

CONNECTIONS

 **VICTORIA
UNIVERSITY**
MELBOURNE AUSTRALIA

ISSUE 17 WINTER 2012

THE TIME OF OUR LIVES

Associate Professor Gerard Kennedy and the science of circadian rhythms

FOLEY'S STORY

Meet Aboriginal rights advocate
and VU lecturer Gary Foley

IN PURSUIT OF WINNING

A computer chip is giving Aussie
pro cyclists a fair advantage

MUSIC FOR KINDRED SPIRITS

A Yarraville studio is home to professional
musicians and many of VU's music courses



COVER PHOTO:
Chronobiologist, psychologist
and sleep expert, Associate Professor
Gerard Kennedy from VU's School of
Social Sciences and Psychology
is a world-renowned authority
on the human body clock.

CONTENTS



CONNECTIONS
ISSUE 17
WINTER 2012

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PUBLISHER

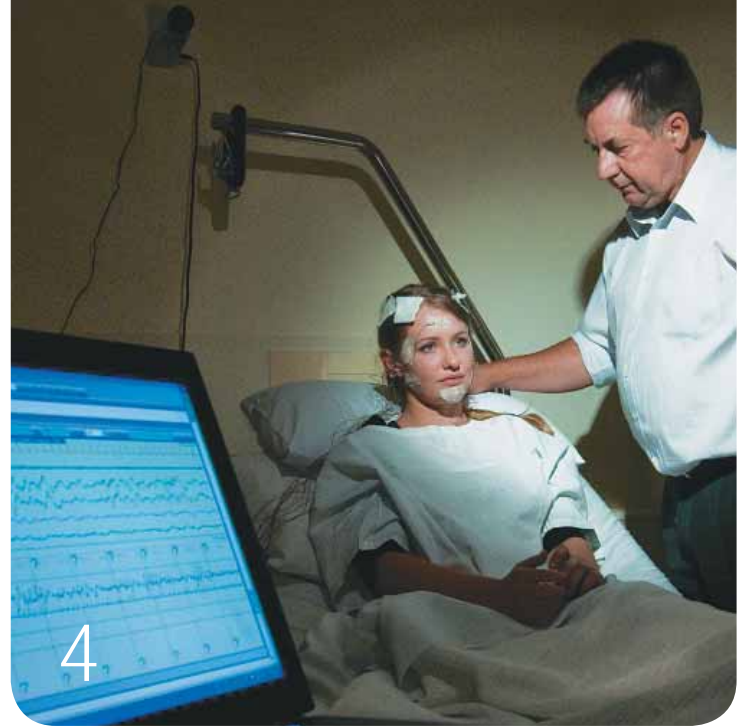
Marketing and Communications
Department
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4 THE TIME OF OUR LIVES

World-renowned sleep expert Associate Professor Gerard Kennedy has spent almost 30 years studying why and how our bodies react to time.

7 GRASPING THE LAW

A six-month Victoria University pilot education program has helped local African communities gain a better understanding of the Australian justice system.

8 MORE THAN SKIN DEEP

VU is the largest provider of beauty courses in the southern hemisphere with more than 250 students enrolled across 15 beauty programs.

10 PUTTING THE HEAT ON WASTEWATER

Scientists from VU's Institute for Sustainability and Innovation have proved that heat generated by industries can be used to desalinate the large quantities of wastewater produced as part of production processes.

11 HOLD THE STRETCH

Static stretching warm-ups are being overused by athletes and can be counterproductive, according to a researcher from VU's School of Sport and Exercise Science.

12 A CLASS OF THEIR OWN

Three VU educators are quietly making outstanding contributions to the way their students learn.

14 TEACHING BY LEARNING

VU has recruited two new academics: one has big plans to improve VU's learning, teaching and student experience; the other plans to better prepare VU's teacher graduates for the workplace.

15 SLEEPING GIANT

As part of the State Government's recent 'super trade mission' to India, a VU delegation capitalised on its visit by furthering the University's partnership with Ganpat University in India's fastest growing state.

16 TRADING PLACES

Each year hundreds of Victoria University students take advantage of VU programs to study abroad – from Finland to Rwanda, from Shanghai to New York City.

18 MAPPING INDIGENOUS HERITAGE

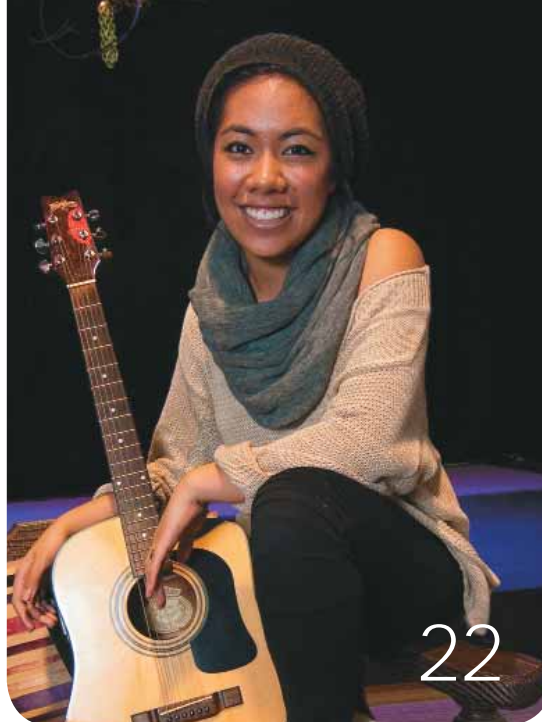
A group from central Victoria's Indigenous Waddawurrung community has been trained to use sophisticated mapping technologies to record culturally significant sites on their traditional land.

19 IN PURSUIT OF WINNING

A tiny computer created by a team of VU engineers and biomechanics researchers will offer Australian cyclists an edge as they chase Olympic gold in London.



8



22

20 RAISING STARS

PhD graduate James Veale is playing a major role in the development of the Australian Football League's future players.

21 WOMEN'S TALES

A VU researcher spent four months in PNG filming the lives of six of the nation's leading women who are breaking gender stereotypes in a predominantly patriarchal society.

22 MUSIC FOR KINDRED SPIRITS

Yarraville's Kindred Studios is home to both professional musicians and many of VU's TAFE and degree music courses.

25 PASSPORT TO HOSPITALITY

VU hospitality PhD student and hotel executive Heath Grow has moved between Australia, Malaysia, Singapore, China and Hong Kong to further his career and educational qualifications.

26 GERM WARFARE

VU Bachelor of Nursing graduate Elizabeth Smith is part of the WHO's Global Outbreak Response Alert Network and is ready to travel to any corner of the map when a natural disaster strikes.

27 ART BY FOOT AND FIST

Taekwondo black-belt holders from South Korea are taking part in a unique VU program aimed at producing world-class coaches and administrators in the sport.

28 FOLEY'S STORY

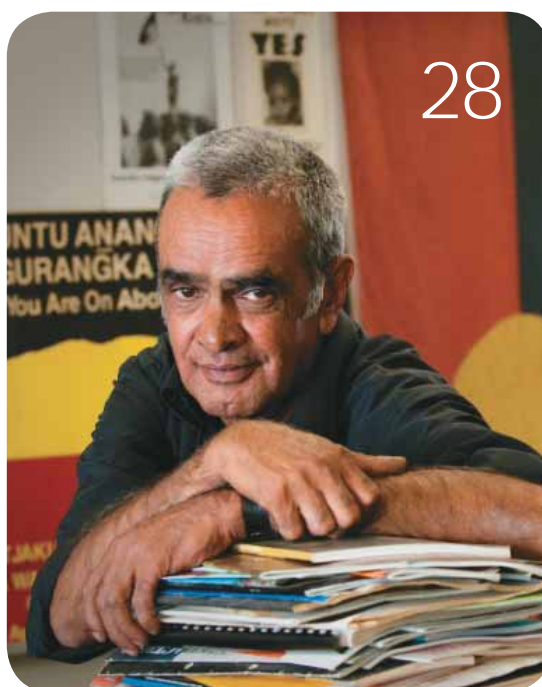
Gary Foley – historian, actor, writer, champion of Aboriginal rights, mellowed anarchist, tomato-grower and now VU lecturer – has many identities.

30 A CLASSROOM NOT AS WE KNOW IT

The multi-platform Terrain room at Footscray Nicholson Campus is one of a growing number of rejuvenated physical spaces that have transformed dreary classrooms, libraries and lecture theatres into engaging, technology-rich environments.

31 HEALTHY AMBITION

As Austin Health's Executive Director of Strategy, Quality and Service Redesign, VU alumnus Fiona Webster can be likened to the oil in the machine, keeping Austin Health running at its best.



28

32 ART OUT WEST

For more than a decade, VU's annual creative arts journal Offset has been showcasing the work of some of the finest local emerging writers and artists.

34 E-NETWORKING FOR HEALTH

A small laboratory in Beijing is undertaking research projects that could be life-altering and life-saving for many of us.

36 IN BRIEFS

News snippets from around the University.

38 NEW BOOKS

A selection of new book releases by authors in the VU community.

39 TALKING POINT

Vice-Chancellor Professor Peter Dawkins reflects on the major challenges facing VU following recent government policy and regulatory changes, including funding reforms, in both higher and vocational education.

39 VU FACTS

FROM THE EDITOR

WELCOME to the winter 2012 edition of *Connections*.

We've given this edition a new look to complement the University's new direction, including its vision to be a great university of the 21st century, built on excellence, engagement and accessibility. I hope you like it.

As in previous editions, this issue offers readers a selection of stories across the broad spectrum of activities undertaken by the University's students, academics, researchers and alumni. Our cover story is about renowned chronobiologist Associate Professor Gerard Kennedy, an expert on the daily rhythms of our biological processes – our body clocks and sleep patterns. Kennedy has no easy remedy for jetlag, but is doing valuable sleep-related research to help improve the quality of life of quadriplegics and Parkinson's sufferers.

There are stories on our beauty courses; desalination; students studying abroad; two new senior academics who respectively plan to make big improvements to VU's student experience and the quality of our teacher graduates; and the new multi-platform Terrain room at Footscray Nicholson Campus, the latest of VU's learning spaces to be transformed into engaging, technology-rich environments.

There's a story on Kindred Studios, the Yarraville home of many of VU's music-related courses. One of the music students featured is Fatai Veamatahau. Many readers will remember Fatai as a popular contestant on Channel 9's, *The Voice*. Still only 17 years of age, Fatai has a very promising singing career ahead of her.

Gary Foley, champion of Aboriginal rights dating back to the establishment of the Canberra Aboriginal tent embassy in the early 1970s, is also profiled. The mellowed radical now lectures in Australian history at St Albans Campus.

In his regular column, Vice-Chancellor Professor Peter Dawkins writes on the challenges facing VU following the recent funding reforms to tertiary education.

I hope you find this issue of *Connections* enjoyable and informative.

PHIL KOFOED
MANAGING EDITOR

THE TIME OF OUR LIVES

Sleep expert Associate Professor Gerard Kennedy has spent almost 30 years studying why and how our bodies react to time. **KAMINI RAJARETHNAM** reports.

THE FASCINATION STARTED in the mid 1980s with marsupials: fat-tailed dunnarts, bandicoots and native cats. Third-year behavioural science student Gerard Kennedy was working as a research assistant at La Trobe University for one of the first chronobiologists in Australia, Professor Stuart Armstrong.

Captivated by their investigations into the biological rhythms of the animals, as soon as Kennedy had completed his honours he approached Armstrong to see if he could pursue a PhD doing further research.

For the next five years, Kennedy's research covered a much broader area of what is commonly known as circadian rhythms. In Latin, *circa* means 'around' or 'approximately'; and *diem* means 'day'. Hence a circadian rhythm refers to an inbuilt biological process or 'rhythm' that has a daily cycle.

The science of circadian rhythms (also known as chronobiology) is only half a century old. To the layperson it's an organism's 'body clock' that basically helps synchronise sleep and wake patterns with the Earth's day-night cycle. Called the suprachiasmatic nucleus, it's the size of a grain of rice that is located deep in the brain in the hypothalamus.

All vertebrate brains contain a hypothalamus, located just above the brain stem, to regulate basic vital life functions such as body temperature, hunger, thirst, fatigue and sleep, as well as circadian cycles.

Fly from Melbourne to London and you'll experience firsthand the effects of your body's circadian cycles. Being exposed to sunlight adjusts your clock so it stays aligned with day and night. But crossing several time zones throws off the body's biological clock resulting in desynchronosis, more commonly known as jet lag, with its well-known symptoms of irritability, disorientation, interrupted sleep and stomach problems.

Jet lag, insomnia and mid-afternoon drowsiness prove that our body clock is a powerful thing. Although American inventor Thomas Edison famously denounced sleep as a waste of time, research has shown that disregarding your body clock can lead to serious disorders including diabetes, heart disease, high blood pressure and obesity, as well as mental health problems such as depression and mood disorders.

Kennedy's early research showed that changes in an animal's feeding schedules affected its biological rhythms, and that the body functions of all living organisms are regulated to take place at specific times during Earth's 24-hour rotational cycle. He chose to study marsupials because there was also little known then about their circadian rhythms.

Today, Kennedy holds down a full-time teaching role at Victoria University's St Albans Campus, as well as co-ordinating fourth-year Honours courses, supervising several PhD students and conducting ongoing research into circadian rhythms.

Now a world-renowned chronobiologist and psychologist, Kennedy only decided to go to university at the age of 27. His first jobs out of high school were as an animal husbandry technician at the Melbourne and Werribee Open Range Zoos.

This experience came in handy when he started exploring chronobiology at La Trobe. Marsupials are not your typical lab animals, so Kennedy went about breeding his own – by altering their internal clocks and fertility cycles.

Kennedy's associated interest in sleep disorders and how they related to the human mind led to training in clinical psychology at the Austin Hospital and the subsequent treatment of patients with sleep-related problems.

Apart from his VU work, Kennedy is a senior consultant psychologist to the departments of respiratory and sleep medicine at the Austin hospital and Monash Medical Centre, where he runs weekly half-day insomnia clinics.



SIESTA TIME

CONTRARY to what you may think, most of us have a natural lull in the early afternoon which is controlled by our body clock (not by how much we eat at lunch). Having a 20–40 minute nap in the early afternoon can combat drowsiness for the rest of the day.



7AM

Want to grow a family? Now is the time to sow because hormone levels are at their highest and sperm counts at their peak.

2PM

Visit the dentist or endure a personal training session because your pain tolerance is at its highest. Or take a nap – your metabolism slows between 2pm and 3pm and the body is programmed for a short sleep.

9AM

Schedule a surgical procedure because medical staff are likely to be less fatigued.

6PM

Exercise. Lung capacity is at its maximum, and strength and stamina at their peak.

10AM

Run your errands or sit for an exam because your concentration levels are at their highest and the brain is most rested.

7PM

Eat, drink and be merry. Your digestive system is at full capacity (your liver can metabolise alcohol faster).

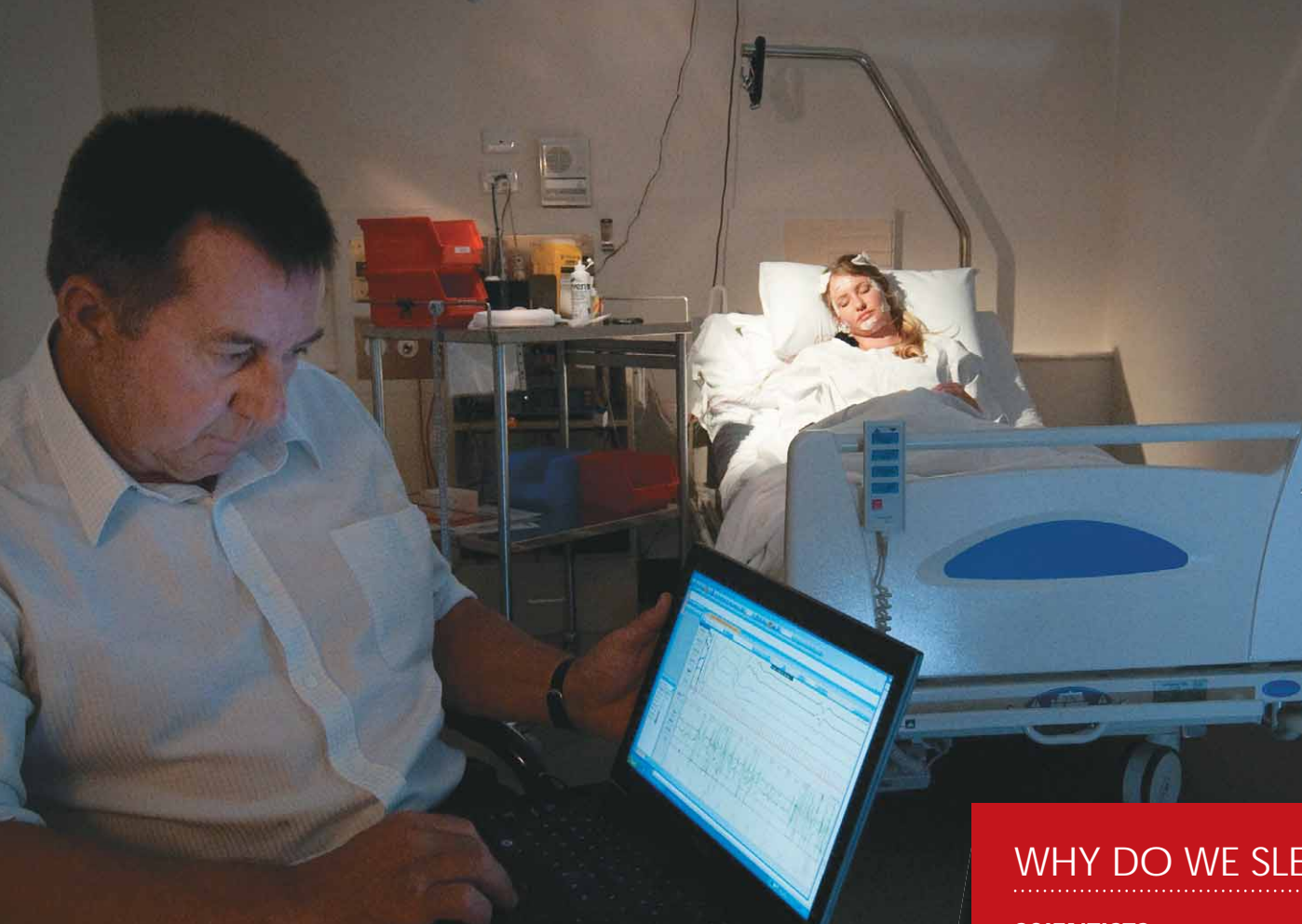
12PM

Negotiate a tricky deal or ask for a pay rise because verbal reasoning skills are at their peak around midday.

