UNIVERSITY OF OTAGO MAGAZINE

FEBRUARY 2013

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INSIDE:

First New Zealanders rediscovered

PLUS:

International success for TOXINZ database
Otago leads blue-skies research
Pharmacy celebrates 50 years

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VICE-CHANCELLOR'S COMMENT

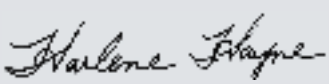
If you have ever heard me speak to students, you will know that I think it's important to remind them about all the things they should be grateful for, both inside and outside the classroom. As I was preparing my introductory remarks for the incoming class of 2013, I realised that I should probably take my own advice and reflect on all the things that I am grateful for. The list is long. I am extremely grateful for a husband and two children who have warmly embraced my new position, sacrificing much of their own time (and privacy) to support me in my role as Vice-Chancellor. I am also grateful to the senior members of my staff who give me advice when I need it and who continue to support my decisions, even when they disagree with me. I am grateful to my postgraduate students, my research staff and my collaborators who have helped me continue my research programme from the Clocktower. I could go on and on, but for right now, this extended message of gratitude begins with an earthquake.

On February 22, 2011, at 12:51pm, a M 6.3 earthquake rocked Christchurch, killing 185 people, destroying the central city, and disrupting the lives of thousands and thousands of people. The University of Otago Christchurch Campus, which is the home campus for over 200 of our staff and close to 300 undergraduate and more than 500 postgraduate students, was hit hard by this earthquake (as well as the earlier one in September 2010). Our main building adjacent to the hospital was forced to close, as were many of the buildings we lease in the area. Without missing a beat, people relocated themselves where ever they could. I am grateful to both Canterbury and Lincoln universities and to Canterbury Scientific for hosting Otago researchers over the past two years, and to the Canterbury District Health Board for providing space for a medical student common room and the library. I am also grateful to our architects, consultants and engineers, who stuck with us despite complex problems and even more complex solutions, and to our staff in the Property Services Division who found new space as required (sometimes on a daily basis), wielding their magic to convert warehouses and portacoms into high-tech laboratories and study spaces. I am also grateful to the general staff, teaching staff and clinicians who made it possible to deliver a full medical curriculum in a range of alternative venues including the netball courts, other sports facilities and the Horticulture Centre.

Was any of this easy? No. Most of it was very, very hard. As the aftershocks continued, previously safe buildings were closed. On multiple occasions, the boxes from one move were not unpacked when a new aftershock forced people to move again. Of course, this wasn't only happening on campus; people's home lives were often characterised by similar bouts of disruption. But in the face of all this adversity, people continued to teach, to learn and to conduct the kind of world-class research that the Christchurch campus is known for.

Over the past two years, our medical students in Christchurch have worked harder than ever, more than holding their own against their peers in Dunedin and Wellington. Undergraduate and postgraduate students, taking a lead from their teachers and mentors, have continued to struggle against the odds to successfully complete their degrees. Christchurch-based research teams earned $19.5 million in funding over the past two years, and individuals have been awarded some of New Zealand's most prestigious research honours including the Rutherford Medal, the Liley Medal and Fellowship in the Royal Society of New Zealand.

As I have reported before in this magazine, I keep a piece of concrete from our damaged main building in Christchurch on my desk in Dunedin. It is a daily reminder of what it takes to strengthen a man-made structure against the forces of nature, but it is also a daily reminder of how grateful I am for the enduring strength of the staff and students who work and study on our Christchurch Campus and to all of our friends in the area who gave us a hand when we needed it most. Between 20-22 February, 2013, we will celebrate the 40th anniversary of the University of Otago, Christchurch – two years and thousands of aftershocks since our main building was closed. This celebration will mark 40 years of success; it will also mark the formal re-opening of our main building and it will give me the opportunity to publically express my gratitude for people's fortitude in the face of personal and professional adversity. In closing, I would like to extend my heartfelt gratitude to the Dean of University of Otago Christchurch, Professor Peter Joyce, for his indefatigable optimism and leadership over the past two years. I would ask staff, students and alumni to join me in celebrating the 40th anniversary of the University of Otago Christchurch and in wishing them the very best for the next 40 years and beyond.



Professor Harlene Hayne
Vice-Chancellor, University of Otago

Voyage of rediscovery

Otago researchers' unprecedented access to Aotearoa's most significant archaeological site introduces us to the first New Zealanders.

This is what might have happened.

Around the year AD 1300, double-hulled ocean-going canoes carrying a group of East Polynesians – from the recently-settled Cook or Society Islands, perhaps – travelled south-west to a land mass they may have gleaned hints of already: the millions of migrating muttonbirds seen each year, for example, would have indicated there was land to the south.

They might, or might not, have remarked upon the long white cloud as they approached. Currents and expedience may have taken them first to the northern North Island, but with the richest meat sources well to the south, they travelled down the coast and across the strait until they reached a long, gravelly bar at the mouth of the Wairau River.

It's a forlorn spot by any standards – windswept and desolate. And "Why would they want to live there?" is a question that has gnawed at Otago's Southern Pacific Archaeological Research (SPAR) co-director Chris Jacomb from the moment he arrived at the site of what might be New Zealand's earliest village – and arguably the most significant archaeological arena in Polynesia. But, on reflection, Jacomb asks us to look at it through 700-year-old eyes.

"It might have been warmer then, and it's likely the bar was covered in shrubs and small trees, so somewhat sheltered. And think about what would make an ideal location for new migrants: not only did it provide access to marine and land resources, but ample fresh water, estuaries for shellfish and fertile land to grow crops.

"Other parts of New Zealand offered a similar environment, but the Wairau Bar was also at the northern limit of the richest moa-hunting grounds in the country, making it the perfect choice for a colonising settlement."

It was comfortable enough, we know, for seven of these migrants to stop and settle here for the rest of their lives. They died and were buried in a cluster near to one another. And in the 100 or so years their new village thrived, these early New Zealanders left traces of their daily lives: ovens, middens, ornaments, tools and at least 37 further graves.

It was schoolboy Jim Eyles who famously stumbled across human and moa remains on the site in 1939. From then until the early 1960s, pioneering archaeologist Roger Duff and Canterbury Museum-led expeditions unearthed 44 skeletons and more than 3,000 artefacts. However, relations with local iwi Rangitane o Wairau became strained when it was discovered that human remains were being unearthed.

"New Zealand was the most recently colonised land mass in the world," says SPAR co-director Professor Richard Walter. "Wairau Bar is the most significant site of this colonisation phase and among the 100 most important sites in the world. But no one could get near it, and the bones and artefacts had not been scientifically analysed for about 70 years. If you'd asked me six years ago whether they ever would, I would have said no."

However, Rangitane development manager Richard Bradley describes a growing discontent among Rangitane iwi members that the human remains, stored at Canterbury Museum, were so far from the land where they were originally buried. Finally, a deal for repatriation was struck: the museum said yes, but asked that first they be analysed by biological anthropologists from the University of Otago to see what could be learned about these early New Zealanders' lives. And when locations in the site were chosen for reinterment, archaeologists would examine the ground before reburial took place. Rangitane approached Foss Leach and Janet Davidson to do assessment work and they, in turn, recommended Walter of the University of Otago.

Rangitane ranged "from the sceptical to the deeply suspicious", recalls Bradley. He credits Walter with "mending a broken bridge" by allowing iwi to "hang out" at the site, talk about their histories and assist with the excavations. And when Walter's team began making finds that aligned with the kaumatua's stories, even the most recalcitrant among them started taking notice.

"There had been an idea that because houses were built near where people were buried, it was a sign that later generations didn't know the bodies were there. But our kaumatua had told us uruupa were only separated from houses when the Pākehā came along. Before that you buried your loved ones close to the house– that's how you knew who you were."

Now, all sides – Rangitane, Otago and Canterbury Museum – talk of an enduring and powerful partnership that has yielded unprecedented understandings of how we, as New Zealanders, began.

What might have happened is a story being pieced together from all directions by Otago's Wairau Bar Research Group. Professor Richard Walter leads the archaeological investigation, examining artefacts and remnants from early Māori daily life. Dr Hallie Buckley heads up the biological anthropology team: during a "small window of opportunity", until the remains were repatriated in a 2009 ceremony, she was entrusted with the precious ancient bones to learn what she could about the people's quality of life, diet, life expectancy and responses to the environment. Professor Lisa Matisoo-Smith's team, meanwhile, used Otago's new DNA-sequencing facilities to complete a genetic map that reveals how the population at Wairau were related to one another and to their Pacific ancestors.

And, as the group's research is analysed and published, the most detailed picture ever of the first generations of New Zealanders is emerging.

Seven of the New Zealanders, the ones buried together near the north end of the site, had grown up eating softer, starchier food. "Their teeth were less worn and bear evidence of gum disease, a sign of a more sugary, probably root-crop-based diet." These observations align with the dietary signatures Buckley and postdoctoral fellow Rebecca Kinaston found locked into the stable isotopes in bone collagen.

Compare this to the dental and stable isotope profile of others whose diet appears more varied and it provides compelling evidence that these seven grew up elsewhere, possibly tropical Polynesia. These may have

Professor Lisa Matisoo-Smith: Genetic profiles "may help identify the specific island homelands of the initial canoes that arrived in Aotearoa/New Zealand 700 years ago".

Photo: Alan Dove

Dr Hallie Buckley and Rebecca Kinaston: Their work reveals a healthy population, tall by Polynesian standards, muscular and fit.

Photo: Alan Dove

been among our first New Zealanders.

Enter the work of Matisoo-Smith's team, whose genetic mapping – the first successful mitochondrial DNA mapping exercise for an ancient Pacific people – potentially takes us back even further.

Of the four individuals from the "original seven" from whom DNA evidence was obtained, two contain genetic markers that are unique to Māori. Numerous other known and unknown genetic markers of Pacific peoples were identified, with one of the original four carrying a genetic mutation associated with insulin resistance, associated with Type 2 diabetes.

If similar genetic profiles can be found among other Pacific populations, says Matisoo-Smith, "this may help identify the specific island homelands of the initial canoes that arrived in Aotearoa/New Zealand 700 years ago". Indeed, it raises the possibility of one day knowing the location of the Māori ancestral motherland, Hawaiiki.

Importantly, three of the four had no recent common maternal ancestor and indicate greater genetic diversity among early Māori than previously believed. If they were unrelated to one another, this may suggest an intentional migration with the purpose of establishing a new population. Dr Susan Hayes' facial reconstructions of three individuals – including one respectfully named "Aunty" by Rangitane elders – resemble the people of East Polynesia.

And by all evidence, for the first few generations life was good for this early community.

Buckley's team's research reveals a healthy population, tall by Polynesian standards, muscular and fit. Fractured bones appeared to be well healed, although Buckley found evidence of osteoarthritis and gout among some people.

For a while, food was in abundance. Vast mussel shells 15 centimetres long lie among bones of fish, moa, seals, dog, rats and, even, Haast's eagles. Storage pits and tools suggest agriculture was successful. Further, says Jacomb, "One of the greatest indicators of a time of plenty is the level of ornamentation that is found. People have the time to invest in artistic production."

This early period saw intricately decorated ornaments and jewellery, with motifs typical of those found in similarly aged sites in eastern Polynesia. Among Jacomb's favourite finds was a delicate necklace created from more than 100 tiny dolphin teeth, each drilled with the finest of holes.

"I just love the image of someone sitting there, meticulously drilling all those holes."

But perhaps most telling of the ample food supply are the colossal ovens detected by a magnetometer (a modified land-mine detector).

They measure around five metres in diameter and the one that was excavated is lined with small boulders – without this reinforcing, the gravel-soil walls would have collapsed. Each would have been capable of cooking food for hundreds of people. And there were five of them. There's no evidence of such large ovens previously in Polynesia.

Chris Jacomb and Professor Richard Walter: Their examination of the artefacts and remnants from Wairau Bar gives an insight into the daily life of the first New Zealanders. Photo: Alan Dove

However – or perhaps consequently – it appears food supplies may have declined quickly, with local moa perhaps gone within as few as 10 years, believes Jacomb, and, almost certainly, within a generation meaning people may have had to travel further afield to obtain food supplies. This, alongside Buckley's isotopic tooth and bone analysis, raises some intriguing possibilities.

"Aside from the founding group, the human isotope evidence loosely formed three groups – those who were eating lots of moa, those who ate mostly marine mammals and those whose diets suggest inland freshwater resources and moa," she explains.

"This is quite a mystery. Did the diets of the villagers change dramatically? Did they migrate from other areas in New Zealand to this site? Or did these groups live elsewhere and have their bodies brought here to be buried?"

And while these questions are being posed, it turns out the team has only scratched the surface of the answers the bar may yield. While the original area explored by Duff was believed to be damaged by a farmer's plough in the 1920s and exhausted by previous investigations, the Otago team discovered the actual village site was about four times its previously-known size. The opportunities for further research are countless, says Jacomb.

With Rangitane, the team are scoping out further projects, such as examining the role of the site in its wider environment. Pollen and macrofossil studies might help describe the vegetation and physical setting of the place. Stable isotope studies can tell us more about the movements of the people, and analyses of the food remnants found at the site contain evidence of seasonality and hunting strategies. Further excavations are providing a better understanding of the layout of the village which is one avenue to learning more about the social structure of the community.

Indeed, as a sense of the lives of the Wairau Bar Māori is beginning to take shape, it is the iwi's increasing curiosity to learn more that has provided important impetus for further studies. Richard Bradley even posits the idea of developing the tourism potential of the landmark site – "It's our Plymouth Rock" – to ensure it gets the recognition it deserves.

And it suggests that the 70-year hiatus in analysing New Zealand's earliest archaeological evidence may have been time well spent.

Rediscovering the Wairau Bar now has enabled more than the use of modern DNA, bioarchaeological and archaeological methods to tell a richer and truer story than would have been possible in the 1940s. It has enabled a coming of age for a partnership between researchers and the indigenous peoples whose histories are being scrutinised. In doing so, the understanding of the lives of Māori some 700 years ago has become rooted, very squarely, in both the science and sensibilities of the present.

NICOLA MUTCH

A sporting career

With Otago degrees in physical education and human nutrition, Amanda Jennings' journey to the challenging role of Head of Brand and Marketing for London 2012 was, itself, a marathon effort.

Epiphanies come in all shapes and sizes. For New Zealander Amanda Jennings, hers came in the form of the diverse bodies that filled the athletes' dining area the day she visited during the Beijing 2008 Olympic Games.

But it wasn't the honed physicality of the "glamour" Olympic stars – many of them household names around the world – that took her breath away. Rather, it was her sudden awareness of being the only able-bodied person in a roomful of hundreds of athletes who, despite physical disability, had succeeded in reaching the pinnacle of sporting achievement – the Paralympics.

At that moment, the courage, sacrifice and supreme effort it takes to commit to Olympic excellence was both palpable and humbling. You could say this was the moment Amanda Jennings was captured by the Olympic spirit.

The Otago alumna carried this personal torch back to England with her and, for the next four years, held on to it while she took on her own Olympic challenge as Head of Brand and Marketing for London 2012.

"I thought, 'I've got to do this'. But it's hard. You want to quit the whole way through. The Olympics challenge every part of your being."

The games' headquarters on Canary Wharf, London, were a long way from Seatoun, Wellington, where Jennings was raised. But the story of how she arrived on the bank of the river Thames is one of those circular narratives that often emerge in our lives over 10 or 20 years.

A ballet dancer throughout her youth, Jennings had, by her late teens, become obsessed with sports injury and rehabilitation, and the physiological demands of high performance sports. Family connections meant she felt at home in the south so, in 1991, she headed to the University of Otago hoping to study physiotherapy.

