

3010

melbourne university magazine

The soprano

Alumna Nicole Car is being hailed as a rising star of the opera world

ISSUE 2, 2016

THE UNIVERSITY OF MELBOURNE

A NIGHT IN EMERGENCY
ON THE HOSPITAL FRONTLINE

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ISSUE 2, 2016



The big picture

The Parkville campus was abuzz when thousands of prospective students flocked to the University of Melbourne Open Day in August.

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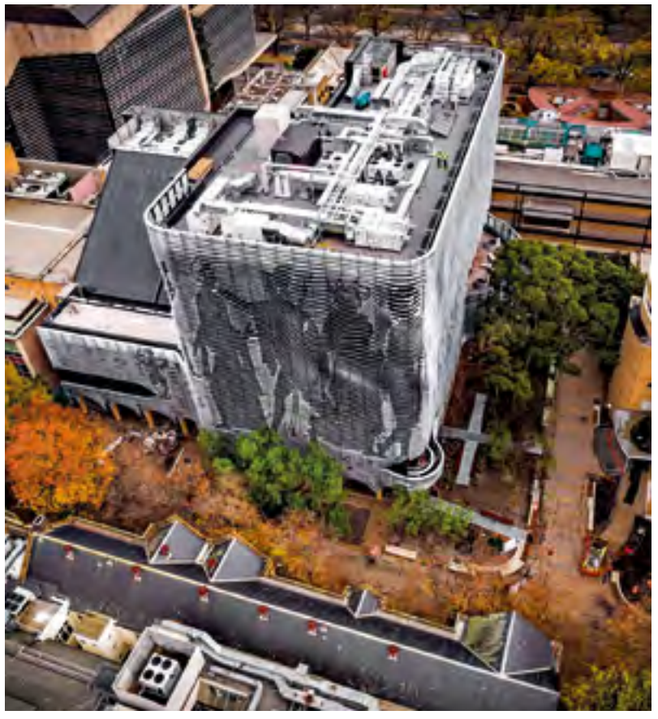
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EDITORIAL TEAM

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ARTS WEST

New building will transform way humanities are taught



« The eye-catching new Arts West building provides informal learning spaces and features an image by Indigenous artist Tommy McRae on its northern façade.

A new era for the Faculty of Arts began with the start of Semester Two and the opening of the Arts West building.

This stunning five-star energy-rated building is located at the heart of the traditional Arts precinct on the Parkville campus, next to the Faculty's historic home in Old Arts.

The new building's visual impact is immediate, with representations of images from the University's rich cultural collections. The feature image on the north façade is by Indigenous artist Tommy McRae.

Curators have also worked alongside staff to create cabinets of curiosities throughout the building, which build on learning outside the teaching and learning spaces.

Professor Mark Considine (BA(Hons) 1976, PhD 1986), Dean of the Faculty of Arts, says the entire building makes an impression, inside and out. "The focus of Arts West on immersive, interactive and collaborative learning is unsurpassed in the Asia Pacific region," he says.

"Arts West is an innovative, amazing and fun place that opens our minds to the rich possibilities of an Arts education."

Vice-Chancellor Professor Glyn Davis says Arts West will transform the way humanities and social sciences are taught at the University.

"It will be a true student hub, with 24 new teaching and learning spaces, a digital studio and a façade that displays images from the University's cultural collections," he says.

"A key theme in the building's design is connectivity – embodied in the principle of interdisciplinarity, which informs teaching and research in the humanities at Melbourne, and the significant connection the Faculty of Arts has to our University and city."

Arts West was designed by the architectural teams of Architectus & ARM Architecture and was built in partnership with Kane Constructions.

NATURE

How much can a koala bear?

A changing climate means that by 2070 koalas may no longer call large parts of inland Australia home, a University study has shown.

Using a detailed ecological model, researchers found hotter temperatures and altered rainfall patterns will make it more difficult for koalas to get the water they need – making inland populations vulnerable to heat-stress.

The researchers mapped potential koala habitats in 2070 by using information about koala behaviour, physiology, body size and fur to predict how much energy and water the marsupials need to survive under the climate at a particular location. They found that the climatically suitable area will be dramatically reduced by 2070, particularly in Queensland.

The koala's range across Australia was limited by water requirements for keeping cool, with the timing of rainfall and heat waves being crucial in limiting the area in which koalas live. Lead author of the study Dr Natalie Briscoe (BA 2006, BSc(Hons) 2007, GCALL 2012, PhD 2014), from the School of BioSciences, says the findings could help in forecasting future impacts of climate change on biodiversity.

"Studies of climate change impacts on wildlife have often focused on how changes in average temperature or rainfall will affect species, but our research highlights the importance of thinking about the extreme conditions that will be most stressful for the animals – such as hot, dry periods – and how these may change in the future."

The study was published in *Global Change Biology*.



» Koalas are under pressure because of climate change, with the area in Australia suitable for them set to be dramatically reduced by 2070.

TECHNOLOGY

$13m Centre to boost innovation

One of the world's largest advanced technology companies, Lockheed Martin, will establish a new STELaRLab (Science, Technology, Engineering Leadership & Research Laboratory) in the heart of the University's engineering and science innovation precinct.

The $13 million Centre is a collaboration between Lockheed Martin, the Defence Science Institute and the University. It will open for an initial three years in existing University premises, before moving to a more permanent location as part of the University's planned Carlton Connect Innovation Precinct.

It marks the first time Lockheed Martin has opened a research centre outside of the US.

The Centre's establishment was coordinated through the Defence Science Institute, which was set up in 2010 to facilitate the growth of defence science research networks between Victorian universities, government and the defence industry.



Deputy Vice-Chancellor (Research) Professor James McCluskey, pictured, says the University's collaboration with Lockheed Martin is strategically important.

"The University has made no secret of its desire to both deepen and broaden its engagement with industry to have high impact and work together to solve some of the world's most challenging problems," he says.

The Centre is expected to grow rapidly over its 10 years, with its researchers to be co-located with universities around the country.

It will provide PhD scholarships and internships, while directly funding research projects and co-authoring applications in the future.

Initially the Centre is expected to focus on basic research, covering fields such as hypersonics, robotics, artificial intelligence, sensors and communications.

DOCTORS AT LARGE

4706

candidates were studying for a PhD across the University in 2015, 1673 of them in the Faculty of Medicine, Dentistry and Health Sciences.

