

SPRING 2013

# Victorious

MAGAZINE FOR FRIENDS AND ALUMNI OF VICTORIA UNIVERSITY OF WELLINGTON



**Planning for disaster**

**The beauty of nanoparticles**

**Rethinking 'normal is best'**



# An electrifying spectacle

Creating visual music using wireless energy has sparked the enthusiasm of staff and students across Victoria.

An ongoing collaborative project between Victoria University's School of Design, School of Engineering and Computer Science and Te Kōki New Zealand School of Music is investigating the sonic properties of Tesla coils and robotic instruments.

Tesla coils, invented by Serbian-American Nickola Tesla in the 1890s, produce high-voltage electricity and have inspired many kinds of research. In 2012, media artist Anne Niemetz, engineer Josh Bailey and sonic artist Dugal McKinnon—who are all Victoria staff members—brought musicians and engineers together to create performances with a Tesla coil known as Pyramider.

Built by Josh and Patrick Herd, an engineering colleague at Victoria's School of Engineering and Computer Science, Pyramider uses a water-cooled, computer-controlled, high-voltage

transistor to pump out musical two-metre arcs of electricity.

The system rapidly heats the air around the arc; the air moving is what is heard as sound.

“What’s interesting is that the air around the arc is constantly changing, so the sound you hear is slightly different each time—even if the same note is played,” says Josh.

“We are exploring musical compositions specifically intended to be played on a coil—taking advantage of the coil sound, rather than just playing a cover of an existing composition.”

The project has grown into an experimental playground for science and arts, and now includes engineers, contemporary composers, designers and artists.

Made up of lecturers and students with an interest in industrial arts and high voltage, the group is one of only a few worldwide exploring the Tesla coil as an instrument for producing contemporary music.

Blake Johnston, a sonic arts student, developed a customised interface for Pyramider as part of

a summer research project, allowing the Tesla coil to be controlled like a music instrument.

Musicians are able to press a key on a synthesizer keyboard and have the corresponding note play on the coil.

In addition to the Tesla coil, the group has been exploring the sonic properties of robotic instruments such as MechBass—a robotic bass guitar resulting from an Honours project by engineering student James McVay—capable of playing faster than any human on the planet.

The exciting results of these interdisciplinary collaborations were shared with the public at ‘Forks in Sockets’, an annual event organised by the University in September.

“Nikola Tesla may have had other things in mind when he came up with a Tesla coil, but it provides us with an exciting platform for this kind of experimentation and cross-disciplinary collaboration,” says Anne.

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# From the Vice-Chancellor

Alumni and friends, at the beginning of the year I announced that I would not seek a third term as Vice-Chancellor at the close of my current term in February 2014. As I near the end of my tenure, I would like to say what an honour it has been to lead this University during such an extended period of change, growth and success.

I am continually amazed and humbled at what our staff and students achieve, both collectively and as individuals, and it has been a great privilege to share in and celebrate those achievements over the last nine years.

One of the most important things I have learned as Vice-Chancellor is that because there is no limit to what our staff and students can achieve, there should be no limit to Victoria's ambition.

Victoria is now officially ranked the number one university in New Zealand for research quality—reflecting the significant impact we are making. We have established deep and productive relationships with government, business and our communities, and offer our next generation of leaders a first-rate experience, both inside and outside the classroom.

Our historical strengths in humanities, commerce and law have been complemented by our growing reputation as a leader in the sciences and, as an institution, we are considerably more outward-looking and internationalised. Victoria is making real strides to becoming a university of its city, its country and the world.

We have seen some outstanding successes. These include numerous awards for our staff, students and alumni—a significant number at the very highest level, including, in October, Victoria creative writing graduate Eleanor Catton winning the prestigious Man Booker Prize—a dramatic redevelopment of some of our facilities, and important research centres established, such as the New Zealand Contemporary China Research Centre and the New Zealand India Research Institute. We have a new Faculty of Engineering—no mean feat in an environment where few new faculties are added—and we have introduced new courses and teaching methods that keep pace with the latest global and technological developments.

While it has been a delight to witness these achievements, further them and lead the University forward, I also believe that leadership renewal is vital for the continued progress of any institution.

I am confident I am handing over Victoria in good shape and, like you, I look forward to its continued successes. Kia ora tatou, and I wish you all the very best.



**Professor Pat Walsh**  
Vice-Chancellor

*The Tesla coil, Pyramider, in action at 'Forks in Sockets'.*

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# Small talk no trivial matter

**Small talk is puzzling to people from some cultures, but New Zealanders use it to build rapport.**

Over the last 18 months researchers from Victoria's Language in the Workplace Project (LWP) have been analysing conversations on building sites and in eldercare facilities to help develop teaching materials for refugees and new migrants.

The two workplaces were selected to provide real-life examples of conversations in areas where refugees and new migrants frequently find employment.

"It's important that refugees and migrants understand the function of small talk to help them relate appropriately to their colleagues," says Project Director, Professor Janet Holmes.

To capture the conversations, digital recorders were strapped onto armbands to make recording as unobtrusive as possible, with volunteers able to control the devices themselves.

"It was interesting that in eldercare facilities the caregivers used small talk not only to establish rapport, but also to make potentially embarrassing situations such as showering more comfortable for the resident," says Janet.

"Many of the caregivers knew a lot about their clients' lives and seemed to genuinely care about them. This contrasted with overseas studies which suggest that caregivers are primarily task oriented, with a tendency towards patronising language."

The Deputy Director of the project, Dr Meredith Marra, says that humour is an essential part of being accepted in the building community.

"It's common to be teased and workers are expected to take a certain level of jocular abuse—once they've been working there a while they are expected to return the abuse as well."

She says the team was surprised at the level of awareness of hierarchy evident in talk on the building sites.

"You certainly know who the boss is by the language that is used. Even the teaching of skills is approached differently depending on the status of the person being taught."

The research was funded by Teachers of English to Speakers of Other Languages Aotearoa New Zealand (TESOLANZ) and the Ministry of Business, Innovation and Employment.

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# Story of servicemen versus the state



**At 19, most young men are looking for adventure.**

This was certainly true for the young servicemen headed to the Pacific to participate in a nuclear bomb testing programme in the 1950s.

Decades later, however, many of the men began to attribute developing illnesses and diseases to radiation exposure, despite the Government's continuing assertions that they had been safe.

It is the men's fight for compensation that Victoria University anthropologist Dr Catherine Trundle is writing about in a new book.

Catherine's book will canvass the experiences of 60 test veterans and their widows from New Zealand and the United Kingdom, some of whom joined a group action seeking compensation from the British government for illnesses caused during military service.

As part of her research, Catherine discovered what it was like for New Zealand servicemen who toured the nuclear testing zones on navy ships, collecting weather samples.

Many believe that they were exposed to radiation when they swam in the lagoon near the bomb detonation site, drank the rainwater collected on the ships and ate locally caught fish during the tests, she says.

They also remember their superiors assuring them that the level of nuclear fall-out in the environment was safe.

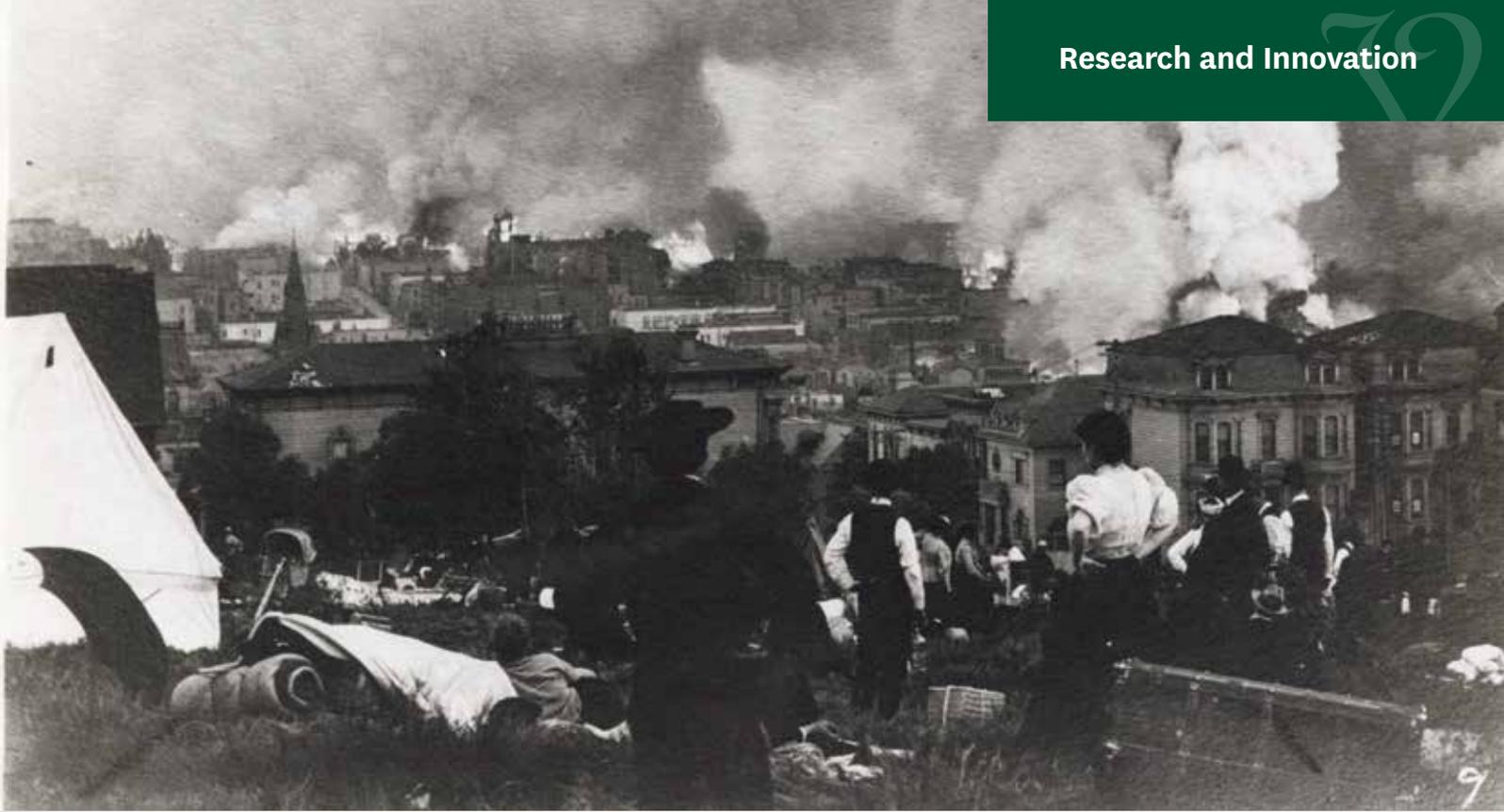
These accounts, as well as details of the veterans' legal fight to have the state accept culpability and acknowledge their health problems were caused by radiation exposure, will be at the heart of Catherine's book.

The fight has been unsuccessful to date, with the servicemen finding it difficult to access archival records that might support their case. These records were either destroyed, were never collected or are still classified.

"Governments also want definitive scientific evidence linking radiation exposure during service to particular medical conditions. But there are limits to what science can prove when it comes to low-dose toxic exposure," she says.