10PM

Do it. Libidos are at their highest in the late evening.

● Associate Professor Gerard Kennedy is one of Australia's most renowned psychologists in the treatment of sleep disorders.



● Associate Professor Gerard Kennedy treats sleep disorders at the insomnia clinic at Melbourne's Austin Hospital and Monash Medical Centre.

WHY DO WE SLEEP?

SCIENTISTS don't yet understand exactly why we need sleep. They believe it restores us physically and helps us organise our brains. We do know, however, that we can't live without it.



COUNTDOWN

WE NEED different amounts of sleep each day depending on our age:

Infants: 13–16 hours

Children: 8–12 hours

Adults: 6–9 hours

Elderly: 5–8 hours

With his broad experience as one of Australia's most renowned psychologists in the treatment of all manner of sleep disorders, Kennedy is often referred to as the 'Dr House' of sleep ailments. Patients with obscure maladies – such as a 14-year-old-girl who fell asleep whenever she laughed vigorously – are usually referred on to him.

In 2010 he presented a case study at the Australasian Sleep Conference in New Zealand on sexomnia, the bizarre act of having sex while asleep. This received international media attention, and two years later he still receives queries from people claiming to suffer from the problem. He is currently waiting to testify as an expert witness for the defence in a sexual assault trial where the defendant will plead not guilty on the grounds that his transgression occurred while he was asleep.

Kennedy maintains a strong research program in sleep disorders and circadian rhythms. He is one of the chief investigators in the Sleep Health in Quadriplegia research program being carried out at the Austin Hospital. Funded with \$5 million from the Transport Accident Commission, the collaborative five-year research project between the hospital's Respiratory and Sleep Medicine unit and the Victorian Spinal Cord Service is now in its third year investigating the effects of melatonin treatment on quadriplegics.

Melatonin, a key marker for measuring the timing of a mammal's circadian rhythm, is a hormone

secreted by the pineal gland at the base of the brain and is linked to how our body gets ready for sleep. Normally its production is reduced in bright light, so levels increase at night. In people with complete quadriplegia (spinal cord injuries), melatonin secretion does not occur because the nerve connected to the gland is damaged. Kennedy believes this strongly suggests that the absence of melatonin is the cause of disturbed sleep patterns of quadriplegics.

"Most people with quadriplegia have poor sleep quality, which impacts on their daily functioning, quality of life and recovery from injury," says Kennedy. "Good sleep is an integral component of a healthy and productive life. Melatonin acts as a signal that it's night time, but because quadriplegics cannot produce melatonin, many suffer from sleep apnoea and poor sleep patterns."

"We have found convincing evidence that melatonin therapy should be used for quadriplegia," says Kennedy. "This application of chronobiology definitely improves the quality of life of those with brain and spinal injuries, and those with sleep disorders."

The positive results in the clinical trials undertaken so far have resulted in an extra \$2 million granted by the TAC to the program and an additional \$1.3 million to establish a new spinal cord research centre at Austin Health in Heidelberg.

Kennedy is also undertaking research on the effects of bright light therapy on melatonin production. Bright light therapy exposes a patient to an artificial light source for regulated periods of time.

Working in 2011 with Dr Greg Willis of the Bronowski Institute of Behavioural Neuroscience, Kennedy made a promising discovery in the treatment of Parkinson's disease using bright light therapy. The researchers discovered that the therapy can slow or halt the progress of the disease by decreasing or blocking melatonin activity in the brain.

"With no solid progress over the last 20 years in using dopamine and stem-cell research to treat Parkinson's disease, we found that light therapy can significantly reduce Parkinsonian symptoms such as tremors, stiff muscles and depression."

Kennedy says this has the potential to further improve the quality of life of Parkinson's sufferers by reducing their long-term reliance on drug treatments.

Kennedy has spent most of his life studying body clocks, and few would know more about the workings of circadian rhythms. Nevertheless, he knows that living in complete sync with our clocks is practically impossible given the demands of modern life. "I try and have a healthy clock life, although I have a tendency to stay up too late," he says. "Some habits are tough to break." ∞

GRASPING THE LAW

JESSICA JURY

IMAGINE ARRIVING IN A NEW COUNTRY that you're immediately meant to call 'home', only to be confronted with an unfamiliar language, a strange culture and a legal system that seems to defy logic.

A six-month Victoria University pilot education program based at Footscray Nicholson Campus has helped African communities gain a better understanding of the Australian justice system, while assisting with English studies and cultural awareness.

Leadership, Law and Language was delivered in the first half of 2012 by VU College's School of Pathways and Transitions, in partnership with Latrobe City Council in eastern Victoria. In addition to its regular twice-weekly evening lessons, the course offered a series of forums that gave students the opportunity to talk to legal specialists and African community leaders about legal issues.

VU College ESL (English as a Second Language) teacher Lynne Carolan says a number of legal concerns led to setting up the course.

"The legal issues these communities face were brought to our attention," Carolan says. "For example, negative press about groups of African youths was having a huge impact on the community. It's common for young people to gather in public spaces in Africa, but in Australia this is problematic.

PARTNERSHIPS AND PARTICIPATION PROGRAM

AN AUSTRALIAN GOVERNMENT INITIATIVE, the Higher Education Partnerships and Participation Program aims to ensure that Australians from low socioeconomic backgrounds have the opportunity to do further study. It provides funding to universities to allow easier access to courses by disadvantaged members of the community, as well as improve rates of retention and completion.



● As a former South Sudanese refugee, Legal Studies tutor Peter Pal was able to empathise with his students: "They listened to me because I knew what they were going through."

"Police were also getting involved in neighbourly problems and disputes that would have been solved by community leaders and mediation in Africa."

With many African arrivals moving to Victoria's regional areas, it was decided to offer the course at both the Footscray Nicholson Campus and the Morwell Community Centre in Gippsland, with simultaneous lessons using Skype link-ups. The first forum, by guest presenter Professor Neil Andrews, involved a comparative study and discussion around the land rights of Indigenous people in Sudan and their counterparts in Australia.

E-learning was an important feature of the course, with a website that encouraged online blogging and discussions with an interactive, community feel.

"One of the really important elements that made the program work was the great desire of the African community for knowledge about the law in Australia," Carolan says. "Flexible delivery is a great way to disseminate that information in rural areas. People of all ages learned about the law and passed the information on to help their community."

Legal Studies tutors Bichok Kot and Peter Pal were engaged for their expertise in social science and policy, and international community development respectively. As former South Sudanese refugees themselves, they empathise with their students.

Pal, a VU graduate, says his ability to connect with the students was mutually beneficial.

"A new culture, legal system – even food – can be very confusing," Pal says. "One thing I really enjoyed was that I was able to speak to members of the

African community and they listened to me because I knew what they were going through. Initiatives like this course can play a part in our community being transformed for the future."

The pilot course was funded with a \$45,000 grant from the Australian Government's Partnerships and Participation Program. If further funding is received to continue the course, there are aims to broaden collaborations with community partners, develop pathways for students from work to study and from school to further education, and foster different learning environments.

For further information, contact program director Jacinta Richards, Head of School, Pathways and Transitions on 03 9919 8640. [VU](#)

Did you know?

Department of Immigration and Citizenship statistics show that one in four Australians were born overseas. And 45 per cent of the nation has at least one parent born overseas. Around a quarter of humanitarian and family migrants reported that they knew no one in Australia before they arrived, and a much higher proportion of skilled migrants reported having no pre-arrival links.

MORE THAN SKIN DEEP

VU is the largest provider of beauty courses in the southern hemisphere. Its students consistently win awards from the Hair and Beauty Industry Association (HBIA), the peak Australian body representing the industry.

KAMINI RAJARETHNAM

IN THE BEAUTY SALON AND LABS at VU's City King Campus you'll find students not only giving clients manicures, facial treatments and permanent hair-removing epilations, but also carrying out chemistry experiments and dissecting animals.

More than 250 students are enrolled across 15 beauty programs ranging from a course in Bridal Make-Up to a four-year Bachelor of Health Science in Dermal Therapies.

A 12-month Diploma of Beauty Therapy – run by VU's School of Service Industries – allows students to enter the beauty industry as trained therapists specialising in nail technology, waxing, permanent epilation, and facial and body treatments. But unknown to many, the diploma has a strong science foundation taught by science teachers. Students also learn about anatomy, physiology, biology, cosmetic chemistry and skin infections.

Acting Education Manager Anne Barry is a strong advocate of the science behind beauty therapy.

"Our students learn the underpinning knowledge behind skin treatments," says Barry. "In order to be true professionals, they need to be able to demonstrate the validity of the evidence behind the service they're charging money for, because if they don't know the background they can't really treat it in a professional manner."

In their lab prac-work, students investigate the chemistry of industry products, do exercises in microbiological hygiene and carry out anatomical dissections on animals. The dissections are one of the unique aspects of the program that sets it apart from similar courses offered by other training organisations.

Along with gaining a scientific background in skin – our largest organ – much of the learning takes place in the workplace where students complete specified hours across a range of salon practices.

"We have built close relationships with industry partners over the years by regularly discussing their needs, which in turn shapes how and what our students learn," says Barry.

Students have the option to enrol in the Bachelor of Health Science in Dermal Therapies – the only Australian university degree designed for the beauty industry – once they complete the diploma, especially if they are keen on furthering their scientific

● A student performs light therapy treatment using a Light Emitting Diode (LED) at the City King Campus clinic.

VU'S BEAUTY PROGRAMS

SHORT COURSES

Manual Lymph Drainage
Apply Acrylic Nail Enhancement
Apply Gel Nail Enhancement
Beauty Therapy Orientation
Photographic Make-Up
Special Effects Make-Up
Bridal Make-Up
Hot Stone Therapy
Brazilian Waxing
Make-Up Basics

TAFE COURSES

Certificate II in Retail Make-Up and Skin Care
Certificate III in Beauty Services
Certificate IV in Beauty Therapy
Certificate III in Hairdressing
Diploma of Beauty Therapy
Diploma of Specialist Make-Up

DEGREE COURSES

Associate Degree in Dermal Therapies
Bachelor of Health Science
(Dermal Therapies)

knowledge of the industry. The degree – run by VU's School of Biomedical and Health Sciences – provides a career pathway to the medical aesthetics industry.

Degree students focus on dermal science, cranial-facial anatomy and physiology, where they learn techniques in electrotherapy, laser therapy, wound care, skin peels and manual lymphatic drainage.


First offered in 1999, the four-year degree program is run at the City Queen Campus. It was developed in response to a request from the plastic surgery sector. With the increased popularity of cosmetic surgery, there was a need for trained staff with knowledge in medical aesthetic procedures, including post-operative procedures such as reconstructive tattooing, where natural pigments are deposited into the skin.

The degree, like the diploma, has a large practical component where students hone their skills alongside TAFE students at the training clinic at City King Campus. In their final year, students can choose to complete a research project or study high-risk dermal procedures.

They have the option of exiting the program after the first two years and graduating with an Associate Degree in Dermal Therapies.

Final-year student Helen Barnes found out about the course when she looked into furthering her qualifications after working in the spa industry.

"As the only course of its kind in Australia, it's given me a big advantage in finding work in the industry," says Barnes.

Career opportunities include employment in plastic and cosmetic surgery clinics, setting up a dermal therapy practice or teaching beauty in the vocational education sector. 



● Chemistry classes are part of the beauty training curriculum at the City King Campus labs.

Technology of beauty

VU's Dermal Therapy students are taught a range of specialist treatments to prepare them for work in the industry. Some of the treatments include:

Microdermabrasion

Also known as facial skin resurfacing, this procedure helps repair sun-damaged, aged and acne-affected skin. Aluminium oxide crystals are used to buff away the surface layer of skin.

Low-level laser therapy

This therapy uses various wavelengths of light to encourage the cells in the skin to function optimally. It can be used post-operatively to improve wound healing and reduce scarring. Conditions such as eczema, psoriasis, rosacea, acne, and slow-healing conditions can also benefit from the treatment.

Light Emitting Diode (LED) light therapy

Two different wavelengths of light are used to either increase collagen production and improve circulation, or to control bacteria in the treatment of acne.

Manual lymphatic drainage (MLD)

A specialised massage treatment for lymph oedema (swelling), MLD stimulates the lymph vessels that lie just beneath the skin. It improves lymph circulation, increases fluid uptake and improves systemic immunity, all essential to support the healthy functioning of the skin and other body systems.

Electro-epilation

A treatment to permanently remove hair by applying electricity through a metal probe inserted into the hair follicle to destroy the hair root.



PUTTING THE HEAT ON WASTEWATER

“AS ENERGY AND WATER BECOME INCREASINGLY SCARCE THIS TECHNOLOGY IS A MAJOR DEVELOPMENT.”

MICHAEL QUIN

SCIENTISTS FROM Victoria University's Institute for Sustainability and Innovation have shown how waste heat can be used to desalinate wastewater.

A three-month trial at the Newport Power Station in Melbourne's west proved that heat generated

by industry can be used to desalinate the large quantities of wastewater produced as part of the production process.

The desalination process uses membrane distillation technology. The waste heat is used to evaporate the wastewater which passes through a fine membrane and condenses on the other side as treated water while the

salt accumulates on the reverse side. The condensed water is potable – at or above tap water standard – and can therefore be re-used around the plant.

Project leader Associate Professor Mikel Duke says the trialled process used 50 per cent less electricity to desalinate water than traditional techniques. A subsequent improved design proved that it was possible for the process to use 95 per cent less electricity than normal methods.

“As energy and water become increasingly scarce this technology is a major development,” Duke says. “If it were scaled up to a continuously operating industry of similar size to Newport Power Station, it could desalinate around seven million litres of water per day, which is the equivalent of supplying fresh water to about 25,000 people in Melbourne.”

Duke says many factories and industrial settings produced enough unused waste heat for the process to be used effectively.

“One of the most exciting outcomes of our tests is that our system can use waste heat as low as 30°C,” he says. Conventional evaporative desalination processes use 70°C or higher.

“We have seen several industrial cases where there is far more waste heat available than what is needed to treat

● Project partners (l-r): Gareth Roeszler (Water Quality Research Australia), Audra Liubinas (City West Water), Andrew Gibbs (Ecogen Energy), Professor Mikel Duke and Noel Dow (VU's Institute for Sustainability and Innovation).

the entire site's wastewater currently going into the sewer,” Duke says.

“There are a lot of industries that are keenly watching this technology and we are already in consultation with the mining, manufacturing and dairy industries as well as water utilities to move to larger pilot trials.”

The technology is relevant to many industries as the saline effluent from industry is a common trade waste concern that businesses must manage, both internally and in negotiation with water authorities.

“Membrane distillation technology is just emerging globally, so our demonstration on an industry site puts us at the forefront of its international progress,” Duke says.

The success of the research project continues to receive widespread media coverage and industry interest. A major company has asked Duke to produce a funding proposal to set up a membrane distillation plant on its site.

The project was led by Water Quality Research Australia and VU's Institute for Sustainability and Innovation, with support from City West Water, GWM Water and Integrated Elements. It was funded with \$97,500 by the State Government's Smart Water Fund as well as by Water Quality Research Australia and City West Water. 

THE FUTURE

POTENTIAL FUTURE USES for membrane desalination technology include using solar panels to supply the heat to purify wastewater and make bore water potable.

Australia's current desalination plants are state of the art and use the most efficient and reliable technology for converting seawater to freshwater. However, according to Associate Professor Mikel Duke, future desalination plants are likely to use membrane distillation technology because of its efficiency and green credentials.

HOLD THE STRETCH

Static stretching warm-ups are being overused by athletes and can be counterproductive, according to a Victoria University researcher. **MICHAEL QUIN** reports.

JAMES ZOIS from Victoria University's School of Sport and Exercise Science says too many athletes are using static stretching such as calf, quad and hip flex stretches just before competing even though it has been shown to reduce muscle power.

"It's an epidemic," Zois says. "I see it at almost every AFL club, tennis match or international soccer event where athletes are stretching on the sidelines just prior to playing," he says. "Athletes just aren't getting the message."

Zois' research with professional athletes showed that static stretching decreased vertical jumping performance by almost 8 per cent, while a more dynamic warm-up increased jumping by 3 per cent.

Dynamic warm-ups included motion activities such as high knee raises, leg swings, run-throughs and change of direction tasks.

Zois says his research proved that, from a power point of view, static stretching was worse than no warm-up at all.

"It's called a warm-up because its aim is to increase the metabolic processes, heart rate, muscle temperature and oxygen delivery to working muscles," Zois says. "If you do anything passive, like static stretching, you actually reverse those processes, and so are actually doing the opposite of a warm-up."

With an almost 11-per-cent difference in jumping performance following static and dynamic stretching, Zois says athletes could not afford to ignore the facts. "Too many athletes still use the counterproductive technique of static stretching during their warm-up."

He says there is a place for static stretching, particularly for those with chronic injuries or muscle stiffness concerns, but that it should not be a part of a normal athlete's warm-up regime inside an hour of performance. Other research conducted by Zois and his colleagues shows major sporting

clubs may be tiring their players by warming up for too long. The research compared performance after various warm-up routines including one conducted by a first-class (Series A) Italian soccer club.

"RESEARCH PROVED, FROM A POWER POINT OF VIEW, STATIC STRETCHING WAS WORSE THAN NO WARM-UP AT ALL."


The study showed a specific six-minute warm-up routine produced better results than the club's usual all-encompassing 23-minute routine, which included run-throughs, stretching and change of direction tasks.

The players' speed, agility and jumping performance were all better after the short warm-up – by as much as 7 per cent – while athletes doing the longer warm-up showed signs of fatigue.

"This shows that beyond the five minutes needed to increase heart rate and muscle temperature, followed by a couple of targeted explosive routines, you start tiring players out for no real benefit," Zois says.

He says a preliminary survey of European soccer clubs and AFL clubs showed many had longer routines, with some pre-match warm-ups lasting up to one hour.