Her plans, however, were thwarted by a B bursary result, which prevented her gaining entry to the BPhty programme. So she opted, instead, for physical education and quickly fell in love with the subject that spanned anatomy, biomechanics, motor learning and much more.

Always average at school, Jennings had transformed into an A student by her final year at Otago – "I felt I'd been given an opportunity to be here so it spurred me on to be the best I could be" – and she enjoyed learning so much that she added a BSc in human nutrition to her programme of study.

She also revelled in the broader Otago student experience, following a year at University College with various flats in Leith, Dundas and Castle Streets.

Today Jennings describes her Otago experience as the "rock" that has provided a solid foundation for the life that has followed, not just in terms of her qualifications and the skills gained therein, but also her social and professional networks and a broad, enquiring interest in the world.

She credits her lecturers with motivating her to succeed, the stand-out among them being Associate Professor Dave Gerrard, whom she describes as a "massive inspiration" during her student years.

"He inspired me to want to work for the International Olympic Committee even though, at the time, I didn't really know much about it. It was at the centre of all things sport and, through sport, there is a genuine possibility to enable positive change in people's lives. So I decided I'd get into sport somehow."

There were a few career stops to be made along the way, however. First up, Jennings was accepted into Otago's postgraduate course in dietetics – potentially an entrée into a career in sports nutrition – but not long after embarking on the practical component at Wellington Hospital she decided a clinical career was not for her. Instead, she followed the advice of a friend's father, who suggested that the outgoing

"The trick is to figure out what you stand for and what you want to do with your life that is meaningful to you and your family. And there is nothing like sport to clear your head and figure this out!"

– Amanda Jennings

young woman should consider a career in advertising.

It may seem an odd step, but Jennings came from entrepreneurial "stock" – her parents had run Wellington's first independent cinema. She had also demonstrated an aptitude for sales in her university holiday employment, including taking line honours as the country's top seller of Cookie Time Christmas Cookies, and successfully running, together with a friend, a company called Nut Time – an initiative which resulted in the two young women featuring on the front page of the *Dominion* newspaper. Such experiences had given her a taste of sales and marketing – and demonstrated that she had a flair for it.

So Jennings moved to Auckland to tackle a media-booking role in the sales department at TV3. From there she moved to a media planning position at DDB Needham, before heading to London on her OE.

She arrived at the dawn of the dot-com boom with £500 in her pocket and landed a job at one of the first digital agencies, Organic, before being head-hunted for a marketing role at BT Wireless mobile phone start-up Genie.

Following the company's sale Jennings, as Head of Brand Experience, was involved in its re-branding to O2. She was similarly involved in the sponsorship deal that resulted in the Millennium Dome being rebranded to The O2 and, later, as Head of Sponsorship, re-negotiated the company's sponsorship deal with the RFU and the Arsenal football team. By then it wasn't such a far leap to the Olympics, although

Jennings quips that she attended 15 interviews before she landed the job of Head of Brand and Marketing. The nature of the Olympics requires people who can stand up to scrutiny and get things right first time, she says. For her, personally, the stakes were high.

"My biggest brief was to engage and mobilise the nation," she says. "But we didn't have a clear run because there were endless sporting and general events in the lead-up to the games, including the Queen's Jubilee celebrations, Wimbledon and the Football World Cup."

Jennings points out that marketing in a commercial organisation is different to marketing the Olympics Games, where her work was focused on generating public engagement and driven by relentless weekly metrics that measured this.

"We got addicted to the numbers," she says. "About two years out we had 60 per cent favourability, which is about what Vancouver had the day before the Vancouver 2010 Winter Olympics began."

Such marketing "insights" she likens to the evidence on which scientific discovery is based to demonstrate how the methodologies and skills she learned at Otago have made a big contribution to her marketing acumen.

"Proving a hypothesis is like building a marketing case – the data make it stronger. Equally, a brand is similar to a hypothesis in that it only takes one piece of contradictory evidence – or in the case of a brand, negative publicity – to destroy it. Look at BP or Tiger Woods."

That the London 2012 Olympic Games are widely regarded as being the best promoted and most popular yet is evidence that Jennings and her team did their jobs well. But given her "moment" four years earlier in Beijing, Jennings is particularly proud of her achievement with the Paralympics, thought by some to have done more to change public attitudes towards people with disabilities than any other single event.

The other highlight for Jennings was sitting with her old lecturer, Commonwealth Games 220 yards swimming gold medallist and 1996 New Zealand Olympic team chef de mission, Associate Professor Dave Gerrard, to watch his old event. At that moment, the wheel that had been set in motion all those years earlier at Otago had turned full circle.

Not surprisingly, Jennings has taken a well-deserved break since her Olympic role ended. She is currently "window shopping" for the next challenge, preferably one which will enable her to more readily combine her career with motherhood, and draw further on her background in physical education and nutrition.

"I think you can have it all if you are willing to be brave and look beyond the traditional 40-hour week. I have come to a natural pause in my life where I get to press the reset button. I have the chance to refine and build on what I have learnt and what I know.

"I am fortunate to have the opportunity to take stock and re-structure my life around what I am good at and how I want to spend my time. Why postpone life until your retirement? If you are clear on your values and you map possible lifestyle pathways, building on what you are good at, then you will never work a day in your life.

"The trick is to figure out what you stand for and what you want to do with your life that is meaningful to you and your family. And there is nothing like sport to clear your head and figure this out!"

And that could well be the epiphany that Amanda Jennings holds on to for her next role, whatever that may be.

REBECCA TANSLEY

Jennings describes her Otago experience as the "rock" that has provided a solid foundation for the life that has followed, not just in terms of her qualifications and the skills gained therein, but also her social and professional networks and a broad, enquiring interest in the world.

TOXINZ success

Developed over the past 50 years, the National Poisons Centre's database, TOXINZ, has been widely used by New Zealand clinicians. Now it is gaining the respect of the international medical profession as well.

The nightmare starts with the screams. Your wailing toddler appears at the kitchen door, coughing and spluttering and still clutching the sweets he's been sampling – but they're not sweets.

It's a scene played out in far too many homes – often around mealtimes – when parents are at their busiest.

It takes only seconds for tots to mistake firelighters for marshmallows, or insulation batts for candyfloss, and you are faced with what could be life or death decisions.

What do you do?

Otago's National Poisons Centre's lines are open round the clock and they are probably your best bet, says operations manager Lucy Shieffelbien.

"By the time you have found your car keys and got your child into the car seat, you could have called us and been given the information that you need," she says. "Some 80 per cent of incidents could be managed at home with the right advice."

In the case of firelighters, they taste so awful that kids are unlikely to have ingested enough to harm them and batts, although unpleasant if swallowed, are chemically inert, although they could cause an obstruction or blockage.

Many other household items are more serious.

"Children will eat the most disgusting things. Under-twos are just exploring with taste, so poisons are not necessarily just chemicals and medicines. They're often everyday things such as dishwashing agents, which are one of the most commonly reported things kids swallow."

The Poisons Centre's 0800 number gives the public direct access to TOXINZ, a constantly updated database of almost all poisonous substances people are likely to experience, with advice and support from trained health professionals.

It's fast, it's free and it's widely used, with roughly 100 calls a day from the public and from GPs and practice nurses.

Many of those calls help reduce the number of people who would otherwise be clogging up hospital emergency departments with minor mishaps. Hospitals have separate access to the database. The demand is there – and not just in New Zealand.

The TOXINZ database, developed at the University of Otago over the past 50 years, today contains more than 190,000 documents with comprehensive and up-to-date information on poisonous chemicals, pharmaceuticals, plants and animals. It is fully referenced, providing treatment pathways, brand names and combination products, removing the need for clinicians to identify individual ingredients and chemicals. It is also easily navigated and contains images to help with the identification of hazardous plants and animals.

TOXINZ's content is maintained 24 hours a day, seven days a week by poisons information staff, with updates made in real time as new information becomes available.

This database has become so popular that clinicians who had used it here before moving to other countries asked if it could be made available overseas.

"While they had access to other poisons information resources, TOXINZ was their favoured resource," says Shieffelbien. "This feedback confirmed that TOXINZ is a world-class, gold-standard database with potential."

Otago Innovation Limited, the University's commercial arm, is realising that potential. In 2009 the database was successfully launched in Australia, where it has been adopted by most Australian states. Last year it received more than 56,000 searches so uptake has been positive.

Otago Innovation Limited CEO Colin Dawson is delighted at the Australian response. "We're always looking for practical commercial applications for the University of Otago's technology and, right under our noses, was a high quality product already being provided to New Zealanders in the shape of TOXINZ," he says.

"It's a safe and trusted professional product developed over decades. It's a

"We're always looking for practical commercial applications for the University of Otago's technology and, right under our noses, was a high quality product already being provided to New Zealanders in the shape of TOXINZ."

perfect fit for what we are doing and we're proud to be associated with it."

After consolidating Australian distribution, it is planned to launch the database in North America, where it will be distributed by academic publishers.

Success in North America may then lead to further global expansion.

Some third-world countries already have access through the World Health Organization's HINARI programme, which provides a wide range of medical and health information free to developing countries.

The National Poisons Centre has come a long way from small beginnings, says director Dr Wayne Temple.

It began in 1964 as a joint venture between the University's Department of Pharmacology and the Otago Hospital Board, based at Dunedin Hospital, as an emergency information source for both health professionals and the public in cases of poisoning.

The originally paper-based database of toxic compounds and poisons-management information grew over the years, swelling to more than 200,000 pages. Between 1985 and 1987 this sometimes cumbersome collection of microfilms and manual filing systems became computerised.

The call centre was established in 1990, providing 24-hour assistance by 1995. By 1996, hospitals were getting poisons information on CD ROMs that were updated every six months, although the centre's database was updated weekly. Free calling began in 2001; the web-based TOXINZ – *www.toxinz.com* – was launched in 2002, with software developments enabling real-time updates on the web from 2004.

Now the centre has 10 poisons information officers – all Otago health science graduates – who train for at least three months before being eased into the job of answering the phones.

Peak hours tend to be around 10am and 7pm, when young children are still up and parents are most likely to be distracted by meal times.

Summers are busier than winters, as people spend more time outdoors and find more ways of getting themselves into trouble. Christmas and exam times are likely to bring more calls involving overdosing by the lonely and stressed. Monitoring such trends is vitally important for a living database, says Temple.

"We are constantly maintaining the database, updating to make it as accurate as it can be. We look at new products and look at failed searches to find out why the search items do not appear.

"We monitor what is being searched for, which gives us our top search hits, and also indicates new products that are coming onto the market."

The data also show emerging trends.

Recent tax increases on cigarettes may be having the desired effect of getting more people to try to quit smoking, but there have been unexpected consequences.

"We've seen a greater incidence of children being poisoned by eating the products that help adults quit smoking," says Shieffelbien. "They think they might be chewing gum, but they are actually dangerous medicines and need to be kept out of reach of children."

Temple points out that synthetic cannabinoids are a recurring problem, despite changes in the law. "They cause a lot of problems for hospitals and individuals, and although we liaise with the Ministry of Health to try to control them, legislation always lags behind the problem."

Monitoring the activity of poison centres – toxicovigilence – can lead to timely alerts through the media for parents and caregivers to be aware of potential problems in new and existing products. But the same products keep appearing on the list of dangers and they are mainly items found in most homes. Dishwashing agents and common pain relief tablets always feature highly on the list, which means that home management is a vital part of keeping children safe.

Even the most careful families can slip up – so what do you do when you suspect your child may be poisoned? This is what the experts recommend:

- If the child stops breathing or is unconscious, call 111 immediately
- Check the child's mouth to see if there is any remaining matter and clear it away
- It is okay to give them a small glass of water to drink (but only 1/4 to 1/2 a cup)
- Never ever make the child vomit (in some cases they may start vomiting as a response to what they have swallowed)
- Call the National Poisons Centre immediately on 0800 POISON / 0800 764766
- If you know what they have swallowed, bring the container or packaging to the phone with you.
- For free poison prevention information, visit *www.poisons.co.nz*

NIGEL ZEGA

Prescriptive plans

The School of Pharmacy provided the first university qualification for pharmacy in New Zealand, and the first four-year degree in Australasia. As the school heads towards its 50th jubilee, Dean Professor Stephen Duffull has big plans for the future.

Professor Stephen Duffull is no typical academic. Despite breaking new ground in pharmacometrics – simply put, the science of measuring how drugs act within the body – his journey to that so-called "ivory tower" has been firmly based in the real world.

"From a research perspective, having 12 years in clinical practice means my research is focused towards patients and finding ways to improve patient care. Culturally I'm a researcher who's a pharmacist, not a pharmacist who's a researcher, but I'm not your standard academic."

Perhaps that's why the current Dean of the School of Pharmacy has grand plans for the school's future, with a renewed focus on enhancing the core undergraduate programme, while also strengthening research outputs: well timed as the school heads towards its 50th-year celebrations.

The National School of Pharmacy started life as the Department of Pharmacy in 1960 under the leadership of the then Associate Professor [of Pharmacology] Fred Fastier, with the first cohort of students taken in 1961, completing in 1964 and graduating in 1965 – the first in New Zealand with a university pharmacy degree. In 1963, the first pharmacy-specific subject was offered, which marks the jubilee date.

During the 1970s, the course developed a strong reputation, but intakes remained limited to around 20-25 students with progress hampered by the small faculty (no more than about half a dozen) and relatively poor accommodation in temporary facilities behind the Dental School. In 1981 American Professor Donald Perrier was appointed Dean and set about improving the situation for the Department of Pharmacy, including initial processes that ultimately were manifested in a change of location to the Adams Building, the transfer from the Faculty of Science to Medicine and a restructured bachelor's degree recognising the increasing importance of clinical pharmacy elements rather than, predominantly, the pharmaceutical sciences.

In 1989, the Minister of Education announced his decision to site all pharmacy education at the University of Otago, which led to the closure of the larger-intake, diploma-awarding school at the Central Institute of Technology in 1991. Professor Peter Coville, appointed in 1989, became Dean of the School of Pharmacy in 1991, and was succeeded by Professor Ian Tucker in 1999, then Duffull in 2010. Today the undergraduate degree remains core to its teaching priorities, with around 120 students accepted each year.

"We've had a lot of alumni and staff who have done some amazing things over the years," says Duffull. "We've had medical directors of pharmaceutical industry, many have gone onto senior academic roles – professorships in various locations – and many others working in the profession."

But, according to Duffull, because the BPharm qualification is followed by another year of training run by another organisation – the Pharmacy Society of New Zealand – there is a current disconnect between the training students receive at the University and the training at intern level after they graduate.

As the school heads beyond its first 50 years, Duffull wants to see more opportunities for students to become part of the profession before they graduate – with internship-style placements occurring during the course of study and registration occurring (like medicine and dentistry) at the end of their undergraduate degree.

"The goal is to create a much more focused degree that will fill the goals of the community and the profession," says Duffull. "I want to try to lead the profession, lead the school forward into a new style of thinking about what

Professor Stephen Duffull: "I'm a researcher who's a pharmacist, not a pharmacist who's a researcher ..."
Photo: Alan Dove

pharmacy can offer in terms of patient care, and move further away from the standard traditional dispensing-supply versions of pharmacy, which will always exist to a certain extent, but many pharmacies are out there doing many, many more things.

"I think we need to have our students exposed to the bigger picture and a variety of different settings – from primary and secondary care to community and rural pharmacies.

"It'll require massive changes, but I think the change is critical. I don't think we can continue to move forward to educate pharmacists for the future unless we start to think of more integrated models of training."

Duffull himself began life in pharmacy cycling around the streets of Christchurch, delivering packages for his pharmacist grandfather. But, despite the family connection, Duffull claims to have had a mixed relationship with the area of study.