» See page 15 for a snapshot of the University's research output

WINNER

Dr Shwetha Shankar (MPH 2015) has won a $250 book voucher after opting to receive future editions of *3010* by email. If you would prefer to receive the digital edition, sign up at unimelb.edu.au/3010

CAMPAIGN

Physics gains in latest gifts



Physics at the University of Melbourne has been advanced with the announcement of two major gifts.

Betty Laby (MSc 1985), pictured, a former University statistician and department head, honoured the memory of her father – esteemed University physicist and chemist Professor T.H. Laby (MA 1915) – by leaving a gift in her will for a Professorial Chair in Physics. The gift will support an area in experimental or observational physics.

Ms Laby was the last surviving member of a family with close ties to the Faculty of Science. Her sister, Dr Jean Laby (BSc 1940, MSc 1951, PhD 1959), was the first woman to receive a doctoral degree in physics from the University.

Dr Laby later became a renowned physicist, specialising in climate assessment.

The gift extends the Laby family's support of the School of Physics, which stretches back more than 30 years, largely through gifts from the Laby Foundation.

Ms Laby's gift was followed more recently with a gift from alumnus Dr Jake Haimson (BSc 1948, DSc 1967). Dr Haimson is an international pioneer in the design of microwave electron linear accelerators – the devices used to deliver high-energy X-rays in cancer radiotherapy.

Dr Haimson commissioned Australia's first linear accelerators at the Peter MacCallum Cancer Centre and the Royal Brisbane and Women's Hospital.

The Jacob Haimson and Beverly Mecklenburg Lectureship in the School of Physics provides the school with the flexibility to teach and research fields vital to society's future.

The physics gifts are the latest major contributions in *Believe – the Campaign for the University of Melbourne*.

HEALTH

Exercise key to avoiding decline



Regular exercise in middle age is the best lifestyle change a person can make to prevent cognitive decline in the later years, a landmark 20-year study has found.

University researchers followed 387 Australian women from the Women's Healthy Ageing Project for two decades. The women were aged from 45 to 55 when the study began in 1992.

The research team noted their lifestyle factors, including exercise and diet, education, marital and employment status, number of children, mood, physical activity and smoking.

The women's hormone levels, cholesterol, height, weight, Body Mass Index and blood pressure were recorded 11 times throughout the study. Hormone replacement therapy was also factored in.

When measuring memory loss over 20 years, frequent physical activity, normal blood pressure and high good cholesterol were all strongly associated with better recall.

Study author Associate Professor Cassandra Szoeke (BSc(Hons) 1995, PhD 2006), who leads the Women's Healthy Ageing Project, says once dementia occurs, it is irreversible.

Regular exercise of any type, from walking the dog to mountain climbing, emerged as the number one protective factor against memory loss. Associate Professor Szoeke says the best effects came from cumulative exercise, that is, how much you do and how often over the course of your life.

The study was funded by the National Health and Medical Research Council and the Alzheimer's Association.

A night in emergency

It's called ED. The place people instinctively turn to when they are injured or suddenly ill, and where the doctors are ready for anything. Writer **Gary Tippet** and photographer **Julian Kingma** spend a shift at Austin Health's Emergency Department.

TUESDAY: a wet, grey, cold and miserable day. A day for slips and falls, rear-end collisions, workplace accidents, broken bones and sickness. Yet, at 3pm, the waiting room at the Emergency Department of Austin Health in Heidelberg is little more than half full.

You should have been here yesterday, they say. The place was overflowing, the morose, fidgeting throng stretching along the corridor almost to the hospital foyer. Of course, Mondays in the ED are always busy, with people bringing in the injuries and ailments they have carried through the weekend.

This afternoon, though, is unusually quiet.

Quiet, of course, being a relative concept in a department that on average sees 225 patients every day – 82,074 in the last financial year. Doctors Mani Rajee, Lee Yung Wong and the rest of the staff in Emergency are merely busy – as opposed to run off their feet. Still, most of the 31 cubicles in the department are occupied by patients being treated or awaiting their turn.

In cubicle 26, Lindsay McDonald, 69, of Greensborough, sits with a bandage wrapped around his head. There is sticky blood in his hair and in dried rivulets down both sides of his face. Dr Rajee carefully unwinds the bandage to reveal a ragged five-centimetre laceration, starting above his swollen left eyebrow and running down the side of his nose near his eye.

"Silly accident," Mr McDonald explains. "Just after lunch today I was shopping, buying a high chair for my granddaughter.



"You can't get bored": Dr Mani Rajee (above) and Dr Lee Yung Wong (right) on duty in the Emergency Department.

I turned around, caught my foot under a cabinet and went down like a … well, like a bag of cement."

He had a similar fall a week ago. "Got a decent old bump. This one though, there was so much blood it looked like a crime scene where I hit the ground."

Dr Rajee rebandages him. A cut that deep and so close to the eye means the patient will be going to theatre for plastic surgery, he explains, adding: "This needs to be done properly by the experts."

Today, Dr Rajee is working in STAT – an acronym explained in a photocopied, pasted-together sign above its inner door: "See, Treat, Assess, Transfer".

STAT IS the second point of call for most people who present at the ED. Initial assessment usually happens at the Nurses' Triage Station, just off the waiting room, where patients are assigned a rating from 1 to 5 according to the seriousness of their condition and the urgency with which they need to be treated – 1 being the most critical.

Most patients triaged at 1 and 2 will bypass STAT and go straight to the main section of Emergency with its two staff bases, two resuscitation rooms and 23 green-screened cubicles.

In one of those this evening, ED registrar Dr Wong (BMedSc 2007, MB BS(Hons) 2009) meets 67-year-old Maryann Pantalleresco, who, with daughter Tracy, has made a 30-kilometre taxi trip to the hospital from her home at Hillside in the outer western suburbs. They'd have called an ambulance, she says, but knew she would have been taken to a different hospital. And she's had a long history with Austin Health since a liver transplant here in 1999.

"I hear you've had a pretty rough trot," says Dr Wong.

"Yes, I've had the liver transplant, bones broken in both my legs, breast cancer, a thyroid operation, and whatever else there was I don't remember."

