

UNIVERSITY OF OTAGO

MAGAZINE

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47



INSIDE

Professor Neil Gemmell
and the potential of eDNA

Otago's world-famous unsung scientist
Reclaiming the knowledge of Te Rā
Cannabis: what you need to know

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Te Whare Wānanga o Otago

NEW ZEALAND

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Vice-Chancellor Professor Harlene Hayne discusses the celebration of women's suffrage in New Zealand and the many firsts for women at Otago.



All across New Zealand, we are celebrating women's suffrage. On 19 September, I participated in the planting of a white camellia in the garden next to Marama Hall. This planting ceremony was organised by the University of Otago Staff Women's Caucus to mark the 125th anniversary of women's right to vote. The white camellia is the symbol of New Zealand women's suffrage; suffragists gave them to their parliamentary supporters to wear in the house; their opponents wore red camellias.

The fight for women's suffrage was not an easy one. The journey began in 1869 when Mary Ann Müller, a British immigrant to New Zealand, published a pamphlet in which she appealed to the men of New Zealand, advocating for women's right to vote. In 1885, the US-based Women's Christian Temperance Union (WCTU) arrived in New Zealand and took up the mantle of women's suffrage. In 1887, Kate Sheppard was appointed as WCTU's National Superintendent for Franchise and Legislation and became a fierce advocate for women's right to vote. Over the next six years, women presented five increasingly larger petitions to Parliament.

The 1893 Women's Suffrage Petition, signed by almost one quarter of the female adult population in New Zealand, was at that time the largest petition of its kind in New Zealand or any other Western country. Dunedin women played a vital role in mobilising support for the petition and more women in the city signed the petition than in any other urban centre. Support for suffrage was strong throughout Otago: 31 per cent of the petition signatories were from our province at a point when the province made up just over 20 per cent of the national population.

Despite fierce opposition, the Bill granting women the right to vote passed by just two votes on 8 September 1893 and was signed by the Governor on 19 September 1893. Two months later, on 28 November 1893, approximately 65 per cent of New Zealand women exercised their right to vote.



“Importantly, from our very inception, the advancement of women at Otago has been due not only to strong women, but also to strong men who often had to stand up against their peers to fight for this important cause.”

The national campaign for women's right to vote in New Zealand mirrored changes that were also taking place here at the University of Otago. I have written briefly about the history of women at Otago in this magazine, but some of these messages bear repeating. Otago was founded in 1869 — the same year that Mary Ann Müller published her pamphlet calling for women's right to vote. In August 1871, just two months after the first classes were held at Otago, the Council (all men) agreed unanimously to admit women. When they did so, Otago became the first university in Australasia where women could study and graduate with a degree.

Many firsts for women at Otago followed. In 1885, Caroline Freeman became the first woman to graduate from Otago — walking to and from Green Island to study here. We have recently re-named City College — Caroline Freeman College — to acknowledge her pioneering achievement. Earlier this year, we were delighted to celebrate with some of Caroline's descendants, including Georgia Freeman, who is currently a student at Otago.

Otago was the first university in Australasia where women could study law. Ethel Benjamin was the first woman law graduate at Otago and the first woman in the British Empire to appear as counsel in court. Emily Siedeberg-McKinnon was Otago's first woman medical graduate; Winifred Boys-Smith was Otago's (and New Zealand's) first woman professor, and Margaret di Menna was Otago's first woman PhD graduate, receiving her degree in 1954. I had the great privilege of meeting Dr di Menna during my first year as Vice-Chancellor.

Women continue to excel at Otago. Women students have outnumbered men at Otago for many years. Women teachers continue to put us on the map. Otago has taken home the Prime Minister's Supreme Award for tertiary teaching in six of the last seven years. In five of those years, the winner was an Otago woman. This year Faumuina Associate Professor Fa'afetai Sopoaga was the Supreme Award winner. On the night of the awards ceremony, she was joined by three other 2018 national award winners from Otago:

Dr Rebecca Bird, Associate Professor Michelle Thompson-Fawcett and Associate Professor Sheila Skeaff — all women. In each academic division we have internationally-recognised women researchers at both the junior and senior level.

Many of our academic staff — both present and past — have shown national and international leadership in teaching and research in fields of particular relevance to women including women's history, early childhood education, women's health and gender studies. Women also serve as outstanding academic leaders at Otago as Heads of Departments, Deans and Deputy Vice-Chancellors. Women also lead a number of our professional services and residential colleges. Sadly, we will soon farewell Otago's first woman Registrar, Jan Flood.

As the University of Otago's first woman Vice-Chancellor, the suffrage celebrations have been very special to me. I am extremely proud to stand on the shoulders of all the amazing women who have gone before me. I highly value our current women staff and students who make important contributions not only to our University, but to our local, national, and international community as well. Importantly, from our very inception, the advancement of women at Otago has been due not only to strong women, but also to strong men who often had to stand up against their peers to fight for this important cause.

This proud history exemplifies Otago as a university community that has long embraced the opportunity to lead the way in battling for progressive causes. It also sets a clear example of how a University about to celebrate its first 150 years should aspire to act in the future.

A handwritten signature in black ink that reads "Harlene Hayne". The signature is fluid and cursive.

Professor Harlene Hayne
Vice-Chancellor, University of Otago

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eDNA's monster potential

Environmental DNA is an exciting and increasingly accessible tool to help scientists monitor and protect the world's ecosystems – revealing the past, measuring the present and helping to predict what might happen in the future.



When one of the world's top scientists goes hunting for one of the world's most mysterious monsters, it's a marriage made in media heaven.

Otago Professor Neil Gemmill's search for Scotland's Loch Ness monster has created a perfect storm of popular science stories that have captured the global imagination.

For media everywhere, proving or disproving the monster myth is an irresistible tale. For Gemmill, it's been an irresistible opportunity to introduce cutting-edge science to the world.

His Loch Ness project showcases the use of DNA found in an environment (eDNA) to identify everything that lives in that area – its biodiversity.

Techniques tested and refined by his laboratory at the Department of Anatomy could revolutionise how we monitor our environment and expand our understanding and knowledge of our world.

The science involves using the detritus of life to reveal the past, measure the present and predict the future. It works because life is messy, says Gemmill. Everything leaves behind genetic fingerprints.

"Whenever a creature moves through its environment, it leaves behind tiny fragments of DNA from skin, scales, feathers, fur, faeces and urine. This eDNA can be captured, sequenced and then used to identify that creature by comparing the sequence obtained to large databases of known genetic sequences from hundreds of thousands of different organisms.

"If an exact match can't be found we can generally figure out where on the tree of life that sequence fits."

So if there really is – or was – a Loch Ness monster, Gemmill's team should find evidence of it.

The technology has been around a while, but since DNA sequencing costs have plummeted, it has become increasingly practical to discover secrets hidden in water, soil and air.

Measuring biodiversity helps us to assess the health of ecosystems, but traditional monitoring methods can be slow, labour-intensive, invasive and probably inadequate, so improved methods are needed.

Gemmill's lab has been at the forefront of developing how best to use eDNA technology as an alternative, with particularly rigorous testing by PhD student Gert-Jan Jeunen.



Professor Neil Gemmell: “Whether it’s as small as a marine worm or as large as a blue whale, as old as a woolly mammoth or a species new to science, it can now be studied without even being seen.”

Photo: Alan Dove

eDNA has been trialled in a number of ecosystems, but using it in large bodies of water has been relatively limited because of their dynamic nature.

Jeunen compared eDNA monitoring with traditional methods to see how it fared in getting results over time and distance — which are important considerations in aquatic environments such as oceans.

First, he had to find the best way to extract eDNA from water samples. Different researchers were already using a variety of methods to do this, so Jeunen compared them to find the one that gave the highest DNA yields and the most consistent results.

Using the most efficient protocol, he went on to test what eDNA could discover and how far eDNA is transported by water movement. Together with Gemmell and his other supervisors, Dr Michael Knapp (Anatomy), Associate Professor Miles Lamare (Marine Sciences) and Professor Hamish Spencer (Zoology), Jeunen explored how time, tides and seasons affected eDNA.

Working at the well-studied mouth of Otago Harbour meant eDNA results could be compared with prior knowledge of species diversity. Analyses showed that eDNA gave a very accurate picture, which should lead to quicker, cheaper and more reliable monitoring.

“In some ways it seemed like science fiction: being able to measure the biodiversity of a whole area from a bottle of water,” says Jeunen.

It opened up new possibilities for investigating hard-to-reach places such as oceans, subterranean caves and deep lakes — like Loch Ness.

The search of Loch Ness has always been about much more than monsters, says Gemmell.

“It’s about cutting-edge science that can make a real difference in how we monitor and protect the world’s increasingly fragile ecosystems. Whether it’s as small as a marine worm or as large as a blue whale, as old as a woolly mammoth or a species new to science, it can now be studied without even being seen.”

DNA lasts longer when frozen, which makes it ideal for learning about the past. Tests from ice cores taken from glaciers and permafrost have yielded eDNA for plants, insects and even woolly mammoths from the Ice Age — giving us a clearer picture of life on Earth hundreds of thousands of years ago.

eDNA has also been used to track rare dolphins in the wild and to follow polar bears across the ice by the use of DNA left in their footprints.

It’s also a powerful tool for early detection of invasive species that threaten to drive out natives in sensitive areas — hopefully allowing measures to be put in place to stop them before they become well established.

Biological controls over pests are another part of Gemmell’s wider research, with gene-editing a potentially powerful weapon for conservationists aiming for a predator-free New Zealand by 2050.

The future could see using eDNA becoming part of daily life for individuals as well as scientists, says Gemmell.

“In a few years we may be able to use eDNA monitoring tools for personal use, such as being able to test the water for *E.coli* abundance before going swimming, or test the sea before surfing to see if there are any sharks in the area — although false negatives may be a problem.”

It’s not a far cry from what is already being done using eDNA to monitor coastal fish such as snapper. “We can target species of fish that are commercially and recreationally important and see what is happening to the local population in an area over time.”

The technology is getting to the point where it could be likened to being able to take a photograph of someone who has left the room.

“We can monitor things that have been problematic to measure in the past, such as migrating whales that may be present in an area for only a few days a year. eDNA can give us genetic data that can tell us what species, maybe how many there were, maybe even which individuals were present on a given day in a given year.

“It’s an incredibly powerful tool for monitoring trends in populations that are recovering from past exploitation or predation such as southern right whales and Maui dolphins. It’s also useful in monitoring things like great white sharks — it’s nice to know if they are frequenting your surfing beach.”

Gemmell forecasts recreational tools for keen fishermen like himself. “You could be able to find out what’s in the water, how many trout there are in a stream and what they are eating. So if you know what is there and you don’t catch anything you’ll have no excuses — you’ll have no one to blame but yourself.”

It seems unlikely that the ultimate big one — the Loch Ness monster — will get away from Gemmell and his colleagues fishing for answers as to what really lies in the depths in Scotland. Once the number crunching is done, he and his team will have some answers.

And the world will be better informed about both an age-old myth and some very real 21st century science that could change the future.

NIGEL ZEGA



“
Whenever a creature moves through its environment,
it leaves behind tiny fragments of DNA from skin,
scales, feathers, fur, faeces and urine. This eDNA can
be captured, sequenced and then used to identify that
creature...”
— Professor Neil Gemmell

“
In some ways it seemed like science fiction:
being able to measure the biodiversity of a
whole area from a bottle of water.”
— PhD student Gert-Jan Jeunen.

Secrets unlocked

Even the best science sometimes takes a while to filter through to the general public — unless it gets a ride on a monster’s back.

After centuries of hoaxes and hokum, decades of dredges, drones, satellites and sonar beams have failed to find the legendary Nessie.

Gemmell’s search may well succeed where others have failed because of new science and a global dream team of collaborators.

Apart from Gemmell’s Otago colleagues, the project has involved scientists from Scotland and England, Denmark, the USA, Australia and France, including some of the pioneers in the study of eDNA and a host of DNA sequencing suppliers.

Experts have previously used the technology to follow invasive frogs in France, carp in the Great Lakes and fish migrations off New York.

The monster hunt gained traction when a Scottish journalist picked up on early correspondence between Gemmell and the author of a book featuring the Loch Ness monster. The newspaper article floating

the idea of using eDNA to investigate the loch was followed up around the world.

Gemmell found himself in the media spotlight, realising that Nessie was a fantastic vehicle for publicising clinical science with credibility and integrity.

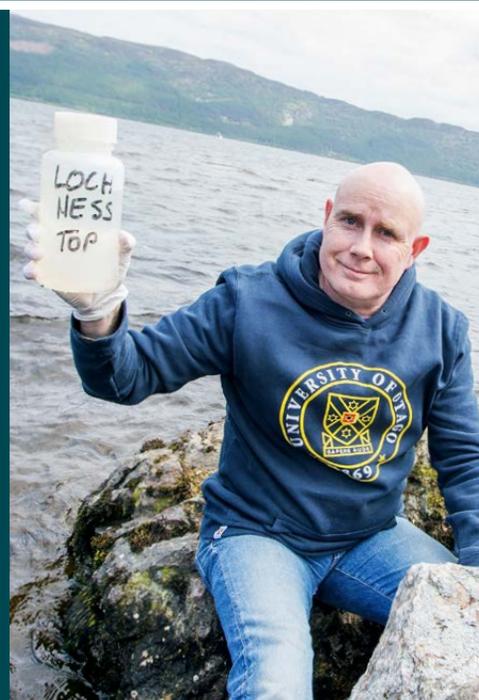
The project snowballed, culminating in two weeks of up to 18-hour days taking 259 water samples from as deep as 200 metres. Gemmell lost count of the interviews, TV appearances and thousands of stories generated.

Now the samples are being processed to extract eDNA, which will be analysed against a genetic database to establish a detailed list of all life in Loch Ness and compare it with other lochs.

Gemmell predicts the team will find new species, particularly bacteria, and will collect important data on the extent of several new invasive species recently seen in the loch, such as Pacific pink salmon, while also gaining a better understanding of the native species that reside there.

He admits that he’ll be amazed to find evidence of DNA sequences similar to those predicted to come from a large extinct marine reptile, but he’s keeping an open mind. It’s what the best scientists do.

Results are due early in 2019.



Professor Neil Gemmell holds a sample of the water from Loch Ness. This will be analysed to establish a list of all the life in the loch.

Photo: Paul Campbell



The wild a-calling

Natural History Filmmaking and Communication graduate Ashwika Kapur is smashing stereotypes, using her craft to help address some of the world's most pressing conservation issues – and working with some of its greatest talent.



Otago alumna Ashwika Kapur often enthuses about staring at grass – while it requires great mental and physical exertion the rewards are “moments of absolute joy”.

The joy, says the acclaimed Calcutta-based wildlife filmmaker, comes when a long logistical and creative process culminates in her capturing “unfiltered beauty” on film to tell stories that force us to appreciate nature at its most serene, or red in tooth and claw.

“Nothing happens in the wild unless you are waiting. I’m on location before the sun rises and am the last person to leave. In between I stare at grass for hours on end. This tests mental and physical endurance, but then the reward is moments of absolute joy when you see things that very few, if any, humans have seen ‘in the flesh.’”

Kapur’s dedication has also gained her a coveted “Green Oscar” for her film about a celebrity parrot and last year saw her work with the biggest name in the world of wildlife documentary filmmaking, Sir David Attenborough.

“Sir David is just as amazing as you’d imagine him to be – and with him at 92 and me at 29, what were the chances of our careers overlapping? I cannot even begin to express what an absolute privilege it was to work with him as part of the five-member crew for a film about the life of Jumbo the elephant. Whoever said you should never meet your heroes was dreadfully wrong.”

Ashwika Kapur describes her profession with the enthusiasm of someone who has found a way to combine a “love” of film – which was gained while working as a child actor in various advertisements and telefilms in India – with a “mild obsession” with animals.

An interest in critters of all descriptions first reared its head when, aged just four, her demands for a dog fell on deaf parental ears. Her mother acceded to a request for another “d” animal, so Ashwika and her leashed duck would subsequently join canine-owning friends on walks through the Calcutta neighbourhood where she was raised.

At 22 Ashwika Kapur filled a backpack and swapped a “stable, safe, secure, predictable, conventional life” for one of “chaos and unimaginable fulfillment”.

Her efforts to transform her family's 12th floor apartment into a "fully functioning farm" were finally brought to an end when her parents foiled an attempt to smuggle a goat back from a family holiday in North Bengal. Other inhabitants for the menagerie were found and a list of residents reads: "rabbits (20 plus), rescued tortoise, maina, kingfisher (one of each), white mice (nine plus)".

A further catalyst for combining her two passions came in her early 20s when she decided not to "live life on autopilot". At 22 — and contrary to much well-meaning advice — she filled a backpack and swapped a "stable, safe, secure, predictable, conventional life" for one of "chaos and unimaginable fulfillment".

Initial experiences filmmaking in South Africa led to work opportunities in Kenya, Borneo, India and Nepal.

A special encounter with a two-year-old cheetah called Mzima during a two-week stay at an animal orphanage in Kenya fostered a greater appreciation of just how precarious life is for a growing number of awe-inspiring species globally, and added to her desire to master her craft.