"We believe a lot of these are far too long and counterproductive," he says. "On top of that, some players are also doing their own routines like boxing in the corner for 20 minutes to release their anxiety and nervous energy. Coaches need to restrict and focus their players' warm-up so they can save all that energy for use on the field during competition."

Zois says for athletes with no injuries the shorter warm-up would suffice, but for those with injuries, extra stretching or exercises may be required. 

● Research conducted by sport scientist James Zois shows that many athletes are performing ineffective or even damaging stretches and warm-ups.



● Dr Helen Hill (left) has a close working relationship with many of her students, including Zulmira Fonseca.

VU AND TIMOR-LESTE

VU HAS HAD A RELATIONSHIP

with Timor-Leste since the early 1990s when Timorese refugee students came to study at VU.

The VU Foundation established the East Timor Scholarships Fund in 2005 to enable selected Timor-Leste students to study at VU. Scholarship recipients receive a fee waiver and a living allowance. Former scholarship recipients include Alex Gusmão Freitas, now working for East Timor's Anti-Corruption Commission, and Ismenio Martins da Silva, who was recently appointed Labour and Education Attaché at the Embassy of Timor-Leste in Canberra.

A CLASS OF THEIR OWN

This article shines a small light on the outstanding achievements of three VU educators who, albeit quietly, are making outstanding contributions to the way their students learn. **KAMINI RAJARETHNAM** reports.

■ NATION BUILDER

DR HELEN HILL doesn't think she deserves the award that sits on top of a well-used filing cabinet in her small office at Footscray Park Campus. Last year she received the Vice-Chancellor's Peak Award for Outstanding Service to the University in recognition of her longstanding efforts to build the capacity and skills of the residents of one of the world's youngest nations, Timor-Leste.

Her interest in the island nation began as a young woman at university in the early 1970s. At the time, little was known about Timor-Leste (then known as Portuguese Timor) by the outside world and Hill decided to base her masters thesis on the decolonisation of the Portuguese territory. It was only after she subsequently met the former President of Timor-Leste, Dr José Ramos-Horta – then a journalist and advocate for independence – in 1974 that her interest in Timor-Leste turned into a lifelong fascination.

Hill's thesis had to be put on the backburner when the Indonesian military occupied Timor-Leste in 1975. She was banned from entering the country because of her published booklet, *The Timor Story*, making it unsafe for her to visit the country.

It was not until the late 1990s that she became motivated to re-engage with Timor-Leste when one of her Timorese students asked: "What are you

TIMOR-LESTE IN BRIEF

A FORMER PORTUGUESE

COLONY, Timor-Leste – Portuguese for East Timor – comprises the eastern part of Timor, an island 640 km northwest of Darwin. It was occupied by Indonesia in 1975 and remained under its rule until 1999. Today, Timor-Leste is one of the world's newest and smallest countries with a population of just 1.2 million.

doing for Timor's struggle?" In 1998, Hill established the VU East Timor Working Group, and at Ramos-Horta's suggestion, VU co-hosted an international conference with the National Congress for Timor Reconstruction in 1999, with funding from the Federal Government.

Hill finally published her thesis, *Stirrings of Nationalism in East Timor: Fretilin 1974–1978* in 2002, just before the international community recognised Timor-Leste as a sovereign country on 20 May 2002.


"No one was interested in my research about East Timor's transition to independence in the 1980s because nobody believed Timor-Leste would become independent," Hill says. "When the country finally gained independence in 2002, everybody was suddenly interested."

Hill is now widely recognised as an expert on the country, and her research is quoted in other academics' work and in the media.

Since joining VU in 1991, Hill has played an integral part in establishing links with NGOs in the Pacific Islands region and establishing VU's degree program in Asia-Pacific Community Development (now called the Bachelor of Arts in Community Development – International stream).

Hill was also instrumental in establishing links between VU and the National University of Timor Loro Sa'e (UNTL) in the nation's capital, Dili. She assisted UNTL to establish its own Community Development department. UNTL academics from the department have visited VU under the Australian Leadership Awards program to study university governance and to work on curriculum development and teaching methods.

Hill has many achievements to be proud of but what resonates most with her is her work with her students. Every two years she takes them on study tours to Timor-Leste, where they spend up to three weeks undertaking research, writing essays and meeting community leaders. As part of the 2012 study tour, Hill plans to take a team of VU staff and students for a first-hand look at the country's parliamentary elections in July.

Every other year she teaches a study unit at City Flinders Campus called, *Timor-Leste: Politics, History and Society*, where Timorese students from all faculties get a chance to study their own politics and history alongside local students. 



● Dr Thinh Nguyen introduced teaching methods that have radically changed the way his students are learning.



● Plumbing teacher Scott Robinson received the 2011 Vice-Chancellor's Peak Award in the Vocational and Further Education category.

RE-ENGINEERING LEARNING

DR THINH NGUYEN feels a strong responsibility to ensure his engineering students are engaged in their studies. A senior lecturer in engineering at VU since 2004 when he completed his undergraduate and doctorate studies, Nguyen has developed innovative methods to ensure his students remain absorbed and motivated.

"My motivation was to see students get the most out of their learning experience," Nguyen says.

Believing the traditional teaching approach of lecturing with little student participation was not maximising the learning process, Nguyen introduced a number of teaching initiatives two years ago that have radically changed the way his engineering students are learning.

The result? Attendance has risen, failure rates have dropped and average marks have improved.

As one way to engage his students, Nguyen introduced a peer-mentoring program in 2010 in collaboration with VU's Students Supporting Student Learning Group to provide

students with peer support in physics. Second and third-year engineering students now mentor their first-year counterparts in an informal setting outside class time.

Now in its third year, the program's success is largely attributed to the way seasoned students can relate to the struggles of those just beginning their engineering degrees.

Nguyen also introduced problem-based learning exercises into other subjects. Students are presented with a problem that they learn to solve by designing their own experiments and through trial and error.

"By taking the learning process out of the classroom and into a practical environment, students come to understand the theories better and develop problem-solving methods through a hands-on approach," Nguyen says.

Nguyen was voted 'Best Lecturer' by first-year engineering students in 2011, and was also a Vice-Chancellor Peak Award winner in the Higher Education category for Excellence in Learning and Teaching. [↗](#)

VU AND PBL

VU'S PROBLEM-BASED LEARNING (PBL) model was introduced in 2010 for all Bachelor of Engineering courses. In PBL, the 'problem' is presented to students who explore solutions using their prior knowledge and experience. This method often uses group work and peer teaching as part of its process. Students are inspired to learn via practical experiments that reveal how simple physics can be used to solve complex and interesting everyday problems.

NEW AGE PLUMBERS

THREE YEARS AGO, plumbing teacher Scott Robinson began to see the potential of WebCT as an online learning tool for his plumbing apprenticeship students. Back then, WebCT was only used to store student results, but Robinson had bigger ideas. WebCT has now fundamentally changed the way VU plumbing apprentices learn their trade, including fast-tracking the completion of their apprenticeship.

With the assistance of VU online learning system designers, the School of Construction Industries' WebCT-based Certificate III in Plumbing apprenticeship was rolled out in 2010. It delivers theoretical information online, assesses competencies and records results so a student's progress can be tracked in detail. It also allows students to have online conversations with their classmates and teachers.

The success of the program led to VU becoming the first training organisation in the state to simultaneously deliver six streams of plumbing specialties – water, sanitary, drainage, gas, roofing and mechanical.

Apprenticeship completions in the mechanical plumbing stream in particular have vastly improved. In the past, only two per cent of these apprentices finished their course to become registered mechanical plumbers, specialising in pipes, and gas appliances and heaters. This has now jumped to 100 per cent.

"Industry was on the verge of a shortage of mechanical plumbers, but now with a 100 per cent registration rate, that won't become a problem," Robinson says.

Student motivation has also improved because of the time-saving features of the new program. As soon they show competence in one skill they can quickly move on to the next one.

"WebCT has opened my eyes to the power of e-learning and e-teaching," Robinson says. "To train 21st century plumbers we needed to improve our delivery by allowing students to learn certain aspects outside the classroom."

"The program is doing exactly what we expected and there are now more apprentices entering the workforce with more registrations and qualifications."

Skills Victoria recognised the value of Robinson's web-based learning by awarding him \$10,000 as Trainer of the Year at the 2011 Victorian Training Awards. He also received the 2011 Vice-Chancellor's Peak Award in the Vocational and Further Education category. [↗](#)

Did you know?

The ancient Romans used lead water pipes, and the word plumber comes from the Latin word for lead, *plumbum*. Plumbing apprentices generally require a minimum of Year 10 before enrolling in an apprenticeship or Certificate III in Plumbing. Training is both on and off the job. Details of the training may vary depending on the needs of the employer and are included in the employer's training agreement.

TEACHING BY LEARNING

ANN MARIE ANGEBRANDT

VICTORIA UNIVERSITY'S new Pro Vice-Chancellor of Learning and Teaching once looked to the skies for inspiration about education.

Now she's delving into the minds of the University's best teachers and brightest students to find out what makes effective teaching and learning.

Professor Margaret Mazzolini, who started her academic life as a theoretical particle physicist with an interest in astronomy, hasn't lost a nano-second since arriving at VU in January 2012 to help develop excellent teaching practices and build staff capabilities across the University.

Her new role is built on the premise that educators can teach best by evaluating how their students learn best – then closing any skills or knowledge gaps they may have with a well supported culture that develops staff career paths and improves student results.

In short, it's about improving the standards expected of VU educators as well as VU students.

"In a learning community we're all learning," Mazzolini says. "At VU there's a real commitment to increasing our profile for the scholarship of our learning and teaching."

Mazzolini's responsibilities also connect to the optimal mix of 'blended learning' – the combination of face-to-face and online education – that is now under examination by the University's new Curriculum Commission.

The Commission is overseeing a five-year plan to improve the University's learning, teaching and student experience. It includes consulting widely across the University to identify the best ways to equip graduates with skills for the 21st century, such as problem-solving, critical and creative thinking, and cross-cultural knowledge.

The Commission's role is to broadly examine the best ways of delivering and assessing courses for the future while developing the skills of academic staff to ensure they are well prepared to deliver them.

"What's distinctive for VU is its breadth of students, courses, qualification levels and the contexts we deliver into," she says. "There's a real opportunity here to develop something exceptional in blended learning that makes us nimble and meets the needs of our students, whether we're delivering a course in the workplace, to students at our Melton Campus or fully online."

Mazzolini isn't new to online education. After obtaining her PhD in physics she realised her passion was not in the science itself, but in communicating ideas about it to others. Astronomy, she decided, was one of its most acceptable public faces.

Roles at various Melbourne universities and with the State Government's former Board of Studies developing the VCE Physics curriculum led Mazzolini to Swinburne University where she designed its first major online program – Swinburne Astronomy Online. The Masters course is still taught in about 30 countries. She also managed Swinburne's five-year curriculum renewal process, a role that is now providing a strong foundation for her job at VU.

Although curriculum design has been a thread through much of her career, for the first time Mazzolini will be responsible for renewing teaching and learning across both sectors of a dual-sector (TAFE and higher education) university.

"I was very interested in coming to VU because of the exciting possibilities of contributing to an organisation that is becoming a truly integrated tertiary institute," she says. ∞



● Professor Margaret Mazzolini is overseeing a plan to improve VU's learning and teaching.

TEACHER KNOW-HOW

ANN MARIE ANGEBRANDT

PROFESSOR DIANE MAYER had no great desire to become a school teacher when she was young, let alone one who would go on to become an international authority on teacher education.

In fact Mayer – now Victoria University's new Pro Vice-Chancellor (Colleges and Distinctive Specialisations) – didn't think a university education was even possible while growing up on an isolated western Queensland sheep station near the township of Ilfracombe. She chose teaching as a career after being awarded a scholarship, becoming the first in her family to go to university.

"Coming from a working-class family who had nothing to do with academia, I didn't really know what was available," Mayer says. Mayer began a 13-year stretch as a Queensland school teacher in 1976 before taking up university lecturing and management roles. For the next 13 years she shared her experience and knowledge with hundreds of Queensland's student teachers.

In 2003 she was appointed associate dean of the prestigious Graduate School of Education at the University of California, Berkeley, before joining Deakin University in 2008 as the head of its School of Education.

During those years, Mayer developed an enduring research interest in teacher education that has resulted in more than 100 publications.

Mayer began her role as executive dean of VU's Faculty of Arts, Education and Human Development in January 2012. The Faculty's School of Education currently has more than 500 students studying to be primary or secondary teachers.

In June she was appointed one of VU's four new Pro Vice-Chancellors as part of the University's reinvigorated senior leadership team.

Mayer is currently leading a project funded by the federal government to follow 25,000 beginning teachers across Australia to investigate the relevance and effectiveness of their teacher preparation and career paths. Findings from this longitudinal study are expected to inform the preparation of teacher candidates and their transition into the profession.



● Professor Diane Mayer is a world-renowned researcher in teacher education.

Mayer is also chief investigator on an ARC Linkage study that is following all 2010 and 2011 teacher graduates in Victoria and Queensland over the next three years to survey their views of their teaching preparation. This study also includes in-depth case studies of beginning teachers in 50 diverse schools across both states.

Another area of Mayer's research interest is teacher performance assessment – a formal process already used by some universities to evaluate whether their graduates are truly ready for the classroom.

"We use a lot of proxies to determine whether someone is prepared. We know they've passed all their courses and assessments, but how do we systematically evaluate if they have the right skills and knowledge for the classroom?"

Mayer is also pleased to be a key player in ambitious plans to enhance the scholarship of VU's teaching and learning.

"There's a lot of interesting projects happening here," she says. "VU's mission aligns very much with who I am and what I want to achieve." ∞



● There are plans to increase the number of university places in India from 2.5 million to 25 million over the next decade.

WHAT IS ERP?

ENTERPRISE RESOURCE PLANNING (ERP) covers a broad range of activities that help business manage and record transactions across the entire organisation, including finance, manufacturing, purchasing, and customer relationship management. ERP professionals are highly sought after for their sophisticated technical and functional skills to implement and maintain these integrated systems.

SAP, the market leader in ERP systems, has been a strategic partner with Victoria University since 1998. The University's Master of Business (Enterprise Resource Planning Systems) focuses on the implementation and use of ERP systems using SAP software.

SLEEPING GIANT

ANN MARIE ANGEBRANDT

WITH ONE OF THE WORLD'S LARGEST and fastest growing economies, a rapidly growing population of more than 1.2 billion people, an expanding middle-class and sweeping policy reforms that prioritise education, India is widely seen as a sleeping economic giant on the verge of waking.

Gujarat – situated on the country's north-western seaboard – is India's fastest growing state and one of the country's industrial powerhouses. One of its major educational institutions is Ganpat University. Last year VU entered a partnership with Ganpat by offering its Master of Enterprise Resource Planning Systems at the university.

The program is one of the first offshore courses offered by an Australian university in India. The first group of 25 VU-trained but Ganpat-located students will graduate late in 2012.

In February this year, Victoria's State Premier Ted Baillieu led Australia's largest-ever trade delegation to India, an initiative to strengthen the two-way trade relationship between the two countries. More than 300 delegates took part in the historic 'super trade mission', including senior representatives from all of Victoria's universities as well as many TAFE institutes.

The trade delegation included VU Vice-Chancellor Professor Peter Dawkins and several VU executives who took part in high-level talks on education partnerships between the two countries.

The VU delegation capitalised on its visit by furthering VU's partnership with Ganpat and offering additional VU courses to be run at the university in the near future, including dual-awarded Masters courses in telecommunications, engineering, project management, and logistics and supply chain management – all of direct relevance to the booming Gujarat economy.

As with the Master of Enterprise Resource Planning Systems, students are enrolled as Victoria University students, use VU curricula and assessments, are partially taught by VU academics and study in a Ganpat University building dedicated to VU-partnered courses.

"We are an ideal fit," Dawkins says. "Ganpat University shares our values and we are helping to ensure graduates in India are ready for the demands of the workplace."

During the India visit, Dawkins participated in the Victoria-India Education Roundtable that included more than a dozen Indian vice-chancellors plus representatives from India's planning commission. One of the goals of the commission's current five-year plan is to provide skills training for 500 million Indians

by 2022. Currently, there are just 2.5 million university places in the country, but there are plans to increase that number to 25 million over the next decade.

To help meet this massive increase in student places, India is keen to forge partnerships with foreign universities and skills providers. The consolidation of VU's partnership with Ganpat University was among seven new global partnerships entered into during the historic bilateral education meetings.

Also, the number of Indian students coming to study in Australia is slowly improving despite recent concerns for the community safety of foreign students and the current strength of the Australian dollar.

International education continues to be Victoria's largest export sector, injecting nearly \$5 billion into the state's economy each year. Melbourne is the preferred Australian destination for Indian students, hosting 46 per cent of the 30,000 Indian students estimated to be currently studying courses in Australia.

"Victoria University attaches great importance to its relationship with India – as it does with all our overseas partners – in its goal to become a truly international university," Professor Dawkins says. ∞

INDIA FACTS

TWENTY-NINE BABIES ARE BORN IN INDIA EVERY MINUTE. That adds up to 15,531,000 babies a year.

Indian students today must complete eight years of compulsory education. The average number of years of schooling completed by the adult population is only 5.1 years (Australia's is 10.9 years).

India spends 4.1% of its GDP on education (ranked 81 in the world), while Australia spends 4.9% of its GDP (ranked 58 in the world). Cuba holds number one spot, spending 18.7% of its GDP on education.

- Hundreds of overseas students come to Australia to study at VU each year, while outward-bound VU students travel to all corners of the map to experience student life abroad.



TRADING PLACES

Each year hundreds of Victoria University students take advantage of VU programs to study abroad, whether it's for a three-week visit to a partner institution in a neighbouring country or for a culture-immersing, year-long exchange to the other side of the world.

ANN MARIE ANGEBRANDT reports.

FROM THE ICY REACHES OF JYVÄSKYLÄ in central Finland to the tropical highlands of Kigali in Rwanda, Victoria University students are journeying to all corners of the map for credited study and life-changing experiences.

The University has more than 100 university exchange agreements in some 30 countries where students can learn and live like a local while adding an overseas mark of distinction to their studies.