Mrs Pantalleresco has had almost constant diarrhoea for the past five days. She is very pale, badly dehydrated and close to exhaustion, with pain in the abdomen and lower back, possibly, she says, from a recent fall. She winces and moans softly as Dr Wong presses under her ribs and around her kidneys.

CONTINUED PAGE 8

FROM PAGE 7

"I worry about her liver and all, her being so dehydrated," Tracy tells him.

"That transplant is the greatest gift I've ever gotten," says her mum. "I don't want to have another."

Dr Wong orders blood tests and sets about getting her rehydrated. He'll be back to see her when the results come back, he says.

TODAY

Lee Yung Wong and Mani Rajee are two of the staff – doctors, nurses, ward support staff, clerks, imaging technicians and others – working the afternoon shift in Emergency. The shift is from 3pm until 11pm, but Dr Wong, in blue scrubs, has already been here a few hours covering for a colleague.

Dr Wong came to Melbourne from Kuching in Malaysia in 2004 as an 18-year-old enrolled in the University of Melbourne's Trinity College Foundation one-year course for high-achieving international students, before joining the Melbourne Medical School. Apart from one year, he has been at Austin Health since his internship there in 2010. After enjoying a few rotations through the ED, he began emergency medicine training in 2013.

As someone who likes to work with his hands, he says he toyed with doing some surgical training, "but maybe my attention span was too short". The ED offered a similar chance of hands-on medicine as well as offering constant variety and immediacy.

"We're generalists," he says. "We try to care for the patient as a whole and I think that's a good quality of emergency medicine.

"People are usually in a great deal of pain or distress when they come to Emergency. I like the fact that you can still do a lot for them. There's a really short space of time in which you can do a really great intervention – whether it's just listening to someone or giving them medication or pain relief. There's something attractive about doing a small thing that has a big impact in a great time of need."

Emergency physician Dr Rajee is Clinical Sub-Dean in Emergency Medicine at the Austin Clinical School and the University of Melbourne Faculty of Medicine, Dentistry and Health Sciences. But before coming to Australia 23 years ago, he had never worked in an emergency department. In Chennai, in southern India, he had been an ear, nose and throat surgeon.

"When I started, it was very, very interesting," he says. "It was a new field and you had a chance to do everything. You could do some surgical work; you could do some medical work. You got to see everything – the good, the bad and the ugly.

"You can't get bored. You might deal with a heart attack, then all of a sudden it's a kid with a broken bone or someone with a stroke. You see every type of patient, the young, the old, male and female, cuts and lacerations, serious infections, people dying in the department." At Footscray Hospital years ago, he even delivered a baby in the ED.

But there are frustrations, he adds. Increasingly, people are using the ED like a general practitioner's clinic for relatively minor ailments. There are drunken and drug-affected patients and staff face abuse and even violence. It is why the staff in the triage area now work from behind glass screens like those in banks.

"Emergency is stressful but also very satisfying," says Dr Rajee. "You have some gift that you've learned and you can use it to help other people in critical times. It's a nice feeling if you're helping another human being in need. That is the greatest feeling."

The ED can be challenging and often confronting, adds Dr Wong. But one of the attractions is working in a big team responding to those challenges.

There is enormous camaraderie in Emergency, he says, a strong, positive, supporting culture. "When something major comes through those doors and you see everyone switch on and chip in and work together, that really is a sight to behold.

"I think for most people doing emergency, including myself, I don't think we can see ourselves doing anything else. There's a small caveat to that – it's a tough job to do full-time, for your whole life."











A routine day: (Clockwise from top left) Dr Wong talks to Mrs Maryann Pantalleresco; Dr Rajee gowns up; Dr Wong checks a patient; and Mr Lindsay McDonald has his head wound treated.

The door that never closes

Emergency medicine was not recognised as a specialty in Australia until 1993, when the Australasian College for Emergency Medicine was formed.

"Before then," says Dr Thomas Chan (MB BS 1991), Director of Emergency Medicine at Austin Health, "emergency was predominantly staffed by junior doctors with oversight from various specialties that lent their expertise depending on the situation."

Under the so-called Anglo-American model of emergency care, emergency departments are now staffed by specialists with a range of core skills and training in evidence-based pathways to evaluate a range of patients.

"There are many demands at that coalface," says Dr Chan. "Time pressures; the ability to think on your feet is important; there are the demands of shift work; and the ability to prioritise your clinical demands and to make sure not only are patients diagnosed correctly but that they are identified as either potentially deteriorating or otherwise."

It is also vital to discern the social or underlying factors behind a patient.

"The ED is the front door," he says. "When there's no one else a patient can go to, be it medical or social, they come to the ED because we're open 24/7."

THE NIGHT

grinds on. Doctors Rajee and Wong tend to a constant stream of the injured and the ill.

In cubicle 30, 81-year-old Giuseppe Prestileo waits with his wife, Caterina. Nine years ago, he was treated for prostate cancer and now uses a catheter every two days "to clear the way".

He tells Dr Rajee: "I put it in today and I think I went too far. I'm urinating blood, blood with my wee. Too much blood."

After a bladder scan and some hydration, his home diagnosis is confirmed: he has scratched inside his bladder. He is catheterised and the urine dripping into a bag gradually turns from deep red to a light rose tinge. But he'll spend the night in the short-stay unit.

In an examination room, plumber Graeme Davis's left knee is sore and badly swollen. He was putting up some guttering yesterday when the ladder slipped and he rode it to the ground. X-rays show a fractured patella, an ultrasound confirms there is no bleeding in the joint, and a 3D scan reveals in detail the break, which looks like a slightly tilted capital F.

The good news is that it won't require wiring and Graeme goes home in a Zimmer splint stretching from his upper thigh to lower calf.

Meanwhile, Fiona Turner, 31, has arrived at Staff Base 2. Dr Wong lets second-year medical student Richard Cole, on his first shift in the ED, question her. Fiona tells him she has been persistently unwell since a bout of influenza two years ago, has had gastro problems and has been on antibiotics since May.

Very pale and in tears, she says she has a band of severe pain stretching around her abdomen: "It's like labour pain, but you probably wouldn't understand how that feels." Richard correctly suggests she may have colitis, perhaps from too many antibiotics.

Back in STAT, 63-year-old Helen Nikolaou presents with severe tonsillitis and asthma, and a temperature of 38.6. Later, her husband, Chris, arrives in a wheelchair from Austin Health's Olivia Newton-John Cancer Wellness and Research Centre next door, where he has been having radiation treatment for thyroid cancer that has spread to his brain, lymph nodes and lung.