This road to "upskilling" led her out of Africa and to Otago's Centre for Science Communication. She describes studying for her Postgraduate Diploma in Natural History Filmmaking and Communication in 2014 as a "big turning point" in her career, and one which opened her eyes to the genre's endless potential.

"Previously, I regarded the best wildlife documentaries as those with the prettiest pictures, but Otago completely changed my perspective on what constituted good filmmaking.

"I'd studied English literature in India and this was probably why my absolute favourite course was Storytelling in Documentary, which was taught by Ross Johnston. He is a fantastic teacher and a real stickler for a good story! I've since developed my own style and an integral part of this is creating strong storylines."

While on the programme Kapur single-handedly produced an \$800 film about Sirocco, a "celebrity" kakapo parrot. She now jokes about how this low-budget film about a "wonderful little wobbly parrot" completely altered her filmmaking fortunes.

After its release in 2014 *Sirocco: how a dud became a stud* toured with several international wildlife documentary festivals, was seen in 80 countries and travelled as part of the prestigious Jackson Hole Wildlife Film Festival.

“
I’m a filmmaker by profession, but a conservationist at heart. More than anything else, I’d like my films to be the tools that environmentalists and scientists use to help spread awareness about their work...”



Ashwika Kapur with legendary wildlife documentary filmmaker Sir David Attenborough: "I cannot even begin to express what an absolute privilege it was to work with him as part of the five-member crew for a film about the life of Jumbo the elephant."

Photos: Supplied



A venomous Russell's viper snake hiding in her camera is all in a day's work for Ashwika Kapur.

The film also gained a Panda and a Newcomer's Award in the global category at the prestigious Wildscreen Film Festival in Bristol in the same year.

The win made her the first and only Indian woman to gain the award and, while it looks great on her CV, Kapur says its real value is as a profile-raiser for wildlife filmmaking in a country where very few women enter the industry.

"There are more male wildlife filmmakers worldwide, but the gender gap is far more pronounced in India. Being a 20-something-year-old camera girl in camouflage throws up a lot of challenges here. So, while there is curiosity, there's also scepticism. But then, anyone who breaks the stereotype faces challenges so I take it in my stride and allow my work to speak for itself. Plus, many wonderful people have extended amazing support."

Along with challenging stereotypes, raising awareness of important conservation issues remains a core goal.

"I'm a filmmaker by profession, but a conservationist at heart. More than anything else, I'd like my films to be the tools that environmentalists and scientists use to help spread awareness about **their** work — work that makes a difference to this planet. I am always willing to tell a good conservation project story — even if it's small budget — because many important conservation stories rarely end up finding screen time on commercial natural history programmes on television."

Perhaps referring back to childhood experiences, Kapur says her latest filmmaking project focuses on urban

wildlife and how a range of species coexist "cheek by jowl" with India's human population of 1.2 billion.

When asked about a return to New Zealand to explore pressing conservation issues, Kapur enthuses about documentaries exploring reintegration of our native species from predator-free sanctuaries into urban areas.

"New Zealand needs to aspire to having a deafening dawn chorus in every backyard. For that to happen inspirational stories need to be told — stories that will motivate the regular people to do their part to make their own backyards safe for native birds. I'd love to make a documentary on this because, as conservationist Don Merton said, 'they are our national monuments — our Tower of London, our Arc de Triomphe, our pyramids. . . no one else has kiwi, no one else has kakapo'."

The global equivalent on her wish-list would be a series examining a defining issue for the 21st century: fresh water scarcity. Although largely overlooked by science documentarians, conversations on the issue are gaining momentum everywhere, including in New Zealand.

"The precious resource has been labelled 'the next oil' because of its use in everything from agriculture to industry, energy and manufacturing. Nothing can ever replace water. It's a tough global story to tell on film, but desperately needs to be told."

While itching to tackle macro issues through her work, Kapur has also found a practical outlet for her conservationism by partnering with the Human and

Environment Alliance League (HEAL).

The India-based organisation seeks to educate communities on the need to observe national laws that restrict or prohibit illegal wildlife hunting.

The need for action hit home after she witnessed Bengali tribal communities engaging in illegal annual hunting "festivals". She was shocked to see boys as young as 12 engaged in the frenzied and unregulated hunting.

"It's impossible to grasp the extent of this massacre until you see it for yourself. The children of these hunting communities have never been taught to look at nature and see beauty so, when I learnt about this, I joined with HEAL to address the root of the problem — a lack of education. We've screened wildlife films, or got the kids to do wildlife quizzes and games, or told them stories to inspire a love for the natural world, and their tremendously positive response has been really heart-warming and encouraging."

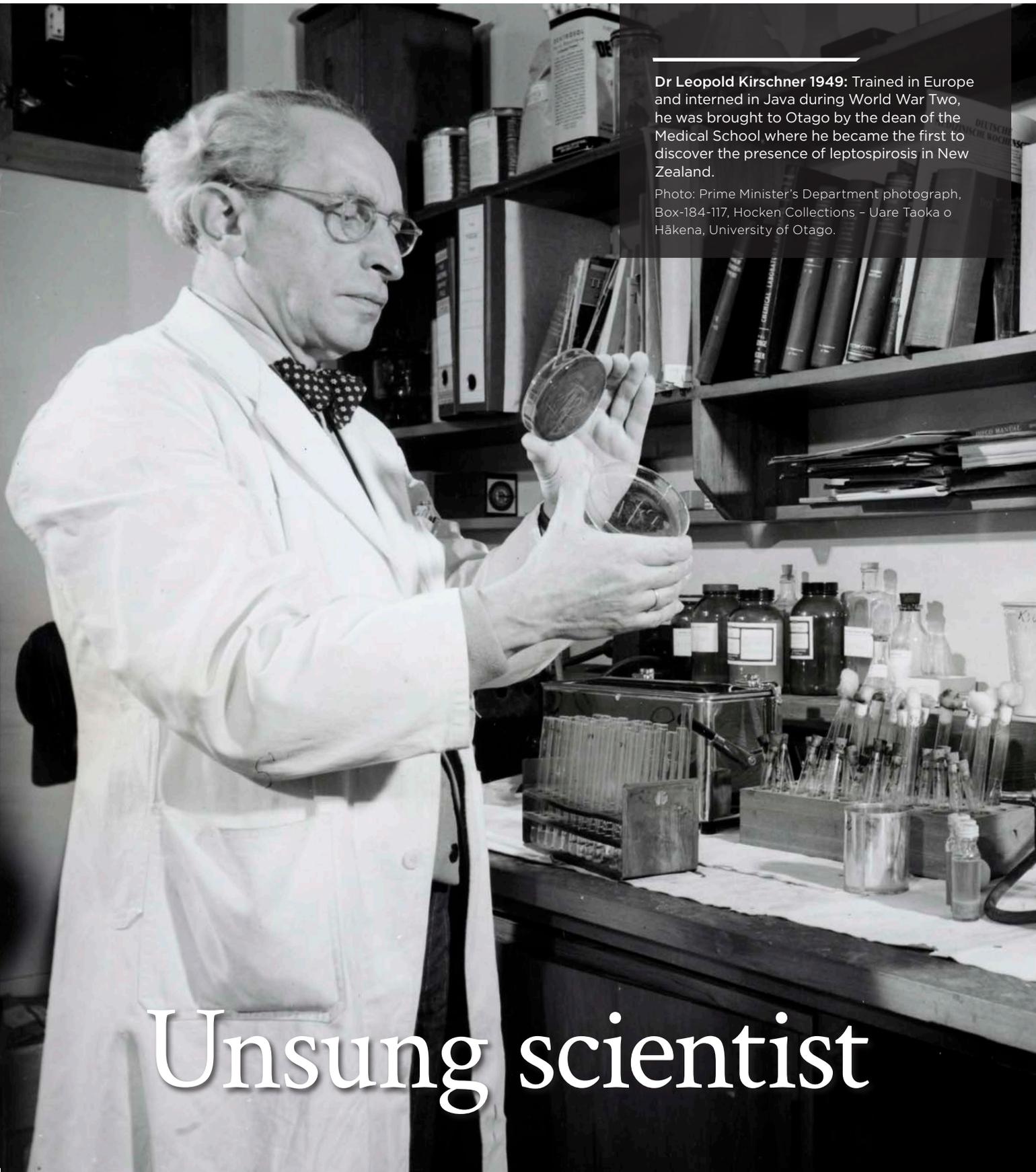
Kapur says her love of adventure has also led to the odd close call, but she describes escaping a flash-flood in the uncharted depths of the Kashmir Valley while looking for bears, or walking around with a "very venomous" newborn Russell's viper snake in her camera's base plate, as going with the territory.

"I've had my vehicle stuck for an hour in the mud in front of a herd of 30 wild elephants. Another time I climbed into a vehicle without realising a lion was sleeping under it. But working with animals can also be hilarious: once a giant male baboon politely robbed me of my packet of biscuits — he was most civil about it."

Close encounters aside, she describes funding as the biggest hurdle for the wildlife filmmaker.

But then again, "challenges don't feel difficult if you love something", she says.

"I am doing something that communicates how beautiful and fragile the world is, and it comes from the realisation that the biggest problem in my life was that modern living had made us indifferent to how amazing our planet is. The result is that I choose not to preach to the choir — my films are not aimed at people who already love nature and watch Animal Planet, but for those who aren't interested."



Dr Leopold Kirschner 1949: Trained in Europe and interned in Java during World War Two, he was brought to Otago by the dean of the Medical School where he became the first to discover the presence of leptospirosis in New Zealand.

Photo: Prime Minister's Department photograph, Box-184-117, Hocken Collections - Uare Taoka o Hākena, University of Otago.

Unsung scientist



Dr Leopold Kirschner is one of those people who are much better known overseas than at home, but moves are underway to locally acknowledge his contributions to the University of Otago and to New Zealand.



Professor John Crump has described Leopold Kirschner as “one of Otago’s most uncelebrated world-famous scientists”.

Crump, who is the McKinlay Professor in Global Health and a co-director of the Centre for International Health, is leading the charge to have Kirschner and his work more widely recognised.

Although Crump graduated from Otago and trained in infectious diseases and medical microbiology, he concedes that he only recently became aware that the international leptospirosis researcher L. Kirschner he had read about in the literature was the Leopold Kirschner who worked in a laboratory in the Hercus Building directly across Hanover Street from Crump’s office.

“I couldn’t help but feel that, given his contributions internationally and in New Zealand, he wasn’t particularly well recognised,” Crump says.

Two people who knew Kirschner agree. Dr Elizabeth Whitcombe, who is an honorary research fellow in the Centre for International Health, as a child in Dunedin was acquainted with Kirschner and his wife, Alice, and has researched their backgrounds. Retired University of Otago virologist, Dr Terry Maguire, worked for Kirschner as a laboratory technician in the mid 1950s and has more recently given

talks on Kirschner and his contribution to microbiology.

Kirschner’s life before he emigrated to New Zealand in his late 50s was interesting to say the least. He was born to Jewish parents in the Polish part of the Austro-Hungarian Empire in 1889. He went to Vienna as a young man and saved enough money by working in a bank to study medicine. His studies were interrupted by service in the medical corps during World War One.

With the defeat and disintegration of the Austro-Hungarian Empire, Kirschner fled the political unrest and anti-Semitism of Vienna to Amsterdam to study at the Royal Tropical Institute, where the first leptospirosis reference laboratory in Europe had been established.

In the early 1930s, Kirschner joined the Pasteur Institute at Bandung on the Indonesian island of Java, then part of the Dutch East Indies. He was the deputy director of the institute, which was responsible for preparing vaccines and carrying out diagnostic services for 70 million people. While there, he undertook important work on the survival in the environment of the bacteria that causes leptospirosis, and he and a colleague developed an effective vaccine against plague, testing early versions on themselves.

Leopold and Alice, a gifted Viennese violinist, were interned following the Japanese invasion of Java in 1942. Leopold entered the camp with a hat stuffed with sulphur drugs and a belt laden with money, which he bartered for extra food for fellow internees. He put his medical expertise to good use in appalling conditions, caring for internees and making yeast cakes to provide scarce vitamins. The Japanese let him do laboratory tests and he concealed in a corner labelled “highly infectious material” a radio for listening to the BBC.

Kirschner was one of several distinguished overseas scientists — including Jewish refugees directly from Central Europe — the dean of the Medical School, later Sir Charles Hercus, recruited from the late 1930s to work in research units at Otago.

“His seminal papers were major historical milestones in understanding this disease in New Zealand and he became an internationally recognised and respected figure in leptospirosis research.”

“Their medical qualifications, which were from the best schools of Europe, were not recognised by the Medical Council,” Whitcombe explains. “So Charles Hercus was very clever: he went to the Medical Research Council and set up research units with these people in charge.”

When the Kirschners arrived in Dunedin in 1946, Hercus appointed “Poldi”, as he was affectionately known, to head the Microbiology Research Unit.

It would have been easy to assume that Kirschner’s decades of research on leptospirosis were over. New Zealand was thought to be free of the bacteria that causes leptospirosis, which is transmitted from other mammals to humans through direct contact with urine, or with urine-contaminated water and damp soil. It enters the body through cuts and abrasions and the mucous membranes of the eyes, nose and mouth. It can cause anything from minor flu-like symptoms to death.

From his background in Europe and Asia, Kirschner suspected that some illnesses among the farming community were caused by leptospirosis. He discovered the bacteria in rats he trapped in Dunedin and in pig samples he collected from the Dunedin abattoir. He alerted hospitals and, in 1951, became the first person to confirm the presence of leptospirosis in humans in New Zealand, in samples taken from a dairy farmer. Kirschner’s laboratory subsequently confirmed hundreds of other cases, most associated with farming, and identified the bacteria in dogs and cattle.

“His seminal papers were major historical milestones in understanding this disease in New Zealand and he became an internationally recognised and respected figure in leptospirosis

research,” Maguire says. “He was a very articulate person and was invited to speak on leptospirosis at numerous international conferences.

“New Zealand was very fortunate to have imported a world-recognised researcher such as Leopold Kirschner: in fact, he was recognised more internationally than he was here.”

Maguire was particularly upset when an article entitled “Fifty Years of Leptospiral Research in New Zealand — a Perspective” was published in the New Zealand Veterinary Journal in 2002 with none of Kirschner’s pioneering papers rating a single mention.

“It is tremendously important for us to recognise and give due credit to those pioneers who have foresight and perseverance in the early study of any illness.”

Maguire is one of the scientists whose working lives Kirschner shaped. His two-year stint as a technician sparked his career as a respected virologist at Otago.

“I personally gained from Kirschner’s ability as the mentor of a green-horn technician and am eternally grateful for the solid grounding in bacteriology while working with him.” Others include one of Kirschner’s students, Solomon Faine, a noted leptospirosis researcher and emeritus professor of microbiology at Monash University in Melbourne.

Respiratory and infectious disease physician Dr Mike Maze, from the Centre for International Health, has revived the Otago tradition of leptospirosis research. He recently became the first student to complete a doctoral degree at Otago on leptospirosis since Faine in 1958. Maze’s thesis studied the impact of leptospirosis in Tanzania.

He says that leptospirosis remains an important problem today, with more than a million cases worldwide and an estimated 60,000 deaths each year due to leptospirosis. In New Zealand there are around 200 notified cases annually. Early use of antibiotics is the best treatment, but the infection is difficult to diagnose.

Maze proffers that widespread vaccination of livestock and a predator-free New Zealand that removed other sources such as rats, mice and opossums might make eradication potentially feasible in New Zealand, but he says that leptospirosis is here to stay on a world stage.

As for Leopold Kirschner, he has received some recognition for his pioneering work. A major bacterial species causing leptospirosis, *Leptospira kirschneri*, has been officially named in his honour.

Crump, Whitcombe, Maguire and Maze would like to see wider recognition. Crump suggests that at the very least there should be a plaque put up, or a room or a laboratory named after the underknown scientist, who died in Dunedin in 1970, aged 81.

IAN DOUGHERTY



TOXINZ's growing global presence.
The 35 markers represent more than
70 hospitals/institutions that have
purchased TOXINZ.



TOXINZ spreads

From small beginnings more than
50 years ago, the TOXINZ database
now provides easily referenced
information on more than 200,000
poisonous materials, and is gaining
uptake around the world.



“

We've tried to be conscious of what other products are already out there and how we can make TOXINZ easy to use, so that people like it and that it's a credible product.”



Dr Tracey Smith and Lucy Shieffelbien:
 “Everything is medically reviewed to ensure the ‘gold-standard’ approach to treatment is met.”

Photo: Graham Warman



TOXINZ, a massive database of information on poisonous chemicals, pharmaceuticals, plants and animals, developed at the University of Otago, is now being used internationally in Australasia, Europe, Asia, Africa, North and South America.

Started more than 50 years ago as a paper-based system for the University of Otago-based National Poisons Centre, TOXINZ has developed into an online database of nearly 200,000 documents, all overseen by an international editorial board.

National Poisons Centre service delivery manager Lucy Shieffelbien says that, while the core objective is to provide 24/7 emergency information to clinicians and the public, updating the database is also a constant process.

“Everything is medically reviewed to ensure the current ‘gold-standard’ approach to treatment is met. Our international editorial board comprises eight or nine editorial staff. We’ve got somebody in the Czech Republic, we’ve got somebody in Thailand, Australia — we’ve got international representation to give good governance across a range of toxins.”