Victoria Abroad Manager Margaret Jackson – who helps outbound students go overseas as well as inbound students come to VU – says nearly everyone who participates in an overseas program is changed by the experience.

"Many say it's the best thing they've ever done in their life," Jackson says. "An overseas exchange helps them to grow personally, distinguishes them from other graduates and improves their employability."

Casey Angus, 28, a Bachelor of Business (Marketing) student decided to spend a year at Kyung Hee University in Seoul, South Korea as part of a personal challenge to live outside his comfort zone.

"I was coming to the end of my degree and wanted more insight about working life and something that would open my eyes to the world," Angus says.

While semester-long or full-year overseas exchange programs have been an important part of the University for more than 10 years, VU has started offering an increasing number of innovative short-term study tours and placements with funding support from the federal government.

The tours are aimed at a different set of students who are either unable to spend long periods of time overseas, or who ordinarily don't have opportunities to participate in an exchange. Last year, VU sent its first set of vocational education students abroad.

Five sport students and five children's services students met for two weeks of joint activities with their counterparts at Singapore's Institute of Technical Education.

Other VU students end up in more remote destinations. Last year, 20-year-old Ricci Burgess spent three weeks teaching in a 50-student classroom in Timor-Leste as part of the first year of her Bachelor of Education.

"Some of my students were older than me and none of them could speak English," Burgess says. "We didn't really know what we'd be up against before we left."

She says the experience changed the way she thought about students and education, and she learned as much from them as they did from her biology lessons.

"The students had a totally different set of standards about what they expected from education," she says. "They were so motivated and eager, and often would be waiting at school well before the teachers arrived."

Earlier this year, 10 Bachelor of Information Technology students visited the Shanghai Maritime University (SMU) in China, an institute that specialises in marine logistics and technologies, and has its own container ship and port crane.



VALUE OF TRAVEL

The University's new strategic plan aims to position VU as an international university by 2020 and have it recognised around the world for its leadership in transnational education, and for the education of students from diverse countries.

As part of that strategy, VU's Victoria Abroad program seeks to give as many VU students as possible the opportunity to travel overseas, as well as bring students from other universities and countries to VU.

VU students going abroad can receive travel grants and loans to help with the costs of their overseas study experience. They can often gain credit for the classes they take while overseas, allowing them to graduate without additional time added to their studies.

For more information, contact Victoria Abroad at vu.edu.au/current-students/student-exchange-program or phone 03 9919 1319.



facilities for training. Over a week, the students from the two universities collaborated on IT security, privacy and ethics projects.

Other VU study tours planned for 2012 include:

- Ten Indigenous Australians in VU's Bachelor of Arts (Kynandoo) program will visit and collaborate with Native Americans on a reservation in Colorado, while 10 vocational education students in VU's Mumgu-Dhal Tyama-Tiyt program will visit New Zealand to study Maori culture.
- Four hairdressing and four make-up students will travel to New York City to work behind the scenes at New York Fashion Week in September. The students will have opportunities to visit leading salons and make-up studios, and work on models backstage at fashion shows.

- VU psychology student Tabitha Slegtenhorst visited England's tourist highlights while on a semester-long exchange to Leeds University.



- This ceremonial birthing tree is one of 150 Indigenous sites recorded as part of a cultural mapping project developed by the Waddawurrung community and VU's Sir Zelman Cowen Centre.

MAPPING INDIGENOUS HERITAGE

A unique project is helping a local Aboriginal community map previously unrecorded features of its cultural heritage.

ANN MARIE ANGEBRANDT reports.

SOMEWHERE WITHIN THE MILLIONS of hectares of Waddawurrung land that stretch between Geelong and Ballarat in western Victoria is a special tree that stands next to a waterfall. It is known to only a few as a sacred birthing tree.

It's where generations of Waddawurrung women have gone to give birth and perform ceremonies that would ensure their health and fertility. The Indigenous women pass on information about the tree through their oral histories, but its location has never been formally mapped – until now.

The Sir Zelman Cowen Centre, part of Victoria University's Victoria Law School, recently collaborated on a pilot project to train a small group from the Waddawurrung community on the use of sophisticated mapping technologies to document their history by independently recording culturally significant sites on their traditional land.

During the three-month project, the mapping team recorded more than 150 sites – including artefact scatters, food resources, stone features and shell middens – onto multi-layered electronic maps developed by technology company Iconyx. The maps are now part of a secure database that not only identifies the geographic location of the sites, but can also be linked to photos, videos, written descriptions and oral histories.

The traditional landowners can give permission for parts of the information to be produced as maps, for purposes such as cultural tourism or locating sites for secret women's business.

Bryon Powell, chairman of project partner Wathaurung Aboriginal Corporation, says the venture offered an opportunity for Aboriginal people to identify and freely map their own cultural heritage.

"There's been something missing in the previous recording of Aboriginal culture," Powell says.

"This goes well beyond what we currently have and sets a benchmark for other Indigenous people in the rest of Australia."

He says previous approaches to Aboriginal cultural heritage management were parochial and focused on controlling damage rather than encouraging protection. "We may know an area is culturally significant due to mythology or Dreamtime stories, but there's no protection if there are no physical assets. Aboriginal culture is not just stones, shells and bones."

Project Director Sue Marshall of the Sir Zelman Cowen Centre says the project's principal aim was to develop the capacity of communities to map and manage their cultural heritage and ensure they are able to protect it under government legislation.

She says the Centre got involved after a review of the *Victorian Aboriginal Heritage Act 2006* found that Aboriginal communities had little direct access to mapping information and the technology that would enable them to administer their land holdings. The Centre saw that a project to develop education training for Indigenous communities in cultural mapping would align with the University's commitment to build strong relationships with diverse communities.

"This model ensures that knowledge, traditionally passed down by elders, can be transmitted to younger generations despite the disturbance of colonisation and its continuing impact," Marshall says. "This model is really about independence, and there is great support to keep this going in future."

More broadly, she says the project was developed as a capacity-building program to empower individual participants as well as communities with technology and knowledge management training.

The trainees intend to continue studying cultural heritage management after the completion of the pilot. The project will soon be made available as a model for other Aboriginal communities.

The Cultural Heritage Mapping Project (Waddawurrung Dya Baap Ngobeeyt) was funded with a \$150,000 grant from the William Buckland Foundation, whose charter is to support initiatives that have the capacity to make a lasting and positive impact on the wellbeing of a community. [30](#)

Did you know?

A Victorian Aboriginal Heritage Council was created under the Victorian Aboriginal Heritage Act 2006 to ensure Aboriginal people throughout Victoria could play a central role in the protection and management of their heritage. It is the first all Aboriginal Council created under Victorian law.

The Council provides advice to the Minister for Aboriginal Affairs, as well as other government departments, on the protection and management of Aboriginal cultural heritage in Victoria. It also plays an active role in educating Victorians on how Aboriginal cultural heritage can be preserved to ensure it remains an intrinsic part of Victoria's identity for future generations. VU's Indigenous Services Co-ordinator Karen Jackson was appointed by the Minister for Aboriginal Affairs as one of the 11 traditional owners who make up the Council.

IN PURSUIT OF WINNING

ANN MARIE ANGEBRANDT

A TINY COMPUTER created at Victoria University will offer an edge to Australian cyclists as they chase Olympic gold in London in July.

Developed by a team of VU engineers and biomechanics researchers, the unique technology of the 72-gram Torxtar™, which fits unobtrusively beneath the rider's saddle, can help shave time from the performances of elite track cyclists by recording and analysing the biomechanics of their pedalling during training.

The pedalling data provide accurate measurements of a cyclist's neuromuscular capacity and can be used to fine-tune training for the different tracks or velodromes selected by the Union Cycliste Internationale, the governing body for top cycling competitions.

Principal investigator Dr David Rouffet from VU's Institute of Sport, Exercise and Active Living (ISEAL) says the group of researchers has made significant progress in the study of sprint cycling performance by taking the science of cycling biomechanics from the laboratory into the velodrome.

"An improvement of one or two per cent doesn't sound like much, but it's massive for an elite track cyclist where one-tenth of a second can be the difference between winning a medal or not," Rouffet says.

The Torxtar™ helped Australia's top cycling sprinters optimise their performances at the World Cup Classic in London last February and the World Championships in Melbourne in April.



The project is supported and developed in collaboration with ISEAL and the School of Sport and Exercise Science, as well as the Australian Sport Commission, the Australian and Victorian Institutes of Sport, Cycling Australia and Cycling Victoria. ∞

● VU researchers developed the Torxtar, a computerised device now offering an edge to Australia's elite cyclists.

ROBERT STOKES

SENIOR LABORATORY
MANAGER
BIOMECHANICS LAB

Role in project:
instrumentation engineer;
hardware design; overseeing
production of prototypes.

IAN FAIRWEATHER

SENIOR SCIENTIFIC OFFICER
SCHOOL OF SPORT AND
EXERCISE SCIENCE

Role in project: supervising
production of electronics;
software development.

EMY HUNTSMAN

PHD STUDENT FOCUSING ON
THE IMPACT OF TECHNICAL
FACTORS ON CYCLING
PERFORMANCE,
AND AVID AMATEUR CYCLIST

Role in project: prototype tester.

RHETT STEPHENS

TECHNICAL OFFICER
SCHOOL OF SPORT AND
EXERCISE SCIENCE

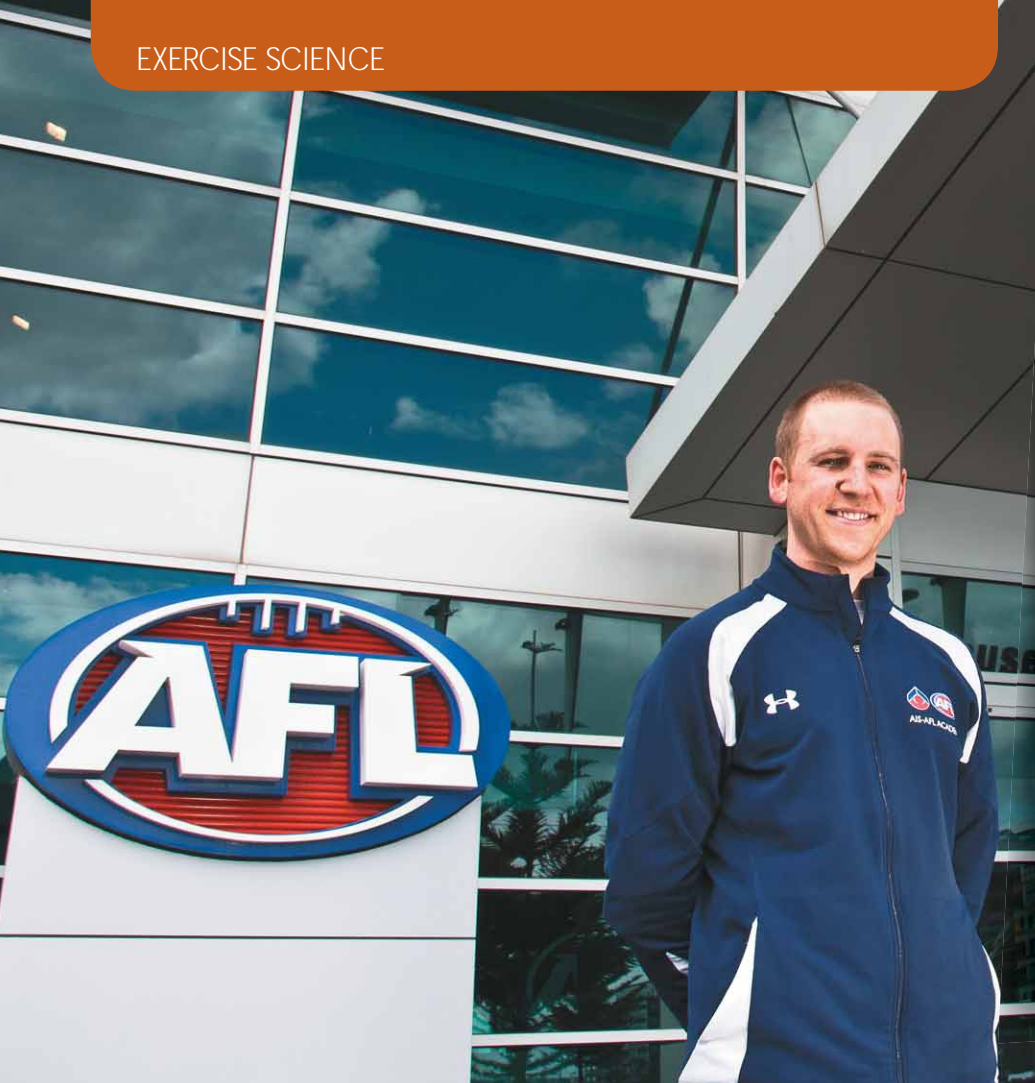
Role in project: integrated
systems design; production
of prototypes; firmware
and hardware design.

DAVID ROUFFET

POST-DOCTORAL
RESEARCHER ISEAL

Role in project: project
leader and principal
investigator.





VU-AIS

VICTORIA UNIVERSITY signed a strategic partnership with the Australian Institute of Sport and the Australian Sports Commission in April 2011. A co-signatory was the Australian Sports Commission. The partnership includes jointly-funded research and a PhD scholarship to carry out research on how sport can best deliver social benefits to the community.

The partnership cemented and extended collaborative work already conducted between VU and AIS, which includes:

- Causes of fatigue in cycling
- How nutritional supplements can enhance athletic performance
- How 'interactive' fabrics worn as sleeves or leggings can improve kicking or goal shooting in a variety of sports (with CSIRO)
- Which pathways to elite sport best serve top athletes

The AIS and VU are also working on a research and education proposal with the Brazilian Olympic Committee, hosts of the 2016 Olympic Games in Rio de Janeiro.

● James Veale: his thesis found that fitness by itself is not a reliable indicator of a young player's potential.

RAISING STARS

PhD graduate James Veale is playing a major role in the development of the Australian Football League's future players. **SEAN CUMMINS** reports.

THERE'S A QUEUE OF AFL senior recruiting managers outside James Veale's door, all asking who is going to be next year's top new talent.

Veale not only completed a PhD at Victoria University's School of Sport and Exercise Science, but was smart enough to select a research topic of keen interest to the AFL: is fitness testing of young football players a predictor of future talent?

Veale's PhD thesis was titled, 'Physiological adaptations in elite Australian Football athletes'. He chose a sample group of 60 male footballers aged 16 to 18, ranging from elite national and state-level players, including members of the Australian Institute of Sport (AIS)-AFL Academy program, to players who had not yet been identified as top talent.

Veale profiled the young men over 24 months, recording the progression of their fitness. He found that the players showed their greatest improvement during their first season while playing in the TAC Cup – a Victorian state-wide competition for under-18s – and that it was important for a talented player to

be identified early if their development was to benefit most.

However, Veale scientifically concluded that fitness by itself is not a reliable indicator of a young player's potential. Although this was anecdotally known, it had never been proved.

Today, Veale is building upon his PhD findings as the AIS-AFL Academy's strength and conditioning coach and information systems manager.

"I'm part jock and part geek," he jokes.

The AIS-AFL Academy invests in Australia's best young players, each year offering 60 12-month scholarships to Australia's most promising young footballers entering the last year of their junior football development. Veale plays a key role in the development of their fitness. Significantly, most are later drafted into senior AFL clubs.

Scholarship-holders are based in their home states but come together throughout the year for training camps, to play matches and to go on an international exhibition tour. In previous years the players have toured South

Africa and Ireland. More recently they travelled to Europe, including training sessions on the banks of Italy's Lake Varese and a match in London against a multinational European side, where the Academy youngsters won 183 points to 12.

It wasn't just his PhD that earned Veale a position shaping Australia's best emerging football talent. He also spent six years at the Western Jets Football Club, where he developed his conditioning techniques and new ways of measuring and analysing player data. The Western Jets – based in Altona in Melbourne's outer west – play in the TAC Cup competition. VU has held an active partnership with the Western Jets for the past 10 years, providing them with access to sporting facilities and fitness testing. VU also has a formal partnership with the AIS.

An important part of player conditioning is keeping athletes in top physical form. Veale examines a player's running and movement techniques, injury and medical history, training schedule, fatigue levels, diet and lifestyle, and then creates a tailored training program to keep the player performing at their best.

The Academy takes a holistic approach to preparing players. "Our philosophy is better people, better players," says Veale.

"The boys have a nutritionist, psychologist, biomechanics specialist, physical coach, personal growth coach, etiquette coach and media coach. They get public speaking training and education support from Year 12 through to uni."

Everyone who deals with the Academy players, from the doctors to the public-speaking trainers, collects data. Veale has the daunting task of shaping all that information into meaningful trends and statistics for the AFL.

"The senior AFL clubs want as much information as possible so they can make the best informed decisions for the draft," he says.

The player data is also used to improve training methods. "At the moment we're trying to create identifiers of when too much is too much," says Veale. "For example, we're trying to predict the likelihood of injury based on training intensity and duration. Our goal is to create an injury predictor for each individual player."

Given all the care, assessment, measuring, data collection and analysis of the Academy players by Veale, it is fair to say he could well know the players better than they know themselves. Little wonder that when it comes to the AFL draft, senior recruiting managers in the AFL are knocking on Veale's door, wanting to know the names of football's future stars. ∞

● Although women in Papua New Guinea are underrepresented in decision-making roles, many are making valuable contributions at a village, provincial and national level.

PHOTO: GUIDO AMREIN, SWITZERLAND / SHUTTERSTOCK.COM

WOMEN'S TALES

A film biography tells the stories of six PNG women who are breaking gender stereotypes in a predominantly patriarchal society.



KAMINI RAJARETHNAM

GOROKA IS HIGH UP in the rugged mountains of the Eastern Highlands province of Papua New Guinea. In the 1950s it was just a small outpost station with a colourful history of miners, missionaries, patrol officers and plantation owners. Today it is the capital of the region with a population of around 20,000. Although traditional dress is now seldom worn, the locals still live in villages of neat clusters of low-walled round huts built among the rolling kunai-grass covered hills.

For VU Postdoctoral Research Fellow Dr Ceridwen Spark, working in Goroka is another day at the office dealing with disconnected phone lines and limited email facilities.

"Having been born and raised in PNG, I know about the inevitable frustration with basic services that we take for granted in Australia, but it's always an adventure whenever I return," Spark says.

