

Department of Anatomy School of Biomedical Sciences

THE INSIDE STORY

Issue 41, October 2020



Researcher receives Early Career Award

Dr Rebecca Kinaston has been awarded a University of Otago Early Career Award for Distinction in Research. The award recognises her studies on origins of prehistoric humans in the Asia-Pacific region, and her involvement in bioarchaeological excavations around the world.

Dr Kinaston is a Research Fellow in the Department of Anatomy, and one of only five recipients of this award in 2020.

She receives a grant of \$5,000 for personal scholarly development and membership to the University's O-Zone Group which links early to mid-career researchers to promote interdisciplinary networking and collaboration.

Rebecca's research focuses on how humans adapted to and moved across historic and pre-historic landscapes in the Asia-Pacific region, including New Zealand. She is also involved in collaborative projects with reseachers at the Max Planck Institute for the Science of Human History in Germany, and researchers at universities in Indonesia, Australia, Scotland, the Czech Republic, and Uzbekistan with whom she has led bioarchaeological excavations in historic and medieval cemeteries.

In 2018, Rebecca was selected to be a forensic lead in the New Zealand Defence Force's operation Te Auraki (The Return) to bring home the bodies of 36 personnel and dependents buried overseas between 1955 and 1971. In that same year, she was awarded a \$300,000 Marsden Fast-Start Grant for Early Career Researchers for her research on human migration and adaptation in prehistoric Indonesia.

From the HoDs desk



In this issue ... **Resercher receives Early Career Award** From the HoDs desk Research funding success 400-level research presentations Museum tours a virtual reality Postgraduate profile - Ed Moody Helping protect our native birds Happy World Anatomy Day Teaching under level 2 Thanksgiving service rescheduled Spotlight on new academic staff - Dr Natasha Flack - Dr Johann Zwirner Testing the waters for Covid-19 Med 2/3 teaching awards Stepping up for the challenge Publication in prestigious journal The art of anatomy Introducing our new Summer School paper - ANAT 131



of Lisa Matisoo-Smith

Looking back, I see that our last newsletter was in May, which seems like it was a lifetime ago. I don't know about the rest of you, but all of the standard events that mark the academic year have been so disrupted that I have a hard time knowing what day it is or even what month we are in! So many of our normal events that mark the year, such as annual conferences and graduation ceremonies have been cancelled or postponed. Even the more mundane activities like giving lectures and attending labs all help us keep track of time. Without them, I find that time is difficult to measure. Events and conversations now fit into a "pre-lockdown", "during lockdown" or "post-lockdown" timeframe.

While the whole lockdown experience was something that I think most of us would like to forget – there were some positives, and I think it is good for us to focus on these. It was only during lockdown, as I was sitting in my makeshift home office, that I realised that we have an entire population of fantails (pīwakawaka) that live in the pine trees on the edge of our driveway – this includes a rare black fantail, apparently only found in the South Island and at about 5% of the population. He greets me in the evenings now when I come home – we stop and have a moment of acknowledgement.

I will never forget the joy that was almost palpable when we had our first on-line Thursday morning tea – attended by more than 70 people! Then, again, it was so nice when we were able to have our morning teas in person again, when we finally got to Level 1.

So, as we move forward, I hope that we do not have to use what we learned for going back into another lockdown, but I do hope we can hold on to what we learned about not taking simple things for granted – make the time to enjoy that cup of coffee with a colleague, have that face to face meeting with a student, enjoy an extended family dinner or attend that graduation or other group celebration.

Finally, while I am being thankful, I just want to thank everyone once again for the hard work and extra effort and hours that you all have put in to get us through this very odd and difficult year. I know it has been tough and we are all very tired, but we got through it all together. Once again, it made me very proud to be part of such an extraordinary Department. I am hoping that we can all gather together in December for our Christmas function to share some time, some food and a bit of fun to celebrate each other and the end of a very odd year.

Kia kaha, ngā mihi nui, Lisa

Researcher receives Early Career Award



(continued from page 1)

Rebecca joins an elite list of Anatomy researchers who have become members of O-zone. They include Dr Rosie Brown, Dr Andrew Clarkson, Associate Professor Sian Halcrow, Dr Tim Hore, Professor Christine Jasoni, Dr Michael Knapp, Dr Mike Pankhurst, and Professor John Reynolds.

