoral research. While there, he and his colleagues were able to prove that removing DNA methylation (an essential part of normal development in mammals; associated with ageing, genomic imprinting and cancer) helped cells turn into an embryonic-like state.

These interests have continued back in Dunedin, where he set up his own epigenetics laboratory in the Department of Anatomy in 2015.

While the term "epigenetics" may not be mainstream yet, it is quickly growing in scientific importance. During the last few decades scientists have realised DNA is more than just its sequence, Dr Hore explains.

*"Epigenetic modifications are tiny chemical changes to DNA that act like little signposts instructing cellular machinery what to do. It's really important for development and helping the early stem cells of the body decide what job they should perform. It's also really important for helping cells remember that job over an entire lifetime. The particular form of epigenetic modification I am interested in, DNA methylation, is particularly related to long term memory."*

It is research into this that his laboratory team is focusing on, as they try to progress understanding in inherited memories.

*"We're trying to understand if the information held by DNA methylation can be inherited. Others have shown that, in humans and mice, DNA methylation inheritance is very rare because it gets erased at each generation."*

*"However, we have found that in at least one species of fish this epigenetic memory is not erased, meaning life experience could be transmitted to offspring in a much more prevalent way. We're now working hard to test if this is actually the case. If it is, it could change the way we think about the 'book-of-life' and how it is passed on to offspring."*

It is tantalising promises of ongoing discovery like this that drive Dr Hore's research, he says.

*"I really enjoy the buzz of new understanding, and because of recent technologies in the field of genetics, there is plenty of new understanding up for grabs!"*

Dr Hore says receiving the Early Career Award for Distinction in Research not only acknowledges his team's research, it also reflects *"on all those who have contributed to it – collaborators internationally, research support staff in the Anatomy department and across the University, as well as keen students and researchers".*

Written by Craig Borley, Communications Advisor - Health Science

# Passion for staff wellbeing recognised

Rachel Kinnaird has received the University of Otago Excellence Award in Health and Safety (Individual) for 2019 in recognition of her dedication and commitment to provide a healthy work environment for her team and her efforts to raise awareness of positive wellbeing within the department.

Rachel is the manager of the 'body team' whose day-to-day activities include the handling of cadaveric material donated to the department through the Body Bequest Programme. She is very much aware of the physical and emotional challenges her team face every day, and the importance of providing a safe and happy work environment where they feel supported and appreciated.

Through establishing appropriate support systems, and her encouragement and understanding, her team has become stronger, more cohesive, and happier.

Over the years Rachel has introduced many initiatives to the department to highlight the awareness of mental health and wellness, include a photo competition where staff captured images showing the different ways they maintain positive wellbeing; gumboot decorating in support of the i am hope charity's Gumboot Friday; Kudos cards which give staff and students the opportunity to give positive feedback to others; conversation starter kits in the tearoom to encourage staff to get to know each other better; and lunch-time massages for those in need.


Her take-home message on wellbeing is simple. We can all look after the health and wellness of those around us. *"You just need to take the time to listen to your friends, family and colleagues. If you see someone struggling, help them seek the support they need to move through the difficulty, and don't forget to 'check-in' with them along the way."*

# 2019 BMS Staff Awards

The School of Biomedical Sciences (BMS) held an end-of-year event to acknowldge and celebrate the achievements of all the Schools' academic and professional staff. Congratulations go to the following Anatomy staff who were presented with awards:

**Dr Anna Gosling** - BMS Pasifika Research Award (2019)
**Professor Hallie Buckley** - BMS Distinguished Researcher of the Year Award (2019)
**Dr Erica Todd and Professor Neil Gemmell** - BMS Best Research Paper of the Year Award (2019)

# A puzzle update

In the October newsletter we brought you the story of a puzzling challenge facing some of our staff as they battled to complete a 2014-piece Anne of Green Gables puzzle. We are happy to announce their perserverance won out in the end, and the puzzle was completed.

It took the team three months to complete, only to find there was one piece missing! Still, completing a 2013-piece puzzle was still a remarkable achievement!


# Digging up the past, for a good reason

Funding from a James Cook Fellowship will enable Professor Hallie Buckley to continue digging into the lives and histories of early immigrant miners and their families who settled in coastal and central Otago in search of a better life.

Having holidayed in Central Otago for over 20 years, Hallie has always been fascinated by the landscape that was partly shaped by gold mining activities and the challenging conditions people had to work under.

Her project 'Lost lives, forgotten voices: Rediscovering the microhistories of 19th century miners and settlers through bioarchaeology' brings into focus the harsh realities of life in the mid-to-late nineteenth century when immigrant workers flocked to Otago in search of gold.

Up until recently, Hallie's research has focused more on the lives of the initial colonisers in the Pacific and early New Zealand Māori.

*"When people arrive in a new land they have to adapt to the local environment and try and carve out a new life for themselves and their families"* she says. *"The waves of European and Chinese immigrants in the Gold Rush and early settlers had similar experiences to those ancient peoples, and it was no less risky."*

Hallie and her team have been working closely with the communities of Milton and Lawrence where archaeological digs have focused on rediscovering unmarked graves in Early Settler cemeteries.