When a new drug is released, National Poisons Centre staff write a document for the database. It is peer- and medically-reviewed internally several times, then sent to the editorial board for final review before being uploaded to TOXINZ.

“For example, if we have someone who specialises in paediatric toxicology, we might get them to check the paediatric supportive care section of the document to give it the thumbs up or rewrite it.”

Over time, the database transitioned from paper to a computer-based system, with regular updates provided to hospitals around the country using CD-ROMs. However, it was the advent of the world wide web that opened up the potential for commercialisation — which is where the University’s commercialisation company Otago Innovation Ltd became involved.

In 2008, Otago Innovation investigated the possibility of taking the database to market, initially focusing on Australia with uptake by all states.

Otago Innovation commercialisation manager Dr Tracey Smith says TOXINZ is now used in more than 30 countries — and that’s not including developing countries with free access through the WHO Hinari programme¹, something regarded as an important social responsibility. Access has also been granted to Medicine Sans Frontier (MSF or Doctors Without Borders).

“After a personal meeting with the Kazakhstan Minister of Health and his team of toxicologists, Kazakhstan came on board as a customer at ministry of health level. They’re one customer, but that’s for access across six different centres around Kazakhstan,” Smith says.

“We’ve generated a lot of interest in the Asian market, including Malaysia, and the Philippines is about to join. Rather than dealing with individual institutions and hospitals we’ve had a lot of buy-in at government and ministry of health level.

¹ The World Health Organization’s Hinari Access to Research for Health programme enables low- and middle-income countries to gain access to one of the world’s largest collections of biomedical and health literature.

A country will recognise TOXINZ as a valuable resource and, rather than negotiating prices with 10 different hospitals, they will buy TOXINZ for them all."

One of the challenges is to identify a champion and key decision-maker within those organisations who can help through the procurement process, Smith says. These relationships are usually formed by having a presence at international toxicology meetings: face-to-face discussions allow for a better understanding of how TOXINZ would suit a customer's needs.

"Typically you have clinicians who use TOXINZ and absolutely love it – particularly if they've used it through a free trial at an international meeting or an organisation like MSF," Shieffelbien says. "When they go back to their home institutions they want it and are knocking on their administrator's door asking them to buy it."

TOXINZ also has a presence in the United Arab Emirates and has been supporting toxicology efforts in the MENA (Middle East and North Africa) regions. With a number of new poisons centres being established in the region, TOXINZ is a new and alternative resource available to them.

Keeping TOXINZ relevant goes further than updating the database, Smith explains.

"There have been several enhancements in the last few years to keep up with technology. We've optimised TOXINZ for iPads, tablets and smartphones. You see exactly the same information, with much the same look and feel, but it is optimised for a smaller screen."

Although frequently asked "is there an app for that?" Smith says the answer is "no". It makes far more sense to update a database, which is then optimised for use on mobile devices, than to have to update an app.

Other enhancements include the ability to search for chemicals without the need to correctly spell long and often complex chemical names. This coding system allows users to search and bring up the same document regardless of which continent the customer is in.

Even common misspellings of drug names are recognised as synonyms, meaning the correct substance and information can be located. They can also be searched phonetically and by key words.

Shieffelbien says failed searches are monitored so they can work out why. "Is it because of spelling or, of the 200,000 documents on there, is it the one we don't have? We can also take the top 100 most often accessed documents – which accounts for approximately 80 per cent of all searches – and ensure they are always up to date.

"It also tells us if, in the last 24 hours, there have been a lot of searches for a particular substance. Finding out why gives us important intelligence."

This toxicovigilance is vital and helps identify issues, any emerging trends or potential risks such as the ever-changing world of psychoactive drugs.

"The enhancements have been made quite deliberately to give us competitive advantage and make TOXINZ better or different from other databases," Smith explains.

"We've tried to be conscious of what other products are already out there and how we can make TOXINZ easy to use, so that people like it and that it's a credible product."

There are two main competitors: one in the US and another in the UK.

Smith and Shieffelbien are quietly confident about the future for TOXINZ. One of their resellers has a sales force of 350 worldwide which gives them global reach.

They currently manage all customer relationships themselves, but are getting closer to the point where they will be able to grow the team to have dedicated staff to help with this.

Product promotion and new outreach opportunities are constantly being explored. Potential exists for Otago alumni associated with the health-care sector to carry TOXINZ forward to new markets.

Alumni interested in assisting with promoting TOXINZ in their current location, please contact

toxinz@otago.ac.nz.



Using TOXINZ

Anyone accessing the database can simply go to the TOXINZ homepage – toxinz.com – and enter the name of the substance they want information on.

There is a summary with links to fuller information covering things such as intervention criteria, the need for hospitalisation and further investigations.

There are quick links to criteria to assess severity and correct treatment, through to the use of antidotes and monitoring. It even covers discharge criteria.

Information is evidence based and fully referenced, with links (where applicable) back to the source document on Pub Med.

TOXINZ's top 10

Paracetamol is the most searched for substance globally.

"If you think about it, pretty much every house has it. Particularly the liquid: children get into it and when the doctor prescribes it for a child you usually get a great big bottle of it," says Shieffelbien.

"Liquid paracetamol is one of 12 pharmaceuticals in New Zealand which, by law, must have a child-resistant closure. It's good, but it lulls parents into a false sense of security. It's not child proof – it's child resistant!"

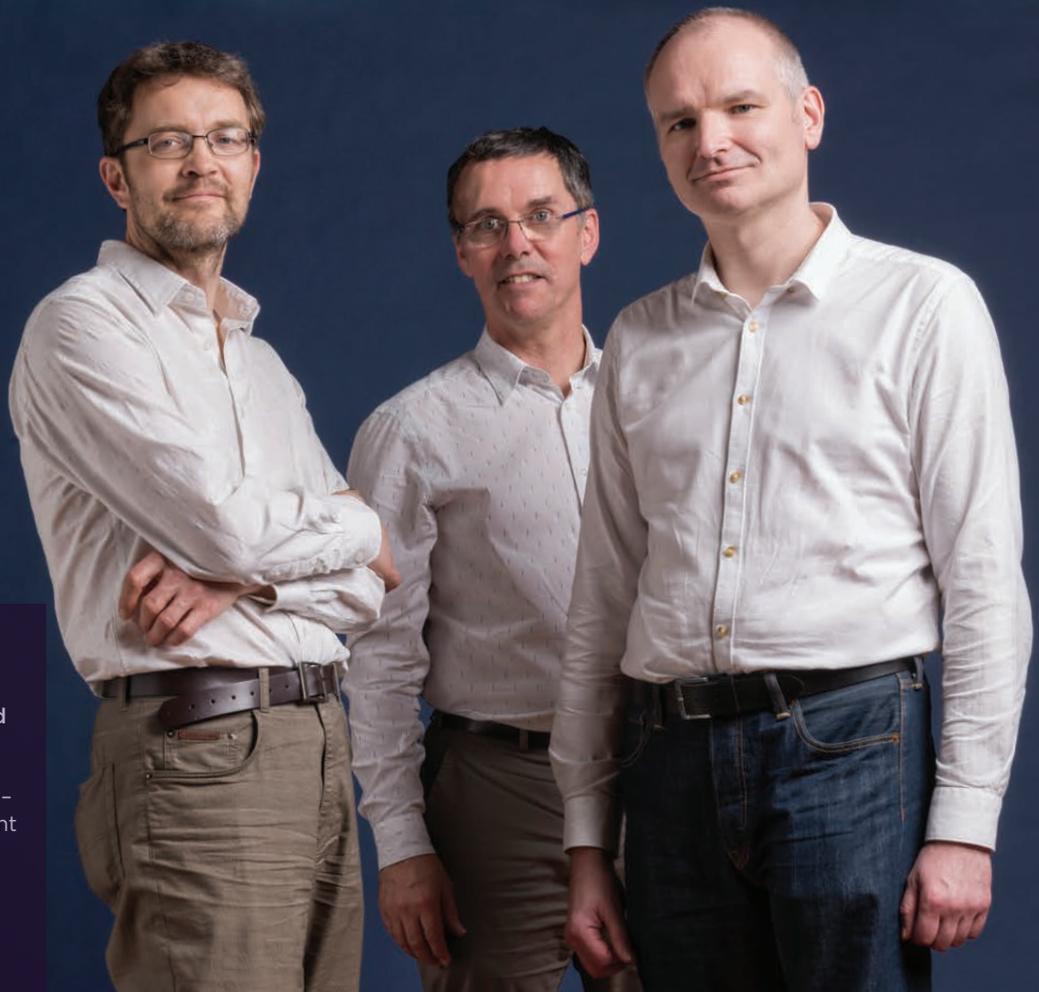
The hope is it will slow the child down long enough for the parent or caregiver to realise there is something going on.

- Paracetamol and combinations
- Antipsychotics
- Opioids
- Selective serotonin re-uptake inhibitors (SSRIs)
- Antihistamines and combinations
- Non steroidal anti-inflammatory drugs (NSAIDs)
- Benzodiazepines
- Antidepressants - novel
- Novel anticonvulsants
- Central stimulants

MARK WRIGHT



AI rules and realities



Associate Professor Ali Knott,
Professor James Maclaurin and
Professor Colin Gavaghan:

"One of the reasons we set up
CAIPP was that a lot of people -
particularly those in government
departments - were signalling
that they want New Zealand to
be getting this right."

Photo: Alan Dove

Otago's new Centre for Artificial Intelligence and Public Policy is taking a broad-based look at policy, ethics and governance issues associated with the ever-increasing application of AI.



It is easy to think of AI in terms of a driverless car that may soon be coming down a street near you. But the reality is we are already rubbing up against AI every day without even realising it, in the form of algorithms which are used to do tasks ranging from shaping decisions in policing, social support and insurance, or to driving Twitter and Facebook feeds.

University of Otago minds are already delving into the social impact of AI through several research initiatives including the AI and Society Research Group, the Centre for Law and Emerging Technologies, and the Law Foundation-funded project Artificial Intelligence and Law in New Zealand which is examining law and public policy implications.

But this work is being taken even further through the University's recently formed Centre for Artificial Intelligence and Public Policy (CAIPP) - Te tari Rorohiko Atami, Kaupapa Here Tūmatanui. Led by co-directors Professor James Maclaurin (Philosophy) and Professor Colin Gavaghan (Law) it brings together wide-ranging expertise to explore policy, regulation, ethics and governance associated with AI.

Maclaurin says CAIPP members come from a range of areas, including computer science, economics, politics, social work and linguistics, and have been collaborating for several years already.

A recent memorandum of understanding means the centre has begun working with government ministries and Crown entities to examine

how they use AI in the workplace and to support decision-making, with a view to setting up an ethical framework.

"The work we've been doing up until now has examined how government uses artificial intelligence, particularly in domains like criminal justice — but also slightly-related domains like social work and social welfare.

"One of the reasons we set up CAIPP was that a lot of people — particularly those in government departments — were signalling that they want New Zealand to be getting this right."

Maclaurin has also been appointed as the Royal Society Te Apārangi representative on the six-person Australian Council of Learned Academics Expert Working Group, examining AI in Australia.

He hopes CAIPP will become a resource for anybody looking at such technologies and the steps they need to put in place.

"One of the things we are finding is that it is very hard to have simple rules that suit all the different uses of artificial intelligence," he adds.

"Having psychologists, economists, sociologists and all sorts of other people in the room is tremendously useful because they spot things others might not know about."

A good example is CAIPP steering group member Dr Emily Keddell (Social Work) who studies child protection and family support services, areas where there is increasing use of data and AI algorithms to support decision-making.

"It draws on large interlinked data sets which are now much more available through things like the Integrated Data Infrastructure, a large linked dataset from many sources, managed by StatsNZ," she says.

"Data are fed into these algorithms and it says 'yep, you're high risk', so you get the service — or, 'you're low risk' so you don't get the service."

Algorithms are also used overseas in child protection decision-making, but Keddell urges caution and says it is important we have clear views of the pros and cons, particularly around accuracy and bias.

"On one hand, you might say human decision-making might be biased, so an algorithm with hundreds of variables is going to be a more accurate indicator of risk. On the other hand, algorithms are only as good as the data fed into them, which might be riven with biases, so the algorithm just reproduces these."

“*One of the things we are finding is that it is very hard to have simple rules that suit all the different uses of artificial intelligence.*”



Dr Emily Keddell: "On one hand, you might say human decision-making might be biased, so an algorithm with hundreds of variables is going to be a more accurate indicator of risk. On the other hand, algorithms are only as good as the data fed into them ..."

Photo: Graham Warman

For Keddell, ethical issues are also front of mind when working with CAIPP.

"Using a risk score might limit the rights of people in ways that are not fair, due to limited accuracy and biased data that over-assign risk to particular groups. On the other hand, it's a high stakes area where children can be really harmed by their parents. So it's important to think our way through the careful ethical conversations we need to have," she says.

"If they are to be used, there are some interesting ways of trying to manage it so that it's an aid to professional judgement, rather than dictating it."

Fellow steering group member Associate Professor Ali Knott (Computer Science), an artificial intelligence researcher, has always been interested in what AI's impact on society is going to be.

"The people building the technology need to step up and be involved in the discussion because there are all sorts of areas they don't know about, such as public policy, politics, or law or economics. We're not experts on those things, but we do know one piece of the puzzle."

In recent years he has become increasingly involved in interdisciplinary discussions about how, and to what extent, AI should be regulated, something he says should be easier with government

departments than multinationals.

"Putting regulations in surrounding our own government's use of AI is one way New Zealand can create an appropriate model which may be picked up by other countries," he says.

"We quite like the idea of there being some sort of government body or quasi-government body that oversees all this stuff because, at the moment, revelations about the use of AI in government tend to arrive as kind of scandalous headlines."

In time some of those questions could be asked of commercial operators as well.

Knott says the discussion is also moving into the area of the impact of AI systems on jobs.

"Is New Zealand employment law going to be up to dealing with this? What happens if you sack a person and use a machine instead? There haven't been any rules around this until now."

AI has also found its way into politics with information harvested from social media being used to help candidates tell voters what they want to hear.

"We always knew that newspaper editors were aware of 'if it bleeds it leads': people pay attention to things that are a bit scary or a bit weird - or even cute," says Maclaurin.

"When you get artificial intelligence and machine learning to drive your Twitter feed and it learns these things too and it learns them much more efficiently — such that all of a sudden your Twitter feed looks very scary and very weird and very cute — and, not long after that, politics starts looking weird and scary and cute," says Maclaurin.

"We're very aware that domains of law, like electoral law, are starting to look very old fashioned. Electoral law is about advertising up to election day and what you can do with your manifesto."

"But you don't meet elections in that way anymore. You meet them through your social media feeds and you don't see a whole manifesto — you see the one thing the party thinks you will find particularly compelling because its software has worked out what you like."

MARK WRIGHT

“

We quite like the idea of there being some sort of government body or quasi-government body that oversees all this stuff because, at the moment, revelations about the use of AI in government tend to arrive as kind of scandalous headlines.”

The ‘wild west’ of data privacy

Data privacy used to be about what information one party gave to another and what the latter did with it. But now it has as much to do with what might be inferred from things such as key strokes and social media likes – and that is taking it into a grey area.

“It’s a bit like the wild west,” says CAIPP steering group member Associate Professor David Evers (Computer Science).

“You’ve got all these computing components that have largely been unregulated for quite a long time, and now there is a need to look at all the ethical questions.”

There has been no regulatory framework to keep up with the pace of change in computing, particularly around AI, cloud computing and the collection of individual data, and Evers wants to see accountable systems developed.

“How do you get rid of that big gap between technically-detailed, globally-distributed computing and the fact that it’s actually dealing with each of our data? How do you manage that data and where it’s going?”

Evers was involved in the running of a recent Dagstuhl seminar in Europe, bringing together computer scientists, lawyers and public policy experts to discuss a series of topics in this area.

“Computer science has to evolve to increase the accountability of software systems because right now the situation is dire,” he says.

“What’s been really interesting to see is the change in regulation, like the European Union’s General Data Protection Regulation (GDPR), introduced in May, which allows EU citizens to request information about what data are stored, who the data have been given to, and where they have come from.

“This is the first major regulatory tool by which citizens are empowered to ask questions in their terms, such as what Google does with your information.”

As a result, most Internet users will have recently had online services sending them information updating their privacy policies.

“Part of the challenge involves gaining consent. How do you, as a user, make informed consent about what these systems are going to be doing with your data?”

Evers says it is likely most organisations’ software hasn’t been written to actually track consent, so he is interested in developing an accountability engineering process which runs alongside the main software.

“We can retrofit technologies that do information flow control tracking and provenance tracking on top of existing software so that we don’t need to rewrite it all from scratch, or new software can be written with accountability in mind. But whatever we do, we need to get better at building accountable systems.”



Associate Professor David Evers:
“Computer science has to evolve to increase the accountability of software systems because right now the situation is dire.”

Photo: Graham Warman

PACIFIC

Setting sail for Te Rā

The last known Māori sail, Te Rā, has been in storage in the British Museum for more than 200 years. This taonga is now the subject of a three-year research project to document it for the first time and to gain a greater understanding of how Māori sailed.