Membership to O-zone is restricted to winners of Early Career Awards for Distinction to Research or the Rowheath Trust Award and Carl Smith Medal.

Visit the Department of Anatomy webpage to learn more about <u>Rebecca's</u> research.

Research funding success

Health Research Council Grant

<u>Professor Dave Grattan</u> and <u>Dr Rosie Brown</u> have received nearly NZ\$1.2 M in funding from the Health Research Council of New Zealand.

"A neural circuit required for maternal adaptation to pregnancy"

Maternal care is critical to the survival of dependent offspring. Professor Grattan's team have described a circuit in the brain that is essential for a mother to look after her offspring. In this project, he and Dr Rosie Brown aim to map the different projections of neurons within this circuit and determine whether different projections are involved in different aspects of maternal care. There is increasing recognition that pregnancy hormones such as prolactin exert significant influence on the maternal brain, and that

abnormalities in adaptive responses to these hormones may be associated with perinatal mental illness. This research will provide new insights into the hormonal regulation of maternal behaviour, and how hormones facilitate the development of maternal-infant bonds.

University of Otago Research Grants

Dr Catherine Collins (Early Career Grant)

"Using the commensal model to investigate the origins of the first Rēkohu settlers" As part of the settlement strategies, people of the Pacific carried animals, such as the kiore (Pacific rat, *Rattus exulans*), and plants that were important when they were settling new islands. We can use the genomics of the kiore, in this case, to learn more about the islands that the people who settled Aotearoa and Rēkohu (Chatham Islands) came from. Earlier research identified a genetic difference between kiore (based on sequence from a short mitochondrial region) from Rēkohu and Aotearoa. This project aims to further investigate this genetic difference in kiore from Rēkohu and identify potential different origins of the kiore traveling in the waka of the Polynesians who settled Rēkohu.

Associate Professor Siân Halcrow, Dr Stacey Ward and Dr Charlotte King

"Living on the Edge: health in a marginal community during the protohistoric (500-800AD) social transition in the Northeast Thailand"

This study will investigate how the rise of inequality impacted health at the recently excavated protohistoric (500-800AD) site of Ban Krabeuang (BKB), northeast Thailand. BKB represents a marginalised group during an understudied period of burgeoning social inequality in the region, making it an ideal arena for exploring the health effects of social transitions

among marginalised peoples. Our research will combine isotopic indicators of diet and mobility with innovative microscopic methods for studying skeletal stress markers to explore the interacting influences on health. This work is being undertaken as part of a team involving Associate Investigators Dr Stacey Ward and Dr Charlotte King from the Department of Anatomy, and international collaborators.

Dr Megan Wilson and Dr Michael Meier (Postdoctoral Fellow)

"Uncovering the gene regulatory networks required for successful whole body regeneration in a urochordate"

Greater biological complexity is accompanied by diminished regeneration capacity. Botrylloides leachii, a type of ascidian (sea squirt), can regenerate an entire body from a fragment of vascular tissue in as little as eight days. Exactly how B. leachii carries out a rapid regeneration programme, over a small period of time, is largely unknown; this process requires the activation of a stem cell population and the restoration of

specialised cell types to replace all the lost organs and tissues, but how this is coordinated at the genome level remains unclear. Recent rapid advancements in single-cell sequencing, along with our previous studies on regeneration, position us to make unprecedented headway in answering this question.

Associate Professor Stephanie Woodley and Pete Lawrenson

"Hip muscle structure in pre-arthritic hip-related pain"

Hip-related pain in young active people is a common musculoskeletal condition associated with irreversible joint changes (e.g. cartilage damage) and the development of early onset hip osteoarthritis. This project will utilise a novel method of machine learning to investigate hip muscle size and fatty infiltrate from magnetic resonance imaging of young active people with and without hip-related pain. These findings will contribute new knowledge to enhance our understanding of the impairments associated with hip-related pain, with the potential to inform future management of this condition.