"They've told me that without treatment I'd have 14 weeks; with treatment 16 months, maybe longer," he says. He suspects Helen's worry for him has worn her out.

Helen will be admitted, but for his own good Chris has to leave, says Dr Rajee. "Because he is having radiation treatment he really needs to stay away from someone with a serious infection."

They keep coming: 17-year-old Angus Garrard has broken the fifth metacarpal in his left hand after crashing his trail bike into a kangaroo at Hurstbridge; he goes home in a plaster cast. Adele, 31, receives eight neat stitches to seal a cut in her forehead suffered in a fall at a supermarket.

A scientist, who has had long-term eye problems including glaucoma and is on the waiting list for a second cataract operation, presents with a bad bleed in his right eye. A victim of a massive stroke passes away in a resuscitation room.

Late in the shift, Dr Wong bends over a computer screen and shakes his head. Mrs Pantalleresco's lab results are back and one number worries him.

Her level of creatinine – a chemical waste product usually filtered out through the kidneys – is at 398 when it should be less than 100. Six days of diarrhoea seems to have shut down her kidneys. She may be headed for intensive care.

He goes to see her: "I've got some news for you and it's not good. We have done the blood tests and you are in kidney failure."

"Oh, lovely," she says. Her daughter begins to cry.

"It's all right, Trace," says her mum. "And anyway, we've got two kidneys, haven't we? It's just another word on my long list – kidneys."

Dr Wong says they will now admit her and begin treating and rehydrating her. "That's good," she says. "I know I'm always in good hands when I come here."

The great explainer

George Megalogenis has made it his mission to help Australians understand their country.

BY **GAY ALCORN**



The son of Greek settlers, George Megalogenis has a deep interest in Australia's immigration story.
PICTURE: DARRIAN TRAYNOR

He would be embarrassed to be so described, but George Megalogenis is one of the country's leading intellectuals. Academic Dennis Altman has called him "arguably the most important Australian political commentator of his generation".

Megalogenis (BCom 1984) is a rare journalist in a time of frenetic, hyped-up, click-bait media. He has chosen to slow down, leaving *The Australian* newspaper four years ago to concentrate on thoughtful, big-picture books.

They are ambitious books about Australia's biggest challenges, yet he has the knack of being able to trawl through mountains of data and find the threads in our political, economic and social history.

We meet at a coffee shop – he orders two strong lattes in a row – to talk about his latest book, *Australia's Second Chance*, published late last year, and his Quarterly Essay, *Balancing Act*, published in March.

Megalogenis is everywhere at the moment. He's about to do a Wheeler Centre talk on the Mornington Peninsula. The following week, he will deliver the annual Manning Clark history lecture. He's at festivals and on panels, and last year his lanky frame walked us through a three-part ABC documentary, *Making Australia Great: Inside our Longest Boom*.

His Quarterly Essay argues that "the debate we have to have is on the role of government in the economy". Both major political parties, he says, cling defensively to the open market economy when it is "exhausted" and unable to deal with the challenges of the 21st century, especially education, physical infrastructure and climate change. The public is volatile, angry and mistrustful of our political system, yearning for a substantially greater role for government. Yet neither major party has made that leap.

"The default setting of politics in the 21st century – to trust in the market – has proven to be bad economics, even for Australia, the only high-income nation to avoid the Great Recession," he writes. "It has left us with gridlocked cities, growing inequality and a corporate sector that feels no obligation to pay tax."

The essay was written before the July 2 federal election. Megalogenis says now that he always believed that counter-intuitively, it might be a conservative government led by someone like Malcolm Turnbull that would find it easier to shift the role of government, just as it was paradoxically easier for Labor to deregulate and open up the economy in the 1980s. That hope seems dashed for now, with politics becoming more focused than ever on the short term.

"The default setting of politics in the 21st century — to trust in the market — has proven to be bad economics, even for Australia."

"I'm not arguing for more intervention," he says. "I'm arguing for a much more intelligent, evidence-based involvement for government when the market can't do the job."

The Coalition had a poor result in this election, barely scraping back to power after a single term in office. Citizens again displayed their disenchantment with established politics by directing a record percentage of votes to independent and minor parties.

"The major parties are still looking at the result as some sort of Australian version of Brexit or the Trump phenomenon, which is a protest vote. I still don't think it's a protest vote. It's a very active message to both sides of politics that until you're prepared to meet us, not halfway, but meet us on our terms, with a more active government, I'm not prepared to give you loyalty."

Megalogenis, 52, is the son of Greek immigrants. His father, a poor fisherman, arrived in 1950 from the Greek island of Ithaca. His mother arrived in 1962 after then prime minister Robert Menzies offered free air travel to girls in her village.

Megalogenis remembers being bullied in primary school, and how the only positive representation of Greeks in popular culture at the time seemed to be Championship Wrestling. But mostly, he didn't think much about his Greek heritage.

He remembers that when he joined the parliamentary press gallery in Canberra in the late 1980s, there were only two darker-skinned journalists he can recall – himself and Indigenous journalist Stan Grant.

"Poor old Stan kept getting mistaken for a Greek," he laughs. It wasn't until his 20s and 30s that he started to feel and understand his Greek background.

It seems an obvious thing to say that Megalogenis's background must be related to his deep interest in Australia's immigration story. If *Balancing Act* is about how Australia needs to respond to the challenges of this century, *Second Chance* is about how we got here, and that is a remarkable story of immigration.

We have flourished economically and socially when we have been an open, welcoming country, he argues. We have suffered when we have become scared and turned inward.

Megalogenis wants Australia to realise how special it is at this moment in history. We are unique among developed nations with our quarter of a century of uninterrupted economic growth. "No other economy has had a comparable winning streak to ours, and at a time of global instability," he writes. Yet, we are again fearful, worried our luck will falter.

We have been here before. Spurred by the huge numbers of people arriving for the Gold Rush, Australia officially became the world's richest nation in 1852, and the centre of this prosperity was Melbourne.

The city was, he writes, the world's first middle-class economy, its population rising by more than 70 per cent in the 1880s, with a swaggering sense of optimism and opportunity. That was a time when the population was split – almost half the people were born locally and half were born abroad.