Connecting the sky and ocean, sails provided the means by which ancestors of Māori explored and traversed Te Moana Nui a Kiwa. After more than 200 years in storage at the British Museum, London, the construction and materials of the last known Māori sail, Te Rā, have never been identified, documented nor made publically available. Now, a group of researchers is on a three-year journey to uncover and reclaim knowledge of Te Rā for everyone to benefit.

As with many taonga held in collections overseas, Te Rā is disconnected from Māori communities and a New Zealand cultural context. The Royal Society Te Apārangi Marsden-funded project “Whakarahia anā te ra kaihau! — Raise up again the billowing sail!” incorporates customary knowledge systems, tikanga Māori as well as interdisciplinary and innovative science.

Dr Catherine Smith from the Dodd-Walls Centre, University of Otago, and Ms Donna Campbell (Ngāpuhi, Ngāti Ruanui), a weaver and senior lecturer at the University of Waikato, are leading an interdisciplinary team undertaking kaupapa Māori research on Te Rā.

The research team comprises Ngāi Tahu senior weaver Mrs Ranui Ngarimu (Ngāi Tahu, Ngāti Mutunga) who specialises in the repair, restoration and replication of customary Māori textiles, and Ms Jeanette Wikaira (Ngāti Pukenga, Ngāti Tamaterā, Ngāpuhi) who is undertaking contextual research on sails as taonga. Also involved is Hokimate Harwood (Ngāpuhi), bicultural science researcher from Te Papa, who will identify the feathers used in Te Rā, and San Francisco-based Cultural Heritage Imaging who will create a 3D model of Te Rā.

One aspect of the project is visiting Te Rā at the British Museum, where the researchers will uncover the unique weaving techniques used on the centuries-old sail, before distributing that knowledge to Māori communities and to the wider public.

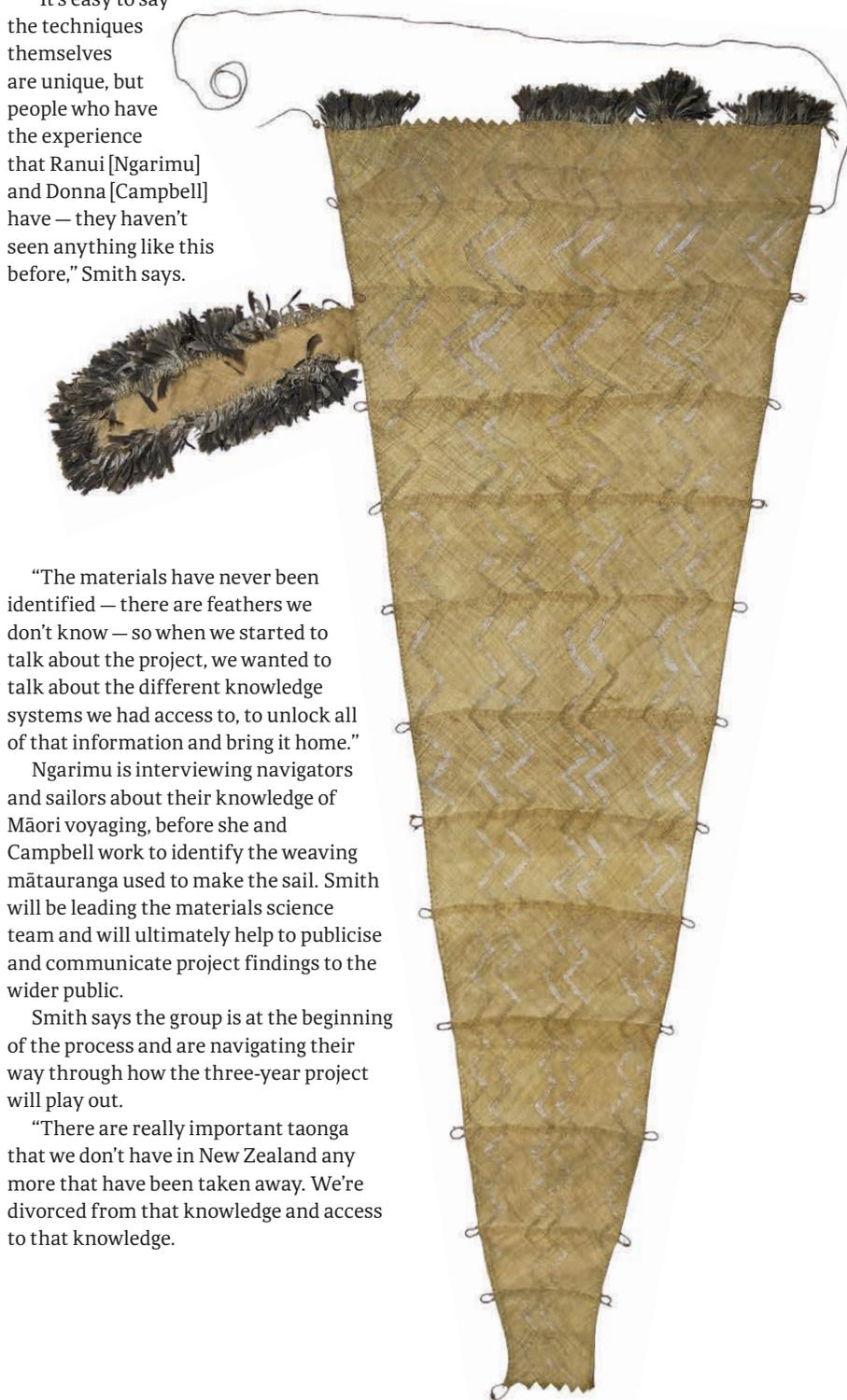
LEFT: Ms Donna Campbell, Mrs Ranui Ngarimu and Dr Catherine Smith:

“In exploring Te Rā, we are really highlighting just how much of an achievement it was to settle Aotearoa ...”

Photo: Alan Dove

Te Rā itself has never been fully documented or studied, and the project aims to advance knowledge of the Māori sail and gain a greater understanding of how Māori sailed.

“It’s easy to say the techniques themselves are unique, but people who have the experience that Ranui [Ngarimu] and Donna [Campbell] have — they haven’t seen anything like this before,” Smith says.



“The materials have never been identified — there are feathers we don’t know — so when we started to talk about the project, we wanted to talk about the different knowledge systems we had access to, to unlock all of that information and bring it home.”

Ngarimu is interviewing navigators and sailors about their knowledge of Māori voyaging, before she and Campbell work to identify the weaving mātauranga used to make the sail. Smith will be leading the materials science team and will ultimately help to publicise and communicate project findings to the wider public.

Smith says the group is at the beginning of the process and are navigating their way through how the three-year project will play out.

“There are really important taonga that we don’t have in New Zealand any more that have been taken away. We’re divorced from that knowledge and access to that knowledge.

Te Rā has never been fully documented or studied.

Photo: © Trustees of the British Museum.

“

The materials have never been identified – there are feathers we don't know – so when we started to talk about the project, we wanted to talk about the different knowledge systems we had access to, to unlock all of that information and bring it home.”

Photo: ©Trustees of the British Museum.

“Te Rā has been in storage for 250 years, has probably been visited by 10 New Zealanders in the time it has been there and has never been fully described.

“We need to document Te Rā and communicate the knowledge contained within her to the wider community so it won't ever be lost again.”

The group has been bound together by strong connections to both academia and Māori weaving, forming a foundation based on mātauranga Māori and science that perfectly transitions to Te Rā.

Ngarimu and Smith have been working collaboratively for five years on projects examining early Māori taonga in national and international museum collections to unlock knowledge about past weaving technologies. Wikaira and Smith met working at the Hocken Collections as archivists. Campbell and Smith first worked together 20 years ago, where Campbell brought her weaving expertise to textiles' conservation projects at Otago Museum.

Campbell, who last saw Te Rā with a group of navigators and sailors in 2013, says the project is symbolic of a number of Māori philosophies. “It's a connection of the past, present and future embodied in this taonga,” she says.

“This project is important because it's very clearly science and Mātauranga Māori – and I very clearly believe mātauranga Māori is science. The two are interwoven and intertwined in the weaving.

“There is also this idea that we are separated by water, when actually we are connected by water and Te Rā is part of that symbology – the connection of us with the Pacific and the rest of the world.”

The journey for the team has a satisfying destination: returning knowledge expressed by Te Rā and stored in the British Museum to as many New Zealanders as possible. “We forget just how extraordinary it was that Māori came to New Zealand. It was an unparalleled journey and it was a journey of extraordinary vision. In getting here, it embodied centuries of knowledge, expertise and science and once here, Māori had a completely different landscape and had to adapt immediately to a completely different world,” Smith emphasises.

“Te Rā shows understanding of new plants, a new climate and the ocean and that journey. I think that is an inspiration to New Zealand and I think in exploring Te Rā, we are really highlighting just how

much of an achievement it was to settle Aotearoa and I see a lot of inspiration in acknowledging that and bringing it into the future.”

Campbell admits the possibilities are endless when it comes to what the information can be used for.

“Weavers are innovating all the time. We look at exemplars from the past and get blown away by what our tupuna did and we either extend it or innovate it.

“I can't even imagine the possibility of the technology that is the construction of it. What will weavers do with that? What will it spark in terms of creative work, ideas – it blows my mind just thinking about it.”

Ngarimu, on the other hand, believes the knowledge could help move Māoridom forward in a new and positive direction. She hopes enlightened iwi will ultimately spur on a new generation of voyagers.

“That would be my dream to come out of this, that my great, great, great grandchildren will be hopping on their waka with their 'Rā' and sailing off to see their cousin wherever, because they have the technology and the knowledge to do it.”

MATIU WORKMAN



ROCKING ON

Rock music has been a defining force in Dr Ian Chapman's life as a musician, performer and academic. It is also the inspiration for his flourishing career as a writer.



The more music becomes synonymous with popular culture, the more it reveals about modern life.

So what once might have been seen as an unusual subject for university analysis — an early Otago degree studying rock music — has now come of age.

For musician, performer, academic and author Dr Ian Chapman, it has helped spawn more than half a dozen books, with more on the way. He recently launched *Experiencing Alice Cooper: A Listener's Companion* (Rowman & Littlefield 2018) with a mini-concert in Dunedin, and November has him launching his latest title, *David Bowie FAQ* (Hal Leonard 2018).

It's an impressive output, particularly considering Chapman is also head of Otago's Performing Arts Programme, a senior lecturer in Contemporary Music, and continues to perform in various guises and give talks in New Zealand and overseas.

He's also working with researcher Sarah Gallagher on a scheduled launch of *Scarfie Flats* (Imagination Press 2019) and his 10th book is slated to feature the band Blondie.

After that Chapman's considering a slightly retrospective effort with the working title of *Lessons we can learn from the performing arts and how they can improve our lives*. "It would be kind of my story — what happened to me."

It may sound like a self-help manual for bedroom guitar virtuosos, but Chapman has certainly walked the talk and his story is inspirational at many levels. His previously happy childhood was rocked around the time he moved to high school in 1973. "My mother was in hospital with cancer and was not expected to come out and my father had a job that involved a lot of travel, so my sister and I were shipped around quite a lot. I'd also just started at a high school that was very sports oriented. I was a diminutive kid with an androgynous look who was interested in music and the arts, so I very quickly attracted the attention of a large and well-organised group of bullies. It wasn't a good year."

Enter stage left an unlikely ally.

"But at the same time I discovered glam rock and David Bowie and he became a role model for reinventing yourself in your own idealised image. I didn't think of

it like that at that time but, for me, Bowie and music and the arts were a life-saving escape. I learned from people like Bowie and Alice Cooper that — even if you are a New Zealand male — there are options other than having to aspire to become an All Black. You can become something even more exciting."

As Bowie's Ziggy Stardust morphed into Aladdin Sane and the Thin White Duke, Chapman managed to survive school and worked in a factory building grain silos before heading to the UK on his OE, chasing the music.

"I hoped to find glam rock alive and well but, by then, the music scene had moved on and I discovered punk instead. Part of me always wanted to be a musician, but it didn't happen straight away."

But it did happen. Shortly after returning to New Zealand in 1981 he became a professional drummer and worked with the likes of Billy T. James and Rob Guest. However, as the gigs and the road trips piled up, he found he wanted to know more about music in general. He took up classical guitar and tracked down the best tutor he could find — Dr Susanne Court.

"She was on staff at the University of Otago, so I came to Otago to study music with her in 1990. I wanted to know more about the nuts and bolts of music, and to understand things like harmony and melody and how constructing music worked. I also wanted to engage with classical music as well as popular music. I never thought I'd end up as an academic."

After graduating, Chapman moved to Christchurch. His then wife had supported him during his music degree in Dunedin, so it was now his turn to support her studying jazz in Christchurch. Teaching wasn't part of the score, but Chapman continued to perform, adding guitar and vocals to his repertoire, and developing outlets for his music.

Then Otago Music Department

stalwarts Professor John Drummond and Dr Graeme Downes came up with the alternative idea of a rock degree course. They needed someone with the right credentials to teach it. It wasn't long before Chapman got a call.

"They invited me to join the staff at Otago. I loved Dunedin — it's a great place to live — so I jumped at the chance. But as I only had an undergraduate degree I had to enrol to do a master's as a condition of my ongoing employment." After graduating and teaching, Chapman progressed to a PhD — an iconographical study of David Bowie's album covers from 1967 to 1980.

Popular music studies once raised eyebrows in academia, but time has moved on.

"Back then it was definitely the new kid on the block, but not now. It's still unusual as a subject, but it's becoming much more acceptable. Rock music was the youth phenomenon of the 20th century, starting from Delta blues going through things like the British invasion of America to the present day."

For a long-term entertainer like Chapman, teaching came naturally.

"Teaching is performance. It feels pretty much the same thing as being on stage. It would be the worst thing in the world for a lecturer teaching performing arts to be monosyllabic and dull."

Following the success of contemporary music studies, Otago developed its Performing Arts degree, which combines music, theatre and dance. It was an obvious progression for programme head Chapman.

"Music was never something I took in only through my ears. It's very much a visual thing for me. Attending concerts by David Bowie and Alice Cooper in the '70s blew me away visually as well as aurally. Music is there to be 'performed' in every sense of the word. So music, theatre and dance come together naturally in the performing arts. The degree engages with all of them."

“*Teaching is performance. It feels pretty much the same thing as being on stage. It would be the worst thing in the world for a lecturer teaching performing arts to be monosyllabic and dull.*”



Dr Ian Chapman: “I always wanted to be a rock star and a writer, but I’m pretty comfortable being more the latter these days.”

Photos: Alan Dove

Talented students struggling with performance issues can draw inspiration from Chapman’s carefully contrived suite of alter-ego entertainers. He drew on his own school-time glam rock fantasies to give birth to characters ranging from the platform-booted Dr Glam (recently retired — except for special occasions) through the anagrammatic and more twistedly cabaretic Mr Glad to the gloriously ghoulish Thaddius Grime — each created for different moods and different songs.

They help to show stage-struck students that it’s safe to put themselves into the spotlight.

“Some students can be great performers, but terrified when they get to the stage. We teach them how to silence those voices that rise up to criticise them from inside — that it’s okay to act differently when you’re playing different people.

“It’s about refining your ability to draw on different characters and convey different things from different parts of your own personality. And you’re not faking anything. It’s all part of you. You have a licence to play these characters because they’re inside you.”

As well as working on the physical skills

of performing, the degree course develops critical thinking and arts theory — the whys and wherefores of the performing arts.

Chapman’s own performance career is lining up for a hokey horror video of “My Favourite Things” performed by Thaddius Grime, and a mini tour of Bowie songs with his latest line up, the Cosmic Jive Trio, featuring his ex-student Pania Simmonds and current student Liam Donnelly.

His writing career seems to run full tilt in the background, and Chapman credits the web’s Rock’s Backpages for invaluable research insights. “It’s an amazing resource — the ultimate library of rock music journalism and reviews. It’s a goldmine for articles going back decades.”

Research throws up precious factoids, such as the relationship between the on-stage wild-man Alice Cooper and the on-stage romantic David Cassidy, who died recently. At Chapman’s Alice Cooper book launch he performed songs by Cooper, Bowie and David Cassidy as a tribute.

“David and Alice were actually great mates, but they were totally different from their stage personalities. David was the wild one of the two after gigs, while

Alice liked to go home and turn on the TV and have a quiet beer.”

It’s important for Chapman to ensure his books bridge academia and accessibility.

“I try to write for a non-academic audience. My research follows academic principles and my approach is academic, but I try to write for a cross-over audience. Publishers appreciate that I try to make what I do accessible.

“I adore writing, but finding the time to write can be really stressful. Sometimes I’ve had to ask for extensions to my delivery deadlines, which is really annoying for publishers with production schedules prepared well in advance. But being an academic is demanding too, and trying to find a life/work balance is particularly difficult with a couple of young kids thrown into the mix as well. So, yes, writing is stressful, but it’s worth it.

“I always wanted to be a rock star and a writer, but I’m pretty comfortable being more the latter these days. The fact that I’m now publishing my eighth book still takes me by surprise.”

NIGEL ZEGA

Professor Phil Bishop (left) and 10 University of Otago ecology students joined local students at the University of Brunei Darussalam jungle field study centre in Borneo.



Welcome to the Jungle

A new ecology course has transported Otago students thousands of kilometres to the middle of a tropical rainforest on the South-East Asian island of Borneo.