It was purely by "accident" that he first studied pharmacy. He was accepted into the course in Wellington a week earlier than he was accepted by the University of Canterbury into his planned double major in systems analysis and business. The "career-focused" Duffull completed his training in Wellington, followed by an internship at Greenlane Hospital in Auckland and a year on the South Island's West Coast in a community pharmacy, before returning to Christchurch Hospital in 1987.

"I moved from a place that was quite forward thinking in Auckland and doing lots of exciting clinical stuff to a place which did nothing at all of any clinical importance [Christchurch Hospital]," he says. "At the time, it was really all about supply and, because I was a male, I had to carry heavy items around the place and that was it. It was very uninspiring. I was bored, so I went to work in a pub in North London.

"It was good for me because I realised working in a pub was worse. I had to keep thinking to make things work."

Duffull returned to Christchurch where he found things had improved but, more importantly, in 1989 he moved out of pharmacy into clinical pharmacology, where he remained for eight years.

"Clinical pharmacy is about individualising the use of medicines to meet patient needs, whereas clinical pharmacology is all about the science behind the process. The two disciplines are really extensions of each other."

This new direction sparked Duffull's research interests and he began a master's degree part-time and then a PhD, completed in 1997 in which he began specialising in phamacometrics –

> "The goal is to create a much more focused degree that will fill the goals of the community and the profession."

the discipline that quantifies the clinical pharmacological response to drugs and answers questions like how quickly will a drug work, how much effect is to be expected and how long will a drug's effects last? Outcomes for patient care include identifying the best medicine and dosing regimen to meet the needs of individual patients.

After his PhD, Duffull went to the University of Manchester for a postdoctoral fellowship, where he was working with the world's best in pharmacometrics, before taking a lectureship (and later, associate professorship) in Brisbane in 2000. In 2006 he came to Otago to take up the inaugural Chair in Clinical Pharmacy – a new position aimed at building the strengths of the school. He was also an adjunct Professor at the University of California, San Francisco, and an honorary Professor at the University of Queensland. An award-winning researcher, Duffull was appointed Dean in 2010.

While the School of Pharmacy has offered postgraduate courses since 1986, today there is a renewed focus on research, with around 40 PhD students conducting work in a diverse range of areas. Clinical pharmacy has moved from strength to strength and social pharmacy became established as a new discipline, with leadership provided by the appointment of Australasia's first Professor and Chair of Social Pharmacy, Pauline Norris, in 2008. The disciplines of social pharmacy and clinical pharmacy have now replaced the former discipline of pharmacy practice.

Add to that, the impressive research outputs of staff at the school and Duffull says it is currently "solid", but that he would like to see it become a centre of excellence, attracting larger grants and more international collaborations.

"The school has a long, proud history," says Duffull. "In the 1990s it became more research efficient, but if we look at our research outputs in 1996 and compare it to now, it's gone up by five- or six-fold. There are some members of staff now who almost turn out as much research as the entire staff in the school in 1996.

"If you went back 15 years, the school would be unrecognisable to what it is now. The building's the same – it still leaks – but ignoring all that, research is an example of where the school has triumphed over the last 10 years and picked up from being good to almost great.

"We're no longer dependent on one or two champions. Today, we have a diverse range of people – historians, psychologists, pharmacists, medicinal chemists, immunologists, microbiologists, a whole range of people – hardcore science to humanities, all collaborating extremely well together."

AMIE RICHARDSON

PHARMACY 50TH JUBILEE

50th jubilee celebrations

New Zealand's National School of Pharmacy will celebrate its 50th Jubilee on 12–14 April 2013 at the University of Otago, in Dunedin.

Over the two days, there will be many opportunities for alumni, staff and students to celebrate the school's rich history, including an academic symposium, a launch of Dr Susan Heydon and Professor Stephen Duffull's book on pharmacy education and the school, dinners, buffet lunches, class photos and graduating-year celebrations.

To find out more, check out the School of Pharmacy's website *pharmacy.otago.ac.nz*

Reaching for the skies

For the eighth successive year University of Otago researchers have won the lion's share of the prestigious Marsden Fund, supporting blue-skies research that has the potential for long-term benefits for New Zealand.

If there is some sort of formula, or algorithm, for success that Otago has struck, don't expect Deputy-Vice-Chancellor (Research and Enterprise) Professor Richard Blaikie to give it away.

For the eighth successive year the University of Otago has won the largest share of the prestigious and highly-contested Marsden funding round, gaining $15 million in new government funding for 22 world-class research projects across a wide range of fields.

"Less than one in every 10 Marsden applications will finally succeed. There is a very strong culture here at Otago of wanting to seek recognition for the quality of research," explains Blaikie. "A Marsden award is about gaining the funding that will support that research, but also about hallmarking your activities with the quality of the award and the responsibilities that go with it."

It is a tough process and, for some time now, the Marsden Fund has been recognised as one of the most highly contested in the world, says Blaikie.

He should know. A former Marsden Fund council member he has seen the rigorous process from the inside and outside – this year gaining funding for his own research in physics.

The fund, administered by the Royal Society of New Zealand on behalf of the government, supports projects in the sciences, technology, engineering, mathematics, social sciences and the humanities.

Chairperson of the Marsden Fund Professor Juliet Gerrard says it gives research grants to New Zealand's brightest researchers to enable them to work on their best ideas.

"The fund frees researchers from short-term government priorities and enables them to do 'investigator-led' research, letting new ideas flourish, which has long-term benefit for New Zealand."

There is a very rigorous two-stage selection process. Both stages involve a national expert panel and the second stage includes critical review from two or three international expert referees for each proposal, says Gerrard.

"New Zealand's researchers are very enthusiastic in applying to the fund, which means that the process is extremely competitive and always heavily over-subscribed.

"The successful proposals tend to be both very high risk and potentially very high gain; this means they are likely to make the most difference to New Zealand in the long term. Thus, the Marsden Fund has a rich history of 'game-changing' research programmes that it has funded over the years."

There are plenty of past and ongoing Otago research projects that can be numbered among them.

A great example is Professor Christine Winterbourn (Pathology), a principal investigator in the Centre for Free Radical Research at the University of Otago, Christchurch, who was one of the first scientists to demonstrate that cells produce free radicals as part of their normal function. Free radicals are implicated in a range of diseases such as cancer, stroke, coronary heart disease and arthritis. Her research has shown how free radicals and other reactive oxidants are produced, what sort of

damage they cause and how the body protects itself.

Then there is Professor Warren Tate (Biochemistry) who has been heavily involved in the High Throughput Screening Project, working in collaboration with the University of Otago's commercialisation arm, Otago Innovation Ltd, to examine the potential to develop a drug to control HIV. This came out of fundamental research in which Tate discovered a genetic mechanism called frameshift, which viruses use during multiplication, something that immediately became a potential drug target. A drug discovery screening tool was also developed and patented by Otago Innovation.

Professor Janet Hoek (Marketing) is part of a collaborative group of interdisciplinary researchers called Aspire2025 who align themselves with the government aim to have a tobacco-free Aotearoa by 2025. Research by Hoek has provided evidence that point-of-sale displays increase the risk of young people experimenting with smoking and make it harder for smokers to quit. This research has facilitated the removal of tobacco retail displays.

Another to benefit from Marsden Fund support is Sciences' Pro-Vice-Chancellor Professor Keith Hunter (Chemistry), from the Centre for Chemical and Physical Oceanography. His focus has been on exploring the interactions between oceans and climate, including investigating the contribution made by tiny marine phytoplankton which absorb carbon dioxide from the sea.

Otago has also gained Marsden funding in social research. Emeritus Professor of Anthropology Helen Leach has delved deeply into the history of that great Kiwi dessert, pavlova. While Australia has tried to lay claim to it, Leach found that the earliest recipes came from New Zealand. She has also identified three distinctive types of "pav" and been able to follow many of the developments of our country's culinary traditions.

Meanwhile, Professor Judy Bennett and Dr Angela Wanhalla (History and Art History) have been tracing the stories of some of the several thousand mixed-race babies born to Pacific women and US servicemen during World War II. Little has been known about them until now, but this research has had a deep personal impact by reuniting families and helping children, and even grandchildren, understand their roots.

Underpinning all that success is research of high quality, says Blaikie.

"The quality of the research that comes out of Otago and the quality of the outcomes of the research are things that we're immensely proud of."

He is also proud of the range of research funded in 2012.

"We're not a health sciences university, we're not a sciences university, we're not a humanities, business or an arts and culture university: we're involved in all those areas in various degrees."

This year's 22 successful applicants cover across a whole range of fields from biochemistry, zoology and English, to marine science and geography. For example, Dr Greg Anderson (Anatomy) will be examining how the hormone prolactin, which is released during lactation, helps reduce maternal anxiety. This research will receive $975,000 over three years.

Research by Dr Patrice Rosengrave (Anatomy) will look to understand how the males of many species – in this case Chinook salmon – can adjust their sperm quality very rapidly in response to the presence of a female or a competitor. It is hoped this three-year $345,000 Fast-Start grant, awarded to up-and-coming researchers, will increase understanding of male fertility in humans, livestock and aquaculture.

Salmon – in this case Pacific salmon – will also be the focus for Dr Martin Krkosek (Zoology) whose $345,000 three-year Fast-Start grant will allow him to examine the underlying processes involved in cyclical fluctuations of animal populations.

A $910,000 project will see Dr Richard Macknight (Biochemistry) seek to discover how legumes control their flowering time and how this process has evolved. This should help plant breeders develop new legume varieties tailored to different geographical locations.

Even self-control, or the brain mechanisms behind it, will be investigated by Dr David Bilkey (Psychology) using $800,000 of funding over three years. Self-control is important because it influences a range of areas including self-regulation, delay of gratification and willpower – areas that can influence physical health, substance abuse and criminal offending.

The importance for children of contact with nature in their neighbourhood and how they can be best supported to develop and maintain connections with the natural world will be examined by Associate Professor Claire Freeman (Geography) with a three-year $430,000 grant.

Tidal turbine farms will be examined in yet another three-year $940,000 project by Dr Ross Vennell (Marine Science). It is known that the more turbines there are, the more the flow speeds fall, reducing output. They will use analytical computational techniques to develop a scaling law to underpin the relationship between power production and farm size, helping address fundamental questions around harnessing the tide for power.

And, while Dr Robert Thompson (Mathematics and Statistics) has a $345,000 Fast-Start grant to examine the relatively new field of transformation optics – including cloaking devices and super-resolution lenses – Professor Evelyn Tribble (English) has been awarded $485,000 over three years for research into the Ecologies of Skills in Early Modern England. This will look at how a whole range of skills – from dance music and sport to craft and science – were acquired and transmitted.

"It's interesting to talk about blue-skies research, but if you dig into these proposals there is an underpinning tangible benefit proposition – a value proposition – for the funder, which is the New Zealand taxpayer, ultimately," says Blaikie.

He is also excited to see early-career Otago researchers being awarded Fast-Start funding. "You can just see that these will lead on to projects and programmes in the future careers of these people that will really make a difference. That's where the Marsden sits. It's at the genesis of a whole lot of very important activity in New Zealand – and for New Zealand."

As for the idea of a formula for success, Blaikie states that hard work has a great deal to do with it.

"These are the researchers who have worked very hard to get into this position of having funding to support the next two or three years of their programmes. The challenge is to start now to deliver really exciting research results and findings, and translate those into great outcomes.

"It has been a great year for Otago," Blaikie reflects. "Not just with Marsden, but with HRC [Health Research Council] and others. We have been very successful in MBIE [Ministry of Business, Innovation and Employment] funding which is much more focused on the translational effort – even though that still requires strong science input.

"It is interesting. I think we are getting to a point where there is blurring of the boundaries of what is basic and what is translational. We're not going to stick things in a box and say that's fundamental research so it's never going to be useful – or that's applied research and will never have the academic credibility. Both have the right place in a balanced system," he says.

"It is wonderful to see how all these different things interact. If it were simple someone would have written a formula for it. There could be a Marsden grant in that …"

MARK WRIGHT

"If you dig into these proposals there is an underpinning tangible benefit proposition – a value proposition – for the funder, which is the New Zealand taxpayer, ultimately."

A better future...

Staff and students at the University of Otago, Christchurch move back into their earthquake-strengthened building in time for the 40th anniversary celebrations.

It's hard for Professor Peter Joyce to describe the past two years.

As Dean of the University of Otago, Christchurch campus, he has overseen two of the most turbulent years in the campus' 40-year history.

Now, as staff and students return to something resembling normality thanks to the completion of major repairs on the main Christchurch building, he says this month's anniversary celebrations will look forward to a better future in several respects.

The first Canterbury earthquake in September 2010 caused the demolition of one building the University leased, St Elmo Courts, dislodging the staff from Public Health and General Practice. It also damaged three houses used for accommodation, making them temporarily unavailable. But the University's main, 10-level, building at 2 Riccarton Road, which houses about half the staff and much of the teaching spaces for Otago, suffered only minor damage.

The February earthquake was a different story.

All University buildings were evacuated, two staff lost family members and many others faced the loss of their homes, injuries to loved ones and disruption to all their lives.

The teaching year had only just begun and Joyce recalls staff and students were suddenly spread far and wide as an ongoing search for suitable accommodation was necessary.

"I think there were 28 leases needed in the end as we moved and then, sometimes, moved again."

Researchers were kindly accepted at both Canterbury and Lincoln Universities, as well as a private company (Canterbury Scientific Ltd) and in local rented warehouse space. Some departments worked from staff homes in the immediate aftermath. Students were taught in a golf club, a cricket club … even the local Philatelic Society.

Despite being under pressure and working in tough conditions, both staff and students continued to excel, Joyce says.

"Fourth- and fifth-year medical students from here averaged exactly the same results as in Dunedin and Wellington in common exams – I think they bonded together in the circumstances."

As the new year begins and the campus prepares for its 40th anniversary celebrations this month, Joyce finds he can't single out any one person to thank.

"I would thank all staff and students for getting though this difficult period of time. There are too many to thank individually – all of whom have faced the same struggles at work and at home. I think they should all be thanked."

Vice-Chancellor Professor Harlene Hayne agrees.

"I would like to extend my heartfelt thanks to all the academic and general staff on our Christchurch campus. They have delivered a full medical curriculum over two difficult years and they have continued to excel in research. I find it hard to believe that they have accomplished so much under such adverse conditions.

"The Christchurch campus is an extremely important part of the University of Otago and I have been impressed by the dedication and the flexibility of all those involved, both in Christchurch and in Dunedin, to get us up and running again."

Otago Health Sciences Pro-Vice-Chancellor Professor Peter Crampton says it has been "an extraordinary journey for staff and students alike".

"No one can be prepared for something like this by prior life experience. And, unlike most natural disasters, where, when the event occurs you can then re-establish a sense of order quite quickly, there have been more than 10,000 earthquakes in Christchurch. No one knows when they will end."

Crampton says the effect that has on people's sense of security and the uncertain future is profound.

"Yet in the face of that, the staff and students showed a strength and a fortitude and an amazing sense of humour that to observe has been humbling and moving."

The University is aware that journey is not yet over and Crampton says, while the reopening of the main building is a "hugely significant milestone", there are still plans and developments to come.

"It's important our Christchurch people know we are in it for the long haul and they are a significant part of our operation."

For the Dunedin-based Property Services Division, the restoration (now nearing completion) of full Christchurch services has been a "project unlike any other", Property Services Director Barry Mackay says.

"It's estimated the repairs will cost about $8 or $9 million so, monetarily, it wasn't our largest project. But in terms of the complexity of the task and the unknown – how to repair the damage – it was the most difficult thing we've ever had to do."

The division had completed the minor repairs to the main building from the September earthquake – mostly cosmetic damage – and was halfway through fit-out of a new tenancy to replace St Elmo

"The Christchurch campus is an extremely important part of the University of Otago and I have been impressed by the dedication and the flexibility of all those involved, both in Christchurch and in Dunedin, to get us up and running again."