"I'm talking about a much more diverse and confident culture and a country that can look after itself."

All that changed. The boom was followed by a bust, and Australia turned inwards, fearful of foreign competition and invasion, mistrustful especially of Chinese immigration. That would lead to the White Australia policy, which was, among all else, a disaster for the economy.

We opened up again with the immigration experiment after World War II, the largest wave of migration since the Gold Rush. Yet it wasn't until the 1970s that Australia rid itself of the last vestiges of the White Australia policy. Today, the biggest sources of immigrants are the century's rising nations, China and India.

It is a different world, but there are obvious parallels with today's tensions. Again, we are a population where about half of us were either born overseas, or are the children of immigrants. Australia has been suspicious of Chinese arrivals, and the Irish, and the post-war 'wogs' and Jews, then the Vietnamese, and now Muslims. Throughout our history, the fears and suspicions have been similar.

"This is the second time in our history we've been in this position," says Megalogenis. "The last time we were there we did some things that got us into a lot of trouble … The instincts now are not dissimilar to what they were in the 1880s.

"When Australians are sitting on a pile of cash, whether it's been distributed equitably or not, when we are relative to the rest of the world Number 1 or close to it, we get greedy and we get fearful and we think that the only way to hold on to this thing is to not let anyone else in. We don't want to share it. We almost forget, and it's a generational thing."

He says the election threw up all the old paradoxes. One Nation's Pauline Hanson is back, with her policies of stopping Muslims from migrating to Australia. Yet academic Anne Aly became the first Muslim woman elected to the Federal Parliament, winning in a marginal Perth electorate. "That tension is alive today between the open and the closed."

The world has changed. Students now comprise the biggest movement of people globally in the past 15 years. They arrive here to study, and many stay. They are middle-class and educated, and they are choosing Australia in great numbers compared with other countries.

He wonders about the differences between their experience and that of his generation. While new arrivals after the war took up 'cultural reference points' such as football to fit in and become Australian, today's arrivals can read and watch anything around the world, following their home countries' cultural and political life with ease.

"The challenge for the culture is to include the new arrival quicker than we were included because that migrant is more mobile," he says.

"But once they've made that choice, we should be able to convert enough of them to create a great country. Great sounds a bit hubristic, I don't mean it like that. I'm talking about a much more diverse and confident culture and a country that can look after itself."

Her Excellency



As a senior diplomat, Margaret Twomey has learnt to expect the unexpected. That means everything from coups to cyclones, writes **Val McFarlane**.

She's across the Russian classics, knows the right protocol for every occasion, and is attuned to the smart chat heard in diplomatic circles across the world. She's a model of calm and tact. Even so, Margaret Twomey's temperament is sometimes tested.

Such as in February this year, when Cyclone Winston smashed into Fiji with devastating results. Entire villages were wiped out. More than 40 people were killed.

As Australia's High Commissioner in Suva, our most senior diplomat in Fiji, Twomey (BA(Hons) 1984, St Mary's College) has vivid memories of the day Winston struck. All communications were lost. "We didn't know what had happened to people on different islands, it was just silence. It was quite disturbing and eerie," she recalls.

While traumatic for all involved, the disaster was an opportunity for Twomey to do what she does best: get things done. The career public servant's no-nonsense approach – coupled with a sense of humour – has propelled her rise through the diplomatic ranks, with postings in Belgrade, London, East Timor and Russia, as well as two stints in Fiji.

It's not always been a smooth ride, and not just because of the forces of nature. During her first posting, in Yugoslavia, civil war broke out. In 2000, just six weeks into her first posting to Fiji as Deputy High Commissioner and the day after her boss went on leave, there was a civilian coup. A few years later, while serving as Ambassador to East Timor, severe civil unrest required Twomey to negotiate the return of Australian peacekeepers in a bid to restore calm.

Her return to Fiji, which she said was a 'surprise', came after a difficult period in Australia-Fiji relations. Twomey was nominated to the post in 2012, but it was not until 2014 that she was able to take it up, after the Australian Government dropped the last of the sanctions it imposed on Fiji after its 2006 military coup. "Good things come to those who wait," she says. "They had elections in September 2014 and I arrived in November 2014, so it was a good time for a fresh start between Australia and Fiji. We just got on with doing things."

For the modern diplomat, those "things" can be almost anything. Twomey is as likely to be found in cargo pants as in a cocktail dress, and she thrives on the variety. "Never been bored in my life," she smiles. As the Commonwealth equivalent of an ambassador, she manages the Australian diplomatic mission in Suva, and acts as Australia's representative on the ground, talking to the Fijian Government on issues of mutual interest.

The clichés about the glamorous life of an envoy are not entirely untrue. She does attend events where she mingles with the great and the good – but it's not for fun.

"The point of those gatherings is to network, because the whole point of diplomacy is knowing who's doing and thinking what, where the influencers are," she says. "It's about knowing who to call when something happens and you need to engage quickly. It's about having the right person on speed dial and being able to have that conversation."

Public speaking is another important part of the role. "It's all about letting people know who you are and what your government is about. It's all part of the mix. Diplomacy is about widely varying demands in widely varying places. I wouldn't say all of us find all the dimensions either easy or enjoyable, but, if you're not prepared to do it all, you're not going to be a successful diplomat."



Margaret Twomey in the High Commission grounds in Suva (top); and (above) outside St Basil's Cathedral in Moscow.

Twomey says the role she enjoys most is explaining "the vibe" in her host country to the Australian Government.

"That term has been somewhat discredited by *The Castle*, but there is truth in there!" she says. "We all look at the world and its issues through different prisms and constructs. We can all sit in Canberra and say this approach to this problem is the logical, sensible way and if it's innately logical then we shouldn't have any trouble convincing other countries that this is the way it should be approached."

By explaining "the vibe", that is, the way an issue is perceived on the ground, diplomats can add real value to the formulation of foreign policy.

Wherever she works, Twomey, who describes herself as a "respectable soprano", likes to join a local choir to integrate as much as possible into the community. However, the degree of integration this achieves varies.

She tells of performing with local singers in East Timor: "We had to have uniforms made – long-sleeved, down-to-the-ground dresses, polyester, light blue with yellow rick-rack. Not my colours! The idea was for us all to look the same, but when the conductor said 'All rise',

"The whole point of diplomacy is knowing who's doing and thinking what, where the influencers are."