400-level research presentations

A nationwide lockdown, delivery delays for consumables, and social distancing requirements in the lab are not the usual challenges you would expect to face as a 400-level student emarking on your first ever year of research. And yet, these were the obstacles our fourth-year students had to overcome to be able to complete their studies and present their research at the department's 400-level Poster Day.



The students and their poster titles are:

Ten students took part in the event, which also doubled as an assessment component for those taking the ANAT 458 paper (Current Topics in Anatomical Science) as part of their 400-level programme.

Professor Lisa Matisoo-Smith congratulated them all for making it through what has been a tough and challenging year. The quality of the research on display was a credit to the students and the supervisors.

Honours student Rachel Jackson was awarded the HoD's Prize for her poster which looks at what undergraduate students want to know about reproductive health. A very interesting research topic indeed!

Congratulations to all our students who contributed to a fabulous day.

Lily Bentall - BSc(Hons) - Neuroscience "Optogenetic stimulation to the motor thalamus for movement recovery in Parkinsonian rats"

Supervisor: A/P Louise Parr-Brownlie



Rachel Jackson - BSc(Hons) "What is normal? What do undergraduate students want to know about reproductive health?" Supervisors: Dr Jane Girling, Dr Rebecca Bird, Bryndl Hohmann-Marriott (Sociology)



Willa Jones - BSc(Hons) "The intersection between endometriosis, polycystic ovarian syndrome and androgens" Supervisor: Dr Jane Girling



Edward Moody - BSc(Hons) "Investigating the link between proprioceptive function and adolescent idiopathic scoliosis (AIS)"

Supervisors: Dr Megan Wilson, Jeremy McCallum-Loudac and Dr Andrew Clarkson

Beau White - BSc(Hons) "What's in the box?" Supervisors: Dr Charlotte King and Prof Hallie Buckley



Emma Bultitude - BSc(Hons) -Neuroscience "Investigating the potential role of leptin in regulating *Wnt5a* and *Fzd5* expression in the neonatal hippocampus"

Supervisor: Prof Christine Jasoni



Alice Jones - BSc(Hons) "eNOS deficiency and cerebrovascular alterations in Alzheimer's disease" Supervisor: A/P Ping Liu



Kathryn King - BSc(Hons) "Dental practices and oral health in historic New Zealand" Supervisors: A/P Sian Halcrow, Dr Rebecca Kinaston, Dr Hayden Cawte (NZ Heritage Properties Ltd)



Eleanor Schwer - BSc(Hons) "What causes instability at the distal radioulnar joint?" Supervisor: Dr Phil Blyth

Lynn Yiew - PGDipSci "How does a growing follicle influence adjacent primordial follicles in the ovary?" Supervisor: Dr Michael Pankhurst





Museum tours a virtual reality

The plan for Ruth Warren's PhD project seemed relatively straight forward at the beginning of the year. As part of her research project, she was going to ask members of the general public visiting the W.D. Trotter Anatomy Museum for the first time to complete a survey about their emotional responses to viewing human remains in the informal learning environment of the museum.

Then along came Covid-19, social distancing and lockdown. What do you do when your entire audience is stuck at home in their own bubbles? In this modern world of all things virtual the answer was, of course, virtual reality!

Ruth teamed up with film-maker and Professional Practice Fellow Jeff Avery from the University's Centre for Science Communication to create a virtual tour of the museum.

Using an Insta360 camera with dual lens, Jeff was able to work his way around the museum space, taking an extensive series of images which were then stitched together to create a seamless path through the museum, including close-ups, or 'hot-spots', of particular points of interest. Museum Curator Mr Chris Smith provided the voice-over, along with interesting stories about each exhibit.

The end result is a virtual tour which enables viewers to "walk around" the museum from the comfort of their own homes.



Ruth and Jeff worked mainly in the evenings to capture each scene

Anyone over 16 years of age is able to participate in the tour, but as it does contain images of human remains, they must first register and give their consent.

Ruth hopes to learn more about people's emotional experiences before and after having completed the tour, and their motivations for visiting the Anatomy Museum.

To learn more and to register to take the tour, <u>click here</u>.