As a recipient of an Australian Government Endeavour Award, Spark, from the School of Social Sciences and Psychology, spent four months in PNG on a research project filming the lives of six of the nation's leading women.

The merit-based Endeavour Awards provide opportunities for citizens of the Asia Pacific, the Middle East, Europe and the Americas to undertake study, research and professional development in Australia.

"Books get written that often never get read, so I wanted to use a media that is accessible to a broad range of people to tell the inspiring stories of women who are breaking gender stereotypes," Spark says. Women in PNG are significantly underrepresented in decision-making roles as it is largely a patriarchal society. The six short films are yet to be completed but will show how educated PNG women interact with their traditional heritage.

The project is also funded by an AusAID grant, and Spark is now doing a final edit of her films in collaboration with the University of Goroka's Centre for Social and Creative Media, and Yumi Piksa, a film workshop set up by the University to record local stories.

"I really feel quite inspired by many of these women," Spark says. "They've got such determination and a capacity to make incredibly valuable contributions in all sorts of ways to the societies in which they live."

Spark carefully selected her six subjects to ensure they provided a balanced representation of women across areas of expertise, provinces, age and professional

status. During the course of her research, she travelled across the country from PNG's Manus Island in the north to Bougainville on the east coast.

"We have selected high-profile women who are contributing at a village, provincial or national level," she says.

One of the subjects, Naomi Yupae, is an activist and survivor of domestic violence. She is the founder of Eastern Highlands Family Voice, an advocacy organisation that provides support services to victims and perpetrators of violence.

"It's a privilege to hear her story," Spark says. "She's strong and articulate."

Spark says 80 per cent of Papua New Guineans live in rural communities and it's very important to reach the young people from these areas because they often find it hard to relate to stories about people from urban settings.

"We want to tell stories not just about women who are formally educated or privileged, but also about women who are demonstrating leadership in smaller communities," she says.

The collaborative project also aims to build the skills of those involved, including training PNG women as directors and enhancing the existing skills of local camera and sound technicians. ∞



YUMI PIKSA

YUMI PIKSA IS A FILM WORKSHOP at the University of Goroka, Papua New Guinea. Students learn how to make films to record the stories and knowledge of local Highland communities. The workshop was established after a documentary of the local Highlander communities was screened in rural villages and the local villagers asked for more of their stories to be recorded.

Students learn the technical and conceptual skills of filmmaking while respecting the local communities and their customs and valuing their involvement in the production process.



MUSIC FOR KINDRED SPIRITS

It may not be a prerequisite for life as a rock 'n' roll musician, but a well-rounded education in the music industry can open many career doors. **KAMINI RAJARETHNAM** reports.

YOU MIGHT THINK that music students spend their time learning music theory and practising their instruments all day long – and even then, the chances of a career in the industry is not only slim, but likely to be short. And if musicians want a secure income, especially in the long-term, they had better get some 'back-up' qualifications in the likely event that things won't work out as they had planned.

This scenario may have been true in years gone by, but times have changed. Today, a qualification in music opens up a multitude of career paths, from talent and event management to sound production and recording to marketing and teaching – and of course, as a performing musician.

Midway down Whitehall Street in Yarraville, and just three kilometres from Victoria University's Footscray Nicholson Campus, is a large warehouse with a façade of red brick and corrugated iron. It looks like one of any number of buildings that dot the streets of the semi-industrial inner-west suburb. But step through the door of this building and you'll find yourself in a funky space that is abuzz with professional musicians and performing artists, and music students and their teachers. This is Kindred Studios.

When VU's music programs found themselves without a home after Sunbury Campus closed its doors in 2009, a new location was needed. Kindred Studios was perfect. VU formed a partnership with the professional studio, which at the time was just beginning to establish itself. In 2010, Kindred Studios began to be used for VU's TAFE and degree music courses.

Since then, Kindred Studios has been transformed from not much more than an empty shell with a few rooms into a live band venue with five rehearsal rooms, two

sound production rooms, a performance classroom and a photography studio. Kindred Studios is quickly earning a reputation as a place for students to learn about the music industry.

VU offers seven TAFE courses and five higher education degrees that collectively cover the many sectors of the music industry. Students studying creative courses apart from music can also undertake music electives at the studio.

Students learn about the music business, music performance and composition, music technology and sound production using professional equipment. They graduate with the skills and knowledge that not only gets them in the door of the music industry, but with a non-blinkered view of the realities of the Australian music industry.

The articulation pathway from a TAFE certificate to an advanced diploma and then to a Bachelor of Arts, Bachelor of Creative Arts Industries or Bachelor of Education provides students with multiple exit points. If they choose to move on to another field of study or into the workforce after the first or second year, they still receive a recognised qualification.

VU's music teaching staff are industry professionals with experience behind the scenes or on stage, working with big names such as Pete Murray, Augie March and the Blackeyed Susans. Students respect the street cred the teachers bring into the classroom.

One of VU's strategic objectives for 2020 is to become a national leader in the distinctive specialisation of creative industries – across education, workforce development, research and knowledge exchange. VU Education Manager at the School of Information Technology and Creative Industries, Adam Hutterer, is keen to see the VU–Kindred Studios partnership bring this vision to life.



FATAI VEAMATAHAU

CERTIFICATE IV IN MUSIC
CONTESTANT ON CHANNEL 9'S *THE VOICE*

"I left school at 15 – half-way through Year 9 – to pursue music. I explored my options but never considered TAFE or uni.

After completing a Cert II at another institute, my dad encouraged me to audition for the Certificate IV in Music at VU. I was immediately offered a place.

I love this course and it's a step up from what I've done before. There are great teachers and students, and the course is packed with things I've been looking for. It explores different aspects of the music industry besides singing and performing.

The course provided me with excellent grounding for my experience on *The Voice*. I've worked with people in industry, rehearsed, performed and recorded music, and I've been able to take what I've learned in my course and apply it to *The Voice* in Sydney."

"The vision to establish a well-integrated arts education hub is exciting as there's nothing like this in Australia where students can study performance or artistic courses in an industry location," says Hutterer. "VU can promote this space as the only place in the west to deliver music courses, and the only place in Australia you can study music in a professional environment like this."

Right now, Kindred Studios is too small to accommodate students for all subjects. First-year TAFE students currently attend music performance classes at two North Melbourne studios and a weekly computer class at Footscray Nicholson Campus. There are plans to build more studios and classrooms at Kindred Studios once funding is approved.

Singer, songwriter and musician Greg Aronson, a lecturer for the higher education music programs at Kindred Studios, hopes plans to expand the site will eventuate so students can attend all their classes under one roof.

"We see this space as VU's version of the Footscray Community Arts Centre," says Aronson. "It has the potential to become a multidisciplinary artistic space. One of the benefits of being able to study here is that industry and community artistic work is going on around the students as they learn. They get exposure to networks and artists, and first-hand knowledge about how industry and community artistic work happens.

"It's a beautiful thing because VU has taken on the challenge of developing its curriculum and pedagogy based around workplace learning and workplace skills. We are so close to something really great here – there are a lot of reasons why this space should move forward."

Meanwhile, over at Footscray Park Campus, students are learning about the business of music. The Music Industry specialisation of the Bachelor of Business degree recognises the importance of offering a broad palette of career-oriented subjects such as Music Marketing, Live Performance Management and Music Industry Law, as well as providing optional work placements in the industry.

VU'S MUSIC PROGRAMS

SHORT COURSES

Audio Production and Midi Sequencing in Logic
Audio Production and Recording in Pro Tools
Live Studio Intensive Professional Development
Recording Studio Intensive Professional Development

TAFE COURSES

Certificate II in Music (VETiS)
Certificate III in Music (VETiS)
Certificate III in Technical Production (VETiS)
Certificate IV in Music
Certificate IV in Sound Production
Advanced Diploma of Music
Advanced Diploma of Sound Production

VETiS courses (Vocational Education and Training in Schools) are offered to secondary school students only.


DEGREE COURSES

Graduate Diploma in Education (Double Music Method)
Bachelor of Business (Music Industry)
Bachelor of Creative Arts Industries (Music Specialisation)
Bachelor of Arts (Music Electives)
Bachelor of Education (Music Specialisation)

Students at Kindred Studios have been collaborating on projects with the Bachelor of Business students, including providing technical assistance, sound production skills and vocals on CDs produced by the Music Industry students' record label, Potential Unlimited.

Music Industry lecturer Adrian Marchesani is a veteran of the industry and has maintained his professional connections to ensure students are educated to a level where the industry values their qualifications. He books industry identities as guest speakers and students undertake work experience at high-profile organisations such as Mushroom Records, Disney Entertainment and Stage Mothers.

Bachelor of Business (Music Industry) graduates have found employment in organisations such as Bigpond Music, Mushroom Records, Australasian Performing Right Association Limited, Native Tongue and Lunatic Entertainment.

"So many of our graduates are now working in the industry," says Marchesani. "Our reputation is really growing." 



PIA DEL MASTRO

BACHELOR OF BUSINESS (MUSIC INDUSTRY)
TOURING DEPARTMENT AT TOTEM ONELOVE GROUP;
DIRECTOR AND WRITER AT MY DJ BIO

"I chose the Music Industry course because of the reputation it held in the industry. The course offered a broad grounding in business, but was also specific enough to target exactly what I wanted out of a degree in music.

The lecturers are all industry involved and have come from or are currently working in the music industry, making them up-to-date, forward thinking and relevant educators.

If you're thinking of a career in the music industry, I'd advise two things – first, get involved in as many projects as possible with record labels, events companies and touring agents, and secondly, seriously consider the VU Music Industry course!"

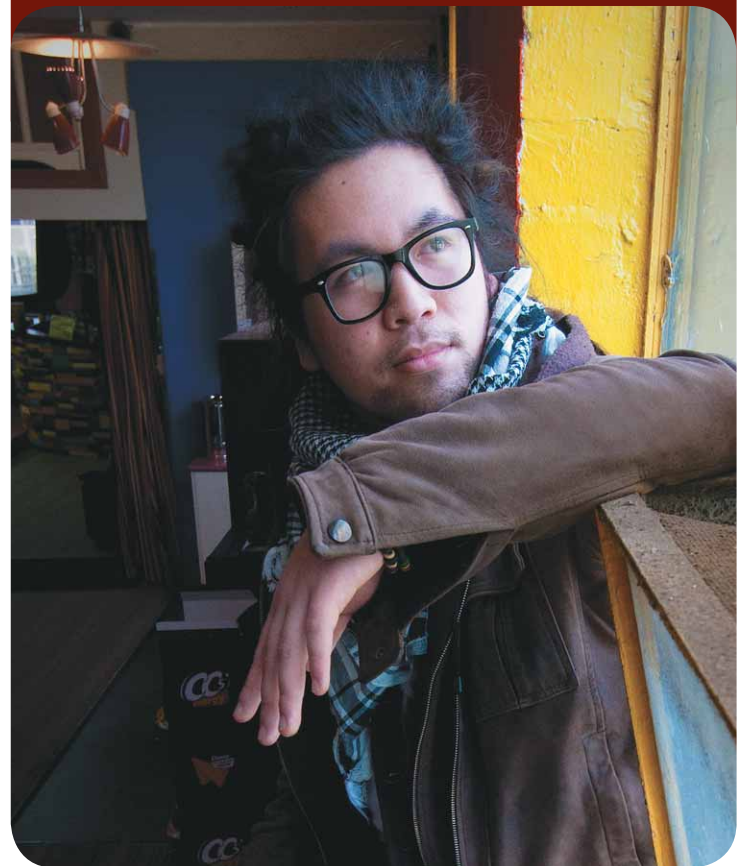
BRUCE PAGUNSAN

BACHELOR OF CREATIVE ARTS INDUSTRIES

"I enjoy learning about both sides of the music business through this course. I get to perform and learn how the industry works through subjects such as marketing and professional engagement.

I like that professional artists also rehearse at Kindred Studios, and I've seen one of my favourite bands, Blue King Brown, rehearse here. It's great that I get to mix with these artists who I hope to be like one day.

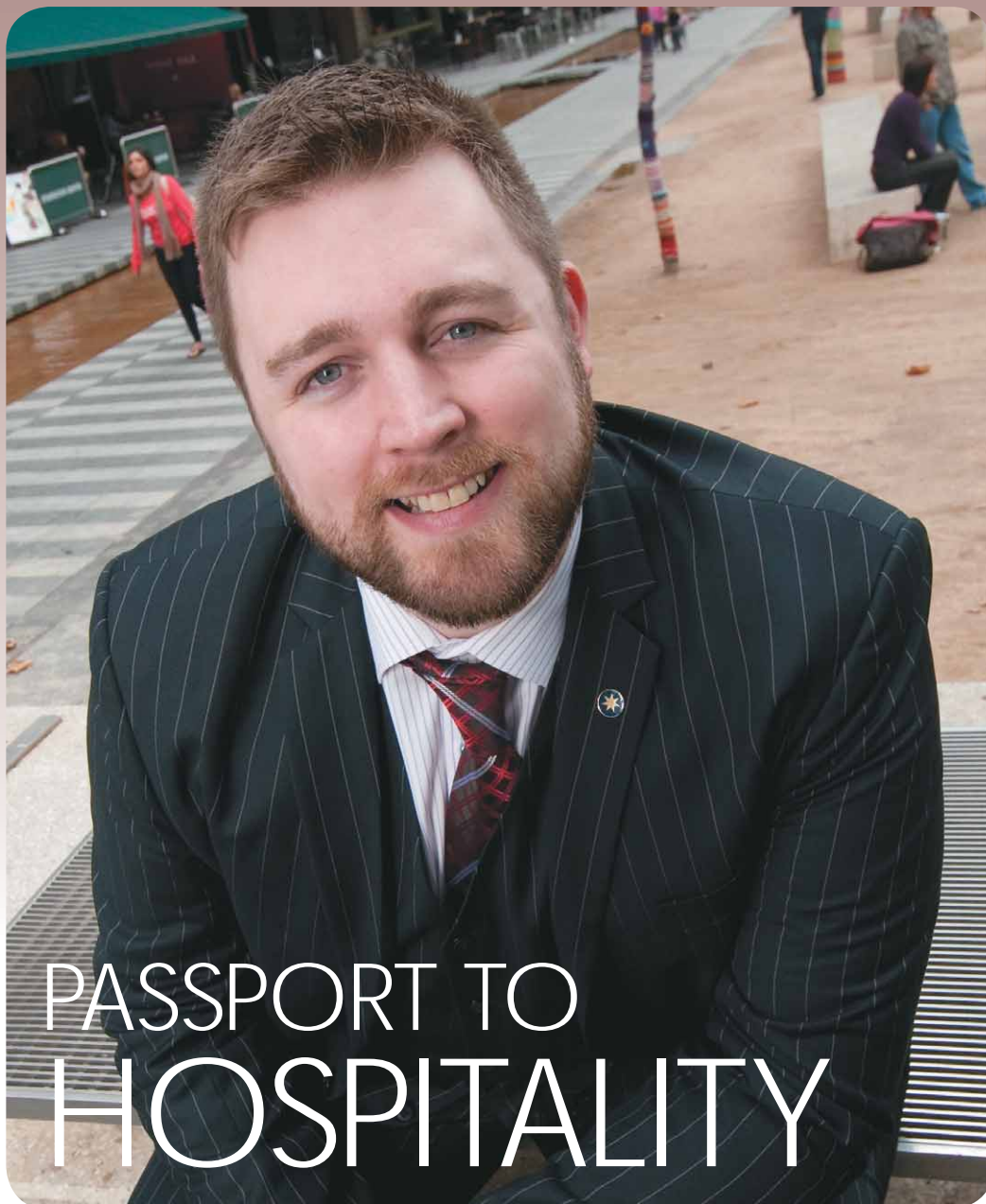
I hope to become a musician, however there is always the option of articulating into the Graduate Diploma of Education so I can teach."



STUDENTS WIN SCHOOL OF ROCK PRIZE

POTENTIAL UNLIMITED is VU's student record label that was set up four years ago as part of an industry engagement project by Bachelor of Business (Music Industry) students. The students liaise with local bands to source tracks before producing, marketing and distributing their CDs.

In May this year, US-based Independent Music Awards (IMA) announced that the latest CD produced by the students, *Potential Unlimited 4*, was the best campus record label in the world. Independent artists from six continents and more than 75 countries pitched for an IMA award. IMA judges are an array of US-based artists and music industry heavyweights.



PASSPORT TO HOSPITALITY

A VU hospitality management PhD student has filled more passports than he can remember while living in five countries over eight years. **ANN MARIE ANGEBRANDT** reports.

SINCE 2003, long-time Victoria University student Heath Grow has moved between Australia, Malaysia, Singapore, China and Hong Kong while furthering his educational qualifications, earning several scholarships and enjoying a fast-paced international career in the hotel business.

"I've been fortunate to climb quickly in this industry due to hard work, determination and the opportunities I received as a VU student," says the 26-year-old hotel executive.

Grow, a dual Australian-New Zealand citizen, started his training as an 18 year old at the Academy Sofitel in Melbourne, where VU delivers an Advanced Diploma of Hospitality.

After pathwaying into a VU Bachelor of Business specialising in hospitality management he went abroad in 2004 to work at several Sofitel hotels in South-East Asia for his work placement. It was the beginning of his high-flying career.

The Sofitel hotel management mentored him in a range of roles, providing him with challenging and rewarding projects that developed his understanding of the local culture, both inside and outside the hotels.

"A similar path would have taken years to progress through in Australia," Grow says.

In 2007 he completed his final undergraduate semester at VU partner school, Hong Kong Polytechnic University (PolyU) in its world-renowned School of Hotel and Tourism Management.

In 2010 he returned to PolyU's Department of Management and Marketing as a Research Fellow. At the same time he undertook a full-time job in the Chinese city of X'ian, a three-hour flight from Hong Kong.

"THE FIVE OF US EXPATS WORKING THERE HAD TO GET FULL SECURITY CLEARANCE FROM OUR EMBASSIES."

Grow started as front office manager at the Sofitel X'ian, one of the hotels in the largest hospitality complex in Central China. But it wasn't long before he was appointed acting director of rooms in charge of 450 staff across the entire complex – Accor's 960-room Renmin Square Hotels – which includes the

● Heath Grow has lived and worked around Asia to further his career and educational qualifications.