"I think this case helps address an important moral and political question—how much risk should servicemen be exposed to in the armed forces?"

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*In the 1906 earthquake, San Francisco's hilltop parks provided a vantage point, allowing local communities to respond quickly to the advance of the fires. Photo supplied by Bancroft Library.*

# Planning for disaster

**According to the unwritten laws of human nature, it often takes a crisis to bring about change.**

However, Professor Penny Allan and Martin Bryant hope to stimulate new innovation in urban design well before cities experience a natural disaster.

The landscape architecture academics from Victoria's School of Design have spent the last five years analysing the resilience of cities after earthquakes. What has helped residents to adapt quickly and what part can design play in earthquake preparedness?

Earlier in the year they won the New Zealand Institute of Landscape Architecture's top award—the Charlie Challenger Supreme Award for landscape architecture planning—for 'Earthquake Cities on the Pacific Rim', a series of essays on earthquake disaster management in four cities in four continents.

The researchers travelled to previously quake-damaged cities—San Francisco in the United States (1906), Concepción in Chile (2010), Kobe in Japan (1995) and Christchurch (2011).

"Our research began in 2009 before the earthquakes in Christchurch, Chile and Japan struck," says Penny, "and we found a large gap in the literature—now there is significant international interest in our work."

Penny says San Francisco proved reasonably earthquake-resilient.

"Residents were able to gather in parks and support each other locally, and the hillside location of parks meant that when the city

caught alight people were able to see the fire approach and assess the danger."

In contrast, most of the open space in Japan's traditional cities is associated with palaces and shrines.

"Without a network of open space options, neighbourhoods became places of entrapment and communities had nowhere safe to gather and share information," says Penny.

Wide streets were another advantage in San Francisco, with people setting up temporary kitchens in front of their homes, creating an instant social network.

In Concepción, residents barricaded street corners with old oil cans and bricks, to protect themselves from crime and looting.

"The grid-like structure of the streets enabled them to be broken down into smaller modules, and smaller communities emerged. Together, they were then able to strategise the procurement of water, food and medicine."

Another important consideration in urban design is ensuring there are multiple exits in an emergency. In Concepción, for example, there was only one way for people to reach higher ground, creating bottlenecks. Additionally, the hospital was separated from the main residential areas by bridges that collapsed in the earthquake, cutting off access.

Penny says the silver lining of disasters is the creativity and innovation they encourage. Ten years on from the Kobe earthquake, spaces have been set aside for a series of smaller parks leading to a larger park, each with their own water pump and clock.

One has been designed by the community and includes fruit trees, cooking facilities and seats that can be converted into toilets, enabling residents to gather in an emergency and support themselves until help arrives.

Although disasters offer an opportunity to make places better, Penny says this doesn't often happen, due to a lack of funds and vision or a policy of replacing like with like.

Recognising the problems that occurred in places like Kobe, government agencies in Christchurch consulted the community early after the 2011 earthquake and have since advocated 'betterment'.

"However, the focus on risk aversion means that rebuilding will just be code-complying updates on what was there before, rather than re-thinks.

"We have found that the real innovation comes from the community. The Christchurch Gap Filler initiative, for instance, in which vacant sites have been activated with creative projects, has made the city a more vibrant place."

In the next stage of their research, Penny and Martin will examine how cities can be retro-fitted for resilience.

"Rather than being employed in the reconstruction phase after a disaster, we'd like to see urban designers getting involved right now."

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# Embracing a musical treasure



*Reuben Bradley (percussionist), Nick Tipping (bassist) and Ben Wilcock (pianist) were among the musicians who played in the free lunchtime jazz concerts to celebrate the acquisition of Rattle.*

Victoria has expanded its publishing activities by acquiring the iconic New Zealand music label, Rattle.

Rattle has released the music of many of New Zealand's most talented performers and composers, including Michael Houston, John Psathas and the New Zealand String Quartet.

The label now sits alongside Victoria University Press, creating a unique art-music label ideally placed to take advantage of the emerging convergence of print and music publishing.

Victoria University Press Publisher Fergus Barrowman says the acquisition of Rattle plays on the strengths of both entities as well as offering new digital opportunities.

"It's a very exciting new relationship. As publishing continues to move towards increased online activity, adding recorded music to our capability marks a natural progression."

Steve Garden, a sound engineer who has been the driving force behind Rattle during the past 20 years, continues in his role recording, mixing and editing ground-breaking New Zealand music.

"Steve's expertise, connections and, of course, his reputation as one of New Zealand's most trusted and respected recording collaborators, are invaluable," says Fergus.

Victoria University Deputy Vice-Chancellor (Research) Professor Neil Quigley says Rattle will be strengthened by becoming part of Victoria.

"Ultimately, bringing Rattle into Victoria will benefit both New Zealand artists and our country's creative industries.

"We now have a stronger resource to capture and publish the endeavours of our top musicians and writers, which will uphold Victoria's long tradition of excellence in the arts."

Rattle artist, composer John Psathas, also a Professor at Te Kōkī New Zealand School of Music (NZSM), says Rattle has sustained and nurtured the work of many of New Zealand's unique composers and performers.

"Underlying Rattle's motivation from the start has been a deep respect for our musical artists and their work. This value is the driving force behind the intense energy of Rattle and I'm confident this will continue with Victoria's support."

To celebrate the new relationship, a series of free lunchtime jazz concerts were held featuring artists from the NZSM, with further celebration events planned in the coming months.

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# Māori language app goes global



*Tabitha McKenzie demonstrates the Kura App.*

An innovative Māori language mobile phone application (app) launched in June is proving popular, with more than 6,000 downloads worldwide in its first two months.

The Kura app, developed by Victoria University's Te Kura Māori in the Faculty of Education, also reached the top 10 in the free education apps section on iTunes in the same period.

Kura caters to people with some degree of proficiency in te reo Māori by providing a platform that's not only educational, but also engaging.

Te Kura Māori lecturer Tabitha McKenzie says Kura was developed to plug a gap in the market but the interest and uptake of the app has exceeded all expectations.

"Feedback has been really positive and users say it makes them want to learn. The team has certainly achieved its aim of creating an educational, fun and challenging way to learn te reo."

The app includes a range of games modules that aim to improve knowledge and understanding of

the Māori language. Users are timed and can pit their skills against others via a scoreboard. Also part of the fun is building an avatar, or alter ego, which involves choosing hair, eyes, nose, mouth, clothes and even accessories.

The team spent most of last year working on the concept with local app developers. It was initially envisaged as a resource solely for teachers of Māori language, but the scope was soon widened to include a more generic audience.

"Our primary audience is teachers at Kura Kaupapa (language immersion schools), but we believe everyone should be able to learn te reo Māori, which is why we decided to make it publicly available and free to download," says Tabitha.

The Kura app, believed to be a first for New Zealand, is available to download for Apple and Android, through the iTunes Store and Google Play.

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New Zealander Mani Bruce Mitchell, who is a prominent member of the international intersex community. Photo: Grant Lahood

## Rethinking ‘normal is best’

Transgender and intersex New Zealanders are gaining legal recognition, but some big issues remain, says a Victoria researcher.

Associate Professor Elisabeth McDonald, with help from Summer Research Scholarship student Polly Johnson, is updating the 2008 Human Rights Commission report on discrimination against transgender and intersex people, a study that was a world first when it was published.

For the transgender community—those whose gender identity is different from their physical sex at birth—one pressing legal issue is the difficulty of changing documents to accurately reflect their gender identity.

Elisabeth says in the six years since the report, *To Be Who I Am*, was published, this has got easier for both transgender and intersex New Zealanders (those whose bodies fall between male and female).

“Both groups can now change their gender on a passport by statutory declaration, rather than going through the courts, and they can choose between male, female or indeterminate gender when applying for a driver’s licence.”

She says the Marriage Amendment Act, which allows two people to marry ‘regardless of their sex, sexual orientation or gender identification’, has significant implications for transgender people who wish to remain married after having their gender identity legally changed.

One issue that remains unresolved, however, is access to gender reassignment health services, with relatively few practitioners available to carry out the treatment and little public funding to pay for it.

“Discrimination is another concern,” says Elisabeth.

“Prisons are particularly fraught—how do you cater for a person who identifies as one gender but has the physical body of another? There is no simple answer and many views on what should happen.”

Elisabeth works closely with Mani Bruce Mitchell, a New Zealander who is a prominent member of the international intersex community and CEO of the Intersex Trust. When Mani was born in rural King Country, doctors first told the parents to raise their child as a boy. After further medical investigations, the parents renamed Bruce ‘Margaret’ and agreed to surgery to feminise her body. Mani was in her 40s when she discovered her medical records and the details of her intersex birth.

She says examining the thinking around medical interventions on the one in 2,000 babies of indeterminate sex born each year is arguably the most urgent issue for the intersex community. The controversial treatment model was pioneered by expatriate sexologist John Money, who believed that gender was the result of nurture, not nature.

“We need to get past the shame and secrecy that has surrounded this issue, challenge the idea that

‘normal is best’ and give parents more support to understand what is right for their newly born intersex child,” says Mani.

“You might make the best guess about whether a child is male or female, but as they grow up it works out differently. What we don’t want is brutal medical intervention that is irreversible.”

In July, Elisabeth and Mani discussed New Zealand’s progress in treatment of intersex people at the ‘Law on the Edge’ conference in Canada, an event jointly run by the Canadian and Australasian Law and Society Associations.

They also screened the award-winning film *Intersexion*, a New Zealand made documentary in which intersex people from around the world, including Mani, tell their stories.

Mani is a guest lecturer for the third year Law and Sexuality course Elisabeth teaches and the two collaborate in a range of other ways.

“As an academic, it’s easy to lose touch with people’s lived experience. It’s important to me to interact with people whose lives may be changed by the work I am doing,” says Elisabeth.

“Intersex people can be invisible,” says Mani. “It’s hard to bring about changes unless we can rely on people outside the community to help.”

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From left: Andrew McGrath, Angelique Faramus, Xuan Hao Chan, Ben McVey, Dr Anna Henning, Christoph Hasenoehrl, Dr Soshan Cheong, Lucy Gloag, Chenlong Yu, Moritz Banholzer, Dr Richard Tilley

# Big results from tiny particles

Creating and manipulating particles made of just a few atoms is all in a day's work for Dr Richard Tilley.

Richard, an Associate Professor in Victoria's School of Chemical and Physical Sciences, leads the School's nanoparticle and quantum dot research group.

Detecting and treating cancer tumours, finding sustainable energy solutions and creating new products for use in the pharmaceutical and automotive industries are just some of the applications the group is focusing on.

Since his arrival in 2003, Richard, who is also a principal investigator at the MacDiarmid Institute for Advanced Materials and Nanotechnology, has propelled Victoria's nanoparticle research capability to the forefront of international efforts.

His research group is one of only a few in the world that can create nanoparticles of different sizes and shapes. Its work is supported by large public grants, and its findings are regularly published in the world's top chemistry and nanotechnology research journals.

The group includes Master's, PhD and postdoctoral researchers, collaborators from the MacDiarmid Institute, other New Zealand

universities and research institutes, and a number of prestigious international researchers.

## The beauty of nanoparticles

Nanoparticles are attracting worldwide scientific interest because of their potential applications, particularly in the fields of biomedical research and industrial processes.