The prospect of spending nights studying frogs in a Borneo rainforest while wondering whether the nearest snake is venomous might be scary for some, but 10 Otago students found their three-week trip earlier this year positively exciting.

The new tropical ecology field course for third-year students majoring in ecology is designed to give them experience of tropical ecological research.

Professor Phil Bishop (Department of Zoology) explains that he scouted for a safe, suitable site for such a trip for several years until he visited the University of Brunei Darussalam and its jungle field study centre.

“The jungle there is pristine,” Bishop enthuses. “It has been a jungle for 100 million years; it has never been logged and I saw it as a fantastic opportunity.”

“The theory we had learned over the previous two years really came to light when we went there and saw the forest and got to apply what we had learned.”

Bishop and fellow Zoology staff member Associate Professor Christoph Matthaei went on the trip with the students. “We had more students who applied to take the course, but we had to limit it to 10,” Bishop explains. The students contributed towards the costs, the major one being air fares.

The journey from university to jungle field study centre involved a ride in a “pretty dodgy” old speedboat through crocodile-infested mangrove swamps and across the open sea, a van ride and a longboat trip up a narrow, winding river.

The students were based at the field study centre during their three-week intensive course of lectures by day, and research by day and night.

They carried out a major study on the population of frogs that occur in the jungle streams, the researchers hiking through the jungle by torchlight at night to plot the number of frogs.

“We essentially repeated a study that was conducted by other researchers in 2006,” Bishop, a specialist herpetologist, explains.

“Amphibians are declining throughout the world and it certainly seems that the frogs are declining in this pristine rainforest as well, even though there is no human impact, no disease, no effects of climate change. We got some really good results and we will probably end up publishing them.”

Each student also took on their own research project, from frog communication to horsehair fungi.

The students describe the three-week experience as “incredible”, “awesome”, “amazing”.

“There is just so much diversity in there, everywhere you look,” Nina Batucan says. “Things that we had never seen before.”

Fellow student Max Harvey says that studying tropical ecology in a rainforest is so much better than in a lecture theatre. “Just being in the field with two professors

who can tell you about everything as you are there, rather than having to read about it in a textbook and imagine it in your head.”

“The theory we had learned over the previous two years really came to light when we went there and saw the forest and got to apply what we had learned,” fellow student Lisa Danuser adds.

The two Otago staff members and 10 students were joined by a staff member and four students from the University of Brunei Darussalam.

“It was a multi-cultural experience,” Bishop says. “Our students got to know and work with local Brunei students who are Muslim and have a very different culture.”

Bishop says that this is the first time Otago students have experienced learning in a tropical rainforest and, with the success of this first course, he is hopeful it will be repeated each year.

IAN DOUGHERTY

One of the local inhabitants, the Borneo horned toad.

Photo: Phil Bishop





Cannabis: what you need to know

New Zealand may soon be voting on the legalisation of cannabis for recreational use. Associate Professor Joseph Boden discusses the pros and cons based on findings from the Christchurch Health and Development Study.



Associate Professor Joseph Boden: “Any change to laws and policies must be accompanied by robust evaluation to ensure that no additional or unforeseen harm accrues from these changes ...”
Photo: Wayne Williams

The Government has told us that there will be a referendum, possibly as early as 2019, on the legal status of cannabis for recreational use. It’s not at all clear at this point what the referendum question(s) will be, and the formal process for developing the referendum has not yet begun as of the writing of this article (August 2018). Prior to these recent events, there have been years of debate between pro-cannabis activists and those people who seek to retain the current prohibition laws over the putative harms associated with cannabis use.

As with many debates, each side has made extreme and polarised statements, ranging from “cannabis is completely harmless” to vastly inflating the harms associated with cannabis use. The evidence from psychiatric epidemiology suggests that the truth lies somewhere in between. Before each of us receives our ballot papers in the mail, it is worth reviewing some of these findings.

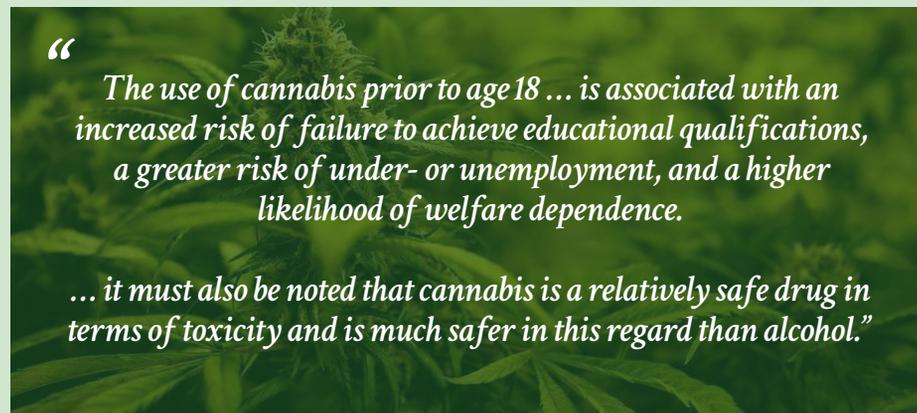
The University of Otago can boast of two major longitudinal studies, the Dunedin Multidisciplinary Health and Development Study (DMHDS) and the Christchurch Health and Development Study (CHDS). Both studies have examined the life course of approximately 1,000 individuals born in the 1970s and studied to middle adulthood, and both studies have contributed significantly to the international literature on the psychosocial and health-related harms associated with cannabis use over the past 25 years.

What have our studies found?

There are a number of potential harms associated with cannabis use, but the most important include the following. The first is what is termed an “amotivational syndrome” in which the use of cannabis prior to age 18 (and particularly heavier use of cannabis, generally defined as “at least weekly”) is associated with an increased risk of failure to achieve educational qualifications, a greater risk of under- or unemployment, and a higher likelihood of welfare dependence. Those who had abstained from cannabis prior to age 18 were approximately two times more likely to receive secondary and tertiary qualifications than those who had started using cannabis by age 15. Also, those who did not use cannabis before age 21 were three times less likely to be unemployed and four times less likely to be welfare dependent than those who had used cannabis weekly from age 15.

The second important potential harm is what is referred to as the “cannabis gateway effect” in which the use of cannabis, particularly in younger and heavier users, increases the risk of the use of other, more dangerous, illicit drugs. In the CHDS, being a weekly cannabis user increased the risk of other illicit drugs by more than three times to age 25. It should be noted, however, that some evidence suggests that it is the fact that cannabis is illegal that leads to this gateway effect, but more research is needed.

A third potential harm is that younger and heavier users are at greater risk of developing psychotic symptoms during periods when they are not acutely intoxicated by cannabis. Data from the CHDS suggest that those using cannabis daily at some point prior to age 21 had an



“

The use of cannabis prior to age 18 ... is associated with an increased risk of failure to achieve educational qualifications, a greater risk of under- or unemployment, and a higher likelihood of welfare dependence.

... it must also be noted that cannabis is a relatively safe drug in terms of toxicity and is much safer in this regard than alcohol.”

80 per cent increase in risk of psychotic symptoms by age 25.

In spite of these risks, which accrue primarily to younger and heavier users, it must also be noted that cannabis is a relatively safe drug in terms of toxicity and is much safer in this regard than alcohol. Furthermore, unlike alcohol, there's relatively little evidence of association between cannabis use and offending behaviour, including violent offending. Finally, CHDS research has shown that arrests and convictions for cannabis use do not reduce subsequent use of the drug and that enforcement of cannabis prohibition is biased against Māori.

Following the referendum, if we either decriminalise or legalise recreational cannabis use, what will happen? Because recreational cannabis has been legalised in parts of the world only recently, the research that can answer this question is in its infancy, so it is not entirely clear what we should expect to happen. It is unlikely that large numbers of people will try the drug who have not done so previously. For example, CHDS data suggest that approximately 80 per cent of the cohort have used cannabis at least once. Applying these data to the population, it seems unlikely that there will be a large number of new users, as most New Zealanders have at least tried cannabis. However, what is more likely is that rates of use will increase amongst people who have already used cannabis, or who would have done so irrespective of its legal status.

Given this information, what should a potential referendum look like and how should we decide how to vote?

First, we would argue that any change to laws and policies, whether via decriminalisation or legalisation, must be accompanied by robust evaluation to ensure that no additional or unforeseen harm accrues from these changes, including large increases in rates of use, particularly in younger and more vulnerable populations. Furthermore, robust evaluation also entails having mechanisms in place to alter or amend the laws if, indeed, unforeseen harm is observed.

Second, it is imperative that, if recreational cannabis is legalised, we must not follow the same free-market philosophy that New Zealand has concerning alcohol. Strong regulations are required in order to ensure the quality and potency of the product, avoid the “anytime, anywhere” availability of cannabis, and to actively discourage the use of cannabis by adolescents. Mechanisms for doing this would include limiting the number of licensed outlets, limiting the trading hours of these establishments and setting a purchase age no lower than 20 years.

It's clear that with a referendum on the legal status of cannabis, New Zealand stands at the threshold of a new era for our approach to substance use. It is our hope that all New Zealanders fully inform themselves of the potential risks and benefits of changing these laws before ticking the box.

ASSOCIATE PROFESSOR JOSEPH BODEN

Deputy Director,
Christchurch Health and Development Study
University of Otago, Christchurch

Healthier transport

Using sustainable transport – cycling, walking and public transport – improves the population’s health, mainly through increased physical activity, but also by reducing air pollution and the road toll.

New research has shown that local councils and urban planners could dramatically improve health and save lives by improving options for long-term sustainable transport in New Zealand cities. Our cities’ infrastructures are a result of decisions made by local councils over recent decades, reflecting different urban planning priorities.

A study led by Dr Caroline Shaw, University of Otago, Wellington (UOW), set out to quantify what would happen if Auckland, Tauranga, Hamilton, Christchurch and Dunedin had the same levels of sustainable transport as Wellington, which has the highest levels of New Zealand cities.

Using the internationally recognised Integrated Transport and Health Impacts Model, which was developed in the UK and adapted to New Zealand, the researchers found considerable health and carbon gains if the other five cities could reach the same sustainable transport levels as Wellington.

For example, if Auckland caught up with Wellington, there would be about 57 fewer premature deaths each year and 20 per cent lower carbon emissions from cars and other light vehicles. Similarly, Tauranga and Hamilton would have 50-52 fewer premature deaths each year and 27-32 per cent lower light vehicle

carbon emissions respectively.

“Although Wellington provides a healthier urban form than other cities, all our cities could do better,” Shaw says. “Overall New Zealand has a highly car-dominated transport system and the health costs of preferentially funding infrastructure for cars are high.”



UOW researchers (from left): Associate Professor Michael Keall, Dr Caroline Shaw and Ed Randal: They have shown the health benefits of sustainable transport planning.

Courting history

“Save our courthouse” has been a common cry in cities and towns throughout New Zealand, but a University of Otago researcher has questioned the wisdom of preserving these historic buildings as working courthouses.

A postdoctoral fellow in the Legal Issues Centre, Dr Jane Adams, has taken an historical overview of how courthouse buildings have helped and hindered access to justice for court users.

Adams, an historian and lawyer, argues that the design of New Zealand’s courthouses is at a crossroads. “On the one hand, new courts are being built, showcasing new design features which can potentially improve the accessibility of the courts for both lay and professional court users.”

She cites as one example the 19 modern, multi-purpose courtrooms in the new Christchurch Justice and Emergency Services Precinct.

“On the other hand, the government in recent years has been pouring all this money into saving and restoring grand courthouse buildings such as the Dunedin Law Courts,” Adams notes.

“While these older-style courthouses may be admired and valued within their local communities for their majestic external architecture, their intimidating interiors have not always served the best interests of court users.”

Adams points out that recycling historic buildings is an alternative to completely redesigning their interiors, citing the

example of the ornate Temuka courthouse being turned into a museum.

Another postdoctoral fellow in the Legal issues Centre, Dr Bridget Irvine, is additionally investigating the feasibility of online courts, in a New Zealand Law Foundation-funded project led by the centre’s director, Dr Bridgette Toy-Cronin.



Dr Jane Adams: “While these older-style courthouses may be admired and valued within their local communities ... their intimidating interiors have not always served the best interests of court users.”

Risks and ethics

How should the risks of sea-level rise be distributed between individuals, insurance, and local and central government in a principled way?

In a recent Deep South National Science Challenge project, Associate Professor Lisa Ellis (Philosophy and Politics) and two postgraduate students – Lauren Holloway and Britta Clark – considered two main types of risks: the need to secure existing communities against new risks, and the need to limit risky new developments.

They concluded that, without a new legal framework based on a broad social consensus, the risks in both cases will be transferred from the least to the most vulnerable.

“If we stick with the status quo, adjustment to sea-level rise is going to exacerbate existing inequality,” Ellis says. “Nobody in New Zealand wants that. They want policy to be in line with consensus ethical values. They want government to do what people think is right.”

The researchers identified two ethical values that they believe are particularly important to New Zealanders: that people are treated equally and that they have a say in policy that affects them.

“The most important immediate step New Zealand can take toward an ethically robust sea-level rise policy is to bring certainty and consistency into the legislative framework.”

They assert that central government should resource adaptation to sea-level rise nationwide, so that community resilience does not vary with the ratepayers’ ability to pay and that, at a local level, the public should be engaged “as early and deeply as possible” in decisions about their lives.



Associate Professor Lisa Ellis and Lauren Holloway: “The most important immediate step New Zealand can take toward an ethically robust sea-level rise policy is to bring certainty and consistency into the legislative framework.”

Social media and recruitment

Should social media play a role in employee selection?

Employers are increasingly using social networking sites such as Facebook and LinkedIn as part of the selection process, to check a potential employee’s credentials and assess personality.

A Management Department research team interviewed New Zealand organisations and found most had used social networking sites, with or without candidate consent. Most had unofficially “peeked” at profiles, rather than making it an official part of the selection process.

The selectors said they wanted to assess skills and to “read between the lines” to gain a feel for the person.

However, Dr Paula O’Kane says social networking sites also provide insights into gender, age and ethnicity, increasing the risk for employers to illegally and subconsciously discriminate.

Although information on social media profiles is public, O’Kane questions how ethical it is to use it in the context of job applications and where to draw the line, particularly with information that is “private”.

She believes the ethical stance is to advise or gain consent to view social media content from interviewees, and to avoid accessing private information.

Whatever they chose to do, organisations should have a policy and adhere to it. She also warns there is insufficient research to show that social media assessment predicts future job performance.

This highlights the importance for individuals to be careful about what they want people to know. “Keep your personal and your work lives separate, and remember, even personal information that people think is locked using privacy settings still has the potential to be shared or discovered.”



Dr Paula O’Kane: “Keep your personal and your work lives separate: even personal information...still has the potential to be stored or discovered.”

Novel approach to divorce

A hunch by an Otago academic about James Joyce's controversial novel *Ulysses* has prompted a rethink on divorce in Ireland and on the novel itself.

Professor Peter Kuch, who holds the Eamon Cleary Chair of Irish Studies and is the Director of the University's Irish Studies programme, has written a book that has been critically acclaimed for not only recovering a lost history of Irish divorce, but also changing the way the novel is read.

Kuch explains that his research was prompted by the thoughts of Joyce's two main characters, Molly and Leopold Bloom, about divorce as a consequence of Molly's adultery.

"These thoughts have traditionally been dismissed as fantasy," Kuch notes. "My research has shown, as I long suspected, that it was possible for the Blooms to be freed 'from the bonds of marriage', even though they were living in a Catholic country that sanctioned separation, but prohibited divorce unless obtained by a private Act of Parliament.

"However, it was possible for Irish couples between 1857 and 1922, having established English domicile, to petition the English court and obtain a divorce that permitted remarriage. Furthermore, there is abundant evidence that Irish couples obtained decrees absolute, despite repeated claims that the Irish did not divorce."

Kuch argues that "Church and State, committed as they were to an image of Holy Ireland, successfully expunged Irish divorce from twentieth century Irish life".

Irish Divorce / Joyce's Ulysses had been published by Palgrave Macmillan in hardback and ebook formats.



Professor Peter Kuch: "There is abundant evidence that Irish couples obtained decrees absolute, despite repeated claims that the Irish did not divorce."

Power smarts

Research on smarter control of household hot-water cylinders promises to benefit electricity consumers, generators and the planet.

Fourth-year energy studies student Rafferty Parker is exploring the use of the internet to control hot-water cylinders fitted with devices that can turn up and down the heat.

"The idea is that you use the hot-water cylinder to store energy when it is cheap, at non-peak times or from renewable sources, and then suppress the element when it is expensive, or at peak times or from non-renewable sources," Parker explains.

"Such control would provide consumer savings, reduce congestion on the electricity grid and facilitate greater uptake of renewables."

Parker notes that electricity companies already use ripple control to help them cope with peak demand, but his research looks at smarter options that also take into consideration price fluctuations and renewable sources such as solar energy.

He adds that temperature changes would be subtle enough so that individual consumers hardly noticed, but the combined effect of controlling every cylinder throughout the country would be like a massive battery bank of cheap, off-peak, renewable, stored energy.

Parker says that although his research focuses on hot-water cylinders, it would be equally applicable to anything that can store energy, such as other insulated heating or cooling systems and electric cars.