COURSES SMORGASBORD

VU OFFERS A WIDE RANGE of hospitality programs whether students are after a short cooking course to satisfy their 'master chef' yearnings or a degree in hospitality management to run an international hotel.

In partnership with the Sofitel Melbourne, VU's School of Service Industries delivers an Advanced Diploma in Hospitality Management through the Academy Sofitel, Victoria's only hospitality training school located in a five-star hotel. The Academy Sofitel also offers apprenticeships and practical training at the Academy Pantry, Sofitel's award-winning restaurant.

The Faculty of Business and Law deliver business-oriented hospitality courses with specialisations in culinary, event or tourism management.

In partnership with the world-famous Le Cordon Bleu organisation, VU offers an associate degree in culinary management, a unique blend of vocational and higher education training.


Sofitel, Grand Mercure, Mercure and the heritage-listed Renmin Dasha (The X'ian People's Hotel).

While there, he achieved one of the most challenging tasks in his career to date: organising accommodation and hotel services for hundreds of delegates attending the Chinese Communist Party's annual 10-day national Congress.

"We were in complete lock-down and the five of us expats working there had to get full security clearance from our embassies," Grow says. "I even had to give up my room and move to a different hotel."

In 2008, Grow enrolled in a Master of Business by research at VU, which was then upgraded to a PhD. He is now on leave from his job in China while he completes his thesis, a cross-cultural study of leadership differences and career progression in the hospitality industries of Australia and China.

Alongside his hard work and study, Grow has received seven scholarships and was the first student from VU's Faculty of Business and Law to earn an Endeavour Research Fellowship from the Australian Government.

"I love this industry, and without VU and the opportunities I've had for overseas study, I wouldn't have this international career." 

GERM WARFARE

ANN MARIE ANGEBRANDT

HOLLYWOOD HAS PRODUCED countless disease-disaster movies in which a contagious virus threatens mankind while unprepared scientists watch on in panic and despair.

Luckily, in the real world, infectious disease and control experts around the globe meet regularly to discuss risks, develop policies and implement strategies to limit the chance of such a global calamity from ever occurring.

One such expert is Elizabeth Smith, a 1998 Victoria University Bachelor of Nursing graduate who is now an infection control consultant at Monash Medical Centre in Melbourne.

Last year, Smith was one of only four Australian public health experts selected to attend a 10-day World Health Organisation (WHO) training course held in both Cambodia and Borneo – attendees could choose either location – as part of its Global Outbreak Response Alert Network.

"It certainly put into perspective how a global response is important to help control infections, especially in places that have limited back-up strategies and support," Smith says. "A quick international response is needed to avert a disaster from developing or escalating."

While Smith is now ready to travel to any corner of the map when a natural disaster strikes – such as the recent Haiti earthquake – she is equally concerned and involved in infection control practices closer to home.

Most recently, Smith and a team of Southern Health infection control consultants were commended by WHO for their award-winning program of 'hand-hygiene compliance' – known to the layperson as hand-washing – across the Southern Health network, Victoria's largest health service provider.

With its 40 clinics and hospitals in southeast Melbourne admitting more than 180,000 patients a year and employing some 13,000 staff, something as simple as more diligent hand-washing in operating theatres, emergency wards and during patient consultations has led to a significant

improvement in the infection rates recorded within the network.

"Hand-washing is one of the most effective and also one of the easiest ways to prevent transmission of micro-organisms, yet the compliance rate among healthcare workers worldwide is quite low," Smith says.

In 2007, Southern Health signed up to participate in WHO's "Clean Hands, Saves Lives" campaign, which involved educating and auditing the behaviour of not only medical staff, but also patients and hospital visitors.

As hand-washing, anti-microbial hand-rub application and appropriate use of latex medical gloves increased, incidences of certain bacterial infections in hospitals declined across the network, especially in the neonatal and intensive care units.

The Southern Health program was commended last November as best practice in the region at WHO's International Congress of the Asia Pacific Society of Infection Control.

"The program has made a tremendous difference, and highlighted an issue that has now been addressed across all Southern Health sites," Smith says.

Smith also helped develop a 'pandemic preparedness' workbook so other public health workers such as pharmacy staff could learn how to protect themselves should a pandemic occur.

Smith's interest in infection control and epidemiology began more than a decade ago. After working as an operating theatre nurse for many years she saw epidemiology as an emerging area of public health and made it the focus of her career. She recently began a Master of Public Health through external studies at Townsville's James Cook University. Smith says programs that include community doctors, nurses and pharmacy staff to ensure the correct use of antibiotic prescriptions are as important to infection control as the hand-hygiene campaign.

"When antibiotics are inappropriately prescribed or when patients don't complete the full antibiotic course prescribed for them, we end up with highly resistant organisms such



● Infection control expert and VU alumnus Elizabeth Smith motions to a hospital map during a World Health Organisation training course in Cambodia.



● Elizabeth Smith.

as Multiple Resistant Staph Aureus (MRSA)," Smith says.

Smith says a place in hospitals is needed for patient isolation to reduce the risk of transmitting a disease to others – a strategy used for generations to control infectious diseases such as chicken pox, TB, measles and influenza.

"The thing about infective agents is the rest of the work in healthcare must go on. Women still have babies and people need operations or x-rays, so it's essential to have a strategy within our hospital system to deal with that." ∞

BACHELOR OF NURSING

VU'S THREE-YEAR

Bachelor of Nursing offers careers in:

- Hospitals
- Medical clinics
- Acute care
- Cancer, palliative care, renal
- Rehabilitation
- Aged care
- Mental health
- Health education

It also offers a pathway into the Bachelor of Health Science – Paramedic.

ART BY FOOT AND FIST

● VU's one-year Diploma of Sport (Coaching) with a specialisation in taekwondo is targeted at South Korean black-belt champions.

Taekwondo black-belt holders from South Korea are taking part in a unique VU program aimed at producing world-class coaches and administrators in the sport. **KAMINI RAJARETHNAM** reports.

THE TAEKWONDO PERFORMANCE at Footscray Park draws a large crowd on Open Day each year. Watching the black-belt students in their traditional white doboks perform a combination of flying kicks and swift strikes to planks of wood adds colour and excitement to the generally sober business going on across campus.

VU's one-year Diploma of Sport (Coaching) with a specialisation in taekwondo is targeted at South Korean black-belt champions, with the aim of producing elite-level coaches, and sports administrators and managers for the taekwondo sports industry. It was developed in collaboration with Daniel Trenton, an Olympic silver medallist and former head coach of the Australian Olympic taekwondo team.

Many elite athletes struggle to achieve a balance between education and sport, which often results in retirement from sport without strong career prospects. VU's specialised taekwondo coaching diploma is helping to give elite South Korean taekwondo practitioners a professional future beyond sport.

The program includes a first year studying English at VU's English Language Institute at City Flinders Campus. The English course is customised to focus on taekwondo terminology and provide students with the basic language requirements to pursue further study.

Students then enrol in the Certificate IV in Sport (Coaching) which provides a pathway into the diploma program, after which they have the option to enrol in the Bachelor of Sport and Recreation or the Bachelor of Sport Coaching, with a focus on sport science or physical education.

Since the diploma was first offered in 2009, the number of South Korean black-belt taekwondo practitioners enrolling at VU has been growing. Enrolments are accepted based on academic performance and sporting skill.


The first group of 14 Korean students graduated with their diplomas last year; almost half returned to South Korea to complete their compulsory military service with the intention of returning later to Australia to pursue further study. Those that remained in Australia either secured positions at sporting clubs, or have undertaken higher education studies.

This year 16 South Korean students – and one Australian student – enrolled in the diploma. Domestic students with a background in taekwondo are also accepted into the program.

The students have also been representing VU at the Australian University Games. Held every September, the VU taekwondo team has won gold in all weight divisions.

"In the past, VU was represented by very small taekwondo teams at the Uni Games," says VU Sport Services Manager Scott Cashmere. "But since the introduction of the diploma program, it has grown from eight members in 2009 to 18 members in 2011."

"Having the opportunity to compete at a national level adds value to the diploma and attracts new students."

Following the success of the taekwondo diploma, a generic sport coaching diploma with specialisations in AFL, netball, soccer and swimming was introduced this year for domestic students. Students will be able to pathway into a Physical Education (Secondary) or Sport Coaching degree. 

Belt Up

STEEPED IN TRADITION, the various taekwondo coloured belts represent a ranking system, each symbolising advancement and individual growth.



WHITE
Purity; representing a clean slate, and the beginning of a journey.



YELLOW
Energy; signifying earth and building the foundation of the martial art.



GREEN
Growth; a seed is planted signifying a student's skill development.



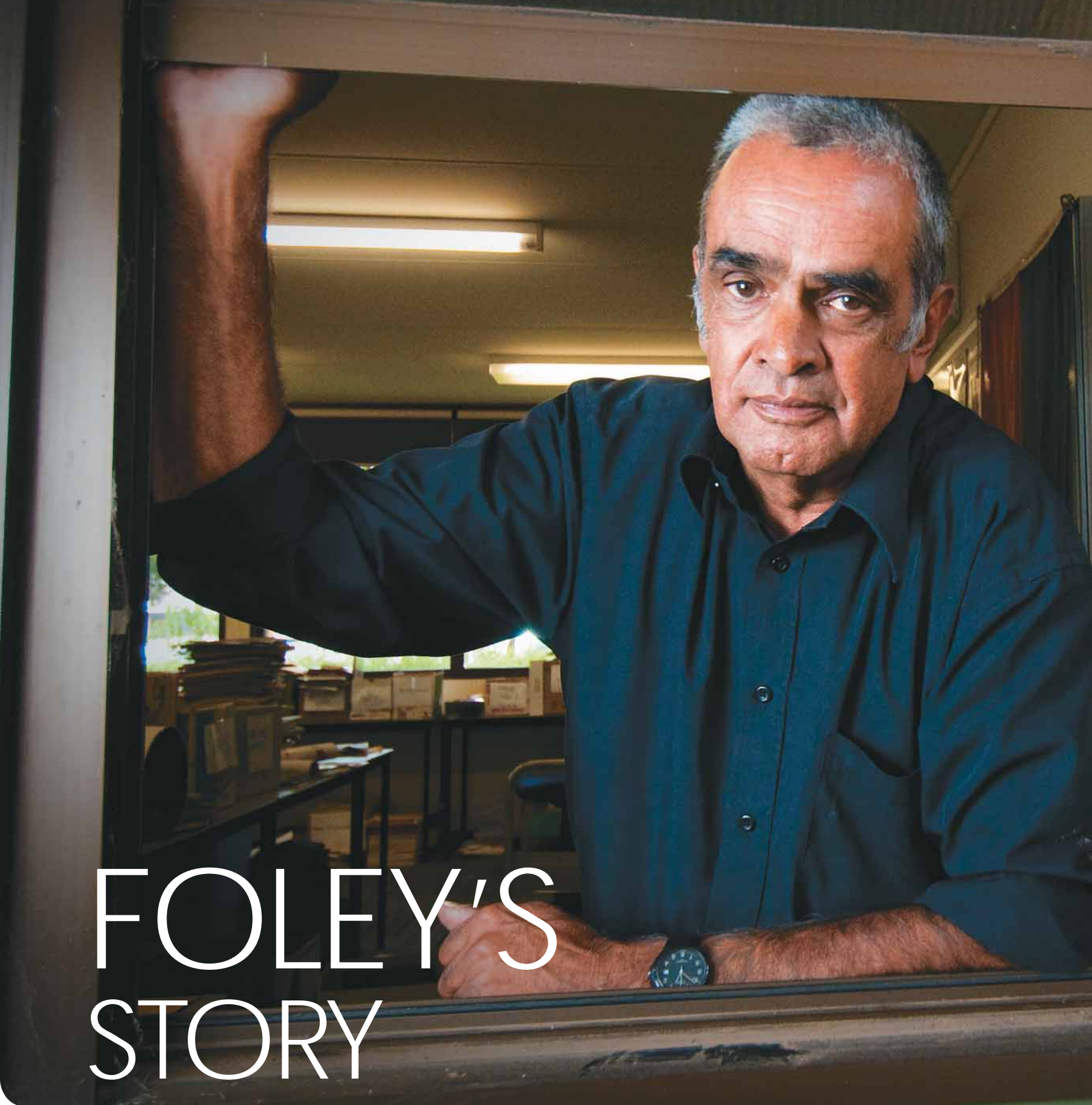
BLUE
Progression; representing the sky and the ability to continue moving higher.



RED
Danger; the student is cautioned to exercise control and warns an opponent to stay away.



BLACK
Maturity; the highest ranking belt, black denotes the student's mastery of the martial art.



FOLEY'S STORY

JESSICA JURY

AT 61 YEARS OF AGE – and fresh from performing his acclaimed one man show, *Foley*, at the Sydney and Melbourne Festivals – historian, actor, writer, champion of Aboriginal rights, mellowed anarchist, tomato-grower and now Victoria University lecturer, Gary Foley has many identities.

But he doesn't think of himself as an elder, despite his respect and high profile within the Aboriginal community for more than four decades.

"There's blokes walking around Melbourne 20 years younger than me, and just because they've got a grey beard we call them an elder," says Foley. "Too many people seem to think an elder is somebody

**" I SHOW THEM ASIO SURVEILLANCE
PHOTOS OF ME BEHAVING
SUSPICIOUSLY 40 YEARS AGO."**

who's old. That's not what eldership is about – being an elder is about knowledge and wisdom."

Despite dismissing the title for himself, by his own definition Foley meets the criteria.

His knowledge and wisdom are attributed in part to more than 40 years as an activist and key player in the fight for the political, legal, health and social

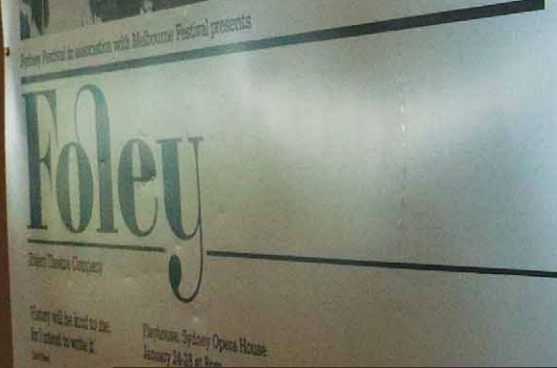
rights of Aboriginal people. It is also thanks to his extensive tertiary studies and teaching of history, beginning in the 1980s.

One of few people who can lay claim to being an integral part of the history they are teaching, Foley tells the real stories that helped shape the history of this country.

Since 2010, Foley has brought his engaging and theatrical style of teaching to VU's Moondani Balluk Academic Unit. The man, who to most needs no introduction, has an interesting way of introducing himself to his students.

"I show them ASIO surveillance photos of me behaving suspiciously 40 years ago," he says. "That's a pretty good attention-grabber."

● An Aboriginal activist for more than 40 years, VU lecturer Gary Foley now hopes to pass the baton on to the next generation.



THE ACTIVIST

IN 1972, Foley was a founding member of the controversial Aboriginal Tent Embassy in Canberra. In 1995 the site of the semi-permanent Tent Embassy – on the lawns of Old Parliament House – was added to the Australian Register of the National Estate as the only Aboriginal site in Australia that is recognised nationally as a site representing political struggle for all Aboriginal and Torres Strait Islander people. A sacred fire representing peace, justice and sovereignty has been kept alight at the Tent Embassy since 1998.

Foley is also a member of Black Power, the political movement that started the first free legal and medical services for Aboriginal people in Australia, and remains a key driver of Aboriginal land rights and equality.

THE PERFORMER

APART FROM HIS ONE-MAN SHOW, Foley, (performed at the 2012 Sydney and Melbourne Festivals), Foley has starred in and co-written stage shows including *Blackout* and ABC-TV's Indigenous comedy show, *Basically Black*. Some of the episodes can be found on YouTube.

His Australian film credits include a starring role alongside Bill Hunter in *Backroads*, as well as roles in *Going Down*, *Buckeye and Pinto*, *Pandemonium* and the cult film *Dogs in Space*, in which he played himself.

As a young man, Foley suffered prejudice-fuelled blows to his self-esteem – he was expelled from school at the age of 15 – but following decades of standing up for what he believes is right, he is now confident as an academic. He attributes his authority as a writer and speaker to his honours-level studies in history – he will soon complete his PhD – and extensive teaching experience.

"Academia has brought discipline to my work which I now see is important," he says. "I look at some young, angry Aboriginal people today and I think, 'Oh God, they're just like I was!' So I encourage them to study and bring discipline into their thinking and writing."

Today his students listen thoughtfully to the histories that often feature him as the protagonist.

"Lectures always are performances", he says. "It's just that some of us are better at it than others. And only some of us get to do our own one-man show at the Sydney Opera House."

His one-man show has been described as "performance autobiography" and "a multimedia work of great dignity, sincerity and poise". It is a lesson in history, or what he calls, "the history you should know, but don't".

Foley also has a particular interest in sharing stories with recent arrivals to Australia, drawing parallels between the experiences of refugees and Indigenous peoples.

"What I love about VU is that not only is it flexible and innovative, I find the demographic of students here very interesting to teach," he says. "Often for our new arrivals, the Aboriginal stories are relatable to their own experiences of displacement. I've had some pretty extraordinary essays written by recent arrivals."

He also thrives on teaching student teachers. "If you can get through to a student teacher, potentially you're going to have an influence on the thousands

of kids they teach in the course of their career. I think, 'you mob are my little hand grenades, and when I'm finished with you, you're going to go out into the world and explode with creativity and ideas'."

While he works on completing his PhD, titled 'When your best friends are your worst enemies', which is a history and an exposé of the Australian Labor Party between 1965 and 1972, Foley continues to work on another significant project – sorting the contents of the dozens of boxes of archived material that are stacked around his office.

The boxes contain a considerable assortment of artefacts gathered by Foley over 30 years. He says the collection "contains some remarkable historical material that's never been written about ... it's the alternative history of Australia over the past 40 years." He says some of the government files are incriminating ... of the government.

He says he is always on the lookout for history students interested in taking on the challenge of turning the collection into academic works.

Perhaps his self-confessed softening can be put down to a combination of job satisfaction and self-discipline, but the great-grandfather also considers his extra-curricular hobbies to have a calming – even lifesaving – effect.