"Our goal is to use them to benefit science and, ultimately, mankind," says Richard.

Nanoparticles' unique properties result from the surface area of their structure. As the size of a material approaches the nanoscale, the percentage of atoms on the surface increases, leading to new chemical and physical properties.

Richard's group uses solution phase chemistry techniques that involve growing small crystals in a liquid solution, then adding what are essentially soap molecules. These bind to the particle surfaces with different strengths. The researchers then carefully manipulate the size and shape, creating thousands of visually striking nanoparticles that react in new ways.

The unique nanoparticle shapes his team is able to create range from squares and pentagons to

more elaborate spikey shapes, and possess properties such as increased magnetism and the ability to emit light.

"Even though I have been doing this for more than a decade, I still get a huge buzz every time I look through the microscope at the new particles we can create in the lab," says Richard.

## Detecting tumours through magnetic nanoparticles

One area of success for the group is producing highly magnetic nanoparticles for use in biotechnology applications, such as detecting cancer tissue.

Together with Professor Ian Hermans from the Malaghan Institute of Medical Research, Dr Peter Ferguson at Wellington Public Hospital and researchers from the MacDiarmid Institute and Callaghan Innovation, the team developed a new form of iron metal nanoparticles that don't rust.

The particles can be used as a contrast agent in magnetic resonance imaging (MRI) scans, highlighting the body's internal structures and diagnosing health problems.

"As a result we have been able to improve performance by 100 percent and detect cancer



Richard Tilley.

tumours as small as two millimetres,” says Richard.

“Another benefit is that the magnetic iron nanoparticles can be heated up while in the body, so they have the potential of being used to kill cancer cells, as well as detect them.”

One commercial focus for the group is making the catalytic converters in vehicles, which control the toxicity levels of exhaust fumes, more efficient and affordable.

“In a typical converter, only about 10 percent of the nanoparticles are actually active, and they’re made from expensive metals such as platinum and palladium,” says Richard. “However, our team has developed a new composite nanoparticle, made from two different elements, that displays much more efficient catalytic properties.”

### State-of-the-art gadgetry

Central to the group’s research is Victoria’s multimillion-dollar electron microscope suite that houses scanning and transmission electron microscopes that are vital for examining nanomaterials.

The transmission electron microscope, central to the work carried out by Richard’s team,

allows them to see the size and shape of the particles they create, and to control the properties of the nanoparticles.

The microscope is used to examine ultra-thin samples, and has recently been upgraded.

With higher resolution and a new digital camera, Richard and his team can now observe nanoparticles at the scale of 0.15 of a nanometre—that is about one billionth of a metre.

“An exciting feature is the camera’s faster imaging speed,” says Richard, “that is allowing us to create and analyse videos of nanoparticles moving and interacting for the first time.”

The scanning microscopes, used mainly by researchers in the MacDiarmid Institute, have also been improved. These microscopes use a beam of electrons to scan the surface of a sample, gaining information about its shape and composition. A recent addition is a cryo-attachment, which rapidly freezes samples, locking their internal structures into solid form and allowing researchers to take images of soft materials and fluids.

It was previously impossible to look at soft materials, which are important in biological research, because the high vacuum in the microscope caused them to explode.

### Looking to the future

Richard says many students who have worked with the nanoparticles research group have gone on to prestigious postdoctoral positions and successful careers in national and international research institutes and commercial enterprises.

A current focus for the group, says Richard, is commercialisation of its nanoparticles. Together with PhD graduate Dr Anna Henning, he has launched an online company, Boutiq, to supply nanoparticles for international science and engineering clients. Richard plans to grow the business through Victoria’s commercialisation arm, Vic Link.

“I know how hard it is to actually create something that ends up being used by humanity but, at the same time, I can’t imagine ever doing research where I didn’t think the outcome would be useful.”

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# Saying the right words



Dr Carolyn Wilshire and PhD student Paula Speer.

**Stroke survivors with nonfluent aphasia need to choose common words and steer clear of ones that are too similar, new research suggests.**

Nonfluent aphasia is a language disorder that prevents people from organising words into sentences and speaking fluently after they have had a stroke.

Paula Speer, a PhD student from Germany, has found that stroke survivors with the disorder are more likely to be able to construct accurate sentences if they use common words early on in a sentence. However, delays and confusion occurred when they tried to use similar—or semantically related—words in the same sentence, such as king and queen (two people) or bear and dog (two animals).

Paula has broken from tradition by focusing on the word content of speech, rather than grammatical structure.

Her research builds on the work of her supervisor Dr Carolyn Wilshire, Senior Lecturer in the School of Psychology, which looked at single word production of people with nonfluent aphasia.

“Word content isn’t an area that has received a lot of attention, so in a sense I am going against the

norm,” says Paula.

“But it’s been very rewarding because I’ve gained a lot of clues into what’s an increasingly common language disorder.”

Paula designed a series of experiments to explore how people with nonfluent aphasia use words to construct spoken sentences. She also used brain scans of stroke survivors to identify the parts of the brain most strongly associated with the condition.

Carolyn says Paula’s research is a world first and reveals exciting new insights into how the disorder might be treated in the future.

“These findings help explain why people with the disorder have such difficulty producing longer utterances,” says Carolyn.

Paula hopes her findings will help improve the way people with nonfluent aphasia are treated in the future and give speech language therapists and specialists new ideas about the best technology and treatments to use in rehabilitation.

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# Time is money to city commuters



**Centuries ago, when Benjamin Franklin declared time is money, he probably didn’t have Wellington house buyers in mind.**

Yet the American saying aptly describes findings from a recent study by the Victoria-based New Zealand Institute for the Study of Competition and Regulation.

The study, led by Institute research director Dr Toby Daghlish, found that for every minute saved on public transport, house buyers in the inner

city will pay around \$6,700 extra.

The measure is taken from the inner-city intersection of Cuba Street and Manners Mall.

“So a house in, say, Newtown, which is 10 minutes further from town is \$67,000 cheaper than inner-city houses, after taking account of factors such as house age and size,” says Toby.

Extrapolating the study to the Wellington rental market reveals that a couple would be prepared to pay an additional \$40.20 per week to save a

collective hour of travel time per week, he says.

Toby and his research collaborators, Dr Yiğit Sağlam and Dr Mairéad de Róiste, also looked at the commuting habits of Wellingtonians and the number of cars they own, to identify any impact on house prices.

“Overall, we found commuting times matter to people. They like being close to downtown and they like shorter commuting times.”

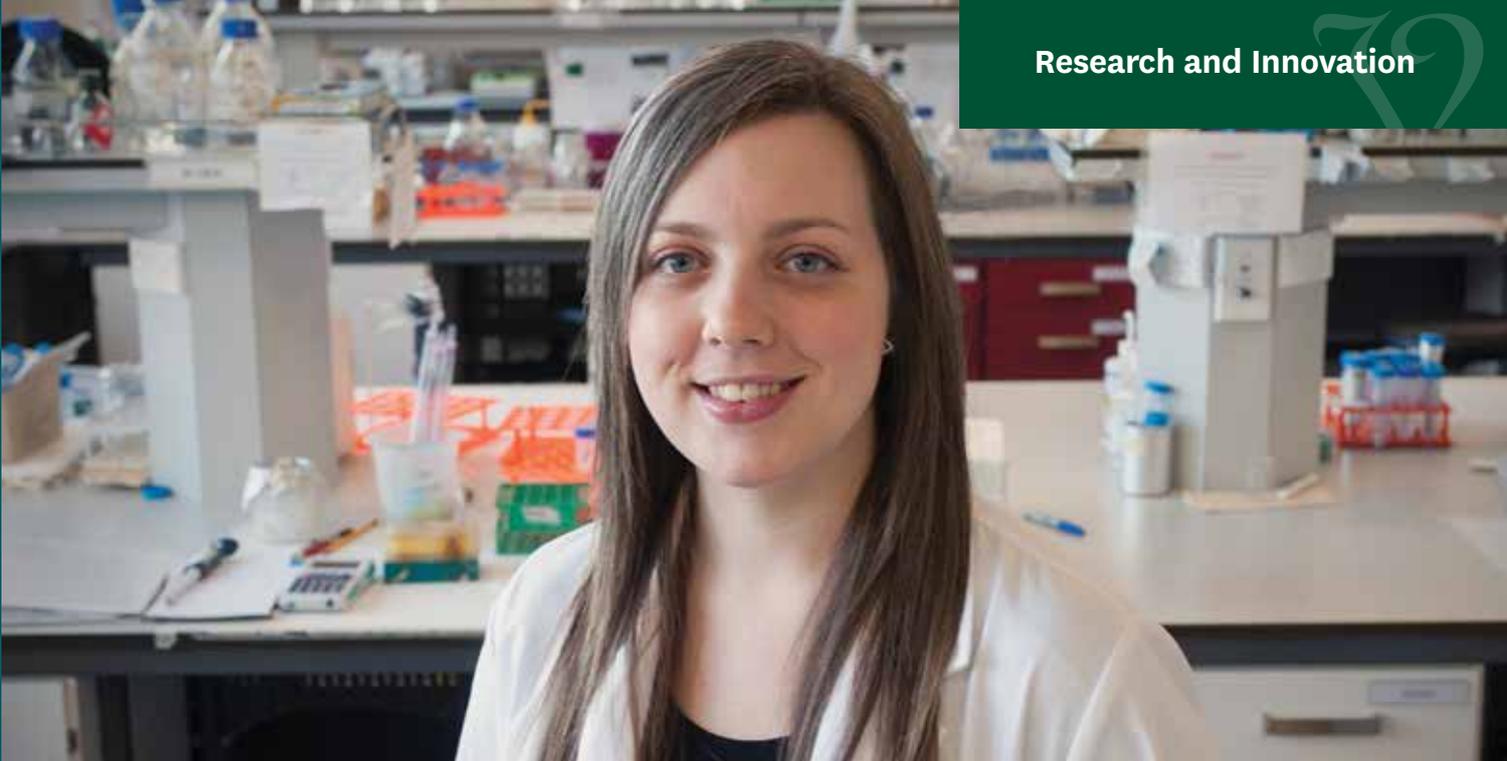
“City planners could easily conclude that improving commuting times within the city would have a flow-on effect of increasing house values,” says Toby.

“Our research provides some insight into the types of things that could stimulate a change in how people commute, such as the drop needed in public transport prices and/or commuting times, in order for commuters to stop driving to work.”

The study used data from the Ministry of Transport’s New Zealand Household Travel Survey of 1,100 households.

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# Clinical research to improve surgery outcomes

Research by Victoria PhD student Jennifer Williams could lead to better recovery outcomes for surgery patients.

The Clinical Research student is investigating the potential for a simple pre-surgery technique that could reduce organ damage following surgery.

“One of the major problems associated with recovering from surgery is the tissue damage to organs caused when blood flow, and therefore oxygen, is temporarily restricted.

“For example, during a cardiac bypass or valve operation, the circulation of blood through a patient’s heart is suspended and rerouted through a machine. When blood flow is restored it can damage the heart muscle, leading to inflammation. This inflammation is often widespread, causing damage to the kidneys and lungs, and can even be fatal.”