– Vice-Chancellor Professor Harlene Hayne

The damage and repairs to the University of Otago, Christchurch building. Walls were removed and opened up to check for unseen damage; epoxy resin pumped in to strengthen walls and floors; and stairwells rebuilt to stronger new standards.

Courts when the February earthquake hit.

The main building, which was built in the 1970s, withstood the quake extremely well compared to other Christchurch buildings of a more modern era, but the damage was still substantial.

This was attributed to the main building's design being based around a strong central core structure. However, even with this strong design the damage was still significant. The fit-outs in levels 3, 5 and 6 were particularly hard hit, as well as the stairwells.

Division Property Manager Jason Steed, who had started work only the month before the first quake, was suddenly thrust into managing the massive project.

His role involved not just the co-ordination of the construction, but finding buildings to lease and overseeing temporary relocation of staff, and dealing with staff concerns.

Luckily the University already had a construction team, Higgs Construction, on-site working on a new capital project, the Nicholls Clinical Research Centre, which will finally open this month during the anniversary celebrations.

The priority for Property Services was to find spaces for staff to work and teach, and to obtain engineering reports assessing the damage and recommending solutions.

While the engineering reports were completed to allow a decision on how to strengthen the building to be made, the construction team started work on repairing cracks by injecting epoxy resin through 16,000 injection points, and demolishing and rebuilding stairwells.

By the beginning of 2012, a solution to strengthen the building was found.

Structural strengthening to the building involved wrapping floor beam connections with glass fibre polymer and lengthening structural walls.

To complete the work, the building core was stripped back to a skeleton state and later large sections of the fit-out on all floors were rebuilt, Mackay says.

The building now stands proudly at 120 per cent of the new building code standard and it's understood the building's structural design is considered a likely candidate for future construction in the city.

University Chief Operating Officer John Patrick says the result is a testament to the myriad of engineers, contractors, tradespeople and Property Services staff who worked tirelessly to accommodate staff and repair the building.

"It was a fantastic effort by all involved."

By the end of February this year almost all staff will be back in the main building, although it will take up to five years to have all Christchurch staff out of temporary accommodation.

Professor Tony Kettle, from the Centre for Free Radical Research, says it is wonderful to be back in their labs and in contact with scientific and medical colleagues again.

"Our team all pitched in to ensure we were re-established in record time. We'd like to thank all the people who have worked hard over the last couple of years to ensure that we could move back into top class laboratories."

Joyce admits the events of the past two years will flavour the 40th celebrations, which will focus on "talking about a better future ahead…"

"I think both in terms of where we have come in the past 40 years, and on another level, since the earthquakes."

The three-day anniversary will include the formal opening of the Nicholls Clinical Research Centre, public lectures and science sessions, as well as a formal dinner.

It will also feature, finally, the lecture of Professor David Fergusson, who won the University's Distinguished Researcher Medal two years ago and has yet to mark the occasion.

FIONA CLARKSON

Photos: Robert de Beus-Higgs

The 11th University of Otago Annual Appeal, launched this month, is raising funds for University of Otago scholarships, a chair in earthquake science and an MRI scanner.

Donations to these projects can be made online at https://secure-www.otago.ac.nz/alumni/donations/

Donations can also be made by cheque, made out to the University of Otago. (Please include a note detailing which specific project you wish to support).

Cheques can be sent to:
The Campaign Office, Development and Alumni Relations, University of Otago, PO Box 56, Dunedin.

MRI benefits for all

To remain at the forefront of neuroscience and biomedical research, the University of Otago needs a magnetic resonance imaging (MRI) scanner.

The University of Otago has a healthy love affair with the brain. As the iconic home of the "scarfies", the University educates thousands of students every year, improving countless minds and fostering a lifelong love of learning. Add to that, a newly-funded Neurological Foundation Chair of Neurosurgery and a cutting edge Brain Health Research Centre with more than 35 research teams spread across departments as diverse as Anatomy and Computer Science, it's clear that Otago is at the forefront of research into the brain.

Which is just as well. As the world's population grows older, there will be more people affected by neurological diseases such as Alzheimer's, Parkinson's, Huntington's and stroke. Neurodevelopmental disorders such as autism, cerebral palsy and schizophrenia are also increasingly recognised as a major health and societal burden. Researchers at the centre are actively investigating the prevention, cure and treatment of neurological disorders, as well improving our understanding of what makes a healthy brain.

But although Otago researchers have world-class expertise in neuroscience and biomedical research, they are limited by lack of access to technology that would help them better understand human body structure and function. MRI technology has revolutionised human neuroscience around the world. Its absence at Otago leaves researchers at a severe competitive disadvantage, according to the centre Director Professor Cliff Abraham.

At an initial cost of around $4million (including installation), an MRI scanner would be based at Dunedin Hospital, to be used 50 per cent for clinical services and 50 per cent for research. The technology offers the capability of both magnetic resonance imaging (MRI) for non-invasive structural analysis of soft tissue, including brain, as well as magnetic resonance spectroscopy (MRS) for measurement of body biochemicals such as glycogen and fat, and tissue energetics.

Moreover, functional brain imaging (fMRI) is an additional technology that permits detection of brain areas active during various cognitive activities, or performing tasks, such as pressing buttons when a specific sound is heard.

"It will provide not only a great opportunity for staff, researchers and clinicians here, but also for students and will greatly improve their job prospects," says Abraham.

"The Psychology Department has the highest number of A-rated researchers [on the Performance-Based Research Fund rankings] of any other academic department in New Zealand, but in Psychology and many other departments, brain scanning is a key component

to ongoing research. Without this technology, our researchers are at a major disadvantage."

Clinically speaking, the scanner will speed up waiting lists and allow better results for patients. Although the Dunedin Hospital currently has a 1.5 Tesla (T) strength scanner, there is extremely limited time available for research. Moreover, international standards now demand that fMRI be conducted with a larger 3T magnet.

The technology is also fundamental to supporting the work of the newly-appointed Neurological Foundation Chair in Neurosurgery, Professor Dirk De Ridder, and senior lecturer Dr Reuben Johnson, and ensuring Otago remains a centre of neurosurgical excellence.

While Johnson envisages using the scanner for functional imaging in tumour patients, De Ridder says the technology is vital for both clinical and research purposes, particularly relating to the study of brain plasticity as encountered in disorders such as tinnitus, addiction and depression.

Combining high-density EEG recordings with high-resolution functional MRI will permit a better understanding of resting and activated brain rhythms, which are key features of healthy and pathological brain states, De Ridder says.

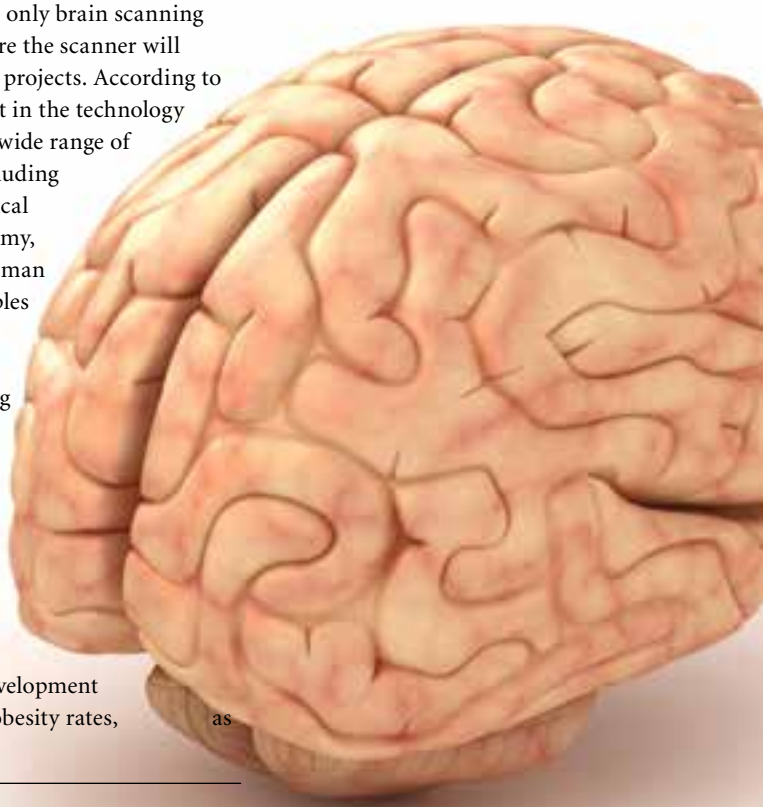
"Clinically it has become evident that safety of surgery can be increased by performing DTI/DKI imaging as well as fMRI that can be integrated in preoperative neuronavigation methodology, which is available in the operating theatre in Dunedin. The higher resolution of a 3T machine increases safety of high-risk neurosurgical interventions in eloquent brain areas.

"Performing brain implants for clinically-established indications such as movement disorders [Parkinson's disease, dystonia, tremor] requires high-resolution imaging, not only for safety reasons, but for better visualisation and accurate targeting."

However, it is not only brain scanning and imaging where the scanner will enhance research projects. According to Abraham, interest in the technology has come from a wide range of departments, including Psychology, Physical Education, Anatomy, Medicine and Human Nutrition. Examples of other uses for the technology include measuring changes in carbohydrate stores (as an alternative to muscle biopsies) during exercise, measuring white fat distribution and brown fat development that affect child obesity rates, as well as a wide range of neurological areas from clinical recovery after neurological injuries to age-related neurological conditions.

"The scanner will be invaluable in 'bringing home' some vital research into a variety of conditions," says Abraham. "Currently, researchers are having to collaborate with other groups in order to use this technology, but having the scanner here will benefit researchers and students across the board."

AMIE RICHARDSON



"It will provide not only a great opportunity for staff, researchers and clinicians here, but also for students and will greatly improve their job prospects."

– Professor Cliff Abraham

Funds sought for earthquake chair

A proposed Chair in Earthquake Science will help the University build on existing strengths and facilitate the establishment of a new multidisciplinary Centre for Fault and Earthquake Science.

Otago plans to develop a new centre for fault and earthquake science to focus the University's existing wealth of expertise and to facilitate new research.

Funding is being sought through the Annual Appeal to support a recent donation towards establishing a new Chair in Earthquake Science, a position that would provide necessary expertise in earthquake seismology and become the nucleus for current and future research.

"Over the last two decades we've been working towards a fundamental understanding of faults and earthquakes," says Head of the Department of Geology Professor Dave Prior.

"We are now aiming to develop a centre of excellence in the scientific understanding of faults and earthquakes. We may not cover every aspect of them, but we would have a core of the key disciplines required to understand the essentials.

"It would be a focus for research and for interaction with other centres, both in New Zealand and internationally, and would attract international visitors.

"There are lots of different angles to fault and earthquake research, but by the nature of the people we already have here at Otago, research will focus on gaining a fuller understanding of fault structure and the processes that occur on faults and contibute to earthquake phenomena.

"Although we are less involved in applied earthquake science, it is crucial that our basic research informs applications such as hazard assessment and mitigation. Involvement of the centre in outreach programmes and strategic collaborations is probably the best way to enable this transfer of knowledge.

"Our hope would be to collaborate very strongly with other groups in New Zealand, around the Pacific Rim and around the world."

Recruiting the right person for the new chair would be vital, says Prior.

"What we need is a world-leading earthquake seismologist to add to our existing expertise, and someone with the time, energy and vision to develop the centre.

"Otago has a long history of making significant contributions to the understanding of faulting and earthquakes in New Zealand and, more widely, in the Pacific Rim, and is an excellent base for someone to explore these phenomena."

Several emeritus Geology professors have completed ground-breaking work during their careers, says Prior.

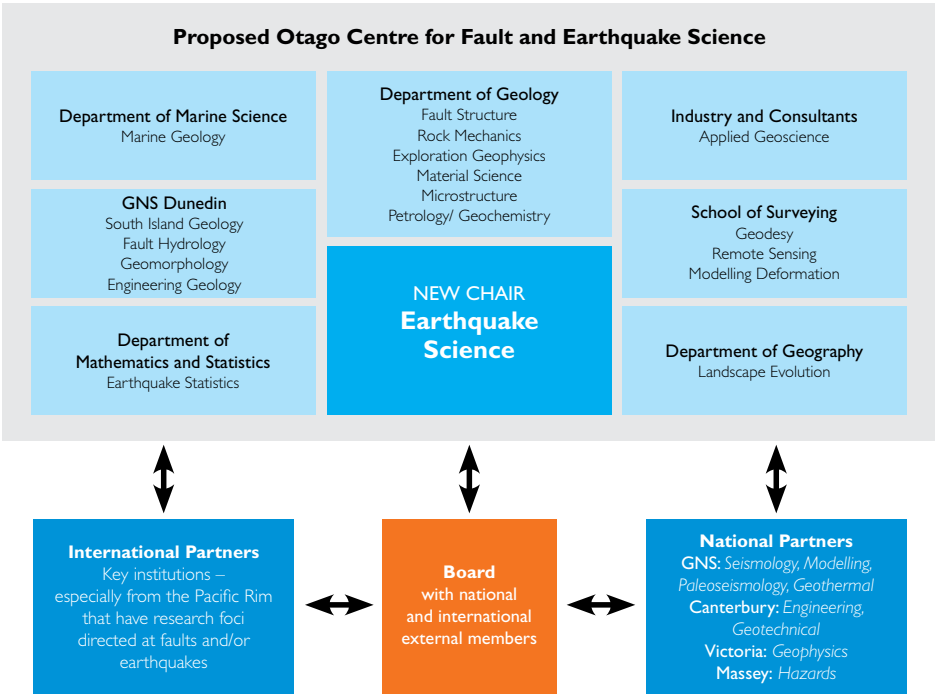
"One of the things that [Professor] Rick Sibson emphasised was that movement of fluids, such as water, can be driven by earthquakes and can potentially control the behaviour of earthquakes. Furthermore, Rick showed how faults and earthquakes might be related to the generation of exploitable mineral deposits.

"[Professors] Alan Cooper and Richard Norris, among other things, have completed some of the most seminal work on the structure and history of the Alpine Fault."

Now current academics are building on their knowledge, not just in the Department of Geology, but also across the University. The School of Surveying and departments of Geography, Marine Science and Mathematics and Statistics, and the Crown Research Institute GNS Science are all working on research that ultimately relates to faults and the earthquake process, says Prior.

A crossdisciplinary approach is necessary and the new Otago centre is proposed to provide just that.

"A new chair needs to provide a focal point for all the existing work so that we can continue to make a substantial contribution to understanding faults and earthquakes."



Research is vital because we know so little, says Prior. "It's important to understand the level to which we don't understand faults and earthquakes.

"There are a whole lot of processes that go into making an earthquake and a particular fault. For example, tens of thousands of big earthquakes have gone into the creation of what is now the Alpine Fault. We have some particular difficulties in understanding how the continual creep of the lower, deeper part of the Alpine Fault drives the stop-start behaviour of the upper part.

"Also, when an earthquake happens, we don't actually understand how all the energy involved is used up in terms of movement on the fault, breaking rock or generating seismic waves.

"The range of questions inevitably requires a multidisciplinary team to try to get a handle on the whole thing. That's the appeal of having a centre that has a focus on fault and earthquake structure and processes.

"You can tap into different expertise, different ideas and then, because of national and international links, you can broaden the research to include a worldwide team trying to contribute to the same aim."

In time, it is hoped the Otago centre would become an international hub for fault and earthquake science, providing New Zealand-based research leadership, advanced training for graduate and postgraduate students, and a knowledge base for users in industry, Crown Research Institutes and government.

Prior says that Otago already has wide-ranging expertise, research experience and drive.

All that is needed to establish the centre is improved academic depth in earthquake seismology and the right leadership to capitalise on existing strengths.