Postgraduate Profile - Ed Moody

On His Way To Finding The Answers

When Ed was a little boy, he was always one to ask questions. Not content with just knowing the answer, he also wanted to understand the why and the how of things. At the centre of it all was a love for science and a passion to learn about the human body.

When he came to Otago to study, he thought Medicine would be the ideal career path for him.

"As a first year student I had little understanding of the different potential careers and pathways, and I came to university with the mindset that my love for science meant Medicine was the best option for me."

Ed was introduced to science research through his First Year Health Science papers and he discovered he had a passion for research and realised he wanted a career that would quench his thirst for knowledge and allow him to continue asking questions.

After he'd completed his first year at university, Ed had a major back operation to correct the curvature in his spine caused by idiopathic scoliosis, a spinal deformity with no current known cause. It annoyed him that he knew so little about something which had played such a large part in his life.

So he decided to pursue a degree in Science.

"Pursuing an undergraduate degree in Anatomy just seemed right" he says of his decision to follow a research path. "A whole new world of research and information opened up for me to explore."

Ed completed a Bachelor of Science majoring in Anatomy in 2019, but that wasn't the end. He still had questions.

"I knew I wanted to learn more about scoliosis but I just didn't know how" he says.

"I really enjoyed the Developmental and Reproductive Anatomy papers, and I wondered how I could incorporate this passion with learning more about idiopathic scoliosis."

As luck would have it, a researcher in the Department of Anatomy, Senior Lecturer Dr Megan Wilson, was researching idiopathic diseases and there was an Honours position available in her lab.

So Ed applied for, and was accepted into the Honours programme in the Department of Anatomy.



Decinons) posigradadie stadent za moody

2020 has been a complicated year with Covid-19 altering many plans and changing the flow, but nonetheless Ed has enjoyed his transition into postgraduate study and says the year as a whole has been lots of fun, providing him the opportunity to develop and learn new skills, gain a new sense of independence, and meet a whole new bunch of people.

His Honours research project investigates the link between proprioception and adolescent idiopathic scoliosis (AIS). More specifically, how knockout of the enhancer for the gene *LBX1* causes proprioceptive dysfunction and how this may lead to development of spinal curvature typical of AIS.

Next year he hopes to start a PhD in Anatomy, continuing his research into idiopathic scoliosis under the supervision of Dr Wilson. In time, he hopes to uncover and learn more about the many possible genetic and environmental factors contributing to the disorder.

His advice to anyone contemplating postgraduate study is to *"go for it"*.

"Postgrad has been an awesome opportunity to learn new things, develop skills and get to know like-minded people" he says.

"It is such a different experience to undergrad. You get real hands-on experience that contributes to real science, and develop the necessary skills for future research."

It sounds like he is well and truly on the right path to uncovering some of those answers he's been looking for.

Happy World Anatomy Day!



The Department celebrated World Anatomy Day on Wednesday 15 October with an on-line shout-out to all the anatomy department's around the world.

The day coincided with the gathering of staff and postgraduate students in the W.D. Trotter Anatomy Museum for the annual department photo, so there were plenty of people on hand to give a hearty "Happy Anatomy Day from Aotearoa New Zealand".

The study of human anatomy has seen many technological advances over the years. World Anatomy Day is a tribute to the founder of modern human anatomy, Andreas Vesalius. October 15 marks the anniversary of his death in 1564.

Check out the full ANZACA greeting from Otago and a couple of Australian anatomy departments on <u>YouTube</u>.

Teaching under level 2

While the Department was able to continue to teach in person under Level 2 restrictions and guidelines, it was obvious social distancing in the dissecting room would not be possible given the nature of the classes.

A quick calculation on the number of practical labs remaining in the semester, plus upcoming exams, and the number of students required to wear a disposable mask in every remaining lab (289 Med 2 students; 294 Med 3 students; and 140 Phty students), meant the Department had to order 6,500 disposable masks, including some ful7l-face masks, so that students would still be able to attend classes under Level 2 wearing full PPE (personal protective equipment).

In the labs, students had to adhere to strict non-gathering protocols, dispose of their masks and gloves before leaving the room, and of course wash, wash, wash their hands!