Jennifer’s research aims to help solve this problem by revealing new information about a simple technique known as Remote Ischaemic Preconditioning (RIPC).

This technique was discovered in 1986, when researchers observed that the body could be ‘prepared’ for a lack of oxygen by temporarily restricting blood flow to a limb—usually an arm—immediately before surgery. The subsequent tissue damage was shown to be significantly reduced.

Jennifer’s primary supervisor is Dr Anne La Flamme, an associate professor in Cell and Immunobiology research in Victoria’s School of Biological Sciences.

Anne, who also leads multiple sclerosis research at the Malaghan Institute of Medical Research, says

the theory behind RIPC is that the brief restriction of oxygen ‘activates’ the body, preparing it for more substantial trauma.

Clinical trials into the effectiveness of RIPC began in 2000, but have so far produced mixed results.

“One of the main reasons for this ambiguity is that we still don’t fully understand all the pathways involved,” Jennifer says.

Jennifer became interested in RIPC during her Honours year, when she assisted Dr Paul Young at Wellington Hospital to conduct a trial with high-risk cardiac surgery patients.

To shed new light on the technique, Jennifer is now designing and conducting clinical trials using healthy volunteers.

“The idea behind using healthy volunteers is that surgery patients, especially cardiac patients, often take medication or have additional health conditions that interfere with accurate testing.

“It’s quite straightforward: we inflate a blood-pressure cuff on the upper arm of a patient for five minutes, release it for five minutes and repeat two more times.”

Jennifer then analyses cells from the volunteer’s blood samples taken before and after RIPC.

The subsequent changes in blood cells are leading her to believe that the body’s immune response is key to understanding RIPC.

Jennifer says two areas of research interest are the white blood cells called neutrophils, thought to be largely responsible for damaging organ tissue following surgery; and cytokines, the ‘hormones of the immune system’, which play a fundamental role in cell interaction.

“One consistent effect we’ve observed is that preconditioning seems to reduce the activation of neutrophils, and Jennifer’s study is the first to show this reduction occurring very quickly after preconditioning—within the first four hours,” says Anne.

Jennifer is planning a further trial using healthy volunteers to discover whether a stronger response from the immune system occurs when RIPC is applied 24 hours before testing the blood.

“This may give the body even more time to respond, and be even better prepared for surgery.”

Jennifer says it’s exciting working in an area of medical research where so little is known, and she believes the technique could eventually be applied more widely.

“If we can improve outcomes for surgery patients with such a simple technique, then that would be incredible.”

Jennifer’s research is also supervised by Professor Richard Beasley from the Medical Research Institute of New Zealand.

Jennifer is one of Victoria’s first PhD candidates in Clinical Research, and has raised over \$30,000 to fund her clinical trials, through grants from the Wellington Medical Research Foundation and the New Zealand Heart Foundation.

Her research is also supported by a Victoria University PhD Scholarship and the Victoria University Joy McNicoll Postgraduate Research Award in Biomedical Science.

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# Tax policy in crisis?



They say that times of crisis can bring out the best and the worst in people.

We know this about human behaviour, but can the same be said of governments and policy makers?

Victoria University PhD student Carolyn Palmer plans to answer this question as the first-ever recipient of the Robin Oliver Tax Policy Scholarship, which is offered by Tax Management New Zealand.

Carolyn is using her \$30,000 study award to travel to Australia and Japan to find out more about tax policy in those countries following natural disasters.

In New Zealand, she'll do the same, with a focus on the Canterbury earthquakes.

Ultimately, Carolyn wants to see if the principles of good tax policy hold when countries face economic shocks such as natural disasters and, if not, what causes them to unravel.

"It's a fantastic opportunity. I want to get a detailed picture of how different jurisdictions respond and the kinds of tax policy issues that come up.

"I also want to get a good idea of all the influences at play and what causes governments and policy makers to change tax policy during times of crisis."

Over the past 10 years Carolyn has worked as a senior tax advisor to the Inland Revenue Department (IRD), the Treasury and a Minister of Finance. She has also worked in the private sector.

Professor Norman Gemmill is one of Carolyn's supervisors and Chair in Public Finance, a joint venture between Victoria University, PricewaterhouseCoopers, IRD, the Treasury and the Ministry of Social Development.

"We're very excited about Carolyn's research. It's highly relevant and it'll give officials and the public real-world findings they can pick up, debate and use straight away."

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# Technology keeps watch on the environment



*Engineering student Benjamin Dunn working on an Unmanned Aerial Vehicle.*

**In 2012, a Ministry for the Environment report found more than half of New Zealand's monitored river sites were unsafe for swimming.**

Now, an innovation developed by Victoria engineering students could help remedy the situation.

Students from the School of Engineering and Computer Science have created a smartphone application (app) and website that allows people to report environmental pollution.

The students have also been building and testing unmanned aerial vehicles, equipped with GPS technology, to record incidents of pollution in rivers.

Project supervisor Professor Winston Seah says the Riverwatch project has been an excellent opportunity for students to apply their technical expertise to a real-world issue.

"Riverwatch has involved a wide range of technical work, with the added benefit that students are seeing tangible results from their efforts. It's immensely satisfying to see them working together to develop something that helps members of the public who are concerned about the environment.

"The experience is also identifying new possibilities for postgraduate research."

The Riverwatch app allows anyone with a smartphone to monitor and report on a range of environmental incidents, from livestock polluting waterways to rubbish dumping and overflows from outfall pipes.

"The app allows people to upload photographs and automatically-generated GPS coordinates of pollution. Once verified, they are made publicly available online," says Winston.

The Riverwatch app and website were officially launched at a special event, where guests, including MPs and representatives from local government, gathered to learn more about the research.

Riverwatch began as part of a third-year engineering module, where students apply their project management skills in a group project, and has expanded with the support of James and Grant Muir, who established the Waterway Action Initiative New Zealand (Wai NZ) organisation.

Wai NZ now uses the technology on its website ([wainz.org.nz](http://wainz.org.nz)) and the Riverwatch app can be downloaded for iPhone and Android.

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# Taking a stand against bullying



Photo: iStock

**Bullying has become so common that it is almost seen as a normal part of growing up, but a Victoria researcher says it doesn't have to be that way.**

A recent study into bullying in New Zealand schools found that 94 percent of school staff surveyed had seen bullying in their schools.

In the first New Zealand study of its kind, Dr Vanessa Green, Head of Victoria's School of Educational Psychology and Pedagogy, along with a team of postgraduate students, surveyed 860 teachers and senior staff from a range of schools around New Zealand about their experiences with, perceptions of and attitudes towards bullying.

Nearly half of those who took part in the survey said instances of verbal bullying were being brought to their attention weekly.

Vanessa says the study shows that bullying is a national problem that must be addressed.

"The internet has made bullying a more complex issue than it was 20 years ago and, as a result, it requires a more sophisticated response. We need to be thinking in a more creative way about how to address the problem," she says.

Respondents were asked who they believed should be involved in anti-bullying strategies, with most agreeing that the entire school and community—school staff, parents and whānau—should be included.

"There is tension around who is responsible for managing and preventing bullying, especially cyberbullying, because a lot of it occurs outside of school," says Vanessa.

Vanessa says a good place for schools to start is to put a greater emphasis on professional development in the area of bullying prevention.

Although specific programmes that target bullying are widely available, they are being used by less than a third of the schools represented in the survey.

"Just under half of all respondents had received training on how to deal with bullying, and most of that training was quite a few years ago. So it's not surprising that many teachers, principals and schools don't know what to do about the issue."

For a video of Vanessa talking about her research, visit <http://youtu.be/RJgzGm3kG8M>

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# A self-made saint



The door to the room Ramalinga was said to disappear from. Photo supplied.

**At the age of 51, 19th-century South Indian poet-mystic Ramalinga Adigal locked himself in a room and never emerged. His body was never found.**

Dr Rick Weiss, Senior Lecturer in Religious Studies, is writing a book on this popular Tamil spiritual figure with funding from a Marsden grant. He was attracted by Ramalinga's purported magical powers, his attempts to become a modern-day saint and his ideas, which were radical for the time.

"Ramalinga engaged in the practice of feeding the poor and was vigorously anti-caste—innovations which are commonplace in Tamil culture today, but were controversial then," he says.

Rick is also interested in examining Ramalinga's work in the broader context of religious change in 19th-century India, when colonialism and Christianity were influencing religious culture.

"Ramalinga was a middle-caste Hindu who was an outsider to dominant institutions of the day. He didn't speak English and, as far as I can tell, didn't have contact with Christian missionaries, yet he picked up the Christian idea of

philanthropy—setting up houses to feed the poor, which wasn't usual Hindu practice."

Ramalinga's works are largely unstudied by Western scholars says Rick, because his writing is in Tamil, a South Indian language, and little has been translated into English. However, Rick is able to read the texts in their original format, having studied Tamil for four years in the United States for his PhD.

Rick's research draws on a large volume of Ramalinga's poems, mostly devotional verses to the God Shiva, as well as letters to his devotees, other prose and the often inflammatory responses from conservative Hindu leaders to his writing.

"Ramalinga was literate and used print technology to challenge the established authority," says Rick.

"These days he has become an ideal figure for society to revere—and the Tamil State Government recently created a day in his honour."

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# Reflections from the Vice-

Professor Pat Walsh reflects on a career at Victoria that began in 1981 when he was appointed as a lecturer in Industrial Relations. He rose through the academic ranks to become Professor of Human Resource Management and Industrial Relations, before venturing into management in 1996 and eventually taking on the roles of Dean and Pro Vice-Chancellor of Commerce and Pro Vice-Chancellor of Research. Pat was appointed Vice-Chancellor in 2005.

## What have been the most significant changes during your time at Victoria?

It has been a period of extraordinary change. One significant change is simply the size and scale of the University but technology has had a significant impact too, and will continue to do so. Victoria today is also a far more internationalised institution.

One of the biggest changes is in the relationship with government, which provides a significantly lower proportion of our funding but has greatly sharpened its expectations of how universities will perform. That means universities have to be much more vigilant about preserving their autonomy, which is of course vital to the success of any university system.



*Professor Pat Walsh speaks at the pōwhiri held to welcome him to Victoria.*

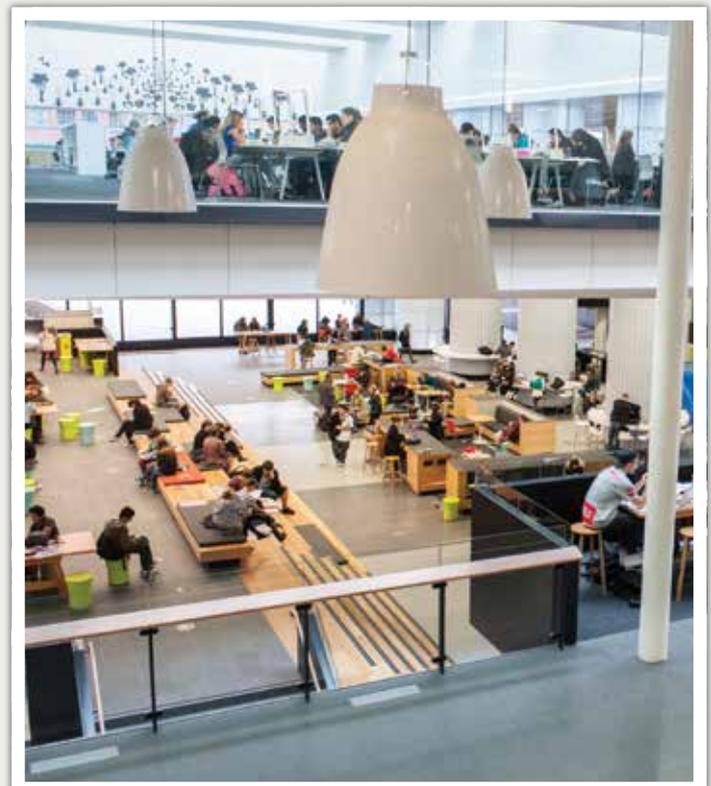
## What are your most memorable moments from your time at Victoria?