NIGEL ZEGA

"What we need is a world-leading earthquake seismologist to add to our existing expertise, and someone with the time, energy and vision to develop the centre [for fault and earthquake science]."

– Professor Dave Prior

Life on track

Otago medical alumnus – and Ernst and Young's Young Entrepreneur of the Year – Dr Sam Hazledine knows all about work-life balance. Now he is sharing this philosophy through his business MedRecruit, creating win-win situations for doctors and hospitals alike.

A head injury could have ended then-undergraduate Sam Hazledine's hopes of becoming a high flier in the disparate worlds of medicine and extreme skiing.

Instead, it led him to rise to the challenges of re-evaluating his life and getting it back on track.

Now, as an accomplished doctor, skier, businessman, and Ernst and Young's Young Entrepreneur of the Year, Hazledine believes his successes stem from his accident.

In 2002 he was a final-year medical student at Otago. "Med school opened up all kinds of possibilities for me. I made some of my best friends there and it was a fantastic time of my life. I absolutely loved it."

He also loved the social life, but everything came to a halt late one night outside the Captain Cook Tavern, when he attempted a back flip off a wall and landed on his head.

"I was in a coma for a couple of days and I wasn't expected to make a full recovery. The prognosis was that I would never be able to function at a high level.

"I'd been living day to day and pushing the limits – I was reckless – but this was a wake-up call and gave me a challenge. I realised I needed to raise my standards in life, set some goals and become the person that I needed to be to achieve those goals."

Apart from his medical degree, Hazledine had been working towards national skiing championships and he was unwilling to let either of them go. He quit drinking and pushed hard to get his life back. Within three months he had returned to med school, in six he had met the girl he was to marry, and in 12 he took out the annual New Zealand championships in extreme and free skiing.

"You have good days and bad days in life, and you don't know which is which at the time. While it might have seemed like a bad day when my parents got the call from the hospital at 2 am, it turned out to be a good day in that it changed my life. I was forced to grow.

"I had to raise the bar just to get back to normal, but the lessons I learned doing that taught me I could raise the bar – and could keep raising it.

"Otago also showed me the importance of good leadership and how good people can help get you through challenges. Associate Professor Dave Gerrard really helped me out. He believed in me as a student, even if I messed up – and if good people believe in you, you can do anything."

After a year skiing professionally, Hazledine worked at Dunedin Hospital and then headed to Australia to do locum work, where he discovered it was possible to combine gaining medical experience with a good lifestyle and money.

"At the time, many junior doctors didn't realise you could do that," he says. "It's one reason they get burned out and disillusioned, and helps explain why some 25 per cent leave medicine within three years of graduating."

Hazledine saw a niche opportunity in linking doctors who wanted a change with hospitals that needed doctors, and the idea for MedRecruit was born.

Although there were other medical recruitment agencies in the market, Hazledine felt they were not responding adequately to the needs of doctors and, ultimately, hospitals.

"Our focus is doctor-centric. We find out what doctors want in terms of career, finance and lifestyle and, through thorough profiling, we can match them to appropriate hospitals, so placements work.

"There's a shortage of doctors, so hospitals benefit from getting the right staff. The hospitals know the doctors are going to be a good match because of the time we put into selecting them.

"Less-stressed doctors practise better medicine and a better medical workforce is better for patients, so everybody gains.

"What we offer is not for everyone – it's particularly relevant to those who feel the need to get their belief in medicine rejuvenated, or anyone wanting a more permanent change. You can take a break and have some fun and make some

Sam Hazledine with his wife, Claire, and daughter Zara: "Otago also showed me the importance of good leadership and how good people can help get you through challenges."
Photo: Todd Sisson

> "Our vision is to enrich lives and we focus on building long-term relationships more than short-term gains."

money and gain new experience all at the same time.

"And we are always evolving, from just providing locum solutions to now offering the full spectrum, from locum to permanent: we've got something for any doctor considering a change."

Hazledine started MedRecruit in 2006 with the support of his wife Claire, an Otago graduate who left her public relations job to help get the new company off the ground.

"Claire was absolutely critical to helping me achieve this dream of mine. She backed me, doing all the grunt work setting up. We were not afraid to fail and we did fail a lot, but we got it right sometimes and now we are getting it right more frequently.

"Having people who believe in you really helps, but you also have to have an unshakeable belief in yourself to counter critical people who try to tell you what you can't do."

By 2008 Hazledine was in the running for Young Entrepreneur of the Year. "I didn't get it, but I did get great advice that I've applied. They said get some more runs on the board, get the business going in Australia, build a management team and get more staff.

"Now the more success we have, the more I realise what I don't know. I'm not so big as to say I know it all. I surround myself with some of the best people in the world as mentors and I hire people who are better than me in their areas. I provide the culture and business and lead the team."

Hazledine believes that the service provided by his staff is key to the success of MedRecruit.

"It's important to invest in your staff and show them what is possible so that they can grow. I know they will probably move on eventually, but it's still important to encourage and inspire them so that they have a positive experience while they are with you."

About 30 staff are split between MedRecruit's Queenstown base and its Australian operation, which accounts for about 80 per cent of the business.

Hazledine sees no problem with sending New Zealand graduates to Australia.

"We mainly recruit Australian doctors for Australia, but we do send a few Kiwis and we get criticised for that because of the brain drain. But New Zealand is a small country and talented young people will always want to experience different things.

"We are much more likely to keep them long-term as doctors if they don't burn out and if they get wider experience. Most of the doctors we send to Australia stay for a couple of years and come back.

"You can't restrict graduates and hold on to them. Instead, we should encourage people to follow their passions and we should put our efforts into making New Zealand such an attractive system that they will come back.

"We should put the focus in the right place – on the upside – to make the country great."

Hazledine has been asked about extending his medical recruitment philosophies to other professions, but for now he's sticking with his core business.

"Part of our success is keeping our niche focus. We know doctors. We are passionate about helping doctors have a better life. If we do expand we are most likely to consider nurses, who have similar challenges and similar opportunities.

"Our vision is to enrich lives and we focus on building long-term relationships more than short-term gains."

Long-term goals can mean making sacrifices. Hazledine's hopes of representing New Zealand at the 2014 Winter Olympics have not been realised.

"I trained hard in 2011 and was competitive, but to do well in the Olympics you have to do it full-time. It was a good learning experience, but I had to give it away. That goal was always going to have to come second to family and business, and it was an easy decision to make."

With a growing family – his two-year-old daughter is already skiing – and a growing business, Hazledine is realistic.

"I still believe you can achieve anything, but you just can't achieve everything at once."

NIGEL ZEGA

Backyard biodiversity

Researchers behind a two-year study of biodiversity in urban backyards say many surprises lurked at the bottom of the garden, for respondents and academics alike.

Professor Katharine Dickinson (Botany), Dr Yolanda van Heezik (Zoology), Associate Professor Claire Freeman (Geography), Dr Barbara Barratt (Botany/AgResearch) and research assistant Stefan Porter, analysed information on fauna and flora in 55 gardens across 30 Dunedin suburbs.

The research attempted to improve knowledge and understand the gardening behaviour of householders in relation to improving native biodiversity and environmentally-friendly practices.

A two-way communication process between researchers and respondents resulted in a shift in attitude and improvements in native-friendly gardening practices. All households reported that they used research feedback to make some change in their gardens, with 16 per cent planting to make yards more diverse and one homeowner replacing lawn with native shrubs.

Dickinson says one of the most rewarding aspects of the project was the collaboration between natural and social scientists.

"It was a learning experience for us because we found so many aspects beyond measuring plants, animals and invertebrates that related to how householders' perceptions of their gardens changed if they were better informed."

The research will underpin engagement with urban-planners to encourage increased planting and diversity when developing subdivisions. Van Heezik plans to prepare a submission for an upcoming Dunedin City Council plan relating to "infill", or subsequent subdivision of existing properties.

Professor Katharine Dickinson, **Dr Yolanda van Heezik** and **Associate Professor Claire Freeman:** Their research project has resulted in improvements in homeowners' native-friendly gardening practices.

Mind the gap

It is well documented that women in New Zealand earn, on average, 10-15 per cent less than men. Similarly, workers in the biggest firms earn around 20 per cent less than workers in small firms, and those in the big cities – particularly Auckland – earn more than workers elsewhere.

But why? Is it because big firms tend to hire more productive workers? Is it because larger firms exploit their market power and share these profits with their workers? Does the "big firm premium" contribute to the gender pay gap because more women tend to work for smaller firms?

Professor Steven Stillman (Economics) says that understanding the causes of these "wage gaps" is critical for evaluating the role of public policy in creating an equal playing field for different workers. However, research to date has been unable to show what role productivity differences might play.

He has won a three-year Marsden grant to explore this further, using data collected by Statistics New Zealand – the Integrated Data Infrastructure – that provide longitudinally-linked information about all workers and firms in New Zealand.

"This data can be used to simultaneously measure wage and productivity differences across groups of workers, allowing us to estimate the proportion of each 'wage gap' resulting from differences in worker productivity and evaluate possible explanations for any unexplained wage differences."

Further, gaining a better understanding of the reasons for regional differences in earnings will be crucial for evaluating whether government should prioritise investment in particular cities or regions, he says.

Professor Steven Stillman: Understanding the causes of "wage gaps" is critical for evaluating the role of public policy in creating an equal playing field for different workers.

"Night milk" to aid sleep

WellSleep, the University of Otago sleep investigation centre based in Wellington, is undertaking a unique clinical trial for a new natural milk product aimed at beating sleeplessness.

The trial is being conducted in association with a Canterbury dairy company, Synlait Ltd.

Cows produce the sleep-promoting hormone melatonin at night and, as with breast-feeding mothers, this hormone is expressed in their milk. With the feasibility of production and the change of routine having little effect on cows already established, Wellsleep is now finding out how well the product works when taken by people with insomnia.

"Melatonin plays a key role in helping humans regulate sleep-wake cycles and, by collecting milk at night from cows, we can create a natural product with increased levels of melatonin," says WellSleep researcher Dr Angela Campbell.

Participants in the trial are required to drink a glass of "night milk" 30 minutes before going to bed; sleep quality will be compared to sleep following the consumption of conventional milk.

Most adults have experienced sleeplessness at some point in their lives with an estimated 30-50 per cent of the population affected by insomnia and 10 per cent having chronic insomnia. It takes a huge toll on people's energy, mood, health and ability to function during the day.

"Many insomniacs rely on sleeping tablets, but these may only mask the problem," says Campbell. "Conventional sedatives are known to be addictive and often cause fatigue and memory impairment so a natural product which helps people sleep is likely to be very popular."

Dr Angela Campbell: "By collecting milk at night from cows, we can create a natural product with increased levels of melatonin."

Novel approach

It's little understood and unique in the mammalian world, but a recently awarded research grant could shed light on the way that human babies' digestive bacteria interact with the carbohydrates in breast milk.

Professor Gerald Tannock (Department of Microbiology and Immunology) has recently been awarded $789,900 in the Ministry of Business, Innovation and Employment's 2012 science investment round to investigate the use of novel carbohydrates that may be modified, or substituted, to resemble those which occur in human milk.

The project will involve collaborative research with Dr Ian Sims of Industrial Research Ltd (Wellington). Sims identifies the carbohydrates in milk while Tannock analyses the associated bacteria.

"Breast milk contains complex human milk oligosaccharides (HMO) or sugars," explains Tannock. "These HMO pass through the baby's gut practically untouched, but in the large bowel they enhance the growth of bifidobacteria."

Oligosaccharides will be extracted from New Zealand resources and modified chemically so that they resemble the sugars that occur naturally in human milk. This could lead to the production of infant formula from cow's milk that will mimic the effect of human milk in enriching the bifidobacteria collection in babies' bowels.

"Breast milk is nature's gold standard and our research is not intended to increase the sales of infant formula at the expense of breastfeeding.

"However, not all mothers can exclusively nurse their babies for the six months recommended by the World Health Organization. It may be that premium cow's milk-based formulas can be developed once we understand the system better."

Professor Gerald Tannock: "It may be that premium cow's milk-based formulas can be developed once we understand the system better."

Poetry and global change

Poetry is often associated with love and loss, but Dr Jacob Edmond (Department of English) says the language of poetry and the stories of its creators can provide new frameworks for understanding both personal and global change.

Central to his recent book, *A Common Strangeness: Contemporary Poetry, Cross-Cultural Encounter, Comparative Literature* (Fordham University Press, 2012), is the idea that poetry offers "untapped tools" for reconceptualising our world – its political catastrophes, national dislocations and promises of cultural renewal.

In the book, Edmond investigates how Cold-War mentalities have come to shape the language of globalisation.

"I argue that many conceptual paradigms – both literary and otherwise – haven't kept pace with changes in the world and fall back on the old language of East and West.

"A feature of the language of globalisation is the persistence of simplistic binaries such as local or global. These binaries obscure the complex historical processes and individual stories behind geopolitical and economic change."

Among other examples, Edmond uses work by Chinese poet Yang Lian – specifically poems penned in Auckland in the late 1980s and early 1990s – to expand on the modernist idea that the strangeness of the literary work can renew, challenge or alter perceptions of the world.

"These works link estranging urban change, and linguistic and cultural dislocation to the traumatic conclusion to the Tiananmen Square protests of 1989 and the dramatic economic and political shift that occurred in China – and the world – at that time."

Dr Jacob Edmond: "I argue that many conceptual paradigms … haven't kept pace with changes in the world and fall back on the old language of East and West.

Dressings ease radiation therapy

Improved management of skin reactions caused by radiation therapy is likely following research into the use of silicone-based dressings by the Department of Radiation Therapy (University of Otago, Wellington) in collaboration with radiation therapists in Dunedin, Wellington, Palmerston North and Auckland.

Many breast cancers patients experience skin reactions such as flaking and ulceration during radiation therapy. Skin reactions compromise patient quality of life and, in severe cases, may disrupt radiation treatment.

The randomised, controlled trial led by Dr Patries Herst determined the effect of silicone-based dressings on the severity of skin reactions in 80 women treated with radiation for breast cancer. Half of the affected skin of each woman was treated with dressings and the other half with standard cream.

The dressings do not contain any chemicals, but adhere closely to healthy skin, protecting the radiation-damaged skin from rubbing against other body parts or clothing. The dressings do not stick to weeping skin, making them painless to remove without damaging the fragile skin underneath.

"The results clearly show that the dressings are significantly better than aqueous cream at decreasing the severity of skin reactions," says Herst.

"Most patients prefer the dressings to the cream as well; they find them very easy to use and comfortable to wear."

Herst hopes that silicone dressings will soon become standard skin care in radiation therapy departments.

Breast cancer is the most common malignancy in New Zealand women, with around 2,800 cases diagnosed every year and many receiving radiation therapy as part of their treatment.

Dr Patries Herst: "The results clearly show that the dressings are significantly better than aqueous cream at decreasing the severity of skin reactions."

Virtual knowledge building

Developing a virtual classroom where children from different parts of the country work collaboratively as knowledge builders is one of the key aims of a project headed by Professor Kwok-Wing Lai, director of the Centre for Distance Education and Learning Technologies (College of Education).

Videoconferencing and online education has, of course, been used for teaching before. But this two-year Teaching and Learning Research Initiative project, funded by the Ministry of Education, is the first time it has been done using the knowledge-building approach in online classes – and meeting NCEA requirements.

Knowledge building encourages students to work extensively in whole class or small groups, developing ideas by doing research – through the internet, in books or by conducting experiments. Students are active learners.

"The key thing is to develop students as knowledge builders in the knowledge society. They create and build on ideas and knowledge within the class community and engage in progressive problem solving."

Technology comes into it through software called *Knowledge Forum* which supports the discussion and provides a scaffolding for building ideas.