"At the age of 40 I started riding my pushbike everywhere, and that's why I'm still alive," he says. "That and teaching. Because at the end of the day all I am is a rapidly ageing, old anarchist tomato grower from suburban Melbourne. And I grew a brilliant batch of tomatoes this season."

Nevertheless, the ageing anarchist still hopes to pass the baton on to the next generation.

"I tell them to go out and change the world," he says. "We changed the world we lived in. But when you change the world, make sure you don't take your eye off the ball because otherwise they will change it back!" ☺



Flag bearer

Originally designed for the land rights movement, the Aboriginal flag was first flown in Adelaide on National Aborigines' Day in 1971. It quickly became a symbol of the Aboriginal people of Australia. Yet it was not until 1995 that the Government of Australia granted it Flag of Australia status, stating that it was "a flag of significance to the Australian nation".

The symbolic meaning of the flag's colours:

Black: Represents the Aboriginal people of Australia

Red: Represents the red earth, the red ochre and a spiritual relation to the land

Yellow: Represents the Sun, the giver of life and protector

A CLASSROOM NOT AS WE KNOW IT



● Students from the Diploma of Business (Enterprise) enjoy the deinstitutionalised setting of the Terrain – one of VU's new learning spaces of the future.

Oversized beanbags replace chairs, writable walls and floors turn entire rooms into a giant canvas to unleash ideas, and screens with high-definition immersive video open classrooms to the world. Welcome to VU's Learning Spaces of the Future.

ANN MARIE ANGEBRANDT

WHEN THE STUDENTS in Victoria University's Diploma of Business (Enterprise) walk into their classroom, there are no desks, chairs or paper. In fact, their newly built 'learning space' at Footscray Nicholson Campus looks like it belongs more in a funky youth centre than at a university.

The multi-platform Terrain room, with its oversized black beanbags, low tables, interactive screens and colourful cylinder-shaped chairs is one of a growing number of VU's rejuvenated physical spaces that have transformed dreary classrooms, libraries and lecture theatres into creative and technology-rich environments.

The 20 students in this new diploma-into-degree program are among the first at the University to be

involved not just in an innovative environment, but also in a whole new approach to learning. Dubbed the 'Learning Spaces of the Future' project, the approach involves less teacher talk, more online learning through videos, WebCT, and discussion boards, and plenty of collaboration with classmates.

Amanda Achterberg, Associate Dean, Learning Teaching and Students says the new approach gives students more responsibility for their own learning. It also develops skills in problem-solving, teamwork, critical thinking, curiosity and leadership – all essential for a 21st century student heading to the modern workplace.

"We're creating an environment for participation and collaboration that emphasises process rather than product," Achterberg says. "Today more than ever, the physical environment is an important component of the way students learn and interact."

Students in the trial project say they're enjoying the deinstitutionalised setting of the Terrain for their course.

"It's relaxing and more social than any classroom I've ever been in," says 18-year-old Katherine Delia. "It feels just like home."


The emphasis on 'blended delivery' – a combination of face-to-face and technology-based teaching – allows students to interact remotely from anywhere, and will be a major feature once the national broadband system is rolled out. VU will soon trial the approach in other selected courses at its campuses at Footscray Park, Melton and Werribee, aiming it especially at students whose learning styles work best outside traditional classroom walls.

In addition to adding more high-tech aspects to its next generation of teaching spaces, ideas such as using whiteboard paint on classroom walls, desks and even floors are also aimed at encouraging creativity in students and educators.

VU Innovation Architect David Cummings says rejuvenating the University's physical spaces started several years ago with the transformation of campus libraries into 'learning commons' – integrated neighbourhoods of services that include career advice, learning and IT support, and academic resources all built in a relaxed, lounge-like setting to encourage informal learning.

"We know students of today have very different learning styles and we want to provide them with spaces that are more convivial and conducive to learning," Cummings says.

The University has started on a program to build dozens of other student-centred classrooms and lecture theatres across all campuses. Some that have already been built include:

- Brightly coloured professional development suites with video conferencing that allow business students at Footscray Park and City Flinders Campuses to work in a simulated office environment directly with clients.
- Collaborative teaching spaces with multiple projectors, video-conferencing systems and technology-embedded desks at Footscray Park that can transmit and project student work onto multiple presentation screens.
- A nursing lab at St Albans Campus that contains state-of-the-art technology including live video streaming to simulate the conditions of a real hospital. 

● Victoria University alumnus Fiona Webster: "If you're not growing, you're dying."



HEALTHY AMBITION

A curious mind, a need to fix things and a desire to serve the public has underpinned VU alumnus Fiona Webster's stellar career. **SEAN CUMMINS** reports.

WITH THREE HOSPITAL SITES in Melbourne, more than 8000 staff and over 300,000 patient visits each year, Austin Health is a complex and busy organisation. One of Australia's largest health care providers, Austin Health covers the spectrum of health care, research and training, from emergency to geriatrics and orthopaedics to psychiatry. During 2010–11, there were 99,363 inpatient admissions, 170,497 outpatient visits and 69,923 emergency attendances.

Victoria University alumnus Fiona Webster is Austin Health's Executive Director of Strategy, Quality and Service Redesign, reporting directly to the CEO. Webster can be likened to the oil in the machine, keeping Austin Health running at its best by providing the strategic direction, policy, systems and processes that it needs.

If you look at Austin Health's organisational chart, Webster has the longest list of responsibilities of all the executives. Her remit includes several key business functions: strategy and service planning; clinical information management; analysis

and performance reporting; the integration of quality, safety and risk management; veteran liaison; and service improvement and redesign.

How does she cope managing such a large portfolio?

"I've got a lot of staff!" she laughs. A cohort of 150 staff are needed to look after her projects.

Webster admits she could go elsewhere and earn more money doing less. "But I like things that are complex and not boring – and that's health. Health has got to be the most complex industry there is."

Before joining Austin Health, she was Executive Director of Strategy, Performance and Planning at Southern Health, Victoria's largest public health service, which has a budget of around \$1 billion.

Webster has worked in the health services industry for over 20 years and is motivated by a passion to serve the community. Initially trained as a psychologist – one of her first jobs was treating people with drug addiction – she has since held senior positions at the former Department of

Human Services (DHS), run her own health planning consultancy business, and held a senior position in Britain's National Health System.

It was while working at the DHS that Webster hit a wall in her career. Her clinical training was proving inadequate for her increasingly managerial positions. "I had reached a point where I needed to broaden my skills," she says. "I was asking the finance guys questions like, 'What does accrual accounting mean?'"

She decided to do a Masters of Business Administration (MBA). Finding a course that allowed her to continue working while she studied proved difficult. Victoria University turned out to be one of only a few universities that offered classes outside of business hours.

Choosing to study at VU is a decision that Webster does not regret. "The people at VU were fantastic," she says. "Lecturers understood the needs of industry and were interested in the real world. They had real industry experience and a practical understanding aside from the theoretical. Some of them lectured by night and worked by day."

She clearly remembers the date, 16 years ago, when she finished her MBA – she completed her thesis while pregnant with the first of her two daughters. Simultaneously creating a thesis and another human being is commendable enough, but Webster also received the Bill Weeks Memorial Award for Innovation, VU's prize for best masters thesis of the year.


Webster has since completed a Master of Public Health (Monash University) and is contemplating further study, as much out of necessity as desire.

"Contemporary knowledge is moving so fast," she says. "You have to have a commitment to continuous retraining. If you're not growing, you're dying."

She sees many career opportunities in the health industry for people who undertake further study. She says one degree is often insufficient, particularly in more senior positions. "Cross-industry skills, like finance or human resources, must be married with industry-specific knowledge."

As a case in point, she highlights the need for more information technology (IT) in hospitals. "Hospitals are the last home of the fax machine," she says. "Most homes have more IT than the average hospital. Health IT is a big area going forward, but IT skills are not enough, you need health knowledge too."

Webster's philosophy on success in any area of life goes beyond hard work and study. "If you're curious and inclined to fix things, then these are the attributes you need if you want to get ahead."

This philosophy was put to the test when Webster stepped into a temporary posting as Acting Executive Director of Acute Operations. This meant she essentially ran the entire operations of the Hospital, and her work became even more complicated – just as she likes it. 

● Hand-picking the write stuff: Offset managing editors Emmyrose Hobbs and Vince Stahtiaris.



ART OUT WEST

JESSICA JURY

FOOTSCRAY AND THE SURROUNDING SUBURBS 'below' the West Gate Bridge are becoming a vibrant artists' haven, as more writers, musicians and other inspired folk choose to live and work in this creative environment.

Victoria University is playing a part too, with its students, graduates, teachers and community partners taking part in the many arts festivals and activities that are becoming regular features on Melbourne's inner-west calendar.

In fact, the University has put it in indelible writing. One of the stated aims in its new Strategic Plan to be a great university of the 21st century, is to become 'a major player in the western region in creative arts and creative writing'.

For the past 11 years, VU's annual creative arts journal *Offset* has been showcasing the work of some of the finest local emerging writers and artists, as well as contributors from around the world, captivating readers with its prose, poetry, photography and artwork. It even includes musical works, short films, documentaries and other multimedia artworks on a DVD insert.

But just as importantly, *Offset* gives third-year bachelor degree students in the School of Communication and the Arts the opportunity to develop their skills in publishing by putting together the magazine from scratch – content selection and editing, to marketing and distributing the printed publication.

By bringing together the burgeoning expertise of 10 students from a range of creative disciplines, *Offset* provides opportunities for students to undertake the Learning in the Workplace and Community (LiWC) part of their studies. LiWC ensures a significant portion of student learning takes place outside the classroom.

A major development for the 2012 *Offset* project is its expansion into

organising a three-day creative arts festival at the Footscray Community Arts Centre this October.

"*Offset* is as near to the real world as students can get," says John Weldon, lecturer in Professional and Creative Writing, and the festival's director. "With a launch in October and 150 people already registered to attend, including sponsors like the Malthouse Theatre and Writers Victoria, this is a chance for students to shine in front of a big audience."

Each year the *Offset* student production team call on a high-profile writer to create the opening piece for the publication. Past contributors include novelists Michael Hyde (*All Along the Watchtower*), Kate Holden (*In My Skin*), screenwriter Christos Tsiolkas (*The Slap*), comedian Nazeem Hussain (*Where Are All the White People?*) and radio personality Helen Razor.

This year's managing editors, Emmyrose Hobbs and Vince Stahtiaris – both studying a Bachelor of Communication specialising in Professional Writing – were recognised by teaching staff and their peers as having the talent, resourcefulness and initiative to produce a quality magazine.

Hobbs says although she's already had various work placements, working on *Offset* is the opportunity she's been waiting for.

"I spent the second year of my course interning with the Emerging Writers' Festival and then Express Media while I was waiting for my chance to work on *Offset*," she says.

Stahtiaris appreciates the collaborative nature of the project.

"It's great to work with people from different disciplines such as design and public relations," he says.

Weldon says *Offset* is growing the University's reputation in the arts and beyond with its ability to appeal to a wide audience. "This is like VU's calling card," he says. "It breaks through the academic and into the art world and the mainstream." ∞

than Spaniards and dogs have fleas. Henderson clicks his stubby fingers
for a martini. You could tap into his stomach, quench the thirst
of everyone in the room twice and he'd still be obese.
He waves a chubby fist so I throw my silver platter.
Arguments explode. Bubbly stains the carpet.
Henderson asserts manhood with Audi keys.
They jingle like grandma's wind chimes.
I thread my way to the bar and giggle.
My boss shrugs and hands me a tray
with cocktails and tiny quiches.
I serve these men once more.
These spoilt, obnoxious
and soulless people
who only have:
life insurance,
house insurance,
coffee machines,
posh accents,
businesses,
shiny cards,
golf clubs,
rich peers,
mansions,
fast cars,
yachts,
islands,
shares,
leer jets,
more.
I might be invisible and on the bottom of the money chain, but at least I'm having fun.
the divided self naked person
object snap shot representation
fresh meeting of two minds
becoming the subject or
performing between
liminal spaces
a perspective
of embodiment
or perhaps of your face
an ego putting on a face
a construction of the face
or losing face for yet
another raw identity
race gendered class
a shadow an echo
doppelgänger
fragmented self
disempowered
another you
another me
she/her/it
I/me/it
she/you
her/me
they/we/them
split selves or
objects reflected subjects
And suddenly we realise
years ago
and your children are telling their children
about how you always wanted to be an artist.
Life expires with everyday.
Every coffee and every television program,
every new piece of clothing, and mobile phone,

The Daily Maintenance
of Life

J.L. Shenstone

For general enquires email offset@students.vu.edu.au

For submission guidelines: www.offsetjournal.com/

e-NETWORKING FOR HEALTH

Our lives are increasingly influenced and improved by all things 'e' – from our health, to the way we work and communicate. But who is driving the technology that has such a profound effect on our daily lives? **JESSICA JURY** reports on a small team of researchers who are behind some of these advances.



A SMALL LABORATORY IN BEIJING is undertaking research projects that could be life-altering and life-saving for many of us. Launched just 12 months ago, the world-class e-Health and Social Computing Laboratory is a joint-venture between Victoria University and the Graduate University of the Chinese Academy of Sciences (GUCAS).

The collaboration with GUCAS is one of many between VU and its Chinese partners, which began in 1999 when the University first entered the Chinese tertiary market.


The Beijing lab has a growing team of five that includes PhD and masters students, and a postdoctoral research fellow. Leading the collaborative team is Professor Yangchun Zhang, Director of VU's Centre for Applied Informatics (CAI). Zhang is enthusiastic about the potential the laboratory has to influence the medical and technological worlds.

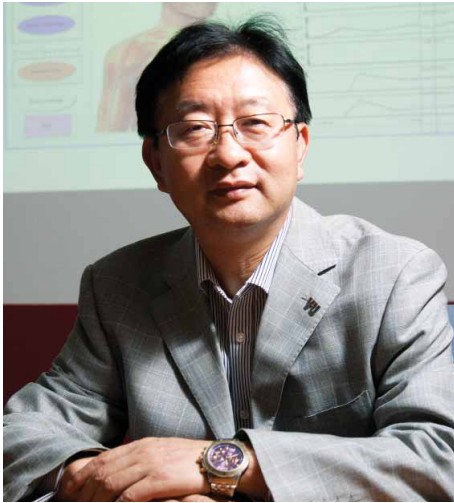
"Around the world we're discovering new ways of informing and improving healthcare systems, and technology is such an integral part of that," says Zhang. Data mining – the process of discovering correlations or patterns in large relational databases or data sets – is a key component of much of Zhang's research.

"E-health covers many areas – like online diagnoses, electronic handling and accessibility of patient data, as well as diagnosis predictions and data mining, to name a few; while social computing research targets the social environment and behaviour of the web community, which is growing rapidly with the advent of social media."

The Centre for Applied Informatics and the Beijing laboratory benefit from cross-disciplinary collaborations across VU's faculties and institutes, providing knowledge-sharing across areas such as sport and science, social sciences and information systems.

Although Zhang has been working at the cutting edge of technology for decades, he continues to be amazed by the pace with which it is moving.

"Twenty years ago no one could imagine the kind of technology that is such a big part of our lives today; change happens so quickly," he says. "Technology is moving so fast, we need to keep moving with it. It opens up so much potential." 



PROFESSOR YANGCHUN ZHANG

PROFESSOR ZHANG is an international research leader in databases, data mining, health informatics, web information systems, and web services. He has published more than 220 research papers in international journals and conferences proceedings, and authored/edited 12 books.

He has held honorary professor positions at several universities and institutions in China, including Chinese Academy of Sciences, Wuhan University, Xiamen University, Northeast University, Hubei University, Hebei Polytechnic University and Hebei Normal University, and was a visiting professor at Nagoya University in Japan.

For his world-class research he was recently recognised in China's prestigious One Thousand Talents Program. He also won VU's Medal for Excellence in Research in 2005, and the VU Vice-Chancellor's Peak Award for Research and Research Training in Research Supervision in 2011.

PROFESSOR ZHANG'S E-HEALTH AND SOCIAL COMPUTING RESEARCH PROJECTS

■ SOCIAL MEDIA MINING FOR PUBLIC EVENT DETECTION

Public health reporting is fundamental to the wellbeing of society. Although traditional reporting systems that rely on diagnoses from laboratories, doctors or hospitals are well developed, a broader health surveillance of the population would be of considerable value. The advent of social media, such as Twitter, could be the answer.

Twitter has fast become a popular method for expressing thoughts and opinions. Although one single tweet usually contains trivial information, a combination of millions of tweets can reveal a collective consciousness.

Using social media mining, Zhang's team will use text mining and analysis to reveal the health intelligence of the wider population. They hope the outcome will benefit health and wellbeing sectors both nationally and internationally.

■ GOOGLE MAPPING ENHANCEMENT

For many years, health researchers have been pursuing more effective means of communicating complex information using geographic visualisation.

The Centre for Applied Informatics and the e-Health and Social Computing Laboratory, in partnership with the Tasmanian Government has developed software that taps into Google Maps technology to allow researchers to better graphically communicate and identify healthcare needs by geographical location.

This has enabled the Tasmanian Department of Health Services to better use its hospitalisation, death, cancer incidence and diseases data to conduct monitoring and surveillance of the health of Tasmanian residents.

■ ANALYSIS OF GAIT PATTERNS FOR DETECTING RISK OF FALLING

Due to Australia's ageing population, falls and related injuries in the elderly have become a major public health issue, costing the community around \$2.4 billion each year.

In partnership with VU's Institute of Sport, Exercise and Active Living and the Australian Rehabilitation Centre, Zhang's team is analysing gait (walking) patterns to evaluate walking performance with the aim of detecting abnormalities and identifying those at risk of falling.

Using a special 'pitch-roll' treadmill allows researchers to simulate a range of surface characteristics when evaluating walking and running dynamics.

■ GP E-CONNECT

Medical data exchange is a global challenge. Countless emergency department patients in hospitals around the world will have their medical histories stored in another medical system.

This often leads to crucial patient information being overlooked, when such information may be vital to accurate diagnoses, correct referrals and administering safe treatments.

In partnership with the Australian Research Council and Westgate General Practice Network, Zhang's team is developing what could become Australia's first comprehensive referral system.

Known as GP e-Connect, it aims to vastly improve management of medical records by allowing referrals and patient data to be integrated for use by different service providers.