I had 24 enjoyable years in the Faculty of Commerce working with able colleagues and students. My sabbatical year at the University of Warwick was a wonderful experience, both academically and personally. It made me appreciate how research and study leave contribute to the strength of the University.

I remember many great Victoria events, including distinguished alumni events, graduations and awarding honorary doctorates—one that stands out is a ceremony in Melbourne to award John Clarke his honorary degree.

Other moments I remember vividly are receiving a phone call from the Tertiary Education Commission, saying it had reversed its decision not to fund engineering at Victoria and, more recently, reading the Performance-Based Research Fund (PBRF) results in April of this year, which ranked Victoria number one among New Zealand universities for research quality. My wife Karen and I were on holiday in Crete, so I received the results in the middle of the night, sitting high in the Cretan hills. There was a certain surreal quality to that, along with the excitement.

But one of the biggest highlights was my welcome on to the marae just after I had been appointed as Vice-Chancellor. That was both a humbling and an inspiring experience. It was particularly important for me as all my family were there.



*The Hub, which has created a vibrant central heart for the Kelburn Campus, is one of the building projects that has been completed during the Vice-Chancellor's term.*

# Chancellor

## What are you most proud of?

I am proud of many things, but the point I would make about all of them is that they have been achieved by teams of people and through a collective contribution. Any university is only as good as the quality of its staff and students, and that has been a primary focus for me as Vice-Chancellor.

I am very proud of the senior management team at Victoria, their collegial approach and their pan-university perspective. I am also grateful for the support I have received from my two Chancellors, Tim Beaglehole and Ian McKinnon, and from the University Council.

When I became Vice-Chancellor I said that I wanted Victoria to be a university of its city, its country and the world, and I think we've made great progress on that front—Victoria is definitely a more outward-looking university. A small, but important example of that is the success of our inaugural lecture programme. We now have 12 or so of these each year and they attract huge audiences.

I am proud of the way the University has moved, over a long period of time, towards a culture of achievement and acknowledging and celebrating success. We have also seen a dramatic improvement in the research culture and performance of the University and developed a much stronger focus on learning outcomes and the quality of the student experience.

I also want to mention the introduction of Engineering and the growing prominence of Victoria as one of New Zealand's leading science universities, something we have achieved without compromising the quality of our traditional strengths in humanities, law and commerce.

Additionally, I think we have managed constrained resources in ways that support our strategic objectives, and that's expressed in the quite extraordinary building programme we have had over the last 10 years.



*The Vice-Chancellor helped out at Victoria's first 'Growing Graduates' tree-planting event, held this year.*

## What do you see as the biggest challenges ahead for Victoria?

One of the big challenges facing all universities will be how to preserve the essential values of the university system in a period of constrained funding and increasing government prescription. We have to balance appropriate accountability for public funding with the vital importance of preserving university autonomy. For Victoria, that includes preserving and enhancing the subject areas that are often seen, wrongly, as having no contribution to make to social and economic development. I believe that having strong humanities programmes is central to the character of universities, and certainly of this university.

Another is the entirely justified challenge the Government has laid down for us to improve Māori and Pasifika participation and achievement.

## Where do you see Victoria in 15 or 20 years?

I see Victoria as one of the leading universities in New Zealand and Australia—and by that I mean in the top five—and one that has responded effectively to the vagaries of international rankings and their criteria, and is ranked firmly in the top 200 internationally, if not higher. Above all, I see Victoria as a university that is widely regarded as an institution of the highest quality.

## What do you plan to do next?

I'm looking for roles on boards, mainly with a focus on the public sector and the voluntary community sector. I'm also interested in using some of my experience in consulting and mentoring in those sectors and would like to undertake some purely voluntary work as well.

Karen and I think we'll do a bit more travel—well, I won't do more travel, I'll probably do less travel, but it will be travel I choose to do—and that starts with a Victoria University study tour of Turkey next year, led by Professor Chris Dearden, which we are really looking forward to.



*The Vice-Chancellor with Chancellor Ian McKinnon at a graduation parade.*

# Exploring the third dimension



Dr Paul Wolfram looks on as Media Studies major Jennifer Smith focuses the 3D camera rig for filming an Emile Gallé glass vase. Photo: Paul Hillier

A kiwi feather cloak, a jug from 1890 and samurai armour from 1735 are just some of 100 objects that are being filmed in 3D in an experimental project.

Victoria University's Film programme has partnered with Te Papa to take footage of some of the museum's precious objects using the University's new 3D camera.

"Victoria is the first university in New Zealand to work with 3D production, so it's been a real learning curve," says Victoria film lecturer and award-winning documentary filmmaker Dr Paul Wolfram, who is leading the initiative with fellow staff member, 3D scholar Dr Miriam Ross.

"There is no 'how to' book on the subject, so we are learning by doing."

The team has been assisted by film experts, including three-time Oscar winner for visual effects Alex Funke, from Weta Workshop's miniatures department, and Sean Kelly, lead stereographer on *The Hobbit: An Unexpected Journey*. More than 40 staff, students and alumni have also come on board to help out.

Learning from the project will be incorporated into Victoria's film production and theory classes next year.

Philip Edgar, Manager Digital Collections and Access at Te Papa says museums around the world are looking at 3D technologies—including imaging techniques and 3D printing—to provide new and exciting ways to view, interact with and better understand museum objects.

"Te Papa is excited to be part of the 3D filming partnership with Victoria University and begin exploring these technologies," he says.

Filming sessions have been conducted since August, with the objects placed on a bespoke turntable to enable them to be viewed from multiple angles. Te Papa staff have been on hand to handle the objects—normally not on public display—and help figure out the best way to bring out their depth-rich contours.

<http://3dproductioninitiative.com/>

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# Maara kai recreates pre-contact garden



Dr Ocean Mercier and Associate Professor Peter Addis with taputini kumara, believed to be one of four remaining pre-European varieties of kumara.

A group of Victoria staff and students are getting their hands dirty in the name of research.

Behind the Māori Studies (Te Kawa a Māui) buildings at 50 Kelburn Parade, space is being cleared and prepared for planting a maara kai (vegetable garden).

The project is based on recreating the type of garden Māori tended prior to European contact, with planting scheduled around the Māori calendar.

"To our knowledge this is the first time this has been done in a Māori context in Wellington," says Head of Te Kawa a Māui, Associate Professor Peter Addis.

"Among other things, we plan to use it as a teaching tool in a number of our classes."

Several varieties of pre-European cultigens will be sourced with the help of the Botanical Society—including yams, taro, gourds and kumara—to ensure the traditional maara kai is as authentic as possible.

Te Kawa a Māui PhD student Philip Best, who is part of the project, is excited about the possibilities for learning and research.

"We talk about the many foods Māori grew prior to European contact, but previously lacked the opportunity to see, feel and taste the foods of the ancestors. This project makes that possible."

A weather station will be set up to monitor temperatures and weather conditions. Soil testing will also be undertaken and university soil scientists will assist with soil analyses.

The garden will be divided into zones, with different soils and plants, to see what works best.

"We are interested in finding out which traditional Māori cultigens will grow this far south," says Peter.

"Historical records in the Wellington region show some unexpected plants growing successfully."

Participation in the project is university-wide, and includes external groups such as the Department of Conservation and Te Puni Kōkiri.

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# Taking the leap

They say one of the best ways to learn is to be thrown in the deep end.

Victoria's new intensive Study Abroad programme for language students, currently available in China, France, Germany, Italy, Japan and Spain, immerses students in a foreign language for four to six weeks during the New Zealand summer break.

As well as providing an invaluable cultural experience, the programme helps to improve language skills and is credited towards students' university degrees.

Kirsty Johnston got an A+ in her German language paper after returning from her course in Berlin.

"All aspects of my language learning improved, especially speaking. I now have a much better 'gefühl' (feeling) for the language—a better instinct for knowing what sounds right."

Likewise, Nina Powles, who attended total-immersion Mandarin classes in Beijing, says her language skills improved within a short space of time.

"Even after just one or two days of asking locals for directions, ordering food and talking to taxi drivers, my conversation skills improved.

"Back in New Zealand you don't get a sense of needing to use your second language to survive—when you're fully immersed, you have no choice!"

Another student who studied in Beijing, Hanneke van Oeveren, says what had been an interest in learning Chinese became a passion.



Rose Burrowes in Germany. Photo supplied.

"Some of my highlights include becoming a well-known customer at the best little family-owned dumpling restaurant just around the corner from our school, bartering at the silk and pearl markets and, of course, visiting the Great Wall of China."

The people were what stood out most for Rose Burrowes, who went to Germany.

"I will never forget the friendships that I built through communicating in a foreign language and the frustrations this created at times. It made the good times even better as we all laughed at our mistakes together and celebrated each other's successes."

[www.victoria.ac.nz/slc/study/study-abroad-for-language-learners](http://www.victoria.ac.nz/slc/study/study-abroad-for-language-learners)

# Book reveals maths' hidden beauty

A maths professor is hoping his new book will turn a few heads.

Actuarial mathematics—the book's subject—is a thing of beauty, says Victoria statistics professor Estate Khmaladze.

*Statistical Methods with Applications to Demography and Life Insurance*, Estate's first book, started as a hobby project 10 years ago.

It was launched at a national workshop in Wellington, bringing together for the first time about 60 industry experts, government officials and students with an interest in actuarial mathematics.

Actuarial mathematics provides methods to assess risk in banking, insurance and finance. It is commonly used to set industry prices, using predictions about what is likely to happen to the population and the economy at some point in the future.

"Probability theory and mathematical statistics, which form the basis of actuarial maths, are deep, immensely interesting and often counterintuitive, as good science should be," says Estate.

"Although it is sometimes seen as formal and technical, if properly taught, the subject can both inspire and connect you to the real-world problems found in the finance and actuarial industries. To me, it demonstrates the important role mathematics plays in our lives."

Estate's book is intended as a course of study for teaching postgraduate students. The text brings diverse themes of modern statistics to bear on real-life scenarios, such as the problem of non-homogeneous samples, incomplete or truncated data, and analyses of extremes in insurance claims or very long survival times.

"I'm hoping it will help inspire others to see actuarial maths as something they can have fun with, be challenged by and enjoy."



Estate runs a world-class Master's programme in actuarial mathematics at Victoria. Called *Stochastic Processes in Finance and Insurance*, it is, so far, the only programme of its kind in New Zealand.

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# Victoria graduates global citizens



Fostering a global perspective is one focus of a new graduate profile developed at Victoria.