"It forces you to focus your discussion. Then, after you have posted your idea, the whole community will work on it and eventually come up with a solution or a theory."

He has nine senior secondary-school classes, working with teachers from the New Zealand Virutal Learning Network. Five are purely online classes. Students meet weekly by videoconferencing and also work together online with *Knowledge Forum*.

University funding has been secured to link five primary and intermediate classes in 2013.

Professor Kwok-Wing Lai: "The key thing is to develop students as knowledge builders in the knowledge society."

Welcome to Bomanjo

Francisco Tigre Moura has achieved the equivalent of a Kiwi student producing an exceptional PhD thesis written in Portuguese at a Brazilian university.

The Otago marketing student's doctoral thesis has been deemed by his three examiners to meet the University's "exceptional quality" threshold of being "of an exceptional standard in every respect – research content, originality, quality of expression and accuracy of presentation..." The accolade is all the more remarkable because English is the Brazilian student's second language.

Tigre Moura completed his bachelor's and master's degrees in Brazil, but chose Otago for his doctoral studies. "I felt the need to explore and meet others and be in a different environment. And I was looking for a university that had a research group in tourism marketing."

For his thesis, on tourism destination websites, he explored 130 sites from New Zealand, China and India and then set up four versions of an experimental website of a fictitious tourism destination (a place called Bomanjo) and tested them on 400 New Zealand undergraduate students.

The results challenge the traditional wisdom that the most effective websites are those that tailor content and design to the different cultures of their users. Tourism destination websites that presented potential travellers with a cultural clash led to a more positive image of the destination, higher willingness to travel and more positive perceptions of the website's design.

After three years at Otago, Tigre Moura is off to England to take up a lectureship at the University of Derby.

Francisco Tigre Moura: His PhD thesis on tourism destination websites was deemed to be "exceptional".

Super-duper little computer

The great Kiwi scientist Ernest Rutherford's quip "We haven't the money, so we've got to think" has been echoing around the laboratory walls of the University's Department of Computer Science.

Senior lecturer Dr Andrew Trotman was wrestling with the problem of dealing with large amounts of data without a budget to buy a room full of computers and came up with the idea of building a personal super-computer.

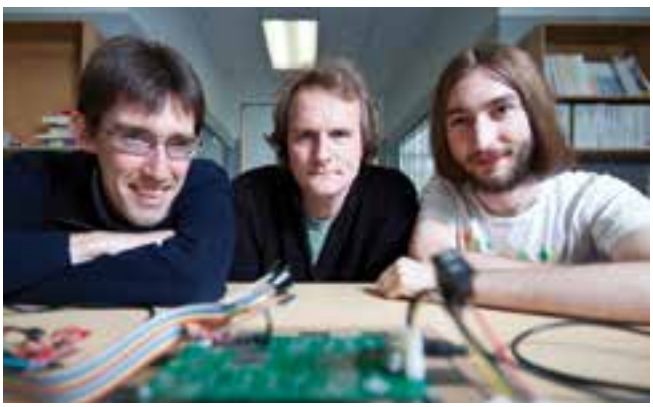
Turning that idea into reality has become a collaborative effort, notably also involving computer science lecturer Dr David Eyers, Paul Campbell from the private sector who has returned home to Dunedin after working in Silicon Valley and former computer science student Nicholas Sherlock.

They are developing a solar-powered, portable, high-performance personal super-computer that has the processing power of a traditional cluster of computers at about a tenth of the cost.

So far they have experimented with circuit boards and acquired a grant from the Otago Energy Research Centre to buy solar panels, which will be installed on the roof of the Owheo Building.

Trotman stresses that they are at the very early stage of having just one compute-node on one circuit board, but hope to have a working prototype by the middle of next year.

"Whenever we talk to people, both inside and outside the University, about what we are building, they are very interested; a lot of people have similar problems to ours and have similar financial constraints. So there is a potential commercialisation path."



Dr David Eyers, **Dr Andrew Trotman** and former student **Nick Sherlock:** "Whenever we talk to people ... about what we are building, they are very interested."

Optimising IVF success

Researchers from the University of Otago, Christchurch have developed a test to significantly improve the success rate for in vitro fertilisation implantations.

Obstetrics and gynaecology researcher Dr Gloria Evans has discovered, for the first time, key biomarkers – or signs – which show when a woman's uterus is "more favourable" for implantation. If the key biomarkers are not present, then the embryo can be frozen until a cycle with more positive biomarkers can be achieved.

The discovery could have a significant effect in improving the success rate for couples undergoing the emotional and expensive process of IVF.

Evans says that although a lot of money and emotional energy is invested into getting an embryo ready to implant, there is still a lack of understanding about what happens after the embryo is implanted.

Currently less than half of fertilised eggs implanted through IVF result in a pregnancy. Implantation failure, in which the woman's uterus is not in an optimal state to receive a fertilised embryo, is a common reason for these failures.

Evans has developed a laboratory test which she says showed "very encouraging results". She has just finished a second study to verify her earlier findings and is analysing results.

"If initial results are supported in this expanded study it would mean a big step forward in assisting couples who are going through the IVF process to try to have a child. Clinicians may be able to determine the best fertility cycle to implant embryos, giving women a much better chance of achieving pregnancy."

Dr Gloria Evans: "Clinicians may be able to determine the best fertility cycle to implant embryos, giving women a much better chance of achieving pregnancy."

Political nous

With a long-held love of politics, new OUSA president Francisco Hernandez is looking forward to putting his politics degree into practice this year. And, with a focus on improving food, flats and facilities for students, it promises to be a busy one.

Francisco Hernandez has politics in his blood.

His father, Rossano, was a member of President Joseph Estrada's ruling party in the Philippines before a change in government in 2001 saw the family fall from favour.

"The old government fell to a people-power revolution," says Hernandez. "After the change, there was a gradual shift. My parents were blacklisted because of their former jobs. It was subtle economic pressure."

Hernandez was only 12 when his parents decided to join family members in Wellington. It was a time of adjustment for everyone, he says.

"We went from being wealthy in the Philippines, where my parents were in white-collar work, to here, where mum worked in a Burger King and dad at a Fisher & Paykel store. It was a bit weird not having the luxury of wealth: having to do house chores and, I guess, living life like an ordinary person."

But the strongest memories Hernandez has from this time are of the way his baby brother, Tighe, was cared for when he needed ongoing treatment for a heart defect that was discovered when he was just six days old. Although the condition eventually proved fatal, Hernandez was struck by the compassion New Zealand showed its citizens.

"The level of care that was afforded to my brother was compassionate, humane and extraordinary given our circumstances as recent immigrants to the country. We had government support while Tighe was in hospital. They provided us with accommodation etcetera ... In the Philippines they wouldn't have taken care of such a poor baby," he says.

"New Zealand cares for its residents equally, regardless of background. That didn't happen by accident. That's why I'm interested in politics."

Hernandez has just completed an honours degree in politics from Otago and will defer doing his Master of Entrepreneurship until after he has completed his term as OUSA president.

He describes the 2012 OUSA election as extremely hard fought.

"At the start of the election campaign I was the underdog. I asked the *Critic* editor and he gave me a 20 per cent chance of winning.

"I would get up at 6am and go to bed at around 1am. We did a bit of chalking on the footpaths, putting up posters and speaking to students face to face."

But Hernandez's secret weapon was his own version of the popular Korean *Gangnam Style* music video, "Frangnam Style", which saw him dancing on the Richardson Building and singing down Dundas Street.

"I saw the original *Gangnam Style* video, thought I looked a little bit like Psy [the singer] and decided that something like a music video would be a fantastic way to reach out to students.

"It was made 48-hour film-festival style. I just got some mates together, started shooting it and then edited the video afterwards."

The political experience he gained as OUSA welfare officer last year and communications officer in 2011 also helped his cause, he says, particularly now that student union membership is voluntary and OUSA is contracted by the University to provide student services within the framework of a service-level agreement, which is renewed every year.

"Because of the nature of the negotiations with the University for the service-level agreement, students want politically-experienced candidates who can renegotiate to get them what they want. It helps to have someone who's had a few years on the till and knows how to deal with the University."

This new relationship with the University has both pros and cons, he believes.

"In a sense, its a limitation. OUSA is not free to create its own income as much

In-coming OUSA President Francisco Hernandez: "I want to implement programmes to improve quality of life – affordable food on campus, better facilities for students on campus, and warmer and better flats."
Photo: Alan Dove

as we were before; there's a reduced level of services and our independence is also reduced.

"But its liberating in that it's freed OUSA to work more closely with the University. An example is the push towards student voluntarism. The University shares this focus. And when it's supported by the University, others support it too."

Encouraging students to become more involved, whether through volunteering or through student politics, is important to Hernandez.

"This can happen by engaging students in the process of participation from the moment they get here. We'll harness student energy in things they're interested in by implementing a 'portfolio' system. For example, students interested in housing issues can join the housing committee to fight for better flats. We will also run a serious campaign of registration for the local body election and get the student vote out.

"We want to create a culture where students emerge as active citizens – not passive consumers."

At the very top of Hernandez's long "to-do" list is what he calls the three "Fs" – food, flats and facilities.

"I want to implement programmes to improve quality of life – affordable food on campus, better facilities for students on campus, and warmer and better flats." Hernandez has already had success with his $3 dinners, a programme in which University clubs prepared affordable meals for students at the Club and Societies centre three times a week, with support from OUSA. He now plans to introduce $2 coffees and $1 breakfasts as well.

"The $3 dinners had 100 to 200 people showing up every night. It made thousands of dollars. They were a popular success and evidence that I can get stuff done."

In a move to improve student facilities, Clubs and Societies is currently undergoing a refurbishment and will be renamed the OUSA Recreation Centre.

"It will be a more multi-purpose venue. There will be a movie theatre, gaming room, recycling centre and better meeting rooms. There will also be a greater possibility for income-generating opportunities."

Hernandez's third "F" is flats. "A lot of students live in over-priced, damp housing. I want to put a lot of focus on developing a healthy-housing index with the University. It is important for all the vulnerable in Dunedin: it's not just a student issue."

After being involved with the OUSA for four years, Hernandez is excited to finally be president. And he is not the only one.

"My father is really pleased," he says. "I also got an email from the Philippines Consulate to say congratulations. I felt pretty proud."

LAURA HEWSON

Otago's quality confirmed

The University has made a strong showing in recent national and international measures of its quality and performance.

Otago retained its distinction of being one of only two New Zealand universities to feature in the 2012 QS World University rankings' top 200.

The latest rankings placed the University as 133rd in the world. In the "faculty" categories, Otago ranked 66th in life sciences and medicine; 123rd in arts and humanities; 172nd in natural sciences and also 172nd in social sciences and management.

The QS World University Rankings is an annual league table of the top 700 universities in the world.

The University also topped the New Zealand Tertiary Education Commission's latest set of educational performance indicators in two categories and came second in a third. Otago came first in university course completions (89 per cent) and student retention (88 per cent) and was second in qualification completions (81 per cent).

Marsden Fund success

Otago researchers gained more than $15 million from the prestigious Marsden Fund for 22 world-class research projects at the frontiers of knowledge in their fields [see feature story pages 18–20].

The Royal Society of New Zealand-administered Marsden Fund is regarded as a hallmark of excellence that allows the country's best researchers to explore their ideas. For the eighth successive year, Otago researchers have gained the largest share of funding available through this annual round.

Researchers from across Commerce, Health Sciences, Humanities and Sciences are leading the new projects, which include 15 standard projects and seven Fast-Start projects designed to support outstanding researchers early in their careers.

Arts Fellows selected

The University's Arts Fellows for 2013 are:

Dunedin writer and poet David Howard (Robert Burns Fellowship); Christchurch painter and sculptor Zina Swanson (Frances Hodgkins Fellowship); Auckland-based composer Samuel Holloway (Mozart Fellowship); Dunedin performer and choreographer Hahna Briggs (Caroline Plummer Fellowship in Community Dance); and Auckland-based writer Leonie Agnew is the University of Otago College of Education Creative NZ Children's Writer in Residence.

Award for University Union upgrade

The recent upgrade of the University Union was one of seven projects to earn gongs at the 2012 Southern Architecture Awards.

The upgrade provides an improved connection between the Information Services Building Link, the main common room, foodcourt and Union lawn. The work included opening up the busy ground floor concourse. An informal study and social space was also created on the mezzanine level, which is accessible from and complementary to the Link.

The awards' judges said the re-working of the Union by Parker Warburton Team Architects showed the difference architects can make by intelligently refashioning older buildings.

Appointments

André Everett and **Elizabeth Rose** as Professors of Management in Otago Business School's Department of Management. Professor Everett was previously an associate professor in the department while Professor Rose comes to Otago from Finland's Aalto University School of Business.

Christina Hulbe as Professor and Dean of Surveying at Otago. A leading glaciologist, Professor Hulbe was previously Chair of the Geology Department at Portland State University in Portland, Oregon.

Sarah Hook to the Chair of Pharmaceutical Sciences in the School of Pharmacy. Professor Hook's research expertise is in novel vaccine formulation and delivery. She was previously an associate professor in the school.

Awards/Achievements

Five Otago academics' outstanding contributions were recognised through their election as Fellows of the Royal Society of New Zealand: Professor **Tony Ballantyne** (History); Professor **Brett Delahunt** (Pathology and Molecular Medicine, Wellington); Professor **Keith Gordon** (Chemistry); Professor **Frank Griffin** (Microbiology and Immunology); and Professor **Tony Kettle** (Pathology).

Otago medical student **Joseph Donnelly** won a prestigious Woolf Fisher Scholarship to support Cambridge University PhD study on blood-flow regulation in brain-injured patients. With an annual value of around $100,000, the four-year scholarship includes full college and university fees, a living allowance and annual return airfares.

Recent Otago graduates **Louis Chambers** and **Edward Stace** gained Rhodes Scholarhips to study at Oxford. A Law and Arts graduate, Mr Chambers intends to study for a Bachelor of Civil Law in his first year and then a Master of Science (MSc) in environmental change and management. Mr Stace, who completed medical studies at Otago, will pursue a Doctor of Philosophy (D Phil) in the field of tissue engineering.

Professor **John Crump**, who holds the University's McKinlay Chair in Global Health, was awarded the American Society of Tropical Medicine and Hygiene's highest honour, the Bailey K.

Professor John Crump

Ashford Medal. The medal is awarded annually for distinguished work in tropical medicine to a worker in his or her mid-career.

Professor Ewan Fordyce

The outstanding contributions of Professors **Ewan Fordyce** (Geology) and **Alan Musgrave** (Philosophy) were recognised through the presentation of medals at last year's national research honours event. Professor Fordyce was awarded the Hutton Medal for his seminal contributions in New Zealand vertebrate paleontology, while Professor Musgrave received the 2012 Humanities Aronui Medal for his enduring and profound influence as a philosopher of science.

Professor Alan Musgrave

Professor **Lisa Matisoo-Smith** (Anatomy) gained a two-year James Cook Research Fellowship which will allow her to undertake the first survey of the genetic diversity of New Zealand's population.

Highly sought-after Rutherford Discovery Fellowships were awarded to four leading scientists to help them develop their Otago research careers. They are: Dr **Shinichi Nakagawa** (Zoology); Dr **Peter Mace** (Biochemistry); Dr **Timothy Woodfield** (Orthopaedics, Christchurch); and Dr **Barbara Anderson** (Botany).

Two Otago medical researchers recently received Health Research Council fellowships. Dr **Moana Theodore** (Preventive and Social Medicine) was awarded an HRC Erihapeti Rehu-Murchie Māori Health Research Postdoctoral Fellowship to study how education positively affects Māori health over time. Dr **Ayesha Verrall** (Centre for International Health) gained a Clinical Research Training Fellowship to investigate tuberculosis and innate immunity.