Third Year medical students prepare for a dissection class i full PPE attire under Level 2. Front row (L to R): Hingatu Elliott, Dipanwita Das, Alex George, Alexa Bryant; Back row: Georgia Williams, Caitlin Bland, Ethan Waimotu, Paris Brocherie, Jean Yap

Thanksgiving service rescheduled



With the re-emergence of Covid-19 in New Zealand, and social gatherings restricted to less than 100 people under Alert Level 2, the Department had to sadly postpone the thanksgiving service scheduled to be held in Christchurch on 19th August.

We are now pleased to announce this service has been rescheduled and will be held in Christchurch on the evening of Wednesday 2 December (Covid-willing!).

Staff and students are warmly invited to attend the service. Anyone wishing to take part, or who would like to receive more information about the service, is encouraged to contact the <u>Body</u>. <u>Bequest Liaison Officer</u>.

Spotlight on new academic staff



Dr Natasha Flack, Lecturer

A desire to help people and inspire students was the motivation for Dr Natasha Flack to pursue a PhD in Anatomy and then become a Lecturer in the Department of Anatomy. She is now relishing the opportunity to help improve people's lives through her research, and inspire students along their own pathways through her teaching.

Natasha completed her PhD in 2010 under the supervision of Associate Professor Steph Woodley and Professor Helen Nicholson. The focus of her research was the detailed anatomy of the hip abductor muscles and their role in lateral hip pain.

Her research has now expanded to focus on two main areas, which she says often intertwine – clinical anatomy and education.

She uses a combination of imaging modalities and traditional dissection to investigate the musculoskeletal anatomy of the lower limb. Her aim is for her research to be translatable into the community to help others. One project Natasha is excited to get started on this year will be focused on the anatomy of tibialis posterior, an important muscle for maintaining the medial arch of the foot.

"By understanding the relationship between the tibialis posterior muscle size and adult-acquired flat foot we can improve and refine current conservative treatments for this ailment which affects many people in the community" she says.

Her expertise in musculoskeletal anatomy has also opened an exciting pathway to working with a group of clinicians at the Diabetes Department at the Canterbury District Health Board. The team is currently working on developing a new system to accurately document diabetic foot wounds, for which Natasha has been the lead for ensuring accuracy in the anatomy behind the technology.

This particular project is attracting interest from the <u>HealthTech Supernode Challenge</u>, with her team's application making it through to the second round. The HealthTech Supernode Challenge aims to identify commercially viable innovative health tech ideas, and



Dr Johann Zwirner, Lecturer

Dr Johann Zwirner joined the Department of Anatomy in 2018 as an Assistant Research Fellow with Professor Niels Hammer. He had previously trained as a medical doctor and completed a PhD in Germany under the joint supervision of German neuroscientist Professor Ingo Bechmann and Professor Hammer.

Johann says he applied for the permanent Lectureship position in the department because he and his partner realised how much they would miss the small things they enjoy about Dunedin if they had to leave – such as the Saturday farmers market, outstanding surfing spots, and the great community feeling. The opportunity to build his own research group and drive his research in it's own direction were also appealing.

The main focus of Johann's research centers on the biomechanics of human tissues investigating the connection between structure and function.

His main project looks at what forces the human head can resist, and how it is built.

"We are using different imaging techniques to try and understand why the back of the head is able to resist trauma better than the side of the head. We can use our findings to help head models become more realistic. These models are used for airbag development, car crash simulations, and making bike helmets as safe as possible so it is important that these items are as accurate as possible."

The head biomechanics research is part of a greater forensic neurotrauma research project Johann is working on with an exciting group of national and international researchers. Another research aim of the group is to find biomarkers that will help prove a person has died from a traumatic brain injury rather than something else.

"It is possible to die from a head impact that doesn't leave an impressive injury on the outside of the skull. With our biomarker research we are trying to find objective evidence that can be used in court for crimes such as shaken baby syndrome which can be difficult to diagnose."

8

(continued from page 8)

develop and apply them to help solve health care issues in the community.

"Getting our project into the second round has been really exciting, but this is a completely new area for me which is both scary and challenging. But it's very exciting that our team has a very real, translatable research idea" she says.