The profile articulates the attributes and qualities graduates can expect to gain from their studies—with the University providing ways to achieve this outcome.

Deputy Vice-Chancellor (Academic) Professor Penny Boumelha, who has led the initiative, says the profile paints a picture of the skills, capabilities and personal characteristics students graduating from Victoria will bring to the workplace and the wider community.

“Central to the vision is that our graduates will have had wide-ranging opportunities for local and global engagement, alongside their formal study,” says Penny.

“These experiences come from joining Victoria’s leadership and volunteering programmes and by gaining real-world experience through internships, placements and overseas exchanges.”

Scholarly attributes emphasised in the profile include a specialised understanding of the graduate’s field of study, skills in critical and creative thinking, communicating complex ideas, independent thinking, self-management and ethics. Victoria graduates will also be “active and engaged local citizens” who work well both alone and with others and know how to set and achieve personal and professional goals.

Penny says the new profile, the first for more than 10 years, is the result of more than six months consultation across the University and reflects a renewed emphasis on curriculum design and the student experience.

“Feedback tells us the new profile will be highly relevant to both employers and students. It also captures some of the distinctive aspects of studying at Victoria.”

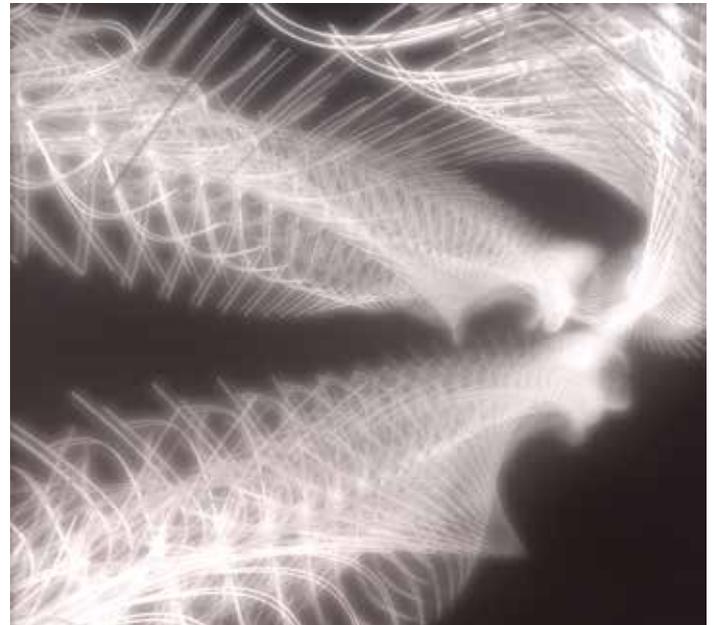
Students at Victoria are being encouraged to develop ePortfolios that will sit alongside their graduation certificate.

“Graduation certificates list the courses completed, but they don’t show the informal and experiential learning that has taken place. Through ePortfolios, graduates can share other achievements and skills they’ve gained at university.”

Work is underway to embed the new graduate profile in course content and assessment tasks.

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# Powerful partnership



*City of the Lost, an algorithmic city, by former Victoria University graduate Kris Bacaling.*

**Recipients of a new PhD scholarship offered at Victoria will graduate with skills and opportunities to work at the cutting-edge of digital technology advancements.**

Established by Weta Digital, the computer graphics scholarship covers three years of PhD fees and pays the holder an annual stipend of \$25,000. Weta’s chief technology officer, Sebastian Sylwan, says the scholarship is part of Weta’s commitment to building strong capability in New Zealand’s entertainment and digital industries.

“The best thing about this scholarship is that it is highly relevant to the ‘real world’. Not only will the recipient be supported to carry out cutting-edge research at a high level, they will gain access to an international leader in computer graphics.”

The scholarship holder may get the chance to work on projects with Weta Digital while they are studying and Sebastian says, despite ongoing advances in computer graphics, there is plenty of scope to continue pushing the boundaries.

With its blend of computer science and design, Victoria’s Computer Graphics programme is unique in Australasia. Professor John Hine, Dean of the Faculty of Engineering, says the content is also unique.

“Students are able to work in areas that require a combination of technical and visual innovation that is ideally suited to the needs of New Zealand’s entertainment and digital technologies industries.”

John says partnering with Weta Digital is a great example of Victoria’s drive to offer programmes that are both academically challenging and delivering what industry needs.

Weta Digital and other technology companies such as PikPok (formerly Sidhe Interactive) and Unlimited Realities have helped develop the computer graphics specialisation at Victoria and are interested in hiring graduates when they become available from next year.

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# Alumni gatherings

Over the last few months alumni events have been held in Australia, Singapore, Malaysia, the United Kingdom, the United States, Germany and New Zealand. To view more photos from the events or upload your own event shots, visit Victoria's alumni website [www.victoria.ac.nz/alumniandfriends](http://www.victoria.ac.nz/alumniandfriends)



The second Young Alumni event for 2013 was a screening of New Zealand film *Good For Nothing*. From left: Andrew Harlow, Kristin Johnson, Vice-Chancellor Professor Pat Walsh, Paul Johnson, Andrew Neal.



Fifty alumni from Berlin and other parts of Germany attended the alumni event held at the Berlin residence of the New Zealand ambassador. Professor Tim Naish, Director of Victoria's Antarctic Research Centre, gave a presentation on global warming and climate change. From left: Dr Henning Duwert, Tina Dubiel, Fabian Disselbeck, Christoph Robitzsch, Robert Stieglitz.



John Clarke (aka Fred Dagg) was guest speaker at the Melbourne event. From left: Spiro Zavos, Judy Zavos, John Clarke, Kristine Hodge, Peter Blades.



Over 55 Victoria alumni attended an alumni function at the Permanent Mission of New Zealand to the United Nations in downtown New York in September. From left: Julie Polakoski-Rennie, Richard Woodward, Mike Rennie.



Guests socialise at an alumni event held in Auckland in August.



In August, 2,000 native trees were planted on Te Ahumairangi Hill in Wellington in the first 'Growing Graduates' tree-planting event. Each year, for five years, 2,000 trees will be planted on the Town Belt to celebrate Victoria University graduates.

## A life of art



Helen Kedgley always wanted to be an artist or art historian but her father insisted she get a ‘proper’ degree from Victoria first.

The recently appointed Director of the Pataka art gallery and museum complex in Porirua completed a BA majoring in politics, but made sure she kept her passion for art alive.

“Art history wasn’t offered at Victoria at that time so a group of us began a Visual Arts Society where we brought artists, including well-known names like Toss Woollaston and Don Binney, to the campus to lecture each month.”

A European education followed, with Helen studying both art history and fine arts in Paris while living there with her husband Chris Laidlaw, then a diplomat.

Learning entirely in French had its challenges but Helen went on to graduate as top student for her year from the *École Nationale Supérieure des Beaux Arts*.

“I learned what so many New Zealanders discover when they head overseas—that we can succeed on the international stage.”

Helen specialised in Chinese art, sparking a lifelong love of non-Western art that ultimately led her to Pataka, New Zealand’s leading gallery for exhibitions of contemporary Māori and Pacific Art.

She has been with Pataka since it opened 15 years ago, initially as a curator, then senior curator and now director.

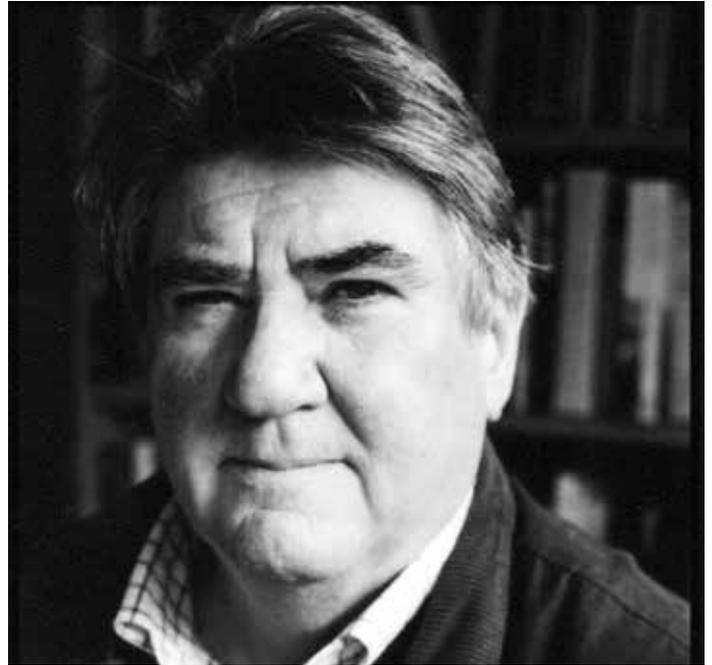
“We make sure that our exhibitions reflect the fact that Porirua is the most multicultural city in New Zealand. Māori culture and the cultures of our Pacific populations is what distinguishes Porirua from other cities in the country—and of course in the world!”

Helen’s own colourful abstract paintings have been shown at exhibitions throughout New Zealand, the United Kingdom, Zimbabwe and India, but for now she’s not adding to her body of work.

“I’d love to be painting but the new job simply doesn’t give me the time. One day I hope that will change.”

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## Uncovering history through crime writing



For Victoria alumnus and former barrister Peter Graham, writing about crime is an opportunity to discover the world as it was at a particular place in time.

After completing his law degree at Victoria in 1970, Peter spent five years as a prosecutor in Hong Kong, before becoming a barrister.

Peter has now given up law and returned to his native Canterbury Plains, where he supervises a few sheep, reads a lot of history and delves into his passion for writing.

“I’ve had a fascinating career as a lawyer, but writing non-fiction is something I’ve always had at the back of my mind,” he says.

When the opportunity came to write, Peter began exploring one of the most “colossal scandals” of the 19th century in what would become his first true crime book, *Vile Crimes: The Timaru Poisonings*. The book examines the case of local businessman Tom Hall Jr, nephew of former New Zealand Premier Sir John Hall, who was charged with the attempted murder of his wife and the murder of his father-in-law.

In his second book, *So Brilliantly Clever*, Peter explored one of New Zealand’s most notorious crimes and one that he’d been interested in for more 30 years—the Parker-Hulme case, in which two best friends, Pauline Parker and Juliet Hulme, murdered Pauline’s mother.

He first came into contact with the story while working as an assistant to Brian McClelland, who had been junior counsel for Juliet Hulme at her trial in 1954.

“I became fascinated by the case and had always wanted to write about it—but the need to earn a living interposed.”

Named after an entry in Pauline Parker’s diary, *So Brilliantly Clever* was a finalist in the non-fiction section of the 2012 New Zealand Post Book awards.

Peter says he intends to write for as long as he’s “compos mentis”, and has already started researching his next book, about the case of Francis Sheehy Skeffington—who was murdered while in military custody in Dublin during the 1916 Easter Rebellion.

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# Honouring our best

Six of Victoria University's top alumni were honoured at our Distinguished Alumni Awards dinner, held at the end of July.