Parker is the only Otago student to be awarded a 2018 Energy Education Trust of New Zealand scholarship, which he says is a great help in reducing the financial heat while he completes the research.



Rafferty Parker: "Such control would provide consumer savings, reduce congestion on the electricity grid and facilitate greater uptake of renewables."

Roman currency

A collection of Roman coins at the Otago Museum is gaining greater currency.

Dr Gwynnaeth McIntyre and Dr Daniel Osland (Classics) are studying the coins and having them digitalised to make them publicly available online.

McIntyre says that most of the 1,000 or so coins were either gifted by the Dunedin businessman and philanthropist Willi Fels or purchased with money he donated.

They date from 211 BC through to the fifth century AD. One is gold and the rest are silver, brass and bronze.

"We have the best Roman coin collection in New Zealand and it rivals some of those found in large research institutions overseas," McIntyre says.

"About half are low denomination coins and very worn. Collectors don't tend to go out of their way to collect these coins so we suspect they came from a buried coin horde, potentially from France or Britain."

McIntyre notes that a few dozen Roman coins are on public display at the museum – but visitors only get to see one side – and the rest are stored in boxes in the museum vault.

She says that the coins were organised by date in about the 1950s but are now being photographed by Dr Charlotte Dunn and catalogued prior to being displayed online. McIntyre is also incorporating the digital images into her teaching.

She explains that the coins are quite small and people will be better able to see the detail in the online images, along with explanations of each coin's importance.



Dr Gwynnaeth McIntyre: "We have the best Roman coin collection in New Zealand and it rivals some of those found in large research institutions overseas."

VR success story

The University of Otago is behind a ground-breaking approach to potentially improve literacy.

The University's Information Science Department has developed a high-tech way to improve reading and writing skills, targeting prisoners at the Otago Corrections Facility at Milburn.

The Methodist Mission Southern approached Information Science for help in rethinking the way literacy is taught to people who often fall through the cracks – particularly those in prison.

Virtual Reality (VR) uses computer technology to create a simulated environment where users are immersed inside an experience and able to interact with three-dimensional worlds.

With the help of the investment from the GigCity Community Fund, Information Science PhD student Jonny Collins developed a virtual reality game using a setting that is both familiar and motivating to the learner – a simulated car workshop.

The resulting prototype proved successful and now Animation Research Limited and Methodist Mission Southern are developing it into a commercial enterprise, with investment support from Ngāti Kahungunu.

Jonny's supervisor Professor Holger Regenbrecht, who is also Head of Information Science, is expecting significant international interest in virtual reality contextualised learning and other real applications.

"We are not only answering technological questions about VR interfaces, we're also taking virtual reality beyond purely entertainment by developing functional uses to solve real-world

problems, meeting a very real community need.

"The engagement itself has also been a major success story: valuable links have been forged between research, social agencies, local and central government, and businesses with the potential for future growth and employment for Dunedin."



Professor Holger Regenbrecht and PhD student Jonny Collins: "Valuable links have been forged between research, social agencies, local and central government, and businesses with the potential for future growth and employment for Dunedin."

Augmented serendipity

The best solutions to complex problems are often the simplest ones. So, when wanting to know who was working with whom, on what and how within Otago's Business School Dr Brian Spisak (Management) and Dr Sander Zwanenburg (Information Science) simply connected the dots.

"Understanding what we all do, who we are collaborating with and on what is fundamental to good organisational management," Spisak says. "This makes us more relevant within our networks and better able to leverage existing relationships."

Zwanenburg says collaborations are often serendipitous – the result of chance conversations, for example. "We decided that if we could map all our research interests, collaborations and networks within the Business School, the wider University and then outside the University, we, as an academic community, can unlock a lot of untapped potential."

Their solution is deceptively simple. They have designed the Network for Engagement and Research (NEAR), a user-friendly, open-source software application that provides all of this information through "explosions" of interconnecting, colour-coded nodes (or dots). Hovering over each dot reveals scholars' research fields, internal and external relationships, research methods and sustainable development goals.

NEAR helps connect people at the individual level, enabling them to work in a more co-ordinated way. It also supplies information across specific areas of capability and thus provides

greater agility in putting together teams for research, funding and external engagement opportunities. It is also valuable as a teaching tool.

The software application is currently in a trial phase across the Business School and the researchers are seeking funding to develop it further.



Dr Sander Zwanenburg and Dr Brian Spisak: "We decided that if we could map all our research interests, collaborations and networks we, as an academic community, can unlock a lot of untapped potential."

Vitamin C and bowel cancer

How vitamin C affects the basic make-up of bowel cancer cells is the focus of a new study by researchers at the University of Otago, Christchurch (UOC).

At the UOC and internationally, researchers are focusing their attention on the role of vitamin C in cancer progression and treatment. They have established that the vitamin controls a number of cellular functions that influence cancer growth and tumour aggression.

However, just how the vitamin has these effects is still unknown.

The Christchurch-based Mackenzie Cancer Research Group will address this question with a "discovery project" involving analysis of the vitamin's role in bowel cancer with the help of funding from the New Zealand Cancer Society.

Lead researcher Associate Professor Gabi Dachs and her colleague Dr Elisabeth Phillips will add vitamin C to bowel cancer cells and, using state-of-the-art mass spectroscopy analysis technology, will track how the addition of vitamin C changes the cells' biology.

They will compare cancer cells treated with and without the vitamin.

Dachs predicts that many factors inside the cancer cells will be affected by vitamin C. She says it is crucial to understand specifically how vitamin C affects cells, and whether or not it has a positive or negative impact on the growth of cancerous cells.



Associate Professor Gabi Dachs and Dr Elisabeth Phillips: It is crucial to understand specifically how vitamin C affects cells, and whether or not it has a positive or negative impact on the growth of cancerous cells.

Assisting Te Auraki

Professor Warwick Duncan, head of Oral Sciences at Otago's Dental School, spent winter sweltering in equatorial heat working with New Zealand and Malaysian defence forces to help repatriate the remains of more than two dozen service personnel.

Duncan joined the Otago University Medical Unit in Dentistry as a student, and his academic and New Zealand Defence Force (NZDF) careers have advanced in tandem.

He is now a Lieutenant Colonel and Regimental Colonel for the Royal New Zealand Dental Corps. He's also Honorary Dental Surgeon to the Governor-General of New Zealand.

During seven weeks of unpaid University leave, he was on deployment as a forensic dentist, working with NZDF teams and other experts to identify servicemen who died in the Malayan emergency and Vietnam War and were buried in what is now Malaysia.

The government-funded project, Te Auraki (the Return), follows changes in how military personnel buried overseas have been treated.

Until 1955, they were buried close to where they died, but since 1971 they have been brought home. Between 1955 and 1971 they could be brought home only if families could pay for their repatriation. Te Auraki aims to change that.

"It is important to many families to bring relatives home to be buried on their own land," says Duncan. "So we're identifying the

deceased and returning them if the families want that to happen. It's hot, challenging work, but very worthwhile."

Other Otago academics involved in the project include Anatomy Professor Hallie Buckley and Dr Peter Petchey (Anthropology and Archaeology) and their teams.



Professor Warwick Duncan: "It is important to many families to bring relatives home to be buried on their own land."



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^ New building for Christchurch campus

The University last month announced it will construct a new state-of-the-art building to expand its Christchurch health campus. It will cost an estimated \$150 million and be the biggest construction project the University has ever undertaken.

When the six-storey building is completed in 2022, it will house much of the health campus' research facilities, and open up the possibility of other University of Otago courses being taught there.

It will be constructed on a site on Oxford Terrace, close to Christchurch Hospital and the campus' existing building.

This project is part of an almost half-a-billion-dollars-worth of construction investment the University has underway or recently completed. Other major projects include the \$130 million New Zealand national dentistry centre project in Dunedin; a bespoke dental facility for Counties-Manukau in Auckland (see following page); a new Research Support Facility, Music and Theatre facility, and the refurbishment of many of the University's College of Education buildings in Dunedin.

Vice-Chancellor Professor Harlene Hayne says the new building will enable the growth of the Christchurch campus' world-class health science research and education programmes. "We have had a very successful health science campus in Christchurch for 45 years. This investment shows our commitment to both the campus, the city and its people."

Otago's Christchurch campus is a training base for medical students in their three clinical years. It is also a research-intensive campus, hosting a number of world-class research groups and postgraduate health science students. There are currently more than 1,000 students studying there.

The Vice-Chancellor says the University has been considering options for growing the Christchurch campus for several years. Following the finalisation of a substantial business case, the University Council has approved its recommendations and to proceed the Christchurch building project beyond the concept design stage.

The new building will house the campus' laboratories and most of its health research groups, including specialist radiology equipment. It will also be home to groups

seeking to commercialise their health science discoveries.

When it is completed, the University will refurbish the existing building on the Christchurch Hospital site, to be used primarily for teaching and clinical research projects involving Christchurch Hospital staff and patients.

Dean of the University of Otago, Christchurch, Professor David Murdoch says the new building will create a true campus feel for staff and students, with the two buildings less than a minute's walk from each other. It will contain an adaptable lecture theatre for teaching, public events, and will bring staff and students together for learning and collaboration.

Atay welcomed home

A portrait of a Māori chief from Otago arrived home at the end of July, more than 180 years after it was sketched in Sydney, Australia.

The portrait of "Atay – Chief of Otargo", by German convict artist Charles Rodius, arrived to a karakia as it made its way to the Hocken Collections – Uare Taoka o Hākena. The portrait has been repaired since being bought at auction by the Hocken in December.

Speaking on behalf of Te Runaka o Ōtākou, Office of Māori Development director Tuari Potiki welcomed the portrait back to the Hocken and to the land. He says the runaka will be working with the Hocken to identify the chief.

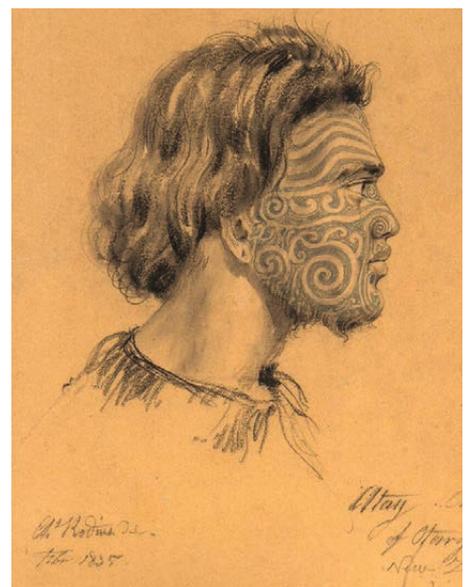




Photo: Jasmx Architecture



Dental facility for South Auckland

The University of Otago is building a dental teaching facility and patient treatment clinic in South Auckland to help meet health needs, while providing students with wide-ranging learning opportunities in a diverse community.

University of Otago Vice-Chancellor Professor Harlene Hayne says that by making a real difference to people's lives and a community's health and well-being, the University will be living its strategic commitment to providing for the national good and improving lives.

The \$28.2 million, two-storey, 32-chair building will be built on land owned by the Counties Manukau District Health Board at its Manukau Super Clinic on Great South Road.

The Faculty of Dentistry will regularly consult the community to find out what it needs from the clinics then work to deliver that, and will also provide a wide range of outreach activities.

Pro-Vice-Chancellor Health Sciences, Professor Paul Brunton, says the project is a win-win situation for both the local community and the University.

"Patients are contributing to the education of the country's future dentists and, in exchange, they have access to high-quality dental care."

The Counties Manukau dental teaching facility and patient treatment clinic will follow the long-standing social contract model operated successfully in Dunedin, where patients receive treatment provided by students under supervision at a highly accessible cost, he says.

Forty-eight final-year Bachelor of Dental Surgery students will be assigned to the Counties Manukau facility at any one time.

Brunton says treating people in Counties

Manukau is only possible because of a much-valued relationship with the district health board, which led to the two institutions signing a memorandum of understanding in November 2014 so they could work together to achieve mutual goals.



Faumuina Associate Professor Fa'afetai Sopoaga



Otago teacher wins top award

For the sixth time in seven years, the University of Otago has the top tertiary teacher in New Zealand.

Faumuina Associate Professor Fa'afetai Sopoaga, Associate Dean (Pacific) in the Division of Health Sciences, received the Prime Minister's Supreme Award at the National Tertiary Teaching Excellence Awards, held at Parliament last month.

She also received an endorsement for Excellence in Supporting Pacific Learners, a reflection of her exceptional commitment to curriculum development and pastoral care of Pacific students.

University of Otago Vice-Chancellor Professor Harlene Hayne has offered her warmest congratulations to the Otago recipients of the awards, and in particular, the outstanding achievement of Faumuina Associate Professor Fa'afetai Sopoaga.

"I am enormously proud that once again, our teachers at the University of Otago are achieving at the highest level in New Zealand. For all the dedication and hard work I know they put into their teaching, they richly deserve this recognition."

Three other Otago academic leaders also received awards: Professor Michelle Thompson-Fawcett (Geography) who received a Sustained Excellence award in the Kaupapa Māori category; and Dr Rebecca Bird (Anatomy) and Associate Professor Sheila Skeaff (Human Nutrition) who both received Sustained Excellence awards in the General category.

The awards, hosted by Hon. Chris Hipkins, Minister of Education, are administered and managed on his behalf by Ako Aotearoa – the National Centre for Tertiary Teaching Excellence.

Otago and VSA sign MOU

An initiative that has enabled more than 100 students, many from Otago, to undertake voluntary work abroad since 2006 has been given a new lease of life, following the signing of a memorandum of understanding by Vice-Chancellor Professor Harlene Hayne and Volunteer Service Abroad (VSA) CEO Stephen Goodman in Wellington in May.

The UniVol programme at Otago allows third-year and postgraduate students to go to Pacific region countries on 10-month placements to gain hands-on experience of working in communities in developing countries in the wider Pacific region.

Major health funding

University of Otago researchers from the Dunedin, Wellington and Christchurch campuses have been awarded almost \$19 million in new health research funding to support their world-class studies aimed at improving New Zealanders' health and well-being.

The Health Research Council of New Zealand's latest round of funding supported 17 Otago contracts, including a study, led by Professor Pauline Norris (Pharmacy), which will investigate whether the price of medications is preventing low income New Zealanders from accessing their prescriptions.

Enrolments strengthen

In August, the University announced it is now on track to record a roll increase of around 380 equivalent full-time students (EFTS) for 2018.

Earlier in the year enrolments were tracking 300 EFTS ahead of the same time in 2017, but growth has strengthened further following a strong uptake for second semester courses and research degree study.

Awards and achievements

Christchurch bowel cancer researcher



Professor **Frank Frizelle** has been awarded an honorary fellowship from the Royal College of Surgeons in Ireland. The award is the highest honour bestowed by

one of the world's largest surgical colleges. The International Society for the Biological and Environmental Repositories recently presented **Helen Morrin** (Mackenzie Cancer Research Group, University of Otago, Christchurch) with its Special Service Award.



Dr **Logan Walker** (Mackenzie Cancer Research Group, Christchurch), a geneticist specialising in breast and ovarian cancer, has recently been

appointed as the leader of an international working group for the Evidence-Based Network for the Interpretation of Germline Mutant Alleles.

Professor **Neil Gemmell** (Anatomy) received the Genetics Society of AustralAsia MJD White Medal for his contributions to the field of genetics. This is the first time the award has been bestowed upon a New Zealand-based academic. (See story page 6.)

Professor **Gary Wilson** (Marine Science) has been elected vice-president of the

Scientific Committee on Antarctic Research (SCAR). SCAR is responsible for initiating, developing and co-ordinating international scientific research in Antarctica and the Southern Ocean.



Professor **David Murdoch** (Dean, University of Otago, Christchurch) was recently appointed to the newly-established International Council on

Adult Immunisation, which is charged with providing technical expertise and leadership to advance the agenda of adult immunisation globally.

Associate Professor **Rhiannon Braund** (Preventive and Social Medicine) was made a Fellow of the Pharmaceutical Society of New Zealand for the significant impact she has made on her profession at a national and local level.

Three Otago geographers were celebrated at this year's New Zealand Geographical Society awards ceremony. Professor **Michelle Thompson-Fawcett** was



awarded the 2018 Distinguished New Zealand Geographer

Award and Medal in recognition of her work in Māori and Indigenous geography, iwi resource management and development and planning.

Professor **Etienne Nel** received an award for Service to the Geographical Society, recognising his seven years as managing editor and chair of the editorial board of the society's journal, *The New Zealand Geographer*. PhD graduate Dr **Jerram Bateman** won Best Doctoral Thesis.

Health Research Council Emerging Researcher First Grants have been won by six up-and-coming University of Otago researchers. Research projects led by Dr **Kirsty Danielson** (Surgery and Anaesthesia, Wellington), Dr **Rachel Purcell** (Surgery, Christchurch), Dr **Sarah Appleby**

(Medicine, Christchurch), Dr **Aaron Stevens** (Pathology, Christchurch), Dr **Kate Thomas** (Dunedin School of Medicine) and Dr **Rebecca Dyson** (Paediatrics and Child Health, Wellington) have received funding totalling nearly \$1.5 million. The HRC also announced three Otago researchers have successfully secured almost \$750,000 among them to undertake feasibility studies: Professor **Stephen Chambers** (Pathology, Christchurch), Professor **Philip Hill** (Centre for International Health) and Professor **Richard Porter** (Psychological Medicine, Christchurch).