Professor **Mark Stringer** (Anatomy) was named the OUSA's top Otago University lecturer for 2012, and Dr **Gill Rutherford** (College of Education) as the most inclusive lecturer.

Professorial Promotions

The following leading Otago academics have been promoted to full professorships, effective 1 February: **Michael Albert** (Computer Science); **Michael Baker** (Public Health, Wellington); **Christopher Charles** (Research Professor, Medicine, Christchurch); **Steve Dawson** (Marine Science); **Susan Dovey** (General Practice); **Julian Eaton-Rye** (Biochemistry); **John Evans** (Research Professor, Obstetrics and Gynaecology, Christchurch); **Sean Fitzsimons** (Geography); **Elizabeth Franz** (Psychology); **Russell Frew** (Chemistry); **Parry Guilford** (Research Professor, Biochemistry); **Jamin Halberstadt** (Psychology); **Gary Hooper** (Orthopaedic Surgery and Musculoskeletal Medicine, Christchurch); **Richard Jackson** (National Centre for Peace and Conflict Studies); **Ian Jamieson** (Zoology); **Etienne Nel** (Geography); **Elaine Reese** (Psychology); **Alison Rich** (Oral Diagnostic and Surgical Sciences); **Anthony Robins** (Computer Science); **Jae Jung Song** (English); **Rachel Spronken-Smith** (Higher Education Development Centre); **Lisa Stamp** (Medicine, Christchurch); **Margreet Vissers** (Research Professor, Pathology, Christchurch); **David Wharton** (Zoology).

Emeritus Professors

The following staff members have been granted the status of Professor Emeritus by the University Council: Professor **Michael Atkinson** (Computer Science); Professor **Gareth Jones** (Bioethics Centre); Professor **Carl Burgess** (Medicine, Wellington); Professor **Robin Taylor** (Medicine); Professor **Rob Smith** (Chemistry); Professor **Donald Wilson** (Women's and Children's Health).

Obituary

Dr **William (Bill) Dean** (75). A member of the University's Department of English from 1970-1999, he was noted for his memorable lectures on the Elizabethan dramatists and Beckett. His other contributions to the life of the University included his theatrical productions, generous donations to the Library and anonymous financial help to needy students.

Alison Finigan:
Head of Alumni Relations

A word from the Head

One of the most rewarding aspects of working in the Development and Alumni Relations Office is the opportunity to meet people of all ages who have spent some part of their lives studying at the University of Otago. From this common starting point they have gone on to widely diverse career paths and lifestyles that have taken them all over New Zealand and beyond, with some achieving at the highest level in their chosen field. Each one has an interesting story to tell and we are always delighted when alumni share these with us. Some of the stories span several generations, with the children and grandchildren of alumni from earlier decades following in the footsteps of their elders to benefit from an Otago education. The accounts of student life in times past provide us with a fascinating reflection of the changes in wider New Zealand society over past decades, while at the same time illustrating the enduring values that are at the heart of an Otago education. We hope to feature some of these wonderful histories in upcoming issues of the *Otago Magazine*.

In this issue we focus on some of Otago's newest alumni who have been recipients of the Alumni Scholarship. Over 80 first-year students have benefitted from alumni generosity since the first award in 2004, and those from the early years are now well on their way to achieving success in advanced studies or their chosen careers. The stories featured in these pages show how much these students have gained from the support they received in their first year at Otago.

Once again, alumni have the opportunity to contribute to these scholarships through the 2013 Annual Appeal launched this month. The target is to provide more scholarships for deserving students who would otherwise encounter difficulties in accessing tertiary study, and we are hoping that an increased number of alumni will join us in supporting this worthy cause.

Supporting Otago

Alumni Appeal 2013

We are pleased to announce the launch of the 11th University of Otago Annual Appeal. This year we are raising funds in three essential areas that will keep your University at the forefront of excellence in research and teaching, and will make a real difference to people's lives:

University of Otago Scholarships, enabling high-achieving, deserving young people who, through circumstances, would not otherwise be able to study at Otago.

A Chair in Earthquake Science, to complement a multidisciplinary centre facilitating world-leading research into the fundamental understanding of faults and earthquakes.

A magnetic resonance imaging (MRI) scanner for research and clinical use that will allow Otago to continue world-leading research into brain health and body function.

For more information on the initiatives supported by the Annual Appeal please refer to the articles featured on pages 24-27 in this magazine.

You can make a gift to any of the areas listed above by visiting *http://alumni.otago.ac.nz* or by completing the gift form in the appeal brochure that you will have received recently.

If you are not able to donate to Otago at this time, there are other ways you can support your University – by joining or creating a local network, attending one of our Otago alumni events (see the Otago alumni website *http://alumni.otago.ac.nz* for details) or simply passing on your *Otago Magazine* to a friend.

Otago's international networks

The University of Otago Canadian Alumni Network

The efforts of a small group of alumni in Toronto to set up an Otago network in Canada are showing results, with groups of alumni from as far away as Vancouver and Edmonton expressing an interest in being involved. The Alberta Network really got off the ground in 2012, following two very successful events in Edmonton hosted by Dr Chris and Beverley Hoskins. The enthusiasm and sense of fellowship that arose from these gatherings has led to alumni in the area working across a range of activities, including hosting visiting undergraduate students and raising funds for a travel award for students taking part in the exchange programme between Otago and the University of Alberta.

Now others are expressing an interest in following suit. In London, Ontario, Western University faculty members Professor Craig Brown and Professor Murray Bryant, both Otago alumni, are supporting Otago students on exchange at Western. They have been encouraged

by Allan Portis, Toronto-based alumnus and founder member of the Canadian Network, who studied at Western after graduating from Otago. Allan organised a lunch for Otago exchange students departing after their Western study semester in August 2012, which was attended by Craig and Murray, Allan, his wife Santa and Professor Brian and Pat Merrilees, alumni supporters from Toronto (see photo above).

If you live overseas and are interested in supporting a student in your area, please contact Kaitlin Wolf at *kaitlin.wolf@otago.ac.nz* . The University's exchange partners can be seen on the Otago International Office website *www.otago.ac.nz/study/studentexchange/index.html*

For more information on the University of Otago Canadian Alumni network please visit *http://alumni.otago.ac.nz/Canada*

Alumni of the University of Otago in America, Inc (AUOA)

The Alumni of the University of Otago in America, Inc (AUOA) has had another successful year. Members of the board of the AUOA continue to work to support Otago and the University is deeply appreciative of their efforts to raise the level of engagement of alumni living in the US. The University is also very grateful for the generous grants that the board has made to support a multitude of projects at Otago, including research into antivirals, undergraduate scholarships and student travel awards.

Jennifer Schreiber

Dr Bill Lindqvist

The board has undergone some changes in 2012, with the retirement in November of two of its founding members. Secretary Jennifer Schreiber and vice-president Dr Bill Lindqvist were honoured at the alumni reception in Washington DC last November for the central role they have played in alumni activities in the United States over many years.

As members of the board since its inception in 2005 Jennifer and Bill have helped to guide the organisation through a myriad of legislative and procedural changes to arrive at the efficient and effective entity that operates today. As key advisors on US alumni matters their wise counsel has been very much appreciated.

Another outstanding US alumnus and founding board member, Professor Murray Brennan, stepped down from his role as president of the board in November, although he has kindly agreed to remain as a board member. Murray has been replaced by Geoff Nichol, with Dr AnnMarie Oien and Professor Andy King taking over as secretary and vice-president respectively. We are looking forward to working with Geoff, AnnMarie, Andy and treasurer Neil Matheson over the next few years.

For more information on AUOA please visit *www.alumniuoa.com*

The University of Otago Foundation for Malaysia

After months of negotiations, the University of Otago Foundation for Malaysia has achieved a notable advantage for alumni living in Malaysia in the form of a tax exemption for donations to the University of Otago. Our grateful thanks go to Tan Sri Dato Dr Ahmad Azizuddin and to YB Datuk Amar Dr Tan Sri Leo Moggie for the work that they have done on our behalf to ensure this successful outcome.

Anyone wishing to make a donation should contact Ms Ong Suan Yi at 60-3-21611000 or email *ong@malaysiaaccountant.com*

Donations can be made by direct credit to the University of Otago

Foundation For Malaysia account as follows:
Name of Bank: Public Bank Berhad
Address of Bank: KL City Main Office, Ground Floor, Menara Public Bank, 146 Jalan Ampang, 50450 Kuala Lumpur
Current Account (MYR) No: 311-859-6401
Swift Code: PBBEMYKL

Cheques may be made out to the University of Otago Foundation for Malaysia and mailed to the following address:
University of Otago Foundation for Malaysia
C/- O & M Management Consultants Sdn. Bhd. (38053 M)
Unit C-6-5, 6th Floor, Block C,
Megan Avenue II,
No. 12, Jalan Yap Kwan Seng,
50450 Kuala Lumpur.

Donors will receive an official receipt from the foundation suitable for tax purposes.

The University is grateful to the foundation for the support it gives to the current Malaysian student community via the prize awarded annually to a student who has made an outstanding contribution to the wellbeing of Malaysian students on campus. The recipient in 2012 was Yang Safia Binti Mior Azli, a second-year student majoring in English and TESOL, for her work with the Malaysian Students' Association.

The Alumni Office is going digital.

We're trying our best to add emails to all our alumni records so that we can communicate with you digitally. If you have an email address, please update your contact information on Your Otago Link *http://alumni.otago.ac.nz/YourOtago* or simply send an email to *database.alumni@otago.ac.nz*

Upcoming events, reunions and university celebrations

Alumni events 2013

March

Wed 6 March	Singapore
Sat 9 March	Kuching – all NZ Universities event
Wed 13 March	Kuala Lumpur – all NZ Universities event

Apr

Sat 13 April	Sydney
Tue 16 April	Brisbane
Thurs 18 April	Melbourne

May

Tue 14 May	Hamilton
Wed 15 May	Tauranga
Fri 17 May	Napier

June

Date TBC	Wellington – Māori event
Date TBC	Hong Kong
Date TBC	Shanghai

July

Date TBC	London

September

Fri 6 Sept	Queenstown
Date TBC	Dunedin

October

Date TBC	Edmonton
Date TBC	Toronto

November

Date TBC	USA – New York City

Some dates are still in the process of being confirmed. Please visit the Alumni website for the latest updates *http://alumni.otago.ac.nz/NewsEvents*

Reunions

If you are planning a reunion, email *functions.alumni@otago.ac.nz* for assistance and the latest reunion guide.

2013

University of Otago Christchurch School of Medicine
40 Years: The Christchurch Experience
20-22 February, Christchurch.
Contact Virginia Irvine
virginia.irvine@otago.ac.nz or visit *www.otago.ac.nz/christchurch*

MB ChB class of 1955 reunion
8-10 March, Christchurch.
Contact John Musgrove
john.musgrove31@gmail.com

MB ChB class of 1963 reunion
15-18 March, Wellington.
Contact Peter Dukes
pmdukes@clear.net.nz

MB ChB class of 1953 diamond jubilee reunion
22-24 March, Napier.
Contact Bruce Ritchie
bruceritchie5@gmail.com

BDS class of 1968 reunion
22-25 March, Queenstown.
Contact Don Wallace
donwal@xtra.co.nz

School of Physiotherapy centenary and conference
3-6 April, Dunedin.
www.physio.otago.ac.nz
Please contact *database.alumni@otago.ac.nz* to check that you are on the mailing list.

Physiotherapy class of 1953 dinner
4 April, Dunedin.
Contact Jacqueline Gardiner
jacgardiner@vodafone.co.nz

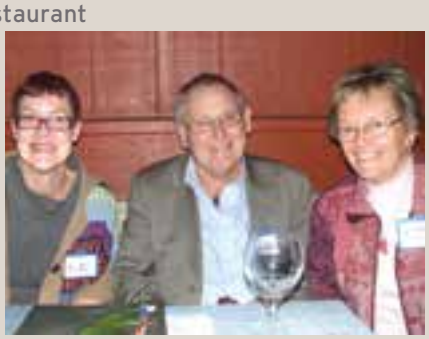
School of Pharmacy's 50th jubilee
12-14 April, Dunedin.
Contact *database.alumni@otago.ac.nz*

Recent alumni events

Christchurch, 6 September, Chateau on the Park

Edmonton, 30 October, Hoskins' Residence

Toronto, 5 November, Hemingway's Restaurant



London, 8 November, New Zealand House

National School of Surveying 50th anniversary celebration
30 August, details tbc.
Contact *surveying@otago.ac.nz*
Otago Medical School class of 1983, 30th anniversary reunion
10-13 October, Melbourne, Australia.
Contact Michael Dally
mdally3779@gmail.com
Medical class of 1973 reunion
October 2013, Napier.
Contact Karen, 06 833 7440. Visit our Upcoming Events and Reunions webpage for the latest details.
Arana College 70th anniversary
Date tbc, Dunedin.
Contact *database.alumni@otago.ac.nz*

2014

MB ChB class of 1959/60
March 2014, Waitangi.
Contact Tanya Cant *trcant@gmail.com*
MB ChB class of 1974 reunion
Date tbc.
Contact Judy Bent at *JudyB@adhb.govt.nz*

2015

MB ChB class of 1964 reunion
8-11 April, Dunedin.
Contact Colin Fitzpatrick
cbfitz@ihug.co.nz or Alex Dempster
alex.dempster@sclabs.co.nz
Studholme College centenary celebrations and reunion
Date tbc.
Contact *database.alumni@otago.ac.nz*
Carrington College 70th anniversary reunion
Date tbc.
Contact Robyn Madden
robyn.madden@otago.ac.nz

New Year Honours

Otago alumni recognised in the New Year Honours include:

Knight Companion to the New Zealand Order of Merit (KNZM): Sir **Julian Smith**, for services to business.

Companion of the New Zealand Order of Merit (CNZM): Professor **Ivan Donaldson**, for services to neurology.

Companion of the Queen's Service Order (QSO): Mrs **Paula Rose,** for services to the New Zealand Police and community.

Officer of the New Zealand Order of Merit (ONZM): Dr **John Craig**, for services to conservation; Ms **Mary Devine**, for services to business; Mr **Acton Smith**, for services to business.

Member of the New Zealand Order of Merit (MNZM): Mr **Hamish Bond**, for services to rowing; Mr **Nathan Cohen**, for services to rowing; Mr **Laurence Cooney**, for services to business, law and the community; Ms **Phillipa Gray**, for services to cycling; Ms **Alison Marshall**, for services to the community; Mr **Geoffrey Mirkin**, for services to the community; Mr **Ian Philips**, for services to New Zealand-United States relations; Mr **Jacob Rajan**, for services to theatre; Dr **David Taylor**, for services to pathology and Māori.

Queen's Service Medal (QSM): Mr **Michael Andrewes**, for services to opera; Mr **Stewart Harvey**, for services to heritage; Mr **Keith Scholes**, for services to athletics; Mr **Jonathan Tanner**, for services to hockey.

Staff alumni

We are keen to keep in touch with former University of Otago academic and professional staff members all over the world! If you are retired or your career has taken you away from Otago and you would like to be kept informed about staff alumni news and events, please tell us your contact details by registering at *www.otagoalumni.ac.nz* emailing *database.alumni@otago.ac.nz* or telephoning 03 479 4516.

Further information for all upcoming events, reunions and celebrations, including RSVP details, can be found on the Alumni and Friends webpages at *alumni.otago.ac.nz/events* Alternatively contact *functions.alumni@otago.ac.nz* or phone 03 479 4516.

You can activate your own @otagoalumni.ac.nz email address by registering as a member of Your Otago Link. Visit the Alumni and Friends webpages at *www.alumni.otago.ac.nz*

Alumni stories

In this issue we are featuring stories from some of our Alumni Scholarship recipients.