I rise one foot above everyone else in my row."

Twomey wanted to be a diplomat from the age of 12, when her mother suggested the career might be a good match for her interest in languages, history and travel. However, growing up in Shepparton, in country Victoria, she doubted it would ever happen. "I always knew it was going to be very competitive, so I didn't actually think I had a realistic chance. I don't think that country kids are as confident about their prospects as city kids are," she says.

She was accepted to Melbourne, studying Russian ("to test myself"), as well as French, Politics and German, and thrived in the supportive, tolerant environment of St Mary's College.

She joined the Department of Foreign Affairs and Trade (DFAT) in 1988, determined to seize whatever opportunities arose. "You can spend time in Canberra waiting and waiting for your dream posting and still not be guaranteed of getting it. I don't think that sort of fixation is the best way to approach a career with DFAT. You have to be open to the many opportunities it presents – opportunities to do things you'd never even thought of."

Her first posting, in 1990, was to Belgrade in what is now Serbia, as Third Secretary, a junior-level diplomat. "It was just exhilarating. From the day I got there I realised this is what I want to do," she says.

Next stop was London, then Fiji and East Timor, interspersed with spells in Canberra. In 2008, she finally landed her dream posting – Ambassador to Russia.

She was in Moscow for more than four years, and loved finally being able to use the language skills she had learnt at university. While she had always been more interested in Russian language and linguistics than literature, she found her knowledge of both invaluable.

"I now realise that you cannot work effectively in Russia without knowing the difference between your Dostoyevsky and your Tolstoy," she says. "I knew about that. It really enhanced the level of respect I got from our Russian interlocutors."

She is now halfway through her three-year posting to Fiji and has no idea what she'll do after that. "I don't take any of it for granted," she says. "In Moscow, I used to have to go past St Basil's Cathedral and Red Square twice a day. I never once failed to stop and appreciate it, because it was always so stunning. It never got less stunning.

"And in Fiji, I wake up in the morning and I look out my bedroom window and I see lush green grass, banana trees, palm trees, beautiful flowers, and I see a bit of the sea … and it is just spectacular. You can't help but feel lucky."

MAIN PICTURE: KONRAD THORPE



IN PROFILE:

The University of Melbourne is one of Australia's major research organisations, with expenditure second only to the CSIRO, and the largest cohort of research students in Australia.

There are thousands of research stories at the University. Jaclyn Pearson's is just one.

Dr Pearson swapped rock and roll for microbiology. She was an accomplished drummer touring with the ARIA-nominated rock band Lash when she decided she needed to return to her other love — science.

"I felt brain dead," she says of her frenzied rock and roll years. "I just thought, 'I have to do something different'."

For her doctorate, Pearson (GCALL 2013, PhD 2014) conducted ground-breaking research into *E. coli* and other gut bacteria that cause diarrhoeal disease. Her PhD revealed exactly how the bacteria use specialised proteins to prevent our gut cells from alerting our body's immune system to infection.

"We found biochemical mechanisms which have never been described before in nature," she says.

Pearson's work, which won the 2014 Premier's Award for Health and Medical Research, could lead to more effective treatments against these bacteria in the future.

"Unless we understand all of the ways the bacteria causes the infection you can't actually treat the infection," she says. "And there is no effective vaccine for these bugs at the moment."

Pearson — one of the 4844 medical and health researchers aligned to the University — also received the National Health and Medical Research Council's Peter Doherty Early Career Fellowship and now works as a postdoctoral researcher at the Doherty Institute.

She says the collegial nature of the Doherty allows her to work more closely with other scientists fighting infectious diseases.

"We have a great bunch of people who work on viruses and the immune system here, which is also very useful for us in case we're interested in what bacteria and viruses do once you put them in a system together."

The study of microorganisms may not sound as glamorous as drumming for a rock band. But Pearson says she is fascinated by how something "so small could have such a huge impact in the world".

Pearson knows the organisms she studies cause disease in millions of people. "It should be something that we can fix," she says.

"People have been working on these bacteria for over a hundred years. And we're still figuring out exactly how they're causing disease and exactly how we can treat them."

A RESEARCH POWERHOUSE

How the numbers shaped up in 2015

Number of staff engaged in research: 8980

Total HERDC* income: $396 million

* HIGHER EDUCATION RESEARCH DATA COLLECTION

University publication count: 8990

Patents granted: 26

Gross royalties received: $2.1 million

Amount spent on research across the University: $1021 million

UNIVERSITY RANKING

QS #42

Times Higher Education World Ranking #33

Academic Ranking of World Universities #40*

* THIS RANKING WAS RELEASED IN AUGUST 2016

A COMMITMENT TO EXCELLENCE



"The University of Melbourne continues to be the preeminent research university in Australia. With a total estimated research expenditure exceeding $1 billion, the University is the second largest research and development organisation in the country. Research of the highest quality undertaken by the University covers a diverse breadth of disciplines.

This is reflected in the University's strong performance in the 2015 Excellence in Research for Australia assessment framework in which the University was rated above, or well above, world standard in 91 disciplines, the most of any Australian university.

The University's research excellence is also recognised in its ranking as the number one Australian university in both the ARWU and THE rankings and number two in the QS ranking. Through the Growing Esteem and Research at Melbourne initiatives, the University's commitment to the people and infrastructure that underpin world-class research, should see this exceptional level of performance continue into the future."

PROFESSOR JULIE WILLIS,
PRO VICE-CHANCELLOR (RESEARCH CAPABILITY)

PHILANTHROPY VIA *BELIEVE — THE CAMPAIGN FOR THE UNIVERSITY OF MELBOURNE* HAS BROUGHT IN AN ADDITIONAL $230 MILLION FOR RESEARCH, INCLUDING 24 NEW PROFESSORIAL CHAIRS.

HOT ON THE TRAIL

Hundreds of University staff and students are engaged in critical climate change research. Some operate in far-flung locations, others are much closer to home.

BY **TIM THWAITES** (BSc(Hons) 1974, Trinity College, Janet Clarke Hall)

For a legion of researchers, the search for clues as to how our climate is warming can be as much about hard toil as hard science. And doing it in some of the most remote and inhospitable places on Earth.