Natasha's other area of research is education and she is a founding member of the department's ASERT (Anatomical Sciences Education Research Team). She has a particular interest in the student voice and their experiences in using cadaveric material and dissection for learning anatomy.

"By understanding how students learn, feel and prepare for learning with cadaveric material we can put into place supportive means to help them and improve their learning experience."

Her passion for teaching came when she worked as a Demonstrator during her fourth-year studies. She found teaching immensely enjoyable and she thrived on the challenge and connection with the students.

This year she has taught into the ANAT101, PHTY250 and ANAT458 papers. Previously she has taught modules in the HUBS 191 and 192 papers, ANAT 331, ANAT 451 and second year Medicine papers.

Being a wife, and mum of two adorable children, Natasha describes herself as a woman of many talents. *"I am a netball umpire, taxi driver, chef, dog walker, face painter, hot wheels driver, trampolinist, hairdresser, seamstress, cake decorator, jumping bag, netflixer, and so much more!"*

I think we can also add researcher, teacher and innovator to that list.

(continued from page 8)

Johann is also involved in teaching the forensic pathology module of the FORS201 paper, which offers students a broad introduction to forensic science. He is also involved in the Postgraduate Diploma in Surgical Anatomy programme, which provides in-depth anatomy tuition for junior doctors in their second or third year post graduation.

Johann has travelled extensively around the world, visiting every continent except Antarctica. He was born in Borna, a town close to Leipzig in Germany. He has now lived in Dunedin for nearly three years and feels he has adjusted well to the Dunedin way of life.

"I go surfing in sub-Antarctic water, wear jandals and shorts all year round and only stumble occasionally over the Dunedin dialect" he says.

"I try and go for a long run along the beach almost every day to get back into balance after a full day at work, and I also try to attend a yoga class at least once a week, or go surfing or explore the backcountry as much as possible."

"As a medical doctor my original intention was to help people while also having fun in my job. Through my initial research year here at Otago I realised that I was doing exactly that, just in a very different way than I anticipated. I would probably resign the day we as anatomists don't strive to make a difference anymore."



Testing the waters for Covid-19

Professor Neil Gemmell is part of a national group of scientists calling for wastewater systems throughout New Zealand to be regularly monitored for the SARS-CoV-2 virus which causes Covid-19.

The group, led by researchers from the Institute of Environmental Science and Research (ESR) recently received \$1.65M in funding from the Ministry for Business, Innovation and Employment for their viral detection research.



Analysis of samples collected by Dr Gert-Jan Jeunen from the Gemmell lab over the last 6 months found evidence of the virus in wastewater samples taken from Dunedin's Tahuna Wastewater Treatment Plant in March and April at the beginning of New Zealand's Covid outbreak.

Similar screenings undertaken overseas have also detected the virus. In one case, the virus was successfully tracked to two asymptomatic students living in a dormitory on a University campus, preventing a large community outbreak.

Professor Gemmell says regional monitoring of wastewater at key facilities such as airports and managed isolation facilities is key to identifying future clusters and asymptomatic carriers.

"Regular testing will be an important part of New Zealand's surveillance safety net to identify potential "hot spots" and prevent large scale community outbreaks" he says.

Med 2/3 teaching awards

Anatomy staff have again featured prominently in the teaching awards voted on, and presented by the second and third year Medical classes. Our award winners for 2020 are:

Second Year Medical Teaching Awards

<u>Best Lecturer</u>

• 3rd Dr Latika Samalia

Best Demonstrator

- 1st Dr Latika Samalia
- 2nd Dr Vivek Perumal
- 3rd Dr Yusuf Cakmak

Third Year Medical Teaching Awards

Best New Teaching Staff

• 1st Dr Erik Wibowo

Best Lecturer

• 3rd Prof John Reynolds

Best Demonstrator

- 1st Dr Vivek Perumal
- 2nd = Dr Kanchana Subasinghe & Kushan Gandhi
- 3rd = Leema Prasath, Rees Guise & Dr Latika Samalia

Best Tutor

• 3rd Dr Kelby Smith-Han

Best Module

• 3rd Reproduction, Development and Ageing



Front row (L to R): Leema Prasath, Vivek Perumal; Second row: Kanchana Subasinghe, Latika Samalia, Kushan Gandhi Back row: Erik Wibowo, Kelby Smith-Han (Absent - Yusuf Cakmak, Kushan Gandhi, John Reynolds)

Stepping up for the challenge 👷



Three hardy Anatomy souls took on the My Step Up Challenge to raise money for Leukaemia & Blood Cancer New Zealand. They climbed over 5200 stairs in Forsyth Barr Stadium - that's three circuits, climbing up and down every aisle in all three stands. Congratulations to Professor Lisa Matisoo-Smith, Professor John Reynolds and Anne Stansfield for completing the challenge, and still having a smile on their faces!