Susan Tyree
(BA, 2011)

"I arrived at the University of Otago from Invercargill at the beginning of 2008. I've always had a passion for trying to understand the way our minds work, so my first year of studies was filled with psychology, sociology, philosophy and gender studies, with some other interests thrown in such as mathematics and French.

"It was during this year I discovered neuropsychology, a field which I have now grown to love.

"In 2010 I completed a Bachelor of Arts in psychology and received a summer studentship to carry out research on the neurobiology of anxiety. Having submitted my thesis for my Master of Science degree late in 2012 I am now looking forward to exploring postgrad opportunities in Paris where I am hoping to do my PhD.

"My first year of university education was funded by an Alumni Undergraduate Scholarship which set me on the path towards the wealth of opportunities Otago has provided me with.

"I am very grateful to the alumni who made this possible for me."

Helen Owen
(BSc (Hons), 2011)

"I am very appreciative of the support I received from the Alumni Undergraduate Scholarship. The financial head-start allowed me to work hard across all my courses and, as a

THE UNIVERSITY OF OTAGO MAGAZINE IS AVAILABLE ONLINE AT

www.otago.ac.nz/otagomagazine

and is sent – by post or email – to Otago alumni and friends wherever they are in the world.

Please email **database.alumni@otago.ac.nz**

- to update or change delivery address
- to read the Magazine and other alumni communications electronically
- to receive an email notification when a new issue of the Magazine is placed online
- to receive just one "household" copy of the Magazine

KEEP IN TOUCH

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University of Otago
PO Box 56 Dunedin

Physical address
Alumni House
103 St David Street
Dunedin

Tel 64 3 479 4516
Email alumni@otago.ac.nz
Web www.alumni.otago.ac.nz

result, I was invited into the honours programmes for both psychology and languages. I realised throughout my first year that I was passionate about social cognition and interested in the relationship between language and personality.

"In 2011 I completed a BSc (Hons) degree with first class honours in psychology. My dissertation involved examining language differences between truths and lies, which I am now exploring further in my PhD. I am also investigating the relationship between simplistic writing and perceptions of author honesty as well as whether social media, such as Facebook, that constrain our speech, also make us more 'honest'. I am thoroughly enjoying research so far and sincerely thank the alumni of the University of Otago."

Andrew Tringham
(LLB, BCom, 2010)

Winning an Alumni Scholarship in 2005 gave me the opportunity to study at Otago, where I spent five years working towards a Bachelor of Laws and a Bachelor of Commerce, majoring in economics. After graduating I worked as a senior tax consultant for KPMG in Wellington, gaining valuable corporate consulting and compliance experience. In July 2012 I relocated to Auckland where I now work as a barrister associate at Old South British Chambers, specialising in acting for clients facing serious tax problems. Balancing for taxpayers, an often very unequal contest with a very powerful arm of the state, is challenging but rewarding.

"During my alumni scholarship year at Otago, I was invited to attend the APEC conference in Korea, which introduced me to the Asia New Zealand

Ever thought about bidding to host an international conference in Dunedin, but were unsure where to begin? We have the tools to help.

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- Arranging letters of support from influential figures
- Help design and host familiarisation trips for you and/or your committee
- Provide promotional material to present Dunedin as a destination to the conference committee and delegates
- Tourism Dunedin can work with Tourism New Zealand on your behalf should you qualify for further funding assistance from the Conference Assistance Programme (CAP)

For further information and to find out just how easy it is, please contact:

Bree Jones
Dunedin Convention Bureau
Tourism Dunedin

Email: bjones@tourismdunedin.co.nz
Phone: 03 471 8834

dunedin
www.DunedinNZ.com

Foundation. I am now actively involved with the foundation's Young Leaders' Network initiative. The network helps to develop and co-ordinate projects, events and exchanges designed to equip New Zealand youth with first-hand experience of Asia, forging valuable links and understanding of the Asian region and cultures."

Olivia Faull
(BSc, BPhED (Hons), 2012)

"I am a sport and exercise scientist and am most fortunate to study what I love, made possible through the support of individuals such as the Otago alumni. In 2011 I completed a double degree in exercise science (BPhED) and neuroscience(BSc), and I am now on a Commonwealth Scholarship at the University of Oxford, studying towards a PhD in clinical neuroscience.

"I would never have been able to pursue further study overseas without the support of funding such as the Alumni Undergraduate Scholarship.

"From a young age I found my passion in sport. I gave everything a go, from basketball to swimming, touch rugby to tennis, before settling on rowing, netball and lifesaving for my high school years.

"Since school I have undertaken multisport and endurance running; the sense of achievement after running the magical marathon distance of 42.2 km is pretty hard to beat. I have also loved competing in the Coast to Coast race and crossing the South Island over the last few years. There is a similar race that crosses Scotland which I have my eye on while I'm over here!

"I came to University in a rare position of knowing exactly what I wanted to do: I wanted to study the science behind sport, how the brain and body interact to produce incredible feats of human achievement.

"My honours project at Otago looked at brain blood flow in rowers and I am now using high-strength magnetic resonance imaging (MRI) at Oxford to study respiratory centres in the brainstem.

"Neuro-exercise physiology is a relatively new field, full of exciting developments and endless opportunities. Bringing our growing understanding of brain function toward exercise is an awesome co-operation of sciences and potentially mutually beneficial to both areas.

"Despite huge advances within sport science, a communication breakdown seems to exist between the scientists and the coaches. The lack of a common, easily shared language means that incredible discoveries are yet to be used in athletic training.

"Bridging the gap between the laboratory and field is where I really want to make a difference. During my last two years in Dunedin I was a researcher for the newly-established High Performance Sport New Zealand website, translating scientific research into a coach-friendly form, without losing the scientific integrity.

"Putting seemingly inaccessible scientific language into a manageable form brings me back to why I study exercise in the first place, attempting to turn something foreign into something useful.

"Studying and participating in sport has given me incredible opportunities to discover not only who I am, but also to construct a window through which to view the world. Not 'just a game', sport lets us explore our values, face our limits and set goals that challenge and inspire.

"I am a proud alumna of the University of Otago and am incredibly grateful to Otago alumni for their support."

Diplomatic Ladies

New Zealand's Unsung Envoys

Joanna Woods, December 2012

Hostesses to prime ministers and princes, and witnesses to revolution and war – diplomatic wives are often in the front line of their country's diplomacy. Yet their presence has been ignored by historians and their testimony rarely heard.

Diplomatic Ladies tells the true story of New Zealand's diplomatic wives and daughters over nearly 100 years, starting with the appointment of New Zealand's first High Commissioner in 1905 and ending on 11 September 2001.

Based on private letters, MFAT archives and personal interviews, this book gives a unique insight into the workings of the diplomatic world. It also records such little-known episodes as the perils faced by spouses in Saigon and their role during the first Gulf War.

Writing with all the authority (and irreverence) of an insider, the author does not shrink from recounting a few incidents in which wives or partners have been less than diplomatic. Nor, as a former diplomatic wife, does she pull any punches about the downsides of a diplomatic career.

Joanna Woods was born in Dublin, but has been based in New Zealand for many years. During her husband's diplomatic career, she lived in Bahrain, France, Greece, Iran, Italy, the United States and Russia.

Landfall 224

Edited by David Eggleton, November 2012

***Home* is a classic *Landfall* "Open House" issue, where anything and everything goes. Submissions poured in on every topic conceivable and the result is a feast of good writing and imagination.**

Courtney Sina Meredith, Emma Barnes, Kay McKenzie Cooke, Tony Beyer and C.K. Stead (among others) have new poems exploring topics as disparate as the body, the corner dairy, "cloud" technology, silent film stars and more. There is also a wealth of short stories: Vivienne Plumb's "The Cabin Trunk", David Herkt's story set in the rarefied world of the uber-wealthy at the height of the financial crisis and Laura Solomon's futuristic piece about a Kiwi cult that breeds "shumans" (sheep/humans).

There are considered reviews by John Horrocks, Peter Simpson and others of recent New Zealand books and Martin Rumsby investigates moving image installations. As for art, Anita DeSoto's other-worldly paintings and Darryn George's unique blend of geometric abstraction and kowhaiwhai offer contrasting samples of contemporary painting. And *Landfall 224* announces the winner of the Landfall Essay Competition 2012.

For further information and more books: Otago University Press
Email *university.press@otago.ac.nz* or visit *www.otago.ac.nz/press*

Books by Otago alumni

The Postmarks of Ross Dependency, by Mark Jurisich, Royal Philatelic Society of New Zealand, Wellington. August 2012.

Meet me at Begg's, by Clare Gleeson, Ngaio Press, 2012.

Mothering Matters: the sources of love, and how our culture harms infants, women, and society, by Peter S. Cook, Freedom Publishing, Balwyn, Vic, 2011.

Modelling and Quantitative Methods in Fisheries, 2nd Edition, by Malcolm Haddon, a Chapman & Hall Book, CRC Press, 2011.

A Clinical Guide to Oral Diagnosis and Treatment Planning, by Kevin Yip and Roger Smales, London: British Dental Association, 2012.

Welcome to Our World? Immigration and the Reshaping of New Zealand, by Paul Spoonley and Richard Bedford, Dunmore Publishing, October 2012.

Diverse Nations, Diverse Responses. Approaches to Social Cohesion in Immigrant Societies, edited by Paul Spoonley and Erin Tolley, McGill-Queen's University Press, October 2012.

New Zealand's China Experience, edited by Chris Elder, Victoria University Press, December 2012.

Elemental: Central Otago Poems, by Brian Turner, Godwit/Random House, New Zealand, 2012.

Specters of Violence in a Colonial Context, New Caledonia, 1917, by Adrian Muckle, University of Hawai'i Press.

Alumni:

If you have recently published a book email the editor at **mag.editor@otago.ac.nz**

Sign of the times

Photo: Alan Dove

Compared to a European signature, the tā moko as signature has a dramatic personality. Traditionally a mark of whakapapa and mana (identity and authority) etched on the body, the tā moko became used as a signature etched on paper, marking the person's authority within a new era of developing relationships between Māori and Pākekā in the early contact period of New Zealand's history.

The practice of rangatira using their tā moko as signature on documents became more commonly used in the 1830s when land transactions began to accelerate, but was first noted by the Anglican missionary, Samuel Marsden, in 1815.

The Hocken Collections has recently acquired further documents signed with tā moko signatures to add to the archival collection. The documents record agreements between Kāi Tahu and Pākekā relating to ownership and use of land and resources.

In some cases these tā moko signatures are the only known images of the rangatira depicted, making them especially valuable to descendants. The Hocken holds documents with tā moko signatures of Kāi Tahu rangatira Taiaroa, Tuhawaiki, Karetai and Topi Patuki (Patuki did not have tā moko, but is represented by drawings of his face), as well as the tā moko signatures of Ngāpuhi rangatira Hongi Hika and Rewa. There is also a tā moko signature of "John Parker or Omee", who we have not yet been able to positively identify.

Some of the interesting features of the recently-acquired documents include a record of what Māori wanted and found useful from the deal – such as money, boats, axe heads and European clothing – but the compensation is trivial in comparison to the potential value of the land and resources. The documents also record examples of phonetic spelling of Māori names and place names, perhaps giving evidence of the pronunciation of the Kāi Tahu dialect.

None of the deeds are bi-lingual (in both Māori and English) like later land sale documents. It is, therefore, interesting to speculate how each side regarded the agreements. Were they a convenient short-term exchange of goods for the use of a piece of land or regarded as a more permanent arrangement?

Some of these documents were written and signed in Sydney, when Kāi Tahu rangatira were visiting, but shorter ones may have been written and signed in New Zealand. Sydney solicitor John Stephenson Clarke is associated with many of the examples held at the Hocken Collections and we believe the recent acquisition originated from his firm's records.

Although these land agreements were invalidated by NSW Governor Gipps' declaration in January 1840, claims for compensation were heard by the land claims commissions which were first established in 1841. The hearings took many years and are documented in a series of publications. The fact that original documents are still coming to light suggests that there were very many of them signed, possibly many more than there were ever post-treaty claims made.

Anna Blackman, Curator of Archives and Manuscripts, Hocken Collections Te Uare Taoka O Hākena

Jeanette Wikaira-Murray, Māori Resources Portfolio Librarian

We acknowledge the generosity of the descendants of Tuhawaiki in allowing us to publish these images.

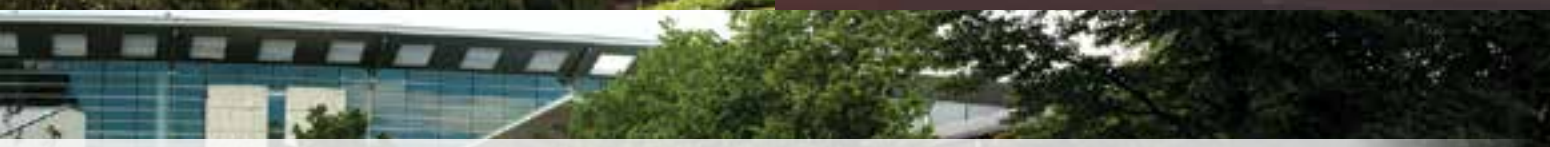
HOCKEN EXHIBITIONS

The Liquid Dossier: 2012 Frances Hodgkins Fellow Nick Austin
15 February – 13 April

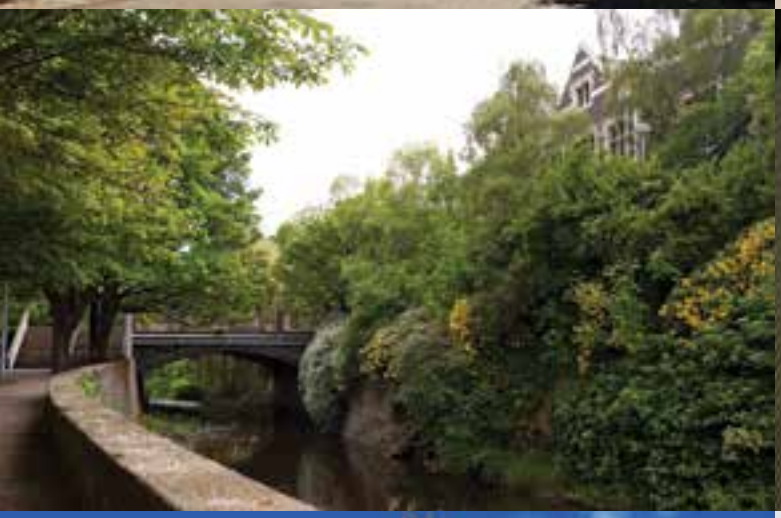
Undressing the Pacific:
Shigeyuki Kihara
20 April – 8 June

A Micronaut in the Wide World:
The Imaginative Life and Times of Graham Percy
15 June – 11 August

… the Otago campus?



The Telegraph newspaper recently rated the University of Otago as one of the world's most beautiful universities (in the company of Oxford, Cambridge, Harvard, Yale, Princeton and Sydney, among others). We agree …
www.telegraph.co.uk/education/expateducation/9480575/Beautiful-universities-around-the-world.html?frame=2312110



DOES HAPPINESS COME FROM RADICALLY CHANGING OURSELVES?

MY PLACE IN THE WORLD

Today we have many options to enhance ourselves – to make ourselves smarter, stronger or more attractive through such things as surgery or drugs.

Stacey Broom believes none of the above are the best ways of making us happier, or improving our wellbeing. Instead, to enhance our own lives, we should strive to enhance the world through charitable actions, rather than turning to quick fixes.

Stacey turned to Otago's internationally renowned Bioethics Centre to support her considerations of enhancement and happiness. She found the Centre's interdisciplinary expertise has broadened her philosophical background as she completes her PhD.

It's certainly made her happy.

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