School of Physical Education, Sport and Exercise Sciences senior lecturer, and co-director of Te Koronga, Dr **Anne-Marie Jackson** (Ngāti Whātua, Ngāti Kahu, Te Roroa) is one of three people profiled for their efforts to diversify academic learning environments



is one of three people profiled for their efforts to diversify academic learning environments

in *Nature*, one of the world's most prestigious academic journals.

Pauline Smith (College of Education) has won the Best First Book award at the 2018 New Zealand Book Awards for Children and Young Adults for her debut novel *Dawn Raid*.

Two Otago academics received honours in the *Otago Daily Times* Science Awards – a joint initiative between the ODT and the New Zealand International Science Festival. Professor **Phil Bishop** (Zoology) took out the University of Otago Lifetime Achievement Award and Dr **Damian Scarf** (Psychology) won the Otago Museum – Science Communicator award.

The recently redeveloped Otago Business School building has won an Excellence Award in the Education category of the New Zealand Property Council Awards

Professor **Murray Rae** (Theology) received the \$10,000 Ashton Wylie Mind Body Spirit Literary Award for his book *Architecture and Theology: The Art of Place*.

Appointments

Professor **Paul Brunton** as the new Pro-Vice-Chancellor of the Division of Health



Sciences. A former British dental researcher and educator, Brunton came to New Zealand in 2015 to take up the role of Dean of the Faculty of Dentistry. He

replaces Professor Peter Crampton who is stepping down from his roles as Pro-Vice-Chancellor of the Division of Health Sciences and Dean of the Otago Medical School.

Professor **Richard Barker's** appointment as the Pro-Vice-Chancellor of the Division of Sciences has been extended. He was initially appointed for an 18-month term following the retirement of Professor Keith Hunter in 2016.

Acclaimed Scottish novelist **Val McDermid** as a Visiting Professor of Scottish Studies and Crime Fiction, in the Division of Humanities, from 2019 to 2021.

Mr **Chris Stoddart** as Registrar and Secretary to the Council. He will take up his new role at the end of September.

Mr **David Christensen** as the new Chief Executive Officer of Otago Innovation Ltd, a University-owned company responsible for developing and commercialising the University's intellectual property.

Dr **Martin Gagnon** as the University's new Director of Research and Enterprise.

Emeritus Professors

The University Council awarded the following academics the status of Emeritus Professor: Professor **Brett Delahunt** (Pathology and Molecular Medicine, Wellington), Professor **Pete Ellis** (Psychological Medicine, Wellington), Professor **Keith Hunter** (Chemistry), Professor **Robert McGee** (Preventive and Social Medicine), Professor **Wayne Gillett** (Women's and Children's Health), Professor **Alison Mercer** (Zoology), Professor **Andrew Mercer** (Microbiology and Immunology), and Professor **C. Murray Skeaff** (Department of Human Nutrition).

Honorary degree



Former University of Otago Chancellor Mr **John Ward** was awarded the Honorary Degree of Doctor of Laws from the University of Otago in May. The honour

recognises his exceptional service and commitment to the University over the past 15 years.

Queen's Birthday Honours

Alumni and staff recognised in the Queen's Birthday Honours include:

Knight Companion of the New Zealand Order of Merit (KNZM): The Right Honourable Sir **Simon William (Bill) English**, for services to the State.

Companion of the New Zealand Order of Merit (CNZM): Mr **Richard Andrew Griffin**, for services to broadcasting and the media industry; Mr **William Bryce Johnson**, for services to conservation and the environment; Dr **Amanda Margaret Meredith Oakley**, for services to dermatology; and Mr **Barry Charles Thomas**, for services to tourism and business.

Officer of the New Zealand Order of Merit (ONZM): Professor **Spencer Wynyard Beasley**, for services to paediatrics; Mrs **Tracey Anne Fear**, for services to netball; Emeritus Professor **Helen May Leach**, for services to culinary anthropology; and Professor **Robert Matthew Love**, for services to dentistry.

Member of the New Zealand Order of Merit (MNZM): Associate Professor **Janet Lynn Fanslow**, for services to the research and prevention of family violence; Mrs **Dianne Millicent Kenderdine**, for services to the community and the cheese industry; Mr **John Gordon Rayner**, for services to kayaking; and The Very Reverend **Pamela Jean Tankersley**, for services to the Presbyterian Church and the community. Companion of the Queen's Service Order (QSO): Dr **Paul Hugh Stewart Reynolds**, for services to the State.

Queen's Service Medal (QSM): Reverend **Perema Leasi**, for services to the Pacific community; and Dr **John Francis McGettigan**, for services to rural health.

Obituaries

Emeritus Professor **Ted Corbett**. A well-regarded organic chemist and a Fellow of the Royal Society of New Zealand, he joined the staff at the University of Otago in 1945 and became professor in 1966. He held several senior roles during his years at Otago including head of the Department of Chemistry and Dean of the Faculty of Science. He is noted for his contribution to natural product chemistry and was a key figure in the introduction of NMR spectroscopy to modernise chemistry research. He retired in 1983.

Dr **John Schofield**. An experienced veterinarian, he joined Otago in 1991 as director of the Animal Welfare Office. He was also a long-serving board member of the New Zealand Branch of the Australian and New Zealand Council for the Care of Animals in Research and Teaching. He retired from the University in 2013.

Ms **Lindy Wilson**. She led the Marketing Services team throughout her nearly five years at the University. Her achievements during that time include the introduction of the Only Otago advertising campaign and the University's sponsorship of The Highlanders rugby franchise.

Dr **Geoff Cutfield**. His professional experience included anaesthetics, intensive care and medical education. As convenor of the Medical School's Early Learning in Medicine clinical skills programme he made a major contribution to the training of hundreds of medical students in New Zealand.

For more Otago news: otago.ac.nz/news

1869-2019



150
YEARS

Key Dates 2019

Join us in celebrating 150 years of daring to be wise

January 25	Burns Night – Supper - Dunedin Town Hall
February 15	Clocktower Lawn Picnic - 5.00–7.30pm
March 15	150 th Book Launch - University Staff Club - 5:30pm
March 16	Street Parade - Dental School to Octagon - 10:30am
April 12-14	Science Teller Festival - College of Education Auditorium
April 13	“Tally Ho! 3” Concert - Dunedin Town Hall - 7:30pm
April 19 – 22	EASTER
May 11/18	Graduation Ceremonies

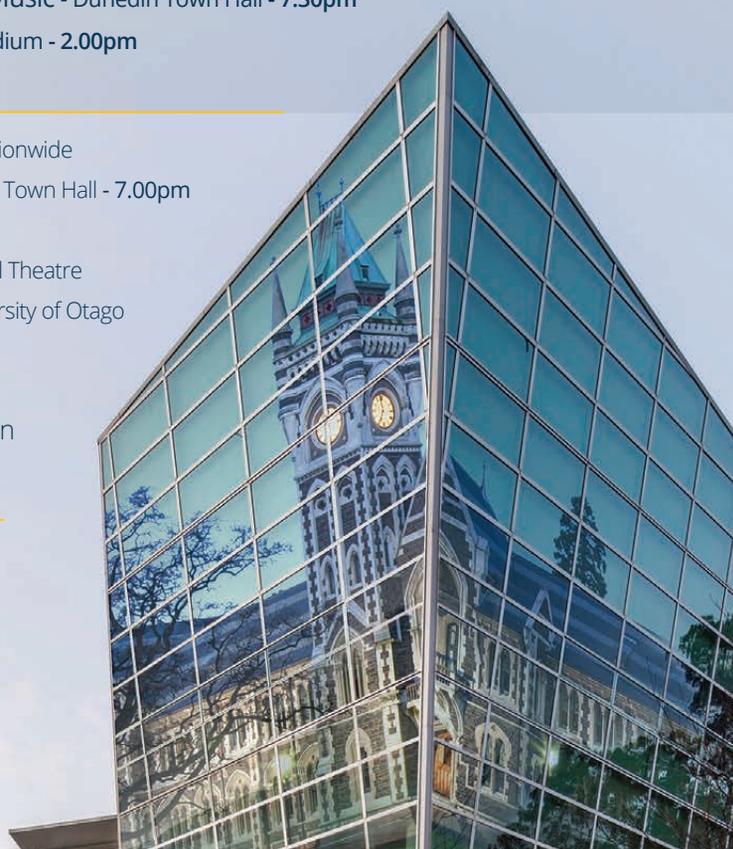
QUEEN'S BIRTHDAY WEEKEND - Anniversary Celebrations Programme

May 31	150 th Exhibition Opening - Otago Museum - 7.00–9.00pm
June 1	Campus Tours - Clocktower - 10.00–12.00noon 150 th Academic Procession - Dental School to Town Hall - 1:30pm Convocation Ceremony - Dunedin Town Hall - 2:30pm 150 th Fireworks - Octagon - 6:30pm 150 th Anniversary Dinner - Dunedin Town Hall - 7.00pm
June 2	150 th Church Service - Knox Church - 10.00am Residential Colleges' Lunch - 12:30–2.00pm Campus Tours - Clocktower - 2.00–4.00pm A Celebration of the University in Music - Dunedin Town Hall - 7.30pm
June 3	150 th Rugby Match - Forsyth Barr Stadium - 2.00pm Konseti - Dunedin Town Hall - 7.00pm

June – August	Winter Symposium Series - Nationwide
August 10	Anniversary Gold Ball - Dunedin Town Hall - 7.00pm
August 17	Graduation Ceremony
September 13-20	UNESCO Play Festival - Allen Hall Theatre
September 28-29	1869 – Heritage Festival - University of Otago
Sept 30-Oct 6	International Rowing Regatta
October 28	LABOUR WEEKEND
November 22-24	University College 50th Reunion
December 7/11/14	Graduation Ceremonies

For further details: otago.ac.nz/150

Registration for 150th Anniversary Celebrations will be available online from mid-November. If you or someone you know would prefer a printed registration form – please contact +64 3 479 5927





Top: Chancellor Dr Royden Somerville QC speaks at the Court of Benefactors dinner.



Donors recognised at Court of Benefactors dinner

A Court of Benefactors dinner held at the Staff Club last month enabled the University to thank its major donors for their ongoing support and to brief them on new developments.

Speakers included the Chancellor Dr Royden Somerville QC, Vice-Chancellor Professor Harlene Hayne, Pro-Vice-Chancellor (Humanities) Professor Tony Ballantyne, Professor of Earthquake Science Mark Stirling, and clinical director of the Mackenzie Cancer Research Group Professor Bridget Robinson.

Dr Somerville says the dinner was timely as the University heads into its sesquicentennial year and the opportunities this presents to celebrate Otago's rich heritage and its exciting future.

"The philanthropy of the Presbyterian Church in the Otago and Southland region contributed greatly to the University's foundation in 1869."

This culture of philanthropy continues to be important today.

"The generosity of donors – individuals and organisations – often reflects their desire to contribute to the University in areas where they have a personal passion. Their selfless support of higher education, research and the community outreach undertaken at Otago makes it possible for the University to pursue its principal objective of benefiting human well-being," he says.

The Court of Benefactors was established in 2006 to recognise the contributions of major donors (\$1 million and more) to the University. September's dinner recognised the admittance of eight new benefactors to the Court.

1869-2019



150 YEARS

Share your memories with us

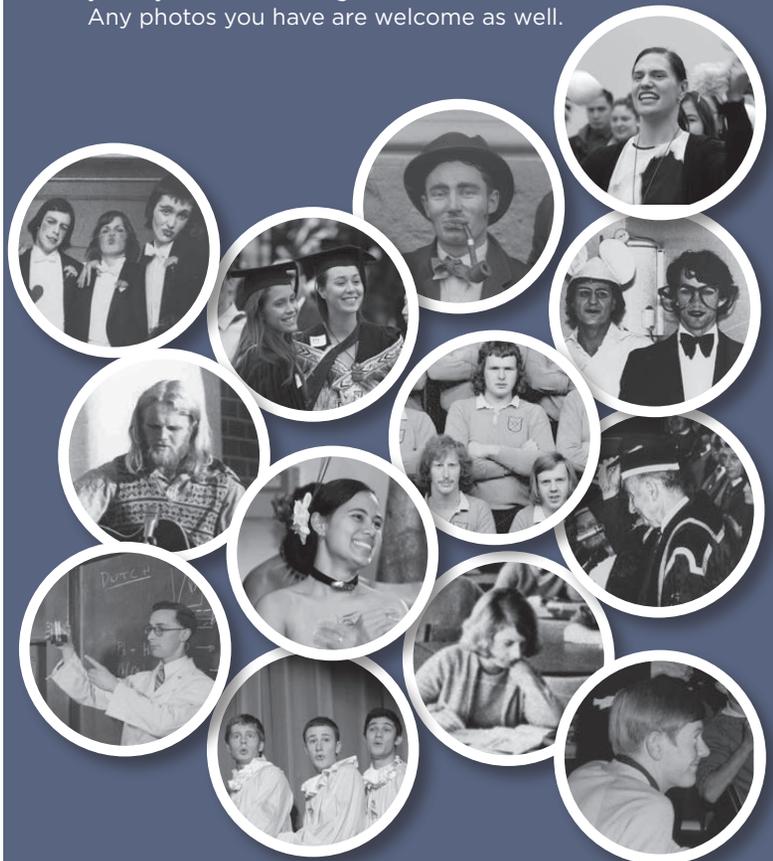
The *Otago Magazine* will dedicate its first issue of 2019 to celebrating the University's 150th anniversary – and we would like you to be part of this.

We are seeking standout memories that we can highlight – and there is no limit to the scope of this.

- What is the thing you loved most about Otago?
- What is the one most important thing you learned at Otago, or that you did for the first time?
- Tell us about your favourite lecturer/tutor; the friends you made; relationships forged; your most memorable activities – academic, social, cultural and sports.
- How did your time at Otago change your life?

Email your memories to: mag.editor@otago.ac.nz
Or post to: Otago Magazine Editor
PO Box 56 | Dunedin 9054 | New Zealand

Please include your name, your degree and the years you were at Otago.
Any photos you have are welcome as well.





Celebrating the past

INSPIRING THE FUTURE

Next year marks a significant milestone for the University: its 150th anniversary. This will provide a unique opportunity for us, as a University community, to reflect on a history of profound achievements that have helped our society, our country and our world.

To enable the University to continue to convert academic thinking into practical applications with real-world benefits, our Annual Appeal is supporting five important initiatives that have a significant impact on our society – and will all be part of our 150th celebrations.

Every dollar counts. Your contributions – large and small – all help us in this important work. Thank you for your ongoing support.

EXPINKT™ cancer rehabilitation programme

Exercise provides valuable support for cancer patients and survivors through their treatment and helps them cope with related side effects. The EXPINKT™ Gym is a private gym for cancer survivors of all ages and ethnicities to come together, take comfort and rehabilitate from primary clinical treatment. Clients are given individualised and carefully supervised training for six to 12 months before “graduating” to group classes. Significant improvements in fitness, muscular strength and quality of life have been observed. Currently 120 EXPINKT™ members attend the gym each week, some twice a week. There is nowhere in New Zealand that provides the type and level of support offered at Otago’s EXPINKT™ Gym. Your support will ensure this valuable programme continues to be of service to our community for the next three years.



Music, Theatre and Performing Arts Facility



Our stated goal is to have “an international reputation for innovation and excellence in teaching, research, performance, and performance-as-research in the fields of Music, Theatre Studies and Performing Arts”.

To this end, the University has committed to a \$26 million project to both

construct new and refurbish existing buildings to create a state-of-the-art Music, Theatre and Performing Arts Facility with multi-use recording and performance spaces available for use by students and the local community.

Blood test to detect Alzheimer’s disease

With improved healthcare and better nutrition people are living longer and enjoying healthier lives. Yet with longer life comes an increased risk of Alzheimer’s disease. This disabling condition requires better means of early detection, so therapies can commence earlier – a recent discovery by the Brain Health Research Centre may address this.





Celebrating the past

INSPIRING THE FUTURE

Marine Studies: replacement research catamaran



For the past 30 years Otago has operated a research vessel to enable staff and students to take part in scientifically significant research expeditions. However, as research challenges and teaching needs grow, the University hopes to replace its ageing *RV Polaris II* with a new catamaran offering greater technical and

teaching capabilities across a range of environments. Your donations will help us replace our ageing wooden vessel and support the annual operating costs of a new 31.8 metre catamaran.

Alumni Student Scholarships

Every year hundreds of gifted students apply for scholarships at the University of Otago. For some, this is their only chance to overcome the hardship and barriers associated with attending university. But many more miss out. Your donation could be truly life changing. It will allow a student to study and receive great support in their University life. This cost is out of reach for some families.



Yes!

I would like to support the University of Otago and its ongoing programmes.