*"On the whole the communities have been very interested and excited about our research. People come to our public meetings with very thoughtful questions and often vital information that helps with the research. Usually once we explain how we do the work and what we can find out, people's concerns are allayed."*

*"The warmth, generosity and knowledge of the rural folk has been heart-warming. We should never underestimate the intellect and strength of our farmers who have been working some pretty challenging land, some for generations!"*

Photo: Mary-Jo Tohill

What they have discovered so far has exceeded her expectations.

*"Finding the names of some of the people still painted in gold on their coffin plates in Milton was a big surprise and very exciting. Having some historical information on these people has added another layer to their stories that we didn't expect."*

Another dig is planned for Central Otago in February 2020.

In the meantime she is busy analysing the human skeletal remains and funerary artefacts found in the Milton and Lawrence graves, and searching archives to learn more about life and funeral practices of the 1800s.

*"We hope our research will piece together the stories of these early immigrant people who came out to a foreign land and helped establish the settlements, schools and industries we have today."*

*"These people led very interesting lives and we hope our research will help tell their stories."*

# Donated to science ... The Project

A few months back the Department worked with a crew from TV Three's The Project on a story about body donation and the amazing people who donate their bodies to the Department for medical science teaching and research.

If you're curious to learn more about what goes on in the Dissection Room, the story is available to view on The Project's Facebook page. **** Warning: the story does contain images of cadaveric material ****

We would like to thank all our donors who have so generously gifted themselves to the Department, and their families who supported their loved ones wishes. It would not be possible to run such a succuessful bequest programme without their generosity and support.

# NEW RESEARCH GROUP ...

# *Anatomical Sciences Education Research Team*

ASERT
Anatomical Sciences Education Research Team

In the Department of Anatomy, we strive to be excellent educators and communicators for our students to improve their graduate profiles and learning outcomes. In order to achieve this, effective research in teaching and pedagogy is vital for the ongoing growth of both students and staff. Many of us at the coalface of teaching our undergraduates saw a niche research area that could be tapped into - specifically education research within the anatomical and health sciences.

One of our main goals, which is taken from our group terms of reference, is to become a hub of expertise in excellent teaching practice, with the intention of sharing collective knowledge, ideas and practical solutions with colleagues that teach in the anatomical sciences.

Members of ASERT (pictured left) are:
(backrow) Dr Brad Hurren, Assoc Prof Christine Jasoni, Dr Rebecca Bird, Dr Jane Girling
(front row) Tim McLennan, Dr Vivek Perumal, Dr Natasha Flack, Emma Sutherland
(absent - Prof Helen Nicholson and Dr Kelby Smith-Han)

## *Current research projects*

ASERT members are involved in a range of research projects, including:

- *"Development of Te Reo Anatomical (Mātai Tinana) Resources "* Tapekaoterangi Hakopa, **Brad Hurren, Rebecca Bird,** Tracy Perry.
- *"Specialty choice in junior doctors"* **Kelby Smith-Han, Helen Nicholson.**
- *"Transformational learning through being mortal"* **Kelby Smith-Han**, Hamish Wilson, Stu Chambers, Lis Latta, **Helen Nicholson**.
- *"Professional development of educators in metacognition"* David Berg, Kim Brown, **Kelby Smith-Han**, Steve Gallagher, Nicola Betson, Rob Wass, Tracy Rogers, Jacqueline Tagg.
- *"Remedial tutorials & online resources to improve first year student performance"* **Rebecca Bird, Tim McLennan, Emma Sutherland**, Andrew Barlow, Ruth Napper.
- *"Attitudes and expectations of Science students in the use of human cadaveric tissues"* **Natasha Flack,** Athena Macmillan, Phil Blyth, **Helen Nicholson**, Stephanie Woodley, **Brad Hurren, Rebecca Bird**
- *"The inclusion of a dissection skills module and online support resources in the anatomy curriculum, to improve student experience and well-being."* **Brad Hurren, Natasha Flack, Emma Sutherland,** Fieke Neuman, Ross Marshall-Seeley, Stephanie Woodley, **Helen Nicholson,**
- *"The learning repro study"* **Jane Girling, Rebecca Bird**, Bryndl Hohmann-Marriot.
- *"Experiences and expectations of postgraduate students"* **Christine Jasoni, Rebecca Bird.**

## *Talking Teaching 2019*

In late November, Brad Hurren, Rebecca Bird, Tim McLennan and Jane Girling (all pictured left) travelled to Unitec in Auckland for the annual Talking Teaching symposium, which is run by the Ako Aotearoa Academy of Tertiary Teaching Excellence (of which Brad and Rebecca are members). The theme for this year's symposium was "Diverse Learners, Inclusive Teaching" and it was a fabulous two-day event targeted towards inclusive teaching practice in tertiary education across the breadth of the sector.