The Department has raised \$2,683.90 through bake sales and donations. But we'd like to raise more - and it's not too late to make an online donation through the department's <u>fundraising page</u>.

Leukaemia & Blood Cancer New Zealand (LBC) is the national organisation dedicated to supporting patients and their families living with a blood cancer - leukaemia, lymphoma or myeloma or a related blood condition. It receives no funding from the government so donations are vital to support its core services, research, information and advocacy.



Publication in prestigious journal



and Dr Sandleen Feroz

PhD candidate Dr Sandleen Feroz has had a review article published in the high-impact journal *Bioactive Materials*. The review, co-authored by Professor George Dias, Dr Jithendra Ratnayake (Department of Anatomy), and Dr Nawshad Muhammad (COMSATS University Islamabad, Pakistan) looks at the suitability of keratin-based materials, such as hair, hooves and nails, for use as biomedical applications in medical and dental proceedures.

Bioactive Materials has an impact factor of 8.724 and is ranked 2nd out of thirty-eight journals in the field of materials science and biomaterials, and 5th out of eighty-seven journals in the biomedical and engineering category.

Dr Feroz is in her first year of study for a PhD, and is supervised by

Professor George Dias. Her research focuses on developing a novel technique for keratin extraction from wool fibers using ionic liquids for fabrication of bioactive hard-tissue subsitutes for bone tissue regeneration.

The extraction and processing of keratin from its natural raw state usually requires harsh chemicals and thermal conditions. The Dias research team has previously patented a method using microwave radiation techniques to extract keratin.

To read the review article "Keratin-based materials for biomedical applications" published in *Bioactive Materials*, visit the <u>Science Direct website</u>.

The art of Anatomy

Around 15 Diploma in Arts and Design students from the Art School at Otago Polytechnic recently attended a drawing workshop in the W.D. Trotter Anatomy Museum, hosted by Anatomical Model Fabricator and artist Dr Louisa Baillie. The workshop was designed to give the students, who are studying ceramics, painting and sculpture, the freedom and opportunity to explore the shape of the human body and learn about the its form and structure.

11





Dr Louisa Baillie (second from right) works with Polytechnic art students in the W.D. Trotter Anatomy Museum

A little something to fill the gap ...

Biology: The only science where multiplication and division mean the same thing.



Introducing our new Summer School paper



otago summer school

Make use of your summer. Take a paper in Summer School.

11 January–19 February

otago.ac.nz/summerschool facebook.com/otagouniversity



ON CAMPUS

ANAT 131 Origins of Anatomical Language

Origins of Anatomical Language - ANAT 131

Have you ever struggled to pronounce or spell anatomical words, or been puzzled by terminology used in an Anatomy lecture or by your doctor? Or perhaps you have a fascination for classical languages? Then we have the perfect Summer School paper for you!

Each year our health professional students are faced with learning anatomical terminology derived from a myriad of classical languages. But unless they studied Latin or Botany at high school, they probably won't have a good understanding of the meanings behind the words.

The ANAT 131 paper, Origins of Anatomical Language, is an introduction to the study of anatomy throughout history and how anatomical terminology used to this day has roots in classical languages such as Greek and Latin.

It will be taught in conjunction with staff from the Department of Classics, and involves practical classes in the W.D. Trotter Anatomy Museum and Histology Classroom.

The paper merges the intricate wonder of the form and function of the human body with the beauty of art and language.

To learn more about the ANAT 131 paper, visit the <u>University of Otago</u> website.

Enrolments for Summer School are now open. ANAT 131 will be taught on-campus only.