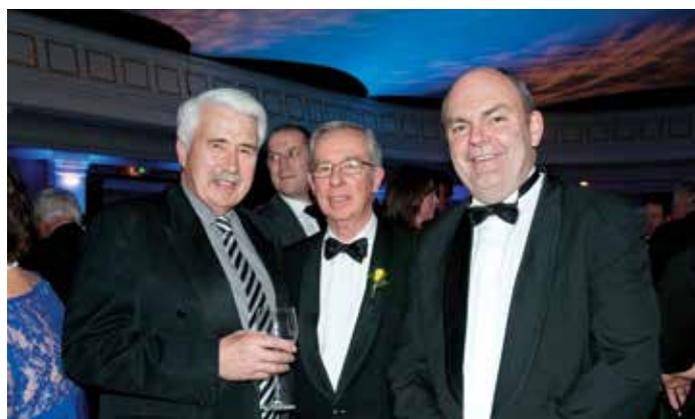
About 500 people attended this prestigious black tie event, held at the Wellington Town Hall. The 2013 awardees were Claudia Batten, John Campbell, Georgina Manunui te Heuheu, Brian Roche, Conrad Smith and Dr Jeff Tallon. We will be calling for nominations in mid-2014 for the 2015 awards.



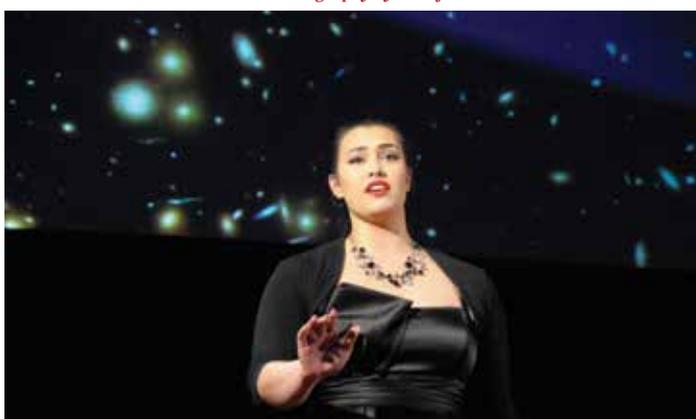
Guests mix and mingle at the Wellington Town Hall. Photo: Photography by Woolf



From left: John Campbell, Dr Jeff Tallon, Georgina Manunui te Heuheu, Claudia Batten, Conrad Smith, Brian Roche. Back row: Vice-Chancellor Professor Pat Walsh and Chancellor Ian McKinnon. Photo: Photography by Woolf



From left: John Morrison, Chancellor Ian McKinnon, Honourable Steven Joyce, Minister for Tertiary Education. Photo: Photography by Woolf



Te Kōi New Zealand School of Music graduate, Isabella Moore, entertained with her rich and expressive soprano voice. Photo: Photography by Woolf



From left: Carla Wild, Vice-Chancellor Professor Pat Walsh, Justice John Wild. Photo: Photography by Woolf

# Bingeing on theatre

In February, 33 ‘whales’ swam through the streets of Wellington and beached in front of Te Papa. Fortunately, Binge Culture was on hand to save the day.

Binge Culture, a collective of six Victoria University theatre graduates—Rachel Baker, Joel Baxendale, Simon Haren, Fiona McNamara, Claire O’Loughlin and Ralph Upton—has been working together since 2008. The group won three New Zealand Fringe Festival awards earlier this year, including Best in Fringe, for its interactive street theatre performance *The Whales*.

In this piece, they dressed as rescue crew and encouraged people off the street to help save the ‘whales’, who were actors the group had trained.

The community spirit this inspired was rewarded in August with a runner-up prize in the arts and culture section of Wellington Regional Council’s Wellington Airport Regional Community Award.

The first production the group created together was for Ralph’s Honours research project through the Theatre programme at Victoria.

“Many of the principles we were exploring in that first performance stuck, such as talking to the audience and trying to be versions of ourselves in performance rather than ‘acting’ too much,” says Ralph.



Binge Culture’s ‘whales’ return to the water. Photo: Malcolm McNamara

The group maintains close links to Victoria’s Theatre programme.

“We have a good working relationship with the staff, many of whom have provided mentoring and advice,” says Fiona.

“We have also held several workshops with current theatre students, as well as open rehearsals where students were able to come along and watch us rehearse.”

Fiona and Joel are both tutors and directors in the Theatre programme. Ralph is currently a

freelance director. Rachel went on to study at Toi Whakaari, New Zealand Drama School, after graduating from Victoria, and has worked in lighting design and on educational arts programmes with children. Claire is doing Honours in the Theatre programme as well as publicity mentoring. Simon is a freelance artist, who works on a variety of community projects.

“Ideally we’d like to make a living from our work as Binge Culture—that’s our ultimate goal,” says Simon.

[www.bingeculture.co.nz](http://www.bingeculture.co.nz)

# Citizen of the world



David Walker got a taste for the global life while studying commerce and administration at Victoria in the 1980s and has never looked back.

Appointed the first Group CEO of the Chandler Corporation earlier this year, David lives in Singapore and oversees the company’s businesses and investments.

He was the first in his family to pursue a career in business and the first to attend university. He loved both the study and the opportunities the tertiary environment offered, including the chance to become president of AIESEC (International Association of Students in Economics and Commercial Sciences) at Victoria.

Through AIESEC, he met a Finnish graduate who was working in Wellington. After graduating with a BCA(Hons) he followed her to Finland where they married and lived and worked for 11 years.

“I think I broke my mother’s heart when I told her I was heading overseas but I feel that this should be part of every graduate’s experience,” says David.

“It opens your eyes, provides new experiences and tests your skills in a global market.”

An international career followed, with David holding senior roles in investment and consulting firms and founding his own strategic and mergers and acquisitions advisory firm before joining forces with entrepreneur Richard Chandler, another expatriate New Zealander.

David says working for a group that is an “active investor” in emerging and developed markets around the world is very rewarding.

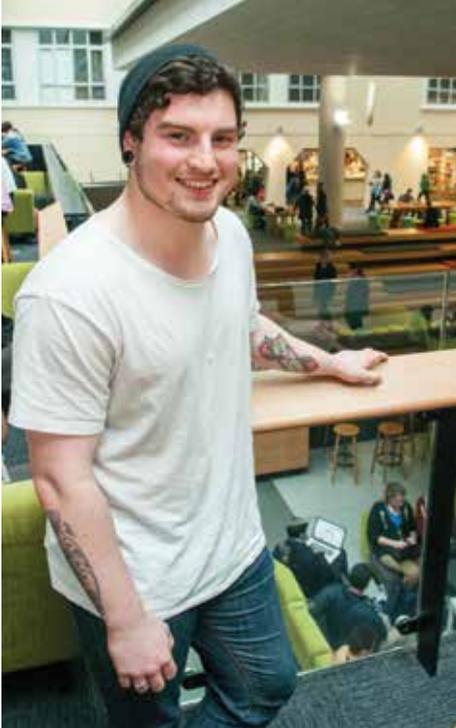
“We are very engaged with the companies we invest in and spend a lot of time advising management and promoting solid corporate governance, which I really enjoy.”

David and his family are global citizens, but he values his connections to New Zealand.

“I see myself as living somewhere between Europe and Asia, but New Zealand will always be the place I was born and the passport I carry.”

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# Changing lives through education



**If you told Vinny Carroll in Year 9 that he'd be studying towards a PhD in biology at university, he probably would have laughed.**

The Bachelor of Science student was given a helping hand when he was awarded the inaugural Victoria University Foundation Trustees' Scholarship to begin studying this year. He says without the scholarship, it would have been really difficult for him to go to university.

The scholarship includes full tuition fees, a stipend, mentoring and work experience for three years.

As well as high academic achievement and being first in the family to attend university, the scholarship criteria included character, leadership qualities, contributions to cultural and/or sporting activities, and community service.

"This scholarship is the best thing that's happened to me. It's huge—words can't even explain how grateful I am," says Vinny.

While it's been a smooth transition from Tararua College in Pahiatua to Victoria University, Vinny's life hasn't always been plain sailing.

Brought up by his mother, with a father in prison for most of his life, he started out on a totally different path—struggling to manage his anger and frustration. However, in Year 12, Vinny decided to turn his life around.

"I got my priorities straight. I knew I was capable of more, and that I needed to be a positive role model to my younger brother."

Being the first to attend university is monumental for Vinny and his family.

"Mum always said, as long as you do what makes you happy, she'll be happy. When I told her I was going to go to Victoria University she was over the moon."

Elaine McCaw, Chair of the Foundation, says trustees were delighted to award the inaugural scholarship to Vinny.

"His determination to turn his life around and his passion for learning made him a standout candidate. He is making the most of what Victoria has to offer and we are thrilled with the progress he is making."

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# Disasters from an economic perspective

**Like it or not, one thing we can be sure of is that disasters will happen in the future. However, one area that has not received much attention until now is the economic cost of picking up the pieces.**

A Chair in the Economics of Disasters has been established at Victoria, through the Victoria University Foundation, to generate knowledge that can guide New Zealand in the aftermath of disasters.

Believed to be a world first, the Chair focuses on economic policy and disaster management, and is the result of a partnership between Victoria, the Earthquake Commission (EQC) and the Ministry for Primary Industries (MPI). Professor Ilan Noy from Victoria's School of Economics and Finance has been appointed to the role.

Ilan's research will investigate economic aspects of the management of natural and other disasters.

Although there are centres of research and policy development in New Zealand concentrating on disasters, none has an economic focus.

Professor Bob Buckle, Pro Vice-Chancellor and Dean of Commerce at Victoria Business School, says the Chair will help inform decision-making on economic issues that arise from disasters, thereby reducing their social and economic costs.

"Understanding the economic consequences of disasters such as earthquakes, volcanic eruptions, droughts, floods, viruses and biosecurity risks helps inform private and public policy decisions around investment in mitigation, preparation and response processes."

Ilan says it is important to develop evidence-based solutions to deal with the long-term aftermath of the Canterbury quakes. "This will help us to be better prepared for the next disaster heading our way, whatever it may be," he says.

"Many countries are struggling to frame coherent prevention, mitigation and reconstruction policy in the wake of disasters, and I hope to be able to assist in this effort."

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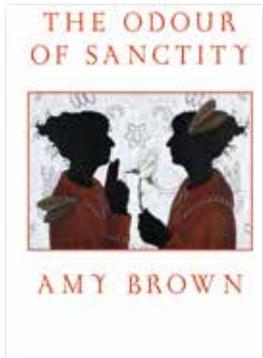
## 2013 Alumni Appeal

A big thank you to generous alumni who funded 14 \$5,000 scholarships for second-year students in last year's Alumni Appeal. The 2013 Appeal, distributed last month, has a goal to fund 20 student scholarships.

# Off the Press

*The Odour of Sanctity* and *Unspeakable Secrets of the Aro Valley* are two works recently published by Victoria University Press (VUP) and are reviewed for *Victorious* by Briony Pentecost.

Details of forthcoming publications by VUP can be read at [www.victoria.ac.nz/vup](http://www.victoria.ac.nz/vup)



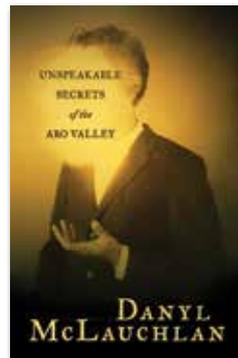
## *The Odour of Sanctity*

By Amy Brown

Amy Brown's *The Odour of Sanctity* is an epic poem, divided into seven sections. It takes readers on a guided tour of the canonisation process, visiting the would-be saints themselves (Jeff Magnum, Christina Rossetti, Margery Kempe, Elizabeth of Hungary, the baby Rumwold, Aurelius Augustine), witnesses, the people they have healed, physicians and God.