For Dr Michael-Shawn Fletcher it has meant trekking into the Tasmanian wilderness in winter – as he did last year – to drill into the bed of a pristine lake, after first cutting through a 20-centimetre crust of ice.

Over the past 15 years, Fletcher (BEd(Sec) 1997, PGDipArts 2000, PhD 2009), has been extracting sediment cores – with the diameter of a jam jar and up to 10 metres long – from lake beds all over the Southern Hemisphere: in Chile, New Zealand, south-western Victoria, the south coast of NSW and, recently, Litchfield National Park near Darwin.

Many of his sites are so remote that his floating platform and drilling equipment have to be dropped in by helicopter. For his Tasmanian research, Fletcher, from the University's School of Geography and Resource Management, was operating in Ben Lomond National Park, south-east of Launceston.

Why do it? "Lakes are receptacles of atmospheric information through time," he explains. "It can be in the form of dust, pollen, or charcoal, or even the products of surface chemical reactions that are absorbed into the plants and animals living in the lake. Eventually all of these settle into the sediments at the bottom."

His sediment cores provide clues to what has happened over time. The deeper one drills, the further back one goes. Pollen, for instance, tells you what plant species were around; dust contains the minerals that were present and tells you about the erosion they were subject



to; and charcoal can show the frequency and extent of fire across time and space. All are indicators of past climate.

Already, Fletcher has found an astonishing correlation between the occurrence of fires and climate variation across the entire hemisphere, going back tens of thousands of years.

Earlier this year, he and student Michaela Mariani published a paper that should assist in predicting high-risk fire seasons in Tasmania. It linked the drying of western Tasmania and the subsequent increased frequency of bushfires over the past 1000 years with the southward movement of the westerly winds known as the Roaring Forties.

The recent depletion of the ozone layer in the upper atmosphere, or stratosphere, has previously been shown to be a driver of this process. It correlates closely with an increased frequency of fires in the past 30 years. Fletcher believes this is evidence of human-induced climate change at work.

He is one of hundreds of academic staff, post-doctoral fellows and graduate students at the University of Melbourne studying aspects of what many regard as the world's most significant challenge.

They span a broad range of disciplines from physics and chemistry to zoology and botany, engineering and the medical sciences to economics, law and politics, as well as many interdisciplinary teams. Their work ranges from the highly theoretical, such as constructing numerical models from basic physics, to the eminently practical, such as studying how best to plant "green" roofs and wall gardens. Some of what they find is being used to guide the University itself.

"Universities are communities with similar populations to towns and large businesses, facing many of the same challenges of climate-change mitigation and adaptation," says David Karoly, Professor of Atmospheric Science in the School of Earth Sciences. "They can provide a test-bed as to how to successfully transform into a 21st century, climate-adapted, sustainable community."

Professor Karoly has been documenting and championing action on climate change for more than 30 years. But there is still much work to do. Although the existence of human-induced climate change is as well documented scientifically as almost any phenomenon, he says, we are still unclear as to how it will all work out in detail, particularly at a regional and local level. And we also need to know how best to respond to it practically.

"For instance, one important thing is to understand extreme weather and climate events and the link to human-caused climate change. You can already do this, but only for some events, on some occasions."

That's why a major activity of his research group involves using an international citizen science program, Weather@home ANZ, to develop ways of understanding the connections between climate change and such events as floods, cyclones and heat waves. The problem is

CONTINUED PAGE 18

Professor David Karoly has been documenting the changing climate for more than 30 years. Inset: Dr Michael-Shawn Fletcher on a frozen lake in Tasmania.
MAIN PICTURE: JUSTIN McMANUS

FROM PAGE 17

a lack of available data to compare what is likely to happen due to the current build-up of greenhouse gases against what would have happened without it.

The solution is to run hundreds of thousands of simulations of different conditions using regional and global climate models on the home computers of volunteers. And the result is a growing number of papers showing, for example, that the present devastating coral bleaching event on the Great Barrier Reef has been made 177 times more likely by climate change. And, if we do not act, within a couple of decades such events could occur every two years.



Drilling for evidence: Dr Michael-Shawn Fletcher sets up a rig in his hunt for evidence of climate change.

Apart from leading his own research group, Professor Karoly encourages research in interdisciplinary groups and activities across the University. Last year, for instance, he and his colleagues were instrumental in the publication of *Appetite for Change*, a report on the practical impact of climate change on food production in Australia, together with a cookbook, *Planet to Plate*.

It all goes back to why he became interested in the subject in the first place. A city boy, he grew up with a love of outdoor activity – bushwalking, rock-climbing, skiing. This engagement continued at university, where he studied maths and physics.

"On one trip, I stood and watched clouds forming as the wind blew over a ridge. I realised that this was just fluid dynamics at work," he says. "So, that's what I chose to do, because it was something meaningful to the average person in the street. I could explain it to my mother, the non-scientist in my family."

If Karoly and other researchers need evidence that things can change, they can draw on a recent example.

Successful international action has raised ozone levels in the stratosphere – helping to heal the Antarctic ozone hole – verification of which was announced in late June.

This result has been attributed to the Montreal Protocol, signed in 1987, under which the world community agreed to reduce the release of ozone-depleting compounds containing chlorine and bromine, used as refrigerants and in aerosol sprays.

And that's where Dr Robyn Schofield, of the School of Earth Sciences, comes in. She originally trained in quantum chemistry, "but I knew that I wanted to do something applied, something that would make a difference some day".

That opportunity presented itself when she made a trip to a relatively remote New Zealand observing station in the central South Island, one of five worldwide that measures the "clean" background composition of the upper atmosphere.

"I saw how I could use what I had learned. And I haven't looked back," she says.

Dr Schofield now specialises in measuring the levels at different altitudes of reactive chemicals and aerosols, typically greenhouse gases other than CO2, such as ozone.

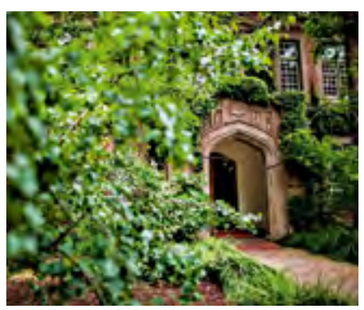
She does this by studying the variations in the absorption of sunlight, particularly its ultraviolet component, as its path through the atmosphere changes while the sun is setting. This research has taken her all over the world, including Antarctica – and it has producing practical results.