*Outside the conference venue are (left to right) Brad Hurren, Tim McLennan, Jane Girling, Rebecca Bird*

Brad, Rebecca and Tim presented a workshop (co-developed with Natasha Flack) titled "What's In A Name? Exploring The Language of Anatomy". This workshop explored the origins of anatomical language and how we learn this language. Anatomical language is inclusive by the mere nature of the fact we all have physical anatomy

(continued from page 7)

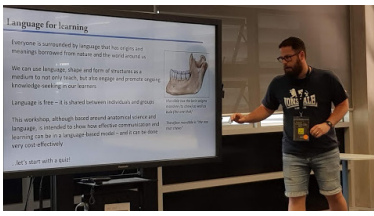
that we can relate to. This was explored not only in the sense that our physical bodies exhibit form, shape and function; but also in the wider man-made and natural world where many of the words that we use to describe ourselves have their roots. The workshop went extremely well, with some feedback (from tertiary educators with little to no anatomical training) below:

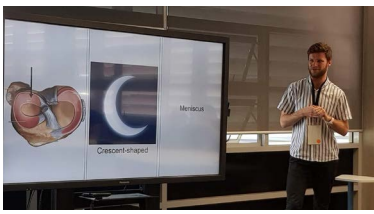
*"Combining play with knowledge - fantastic. Also makes me think about the rich traditions that underpin the complex forms and functions of our bodies"*

*"Never thought about the scientific names of body parts so this was hugely interesting and very new I also learned some new pedagogical skills for teaching material"*

*"The total joy of using existing knowledge (of words etc) plus logic and imagination to learn brand new things - totally loved it. So interesting and so fun!"*

The symposium was a fantastic showcase of educational practices in use from across the country – and we are grateful to the Department for the support in funding Tim to attend.




*Right: Giving their presentations are (top to bottom) Rebecca Bird, Brad Hurren and Tim McLennan*

# Honours research will help guide others

What was originally a research job analysing data from student questionnaires has turned into a Honours research thesis for postgraduate student Athena Macmillan. The results of which will help guide academics and future students as they grapple with the mental challenges of handling human material as part of their studies.

Athena Macmillan began working in the Anatomy Department as a Research Assistant for Dr Natasha Flack in 2018. Together they held focus groups and analysed data from questionnaires completed by science students where they were asked about how they coped with using cadaveric material, what they learned from these interactions and whether they felt prepared and supported. While not explicitly asked as a part of this study, a significant number of students expressed gratitude to the people who donated the material as well as ideas around the personality of the cadaveric material they had dissected.

*Dr Natasha Flack, Athena Macmillan, and Dr Susan Wardell*

As a response to these observations, Athena completed her Anthropology Honours dissertation in 2019 as an interdisciplinary project under the supervision of Dr Susan Wardell (Social Anthropology Programme) and Dr Natasha Flack. Her dissertation was an ethnographic look at how science students feel about learning with and dissecting cadaveric specimens, and how they negotiate this experience both in a professional capacity as a student, and also as a peer among other students in the same situation. She looked at personhood in terms of cadaveric material in the dissection room through participant observation following a cohort of ANAT331 students through the semester to see how students perceive and negotiate this idea, or conversely detach from thinking about these concepts, while also exploring their own identity in terms of the laboratory environment.

Athena found an intricacy of emotional responses regarding the emotional labour associated with having to negotiate the personhood of the material. This was sometimes emphasised through embodiment via visible and imaginal links to their own living bodies and other bodies they were familiar with such as relatives, friends and other loved ones. At times during dissection, some participants even empathetically projected their thoughts surrounding the pain of the incisions onto the specimens in ways that suggested a remaining sense of personhood.

This sense of personhood was then gradually dismantled over the course of the dissection as the specimen was too; the body part appeared less 'human' to them as flesh was stripped away. Through this, over time, the students were able to gain their own understandings and perceptions of how this personhood can be negotiated in relation to the dissection work being undertaken. This was expressed through showing respect to the specimen and learning as much as possible from the specimen in order to reflect their gratitude about the living person who decided to donate their body to science.

The results of this study will help students and educators alike with managing coping mechanisms as they negotiate the process of dissection and handling human materials as well as creating awareness about the kinds of guidance and direction that may be of extra support through this time of personal and academic development.

# Looking ahead to 2020 ...

The Department marked the end of a hectic 2019 with a staff Retreat at Cumberland College. Presentations focused on strategic planning for the year ahead in teaching and research, and areas where the Department needs to focus on growth. We celebrated significant achievements over the year - staff promotions, funding success, postgraduate students achievements and awards, outreach events, staff farewells, welcoming new staff, and celebrating graduations.

A team building activity that proved popular and seems to have become an annual event, was the Ginger Bread house challenge. This year, teams were given free-range to bring along additional items to decorate their houses. Some teams chose a PC2 theme, while others chose to build traditional ginger bread houses with a kiwi flavour. A small sample of creations are below:

## Meri Kirihimete

Merry Christmas to all our staff, students and alumni.

We wish you and your families a safe and relaxing holiday break, and look forward to seeing everyone again in 2020.

www.otago.ac.nz/anatomy