Your gift can be directed to any one of the following areas:

- EXPINKT™ cancer rehabilitation programme
- Music, Theatre and Performing Arts Facility
- Blood test to detect Alzheimer's
- Marine Studies replacement research catamaran
- Alumni Student Scholarships
- Other _____

Amount of gift

- \$50 \$100 \$250 \$500 \$1000

or my choice is \$ _____

Payment options:

1. Make a one-off donation or set up a monthly donation using our secure giving page at: alumni.otago.ac.nz/annual-appeal-donate

2. Charge my credit card: Visa Mastercard

Card number

Expiry date /

Cardholder's name

Signature

3. Pay by cheque

I enclose a cheque payable to "The University Foundation Trust"

For residents in the UK, please send this form and your donation to:

Chapel & York
PO Box 50
Lingfield RH76FT
United Kingdom

For residents in the USA who wish to make tax deductible donation, please visit: Alumniuoa.com

Or email, Mr Neil Matheson nmath1107@live.com

For residents in New Zealand and rest of the world, please send this form and your donation to:

Development & Alumni Relations Office
University of Otago
PO Box 56
Dunedin 9054
New Zealand

Should you require any further information, please follow this link:

otago.ac.nz/alumni/annual-appeal

or contact us at email: development@otago.ac.nz

Name _____

Address _____

Email _____

Thank you for your support

Alumni events and reunions



Samoa, 5 April

Distinguished guests and the Samoa Alumni Network executive at the Taumesina Resort event.

▶ Samoa alumni chapter underway

Samoa Otago Alumni Chapter President To'oto'ooleaava Dr Fanaafi Aiono-Le Tagaloa says pride, an emphasis on fun and some very clear goals will lead to a range of exciting and relevant activities for Otago supporters in Samoa.

Fanaafi, who studied History (BA (Hons) 2001) and later gained a Law PhD (2009) at Otago, says being elected as chapter president at a gala event in Apia on 5 April was an "honour and privilege", which will lead to many opportunities to give back to Otago.

The La O Samoa executive committee held its first meeting less than a week after its formation and drafted a constitution. After the unanimous adoption of the chapter's constitution in May at a special general meeting, an activities and fundraising committee was also formed and the group had its first public outing on 1 June when it marched in Samoa's 56th Independence Day parade.

The group's first fundraiser – a Hike-athon up Mt Vaea to Robert Louis Stevenson's grave – was held on 25 August.

Fanaafi says fundraising projects and appeals are focused on supporting next year's 150th anniversary celebrations.



Christchurch, 19 April

Emeritus Professor Robin Fraser MD 1987; Maria Choukri, PhD 2107.



Melbourne, 24 May

Graeme Stevan BA (Hons) 1979, chair of the Melbourne Alumni Network; Lesley Hoy MB ChB 1983; Vicky McIver BA (Hons) 1977.



Fiji June 30

Joji Malani MB ChB 1979, president of the Fijian Alumni Network (right), and guests at the event held at the New Zealand High Commission in Suva.



Berlin 7 July

Douglas Ross MA with a copy of the *Otago Magazine* that features a photo of him in his student days.



Tauranga 31 July

John Boulton MB ChB 1971; Monique Aitchison BCom 1995; Graham Mountfort BSc 1958; John Maunder PhD 1965.

Upcoming events and reunions

- | | |
|------------------------------|--|
| 2018
Alumni
receptions | <p>30 October, New York, USA
1 November, Toronto, Canada
5 November, San Francisco, USA
19 November, Hong Kong
22 November, Kuala Lumpur, Malaysia
23 November, Singapore</p> |
| 2018
reunions | <p>Dentistry class of 1975–78
12–14 October, Dunedin
Dental class of 1973
19–21 October, Queenstown
Knox College
26 October, Auckland
Medical class of 1988
26–28 October, Queenstown
Teachers College first-year class of 1968
27 October, Dunedin
Medical class of 1968
27–29 November, Dunedin and Central Otago
Teachers College class of 2008
1–2 December, Dunedin</p> |
| 2019
reunions | <p>Physical Education class of 1969
18–20 January, Dunedin
Medical class of 2006
1–3 March, Dunedin
Medical class of 1973
(and those who studied with class of 1973)
29–31 May, Dunedin
Pharmacy
31 May–3 June, Dunedin
Medical class of 2004
1 June, Wellington
Medical class of 1999
20–22 September, Dunedin
OUSA Executive 1958–70
Sunday, Queen's Birthday weekend, Dunedin
Physical Education class of 2002
Queen's Birthday weekend, Dunedin
Knox College
2 June, Dunedin
Medical class of 1984 reunion
Christchurch, date tbc
Postgraduate Diploma of Social Work class of 2000
Dunedin, date tbc
University College
November, Dunedin</p> |
| 2020
reunions | <p>Medical class of 1965
11–14 March, Hawkes Bay</p> |
| 2021
reunions | <p>Medical class of 1964
Date tbc, Christchurch</p> |

otago.ac.nz/alumni/news/events



➤ With the University of Otago's 150th anniversary now only months away, we continue to look back over the activities of staff and students, drawing on photographs from the Hocken Collections – Uare Taoka o Hākena, University of Otago.



^ **Athletic representatives**
University of Otago Easter Tournament, 1931.
Rona Studio photograph, P1996-005-001

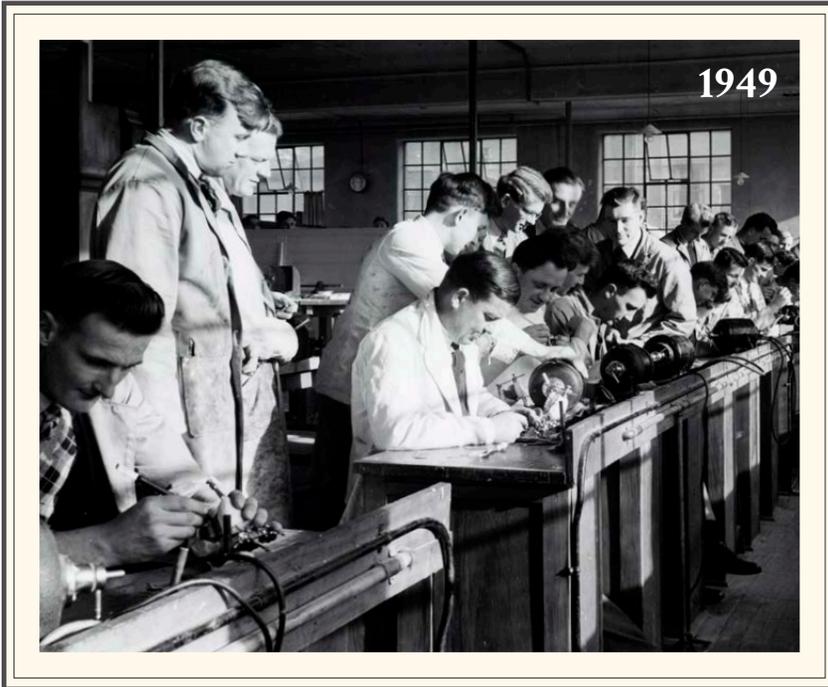
Campus graffiti
1970s, ODT photograph, Box-238-005
v



➤ **University of Otago Cycling Club**
c.1897. Möller Bros photograph,
Box-168-001

Students making dentures

University of Otago Dental School, 1949.
Prime Minister's Department photograph, Box-184-032.



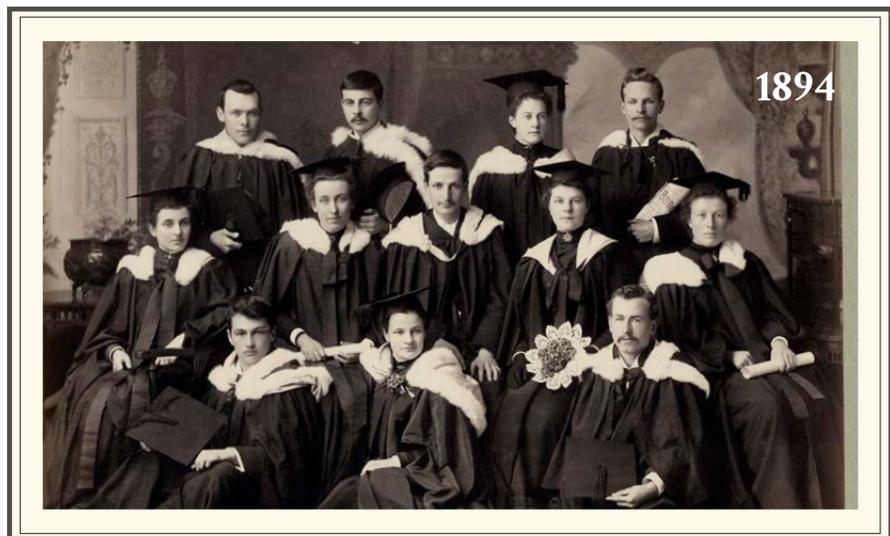
Quadrangle and Archway ^

1970. From copyprint of slide in private collection.



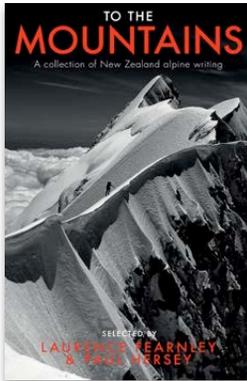
Sextet

1922. Zenith Studios photograph
Album 066, P1969-005-001



University of Otago Graduates

1894. W. Frost photograph,
Box-137-005



To the Mountains

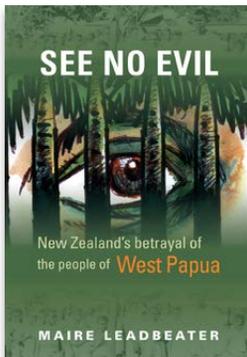
A collection of New Zealand alpine writing
Selected by Laurence Fearnley and Paul Hersey

A schoolgirl races from class to join a weekend trip to the hills. A mountaineering guide recalls his first weeks on the job during the 1920s. A young climber is shown the best route over the Main Divide by a big bull thar. A climbing party is bombarded by falling rock when Ruapehu suddenly erupts.

From the Darrans of Fiordland to Denali in Alaska, New Zealand climbers, experienced and recreational, have

captured their alpine experience in letters, journals, articles, memoirs, poems and novels.

Drawing on 150 years of published and unpublished material, Laurence Fearnley and Paul Hersey, two top contemporary authors, have compiled a wide-ranging, fascinating and moving glimpse into New Zealand's mountaineering culture and the people who write about it.



See No Evil

New Zealand's betrayal of the people of West Papua
Maire Leadbeater

See No Evil issues a challenge to New Zealanders. It relates the little-known history of West Papua, but its focus is on the impact of New Zealand's foreign policy on the indigenous Melanesian inhabitants. In the 1950s New Zealand supported self-determination for the former Dutch colony, but in 1962 backed Indonesia as it took over the territory.

Delving deep into government archives, many of them obtained under the Official Information Act, this

meticulously researched book uncovers the untold story of New Zealand's "unprincipled and often hypocritical" diplomacy.

West Papua's story is now beginning to be heard. *See No Evil* is a shocking account by one of New Zealand's most respected authors on peace and Pacific issues, issuing a powerful call for a just and permanent solution – self-determination – for the people of West Papua.

➤ For further information: Otago University Press | otago.ac.nz/press | university.press@otago.ac.nz

Books by Otago alumni

A World In Conflict: The Global Battle For Rugby Supremacy, by Geoff Parkes, Australian eBook Publisher, December 2017.

Edmund Hillary, a biography, by Michael Gill, Pottton and Burton, September 2017.

Simply Local Flaps, by Michael F. Klaassen, Earle Brown and Felix Behan, Springer, 2018.

Go Girl! A Storybook of Epic New Zealand Women, by Barbara Else, Penguin Random House, April 2018.

Riverscapes: Research Essays on the Social Context of Southern Catchments of Aotearoa New Zealand, edited by Mick

Strack, Nicola Wheen, Brent Lovelock and Anna Carr, Catchments Otago.

Geographies of Development (4th edition), by Robert Potter, Tony Binns, Jennifer Elliott, Etienne Nel and David Smith. April 2018.

The Routledge Handbook of African Development, edited by Tony Binns, Kenneth Lynch and Etienne Nel, April 2018.

Pacific History, by Brent Coutts and Nicholas Fitness, Cengage, May 2018.

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...The Governor's Coffee House?

Established in the heady days of the 1970s by friends Andrew Deans and Paul Gourlie, The Governor's Coffee House was less about good coffee and much more about creating a relaxed, alternative place for students to gather.



You might not expect a café to prosper when its menu promises awful food, worse coffee and non-existent service.

But the time was the seventies, the location was Dunedin's George Street and the café was The Governor's Coffee House. For Otago students, it was *the* place to go.

Four decades later, The Governor's is still there. Over the years, coffee culture and students have both matured, so while standards at the current café are bang up to date, it's no longer a nucleus for the kind of social change that swept through the seventies.

It's been suggested that if you claim to remember the sixties you weren't there, and the following decade wasn't much better — but the birth of The Governor's was an unforgettable experience for co-founder Andrew Deans.

The Canterbury University zoology graduate had recently completed a marketing study of a coffee shop as part of a business studies course he'd enrolled in, largely to meet girls.

He'd learned that location was one of the most important factors for success, which sprang to mind when he visited Dunedin in 1977 to take part in "University Challenge". After the pubs shut, he and his fellow contestants couldn't find anywhere to socialise.

Dunedin, with its rich concentration of students, was ripe for such a business, so Deans returned with his friend Paul Gourlie to look for a place to set up, ideally close to the University, the Captain Cook, the Robbie Burns and the Edinburgh Tavern.

After turning the corner from the Cook into George Street they found a dingy café with a "for sale" sign in the window. With little or no money, they couldn't afford to buy it as a going concern, but it didn't look as if it had much going left in it.

"We sat down at one of the decrepit tables and looked around," Deans remembers.

"The place was really run down. The décor was tacky and what we could see of the kitchen was dirty. A less appealing food establishment would be hard to envisage. It was absolutely our kind of place. Our search had ended. It had taken less than five minutes."

Negotiations revealed that the owner wanted it off his back as the Health Department was on his case. Deans managed to borrow the asking price. Gourlie's parents helped make the place presentable, and the team had a couple of thin months to learn the ropes and gear up for the new student intake.

A business case might discuss forecasting a trend and seizing an opportunity, but Deans admits they really just stumbled into entrepreneurship more by accident than intent.

"Governor" Gourlie had achieved notoriety striding around his Christchurch campus in cap and gown, so the new business adopted his nickname and became The Governor's Coffee House.

Gourlie had charisma and the gift of the gab, so was front of house, while Deans focused on keeping everything running.



Andrew Deans
circa 1979

“The Governor” Paul Gourlie
outside the café as it is today.
Photo: Graham Warman



*“ The place was really run down ...
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It was absolutely our kind of place. Our search had ended.
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“Paul and I didn’t know much about coffee and knew even less about business, but we knew instinctively that we had to have a point of difference if we were to be successful in our enterprise. So we more-or-less deliberately set up the business as a sort of relaxed, alternative, student-friendly sort of joint.”

After a very slow start, the business took off when the students returned. They didn’t know it, but it was just what they had been missing and they turned up in droves. The café’s hours grew long, starting early to get the day’s baking done and staying open for late customers.

Gourlie says one of the main aims was to give everyone a place to go where they could sit down and meet new people and debate the issues of the day. He credits people he met there — such as David Lange, Chris Trotter and Michael Laws — for getting him involved in politics, which eventually led him away from the business.

Despite not being a student, and standing for fun and frivolity over serious issues, Gourlie’s flamboyant, irreverent speeches led to him being elected President of the University of Otago Students’ Association in 1979 and 1980.

Deans bought him out and looked for ways to keep people coming into the café throughout the year. “We used to attract our fair share of eccentric characters and personalities,” he says. “Many people fitting that description used to work for us.”

One of their day-managers was also a cabaret artist who performed a risqué dance with her daughter, both twirling flaming pois. The act went down well with the crowd until one of the pois lodged in the low ceiling and threatened to burn the place down.

Graeme Downes, founder of the Verlaines and now a respected Otago academic, did a few shifts serving coffee and washing dishes.

Local musicians attracted custom. Country/folk singing twin sisters called Homemade Jam played for coffee and toasted sandwiches before changing their name to the Topp Twins and going on to greater things.

By 1981 The Governor’s had become a natural base for the counter-culture that found its voice in the Springbok rugby tour. When the tour reached Dunedin, tensions were running high. Deans was told that the Special Intelligence Service was keeping a close watch on clientele, including his hippy-looking manager.

The night before the game the café was invaded by Southland “rednecks” keen to confront the protesting radicals, says Deans. He called the police, who were notable by their absence, and ended up trying to reason with a riotous crowd.

“To be fair, they were simply ordinary rugby-playing Kiwis whose horizons didn’t normally stretch much further than Maitaia or Gore.

“After a bit of a tense stand-off they left, having broken only a certain amount of crockery, instead of the heads that had been their original intention — for which I was quite grateful.”

The long hours took their toll on Deans, who managed to sell the café to a co-operative of valued employees to help finance his Otago MBA and he went on to a career in management in Australia.

The co-operative struggled with trying to maintain equal workloads. Despite great weekend crowds, members soon started to drop out. Finally Barbara Gilmour stepped up and kept the business going.

Since then it has changed hands and eras, lost its alt-culture status and earned a freedom to be a regular café, even if one with a pretty wild past.

“I’ve never regretted that Paul and I started the business,” says Deans. “We never made much out of it, but it gave both of us a great deal. I’m very glad to see it is still going, albeit in a rather different guise from when it first opened.”

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