■ REAL-TIME STREAM DATA MINING FOR INTENSIVE CARE MANAGEMENT

One of the key projects being conducted by the Beijing laboratory and VU's Centre for Applied Informatics is in partnership with the Royal Brisbane and Women's Hospital and the Australian Research Council.

Software is being developed that allows surgeons and anaesthetists to monitor and predict risks to patients during surgery by capturing and comparing their past health records with immediate health-related information, such as current blood pressure and heart rate. It can also compare a patient's data to that of other patients with comparable conditions to predict and prevent life-threatening incidents.



● Former VU Vice-Chancellor
Professor Elizabeth Harman.



● VU honorary degree
recipient Ms Terry Bracks.

AN AO AND AM

FORMER VU VICE-CHANCELLOR, Professor Elizabeth Harman and VU Honorary Degree recipient, Ms Terry Bracks, both received awards in the 2012 Queen's Birthday Honours list. Harman, Vice-Chancellor of Victoria University from 2003–2010, was awarded an Officer (AO) in the General Division of the Order of Australia for her distinguished service to tertiary education administration; for the development of vocationally oriented and professional development courses through governance reforms; and for services to the community.

She was passionate about addressing the needs of disadvantaged students and in 2010 launched the VU Achievement Scholarship Fund, which pays the tertiary education fees for two graduating students a year from

50 secondary school in Melbourne's western region.

Professor Harman also worked hard to promote collaboration between TAFE and higher education, developing pathways for students to move between those sectors.

Bracks was recognised as a Member (AM) in the General Division of the Order of Australia for her service to youth, particularly as the Founder of Western Chances, a scholarship program for young people in the western suburbs of Melbourne; and as a contributor to health, social development and arts organisations in Victoria.

In 2008, VU awarded her an Honorary Degree, Doctor of the University *honoris causa*, in recognition of her commitment to empowering young people from Melbourne's western region and for her many contributions to the wider community. ∞



● Olympic badminton hopefuls
Renuga Veeran and Ross Smith.

WALK ON

AUSTRALIA'S GOVERNOR-GENERAL, Her Excellency Quentin Bryce, visited Footscray's Whitten Oval in May to launch a Spinal Cord Injuries Australia (SCIA) Walk On program partnership with Victoria University. Walk On is a revolutionary exercise-based rehabilitation program that is changing the lives of people with spinal cord injuries.

SCIA therapists are working with students from VU's postgraduate exercise rehabilitation course to teach them the benefits of Walk On techniques and promote its community-based delivery.

Walk On National Operations Manager Kierre Williams says Walk On therapy results in greater central nervous system activity and improved core strength, muscle mass and movement for injured people as well as assisting their psychological and emotional health.

"Walk On clients range from young children to older adults and while not all of them will walk again, recovering the slightest movements can drastically improve their quality of life and independence and have huge benefits for their families," says Williams.

With an estimated 360 Australians sustaining a spinal cord injury each year, the demand for rehabilitation services is high.

"We know that the program will make a true and powerful difference in the lives of people," said Her Excellency Quentin Bryce at the launch.

The students are being trained at the new Sport and Recreation Learning Centre at Whitten Oval, home of the Western Bulldogs. The \$8 million Centre is run in partnership between VU and the Western Bulldogs and offers collaborative research and research training across a range of sport and recreation disciplines using leading-edge sports science technologies. ∞



● Isabel Martin, 13, who has shown promising results
after participating in a Walk On program trial,
speaks with Her Excellency Quentin Bryce.

OUR OLYMPIANS

TWO VU STUDENTS have been selected to represent Australia at the 2012 Olympic Games in London: Ross Smith in the men's badminton doubles; and Renuga Veeran in the women's badminton doubles.

Smith, a Bachelor of Exercise Science and Human Movement student, competed at the 2008 Beijing Olympics and won the men's 2010 and 2012 Oceania badminton doubles titles. He won his first national title in 2003 in the U/19 men's doubles.

Veeran, studying a Graduate Diploma in Secondary Education,

won the women's badminton title at both the 2010 and 2012 Oceania championships. She was selected as the 2010 Badminton Australia Sportswoman of the Year. Veeran is ranked 30 in the world and this is her Olympic debut.

Two VU alumni will also be representing Australia in the Olympics: Ivo Dos Santos in men's judo and Tarren Otte in synchronised swimming.

Two alumni hockey players, Luke Doerner and Ashlee Wells, remain in contention for the Olympic Kookaburra and Hockeyroo squads. ∞



CLIMATE TO AFFECT TOURISM

C LIMATE CHANGE could shift windows of peak holiday travel with major consequences for the Australian tourism industry, warns a VU researcher. Institute for Sustainability and Innovation academic Professor Paul Boon says tourism – one of Australia's most important economic activities – is heavily dependent on climate in four out of five of the country's climate zones, making it vulnerable to climate change.

According to Boon, projected increases in temperature and humidity would shrink the periods where school holidays and public holidays coincided with acceptable climate conditions in these zones.

"In central Australia, for example, you'd be silly to go there between November and March with all the heat and flies – and that period may expand," he says. "Likewise in monsoonal areas, the growing periods of inundation and extreme humidity will make it almost impossible for holidaymakers to go there for increasing periods of the year."

In southern alpine areas, climate change could mean shorter ski seasons in as little as 20 years from now, he says.

"What clearly comes out of the research is that tourism authorities in alpine, desert and monsoonal zones need to start planning for the changes that will occur as a result of a hotter and less predictable climate." ∞



BORN TO RUN

R ESEARCHERS ARE MAPPING the genes of thousands of athletes in a project aimed at developing a talent ID test within a couple of years.

VU researchers Dr Nir Eynon and Professor David Bishop, with University of Sydney's Professor Kathryn North and Dr Peter Houweling, will collect the DNA of up to 2000 athletes from around the world over the next two years to analyse their genetic variations.

"With this knowledge we hope to develop an accurate genetic test for athletes – one we could use to identify talent or direct athletes to the sport or playing position best suited to them," Dr Eynon says. "This is not fairytale stuff – we have the equipment,

knowledge and leading researchers together here and now to do this."

He says the US and China were already embracing this technology and that Australia could not afford to fall any further behind.

"With such a comparatively small population of 23 million in Australia we have to be very good at talent ID to remain competitive," Eynon says. "We are already pushing the boundaries with science around training, nutrition and athlete preparation, but for the other 50 per cent that determines performance – the genetics – we are doing very little."

He says the test will save money by focusing resources on talented young athletes who are most likely to succeed, rather than taking a large group of people and seeing by chance which ones develop into world-class athletes. ∞

BE ALARMED

F EWER THAN ONE-IN-TWENTY Melburnians are properly maintaining their smoke alarms, according to new research.

A survey of 500 Melburnians by VU smoke alarm experts Professor Dorothy Bruck and Dr Michelle Barnett found fewer than 5 per cent of people vacuumed their smoke alarm monthly, as recommended by Australian safety guidelines.

Sixty per cent of people never cleaned the inside of their smoke alarms at all.

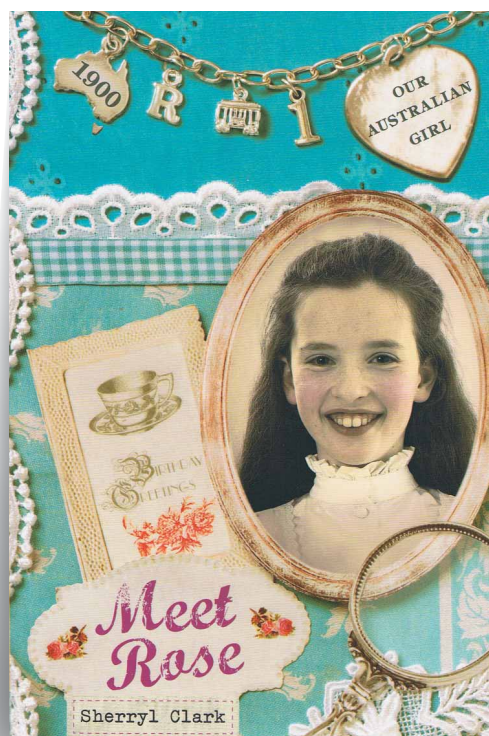
"This is concerning because a build-up of debris inside the alarm may mean that smoke cannot be detected by the device, and people may not become aware of a fire in time to escape," says Bruck.

According to Bruck, vacuuming is the only way to properly maintain a smoke alarm and keep it free of dust and insects. Wiping it on the outside, which is all that most people do, achieves nothing.

More than half those questioned did not change batteries annually as recommended, while 17 per cent said they had never changed them. More than one in four people waited for the smoke alarm to start beeping before they changed the battery. Dead or missing batteries are the most common reason that smoke alarms don't work.

The study, 'Smoke alarm maintenance in an Australian community sample', has been published in *Fire Safety Science* by the International Association for Fire Safety Science. ∞





Meet Rose (Our Australian Girl series)

By Sherryl Clark

Penguin Books Australia
Paperback, 132 pages
\$14.95

It's 1900 and Rose lives with her family in a big house in Melbourne. She wants to play cricket, climb trees, be an adventurer and do everything her own way. Her mother has other ideas. When Rose's favourite young aunt comes to town, everything changes. Part of Penguin's *Our Australian Girl* series for young readers.

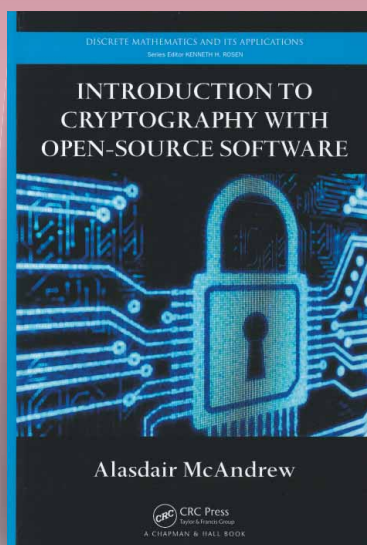
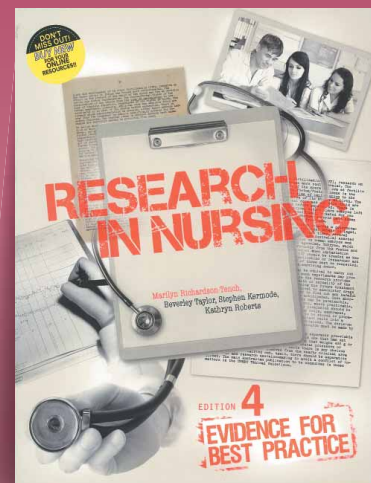
A selection of new book releases by authors in the VU community.

Research in Nursing: Evidence for Best Practice (4th edition)

By Marilyn Richardson-Tench, Beverley Taylor, Stephen Kermode, Kathryn L. Roberts

Cengage Learning Australia
Paperback, 500 pages
\$70.00

Written by experienced nurse researchers, this book addresses the need for nurses to engage in evidence-based practice. It includes practical examples of nursing research projects gathered from a wide array of international projects reported in peer-reviewed professional journals. As a practical and easy to read step-by-step guide, it would support instructors as they take new researchers through the research process.



Introduction to Cryptography with Open-Source Software

By Alasdair McAndrew

CRC Press
Hardback, 461 pages
£49.99 (AU\$77)

Once the privilege of a secret few, cryptography is now widely taught at universities around the world. This book illustrates algorithms and cryptosystems using examples and the open-source computer algebra system of Sage. The author, a noted educator in the field, provides highly practical information, keeping mathematics at a manageable level and offering end-of-chapter exercises.

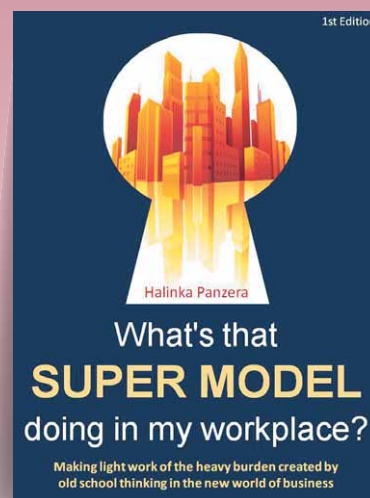


Tourism and National Identities: An International Perspective

Edited by Leanne White and Elspeth Frew

Routledge
Hardback, 228 pages
£90 (AU\$138)

By understanding tourism through the lens of national identity, tourists are better able to appreciate, and planners and marketers are better able to manage and promote tourist destinations. Written by an international team of leading tourism academics, this is the first book to critically explore the interconnecting areas of cultural tourism and national identity.

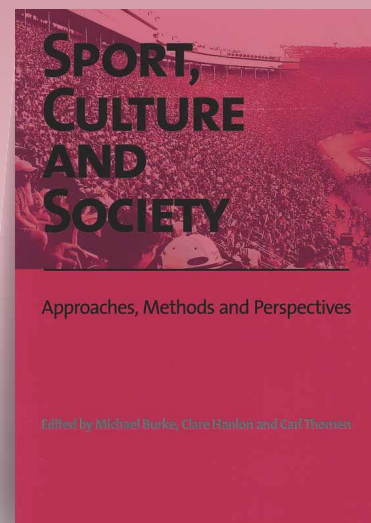


What's that Super Model Doing in My Workplace?

By Halinka Panzera

CreateSpace Publishing
Paperback, 168 pages
\$24.88

The feminist movement has led to more women entering the workplace. Yet female management positions today have gone backwards, with fewer than 3 per cent female CEOs in the world's top 500 companies. The author has created a 'super model' business approach that can redress this under-representation by showing that both genders are essential to creatively manage 21st century organisations.



Sport, Culture and Society: Approaches, Methods and Perspectives

Edited by Michael Burke, Clare Hanlon and Carl Thomen

Maribyrnong Press
Softcover
\$39.95

This anthology is an eclectic mix of the latest research across a range of disciplines in the field of sport and culture. Topics range from military training methods in ancient Ireland to the paucity of women in sports management. The lead authors are postgraduate students of VU's School of Sport and Exercise Science, in collaboration with the University's top sports scholars.



TALKING POINT

Victoria University has become a very successful provider of tertiary education in the years since it was established in 1990. It has admirably served the people of Melbourne's west and become an important teaching and research institution both nationally and internationally. However, it is now at a critical stage in its history.

AS ONE OF THE FEW DUAL-SECTOR UNIVERSITIES in Australia – offering both vocational training (TAFE) and higher education degrees – Victoria University is now faced with major policy and regulatory changes, and associated funding reforms, in both vocational and higher education, by both State and Federal Governments. VU is responding to this new environment to ensure it remains a unified, dynamic and agile organisation, equipped to meet these challenges and achieve its agenda of excellence, engagement and accessibility, and become a great university of the 21st century.

To achieve the objectives of its Strategic Plan 2012–2016, VU will reorganise its courses from its current faculty structure into specialised Colleges, shaped by our distinctive specialisations, by January 2013. This structural change will capitalise on the University's dual-sector status and allow it to maximise its student pathways, improve learning opportunities, and develop distinctive areas of national and world-renown specialisation in the coming years. These specialisations will cover the following areas: built environment and sustainability; creative industries; economic, social and community development; education; financial services; food and nutrition; health; law and legal services; major events; transport and logistics; and sport and exercise science, which we envisage will be the first of our specialisations to meet a goal to be world-renowned.

We anticipate that by 2016 our sports area will be recognised worldwide for its research, teaching and knowledge exchange leadership – a position that has been enhanced in recent years by the establishment of our Institute of Sport, Exercise and Active Living (ISEAL). Research at ISEAL spans a range of human development, from everyday exercise to high performance sport. Its projects provide research that permeates global sporting events like the Tour de France, and makes significant contributions to exercise science worldwide through its profound understanding of the relationships between exercise, physical activity and chronic disease prevention.

Under the new college structure to be established in 2013, the Institute will be brought together with the staff from the higher education School of Sport and Exercise Science and with vocational education staff from the Faculty of Workforce Development in a way that should enable its ambition to be realised.

In April this year, with some Victoria University colleagues, I visited a number of universities in the United Kingdom to learn from, and share information with, universities with a similar history as VU, and that offer complementary programs. One of the highlights was our visit to Loughborough University in the Midlands. Having commenced as a technical school in 1909, it is now regarded as the UK's premier university for sport, if not the world. Loughborough has an impressive reputation in sport, bringing together exceptional athletes, facilities, coaching, teaching and research expertise, and extensive industry partnerships with major sports organisations. I am excited by the prospect of future collaborations. We visited their very impressive sport technology laboratories and other facilities including the new Clyde Williams Building, named in honour of Emeritus Professor Clyde Williams OBE, founder of Loughborough's Sports Science Research Group in the 1970s, founding chairman of the British Association of Sports Sciences, and now Loughborough's Pro-Vice Chancellor of Research. Victoria University is delighted and honoured to host Professor Williams as the next speaker in our Vice-Chancellor's Lecture Series on Tuesday 9 October.

Although we face some challenging times, I am enthusiastic about the many opportunities we have before us, and have great confidence in the processes we are undertaking. I believe the Victoria University values of engagement, collegiality and courage will enable us to deliver on our strategic promises.

PROFESSOR PETER DAWKINS
VICE-CHANCELLOR 

ENROLLED STUDENTS

TOTAL STUDENT POPULATION	51,885
Higher education	24,643
TAFE	27,242

COURSE ENROLMENTS

TOTAL COURSE ENROLMENTS	63,154
Higher education undergraduate	20,368
Higher education postgraduate	4899
TAFE	37,887
Apprenticeships and traineeships	3499
International total	13,829
International offshore	9475
International onshore	4354
VETIS	2720

AWARDS PRESENTED

TOTAL AWARDS	16,037
Higher education	5421
TAFE	10,616
Doctorates	79
Masters by research	6
Honorary degrees	1

VU-FUNDED EQUITY SCHOLARSHIPS

TOTAL	400
Value	\$428,000

STAFF

TOTAL	2760
Academics	680
TAFE teaching	550
Senior management	24
General	1506

Note: Above figures represent 2011

FACULTIES

- Arts, Education and Human Development
- Business and Law
- Health, Engineering and Science
- Technical and Trades Innovation
- VU College
- Workforce Development

CAMPUSES AND SITES

- City Flinders ● Newport ● City King ● Melton
- City Queen (site) ● St Albans ● Sunshine
- Footscray Nicholson ● Footscray Park ● Werribee

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