Epic poetry can make for a challenging read, but Brown is concise and the work is elegantly divided. As well as subtle tonal shifts, each candidate is distinguished by structure (Aurelius in couplets, Rossetti in quatrains and so on), further emphasising individual voices within a cohesive whole. It would serve as an excellent primer for those unaccustomed to reading poetry, as there is a sense of completion and story and the poetry itself often reads more like prose.

*The Odour of Sanctity* is clever and accessible, and its readers are in for a treat. It travels easily through time from the fourth century AD to today, examining the nature of internal realities, as well as religion. Themes are revisited through different eyes, examined and torn apart in a way that invokes many questions, but ultimately encourages a calm acceptance of the challenges and mysteries of life.



## *Unspeakable Secrets of the Aro Valley*

By Danyl McLauchlan

Billed as 'a classic Kiwi comic mystery erotic horror adventure novel', *Unspeakable Secrets of the Aro Valley* is the debut novel of Dim-Post blogger Danyl McLauchlan. Set in a finely rendered Aro Valley, the story that unravels does indeed measure up to each of these tags.

*Unspeakable Secrets of the Aro Valley* is a hefty volume and its 400-odd pages detail the protagonist's strange adventures and encounters with secrets and the characters who keep them. Initially I was slightly irritated by a narrative awkwardness as the novel established itself. However, as the narrative moved forward, I soon forgave the sometimes stumbling tone and self-pitying haplessness of the central character, named Danyl, as the increasing twists and turns of the somewhat wacky plot line drew me in. I found myself enjoying the unknowns of this story set in a familiar landscape, with familiar characters—stereotypes that McLauchlan has breathed life into.

Shifting from tragedy to triumph and back, with moments of comedy delivered by straight-faced characters throughout, *Unspeakable Secrets of the Aro Valley* is a quirky, often melodramatic novel, clearly structured and delivered in an unassuming but convincing voice that allows for a sense of accidental discovery.



Briony Pentecost describes herself as an avid reader and writer. She completed a Master of Arts (MA) in Creative Writing at Victoria in 2011.

# Kiwi call in perfect harmony



Male little spotted kiwi on Long Island, Marlborough Sounds. Photo: Andrew Digby

Victoria's close links with Wellington's Zealandia sanctuary has led to a deeper understanding of New Zealand's second rarest kiwi.

Research projects are frequently carried out at the sanctuary by postgraduate students in Victoria's Centre for Biodiversity and Restoration Ecology. One of the latest studies has revealed that mating pairs of little spotted kiwi call in harmony with each other using a previously unknown form of vocal cooperation.

Over a three-year period, Dr Andrew Digby measured hundreds of calls made by a population of the birds living in Zealandia.

Andrew's study shows that male and female little spotted kiwi, which live in pairs and are thought to mate for life, synchronise their calls and have complementary call frequencies. This means that when the birds call together they are more effective at repelling intruders.

This is the first time such cooperation in frequency and time has been reported in bird duets.

The research also found that the size difference between males and females is not the sole cause of the differences in the frequency, or pitch, of the calls the birds make.

"Instead, we've found that male and female kiwi call for different reasons. Male kiwi use their calls for long-range purposes, such as defending their territory from other kiwi, while female birds use calls for close-range purposes, like staying in contact with their partners," says Andrew.

Raewyn Empson, the Conservation Manager at Zealandia, says the knowledge Andrew has shared with staff and volunteers has been invaluable. "It's really enhanced the experience for visitors, especially those on night tours," she says.

Andrew's PhD research was supervised by Dr Ben Bell, a conservation expert in the School of Biological Sciences, and Dr Paul Teal, an audio signal processing specialist in the School of Engineering and Computer Science.

He has also investigated whether little spotted kiwi have a call 'signature', which could identify individuals, and whether automatic recorders can be used for more efficient monitoring of kiwi.

"Understanding the calls kiwi make is important for their conservation, because it provides an efficient and non-invasive way to monitor the birds," says Andrew.

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# Big Day In explores meaning of life



The 'Town' side of the Town versus Gown quiz.

From left: Guy Somerset, Kathryn Ryan, Dave Armstrong, Celia Wade-Brown

Birth, deaths and marriages are significant events in most people's lives.

At an inaugural event organised by the Faculty of Humanities and Social Sciences in September, these age-old themes were explored both literally and metaphorically.

More than 200 people attended the free all-day event, which showcased what Professor Peter Whiteford, Deputy Dean of the Faculty and event organiser, says represented the type of lectures students get to enjoy every day.

Talks ranged from an exploration of the birth of language, to an analysis of the marriages of East and West in art, to questioning the fascination and obsession with death in fiction.

"We thought it was about time our faculty hosted a good old-fashioned open day again, to give the public a taste of what we are all about," says Peter.

"Although there was an emphasis on entertainment, the idea was also to stimulate people and make them think about issues in a new light—and with all the positive feedback we have received we are already looking ahead to the next one."

During the breaks there was live music and entertainment from the New Zealand School of Music, Pasifika singers and screenings of student films. A Town versus Gown quiz served as the finale to the day, with 'townies' such as Mayor Celia Wade-Brown and Radio New Zealand's Nine to Noon host Kathryn Ryan competing against Victoria academics.

Pro Vice-Chancellor and Dean of the Faculty of Humanities and Social Sciences Professor Deborah Willis says the Big Day In was a celebration of the breadth and depth of the humanities and social sciences.

"It was also a chance for the public to enjoy the wisdom and wit of some of our leading academics," she said.

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# Smart solution for seismic shaking



Victoria's ITS Director Stu Haselden explains how QuakeSurfer works to Civil Defence Minister Nikki Kaye, Chancellor Ian McKinnon and Wellington's Mayor Celia Wade-Brown.

Pioneering technology developed at Victoria University has been shown to protect valuable equipment from up to 90 percent of the forces generated by earthquakes.

QuakeSurfer is a stand-alone platform designed to house critical assets such as data centres, control rooms, generators and sensitive equipment.

It was invented by Victoria's IT Services Director Stuart Haselden and colleagues when they were considering where to locate their secondary data centre. They wanted to keep it in

Wellington, but were unable to find existing technology that would provide an adequate level of seismic protection.

Stuart says modelling of QuakeSurfer's performance has shown that the system can mitigate most of the effects of both horizontal and vertical shaking.

The University has worked with a number of partners to design and build QuakeSurfer—which was highly commended at the 2013 Earthquake Strengthening Awards—including engineers Dunning Thornton, MJH Engineering and Robinson Seismic.



Photo: Christopher Callus

## City cycling made easy

A Victoria University initiative aims to get more city cyclists on the road.

BikeEverywhere is a research project by Design lecturer and avid cyclist Kah Chan, supported by Summer Research Scholarship student Chris Callus and the Wellington City Council. The project promotes cycling as an enjoyable and convenient form of transport in the city.

In the first venture of its kind in New Zealand, bikeeverywhere.co.nz has easy-to-follow videos filmed from a cyclist's point of view using cameras attached to the handlebars and helmet.

The videos demonstrate cycle-friendly routes, safe behaviour at unavoidable, tricky intersections and highlight cycling opportunities in Wellington.

"It's about promoting behavioural change among existing cyclists and encouraging newcomers to enjoy the benefits of cycling," says Kah.

[www.bikeeverywhere.co.nz](http://www.bikeeverywhere.co.nz)



Patrick Thompson from the Māori Language Commission. Photo: Deaf Aotearoa New Zealand

## NZSL dictionary includes te reo Māori

Deaf New Zealanders now have access to te reo Māori vocabulary in the Online Dictionary of New Zealand Sign Language (NZSL), compiled by Victoria's Deaf Studies Research Unit.

Dr Rachel McKee, Director of Deaf Studies at Victoria and one of the dictionary editors, says the online dictionary is one of the first in the world to feature three languages.

Work on including a te reo Māori translation for each of the 4,500 entries started in early 2012.

The work was funded by Mā te Reo, through the Māori Language Commission, which also checked the translations. A professional Māori translator was employed to provide te reo Māori translation of dictionary entries.

<http://nzsl.vuw.ac.nz/>



The Wetox pilot plant onsite at Palmerston North. Photo: Geoff Todd

## Value from waste

Innovative PhD research at Victoria underpins a new technology that is designed to dispose of sludge in an environmentally sound way and recover chemicals from the waste.

The Wetox technology uses a process involving the application of high pressure air and temperature to break sludge down into its various components, which can then be recovered for use as fertilisers and other chemicals.

It is being trialled at the Palmerston North Water and Waste Treatment Plant, with keen interest in the results from other potential customers in New Zealand and internationally.

The company taking the technology to market, called Wetox, is owned by VicLink, the Victoria University company that commercialises intellectual property.

[www.wetox.co.nz](http://www.wetox.co.nz)



Female tuatara on Stephens Island. Photo: Anna Carter

# Close encounters with tuatara

Tuatara habitats will have a big impact on whether the reptiles can survive climate change, a PhD student has found.

Anna Carter is conducting a climate modelling study on Stephens Island in Cook Strait, home to New Zealand's largest tuatara population.

Her research examines the delicate gender balance among tuatara and how it could be affected by rapid environmental change, such as a 2°C increase in New Zealand temperatures predicted by 2050.

A key factor in how tuatara will cope lies in recent Victoria-led research which has revealed that the sex of baby tuatara is determined solely by the soil temperature surrounding eggs during incubation.

“Rapid climate warming could disrupt this system, in which warmer incubation temperatures above 21.7 °C leads to the development of males only. My aim is to predict

the potential for changes in nest temperatures, using mechanistic modelling to investigate the physical processes underlying soil temperatures.

“Accurately predicting soil temperature is more complicated than collecting field measurements, especially if rapid climate change produces new situations we haven't measured before.

“Particularly on Stephens Island, which is returning to a pre-human, forested state, we need high resolution models of soil temperatures in tuatara nests as well as a thorough understanding of their nesting behaviour, such as their choice of habitat and nest depth.”

Anna's behavioural analysis of nesting female tuatara has included several month-long trips to Stephens Island, tracking the reptiles during their nocturnal nesting period in November. She has also made numerous visits to Little Barrier Island to study the small population there.

“The findings from Stephens Island will help predict how smaller, more vulnerable populations of tuatara might fare in future.

“The practical aim of my research is to provide information relevant for conservation of tuatara and other species with temperature-dependent sex determination.”

Anna's research expands on work by her co-supervisor, reptile expert Dr Nicky Nelson, who heads Victoria's Conservation Biology programme, and Dr Nicola Mitchell, a former Post-Doctoral Fellow at Victoria currently based at the University of Western Australia. This research developed initial predictive models for soil temperatures and hatchling sex ratios of tuatara on North Brother Island in Cook Strait, New Zealand.

Dr Stephen Hartley, Deputy Director of Victoria's Centre for Biodiversity and Restoration Ecology, is Anna's other supervisor.

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