She is now part of a team developing AIR-BOX, a custom-built laboratory that fits into a shipping container to carry out comprehensive atmospheric monitoring and take measurements in difficult places, such as near the Great Barrier Reef.

Its deployment would be another small step in a massive interdisciplinary effort.

It's not that easy being green . . .

The University has committed to significantly reducing its greenhouse gas emissions. Earlier this year, it signed a Sustainability Charter that "sets out the values and principles to be embedded throughout [its] operations, and identifies the commitments required to achieve a sustainable future".



But that's not easy, as Professor David Karoly points out. "How do you grow your business at the same time as continuing to reduce emissions?"

Devising courses that incorporate sustainability, establishing climate-change research groups, and engineering clever ways to reduce energy use are essentially bread-and-butter activities for universities.

But issues such as divestment of fossil fuel stocks and reducing the level of academic travel, he says, are not.

Still, the University is making headway, with help from its interdisciplinary research bodies, such as the Melbourne Sustainable Society Institute. The Institute brings together academics at the forefront of sustainability knowledge and encompasses research groups such as the Melbourne Energy Institute and the Australian-German Climate & Energy College, a partnership between the University and three universities in the Berlin-Potsdam area.

The University, through the Institute, is also involved in all manner of outreach activities, such as public seminars on climate change policy and research, and support for Climarte, an alliance of people in the arts committed to using their skills to record, reflect and support the struggle for a safe climate.

Alumni can contribute to the development of the University's Sustainability Plan – the strategy for meeting the charter's goals. For information go to: **sustainablecampus.unimelb.edu.au**

MUSIC FINDS A NEW BEAT







IMAGES COURTESY OF JOHN WARDLE ARCHITECTS

Melbourne's musical reputation will be enhanced by a new Conservatorium at the heart of the city's Arts Precinct.

The $104.5 million building has been designed by John Wardle Architects for the Melbourne Conservatorium of Music. Plans for the new building include a 443-seat auditorium, with classes due to start in 2019.

Existing Conservatorium buildings on the Parkville campus, including the renowned Melba Hall, will be retained. The new building will be a striking addition to the Southbank campus of the Faculty of the Victorian College of the Arts and Melbourne Conservatorium of Music.

To mark the announcement, **Sonia Harford** profiles some of the brilliant talent to emerge from the Faculty. >>

NICOLE CAR
OPERA SINGER
(BMusPerf 2007)

She's being compared to Joan Sutherland and her voice has been described as "full-bodied and honeyed". Soprano Nicole Car debuted at London's Covent Garden last year and received immediate acclaim. One critic referred to her "show-stealing" performance. Car started winning awards soon after graduating from the Melbourne Conservatorium of Music and becoming a regular with Opera Australia. Her most recent role with OA was Fiordiligi in Mozart's *Cosi Fan Tutte*.

CAREER HIGHLIGHTS
Car says her debuts in different opera houses have been serious highlights. "Walking onto the Sydney Opera House stage for the first time to sing Micaëla in *Carmen*, my European debut at Deutsche Oper Berlin in *Eugene Onegin*, and performing both roles at the Royal Opera House Covent Garden are all treasured memories for me."

CAREER AND INFLUENCES
"My teacher Anna Connolly (Senior Lecturer in Voice at the Melbourne Conservatorium of Music) has always been a great influence. She encouraged a young singer with raw potential to become the performer and person that I am today. I have worked with many wonderful coaches around the world, but she still knows my voice better than anyone else."

WHAT BEING A SINGER MEANS TO ME
Apart from a demanding calendar of events in the opera world, Car is also sought out for concert appearances and classical music recordings. She believes if you can imagine yourself doing any other job you should pursue that instead. "It's hard work and there will be many knockbacks and challenges along the way. However, the moment I step onto the stage and know that I have the chance to move people in the audience, that makes it all worthwhile."

A UNIVERSITY MEMORY
"In my final year, I was a soloist in Mahler's *Des Knaben Wunderhorn* with the VCA orchestra at the Melbourne Town Hall. It was my first opportunity to sing with an orchestra and I absolutely loved it."



Right: Nicole Car (left) in an Opera Australia production of *Cosi Fan Tutte*.

PICTURE: NIC WALKER



Inset: Stephanie Lake leads a dance class.

PICTURE: CHRIS HOPKINS

STEPHANIE LAKE
CHOREOGRAPHER
(BFA (Dance) 1999)

An award-winning dancer and choreographer, Stephanie Lake has her own company and is also commissioned by other leading ensembles, including the Sydney Dance Company. Her career has taken her on numerous international tours with companies such as Chunky Move. She recently returned from far north Queensland, where she premiered a new work with the Dancenorth company.

CAREER HIGHLIGHTS
"Recently one of my works toured to Paris to the amazing Théâtre National de Chaillot, one of the most prestigious dance venues in the world. That was a pinch-yourself moment ... But honestly it's the little moments in the studio, little triumphs you have when you're making or performing a work."

CAREER AND INFLUENCES
Lake singles out choreographers Lucy Guerin and Gideon Obarzanek, former director of Chunky Move, as major influences. "I'm also really influenced by my peers. I've collaborated in theatre, film and television and with visual artists, and I work a lot with my partner Robin Fox who's a composer and audio-visual artist."

WHAT BEING A DANCER AND CHOREOGRAPHER MEANS TO ME
"It's so bound up in my whole identity, it's really hard to separate it. I see everything through the lens of movement. It's my passion and also my anxiety and the thing that keeps me up at night."

A UNIVERSITY MEMORY
"Those three years were very intense, and it was a lot of really, really hard work but I look back on it fondly. In second year we had a visiting choreographer called Phillip Adams (DipArts (Dance) 1988) who established his company BalletLab the year I was graduating and that was my first job. He'd just come back from New York and he brought something we hadn't experienced before — an exciting physicality. It was really rough and incredibly fast. I had a lot of energy for it then! That was the kickstart of my career."

ADAM ELLIOT
ANIMATOR
(GDipFT 1996)

Adam Elliot rocketed to global fame when his short film *Harvie Krumpet*, narrated by another Australian Oscar winner, Geoffrey Rush, won an Academy Award in 2004. It was the culmination of years working on clay animation projects. While still at the VCA, Elliot completed *Uncle*, and a professional debut work, *Cousin*, soon followed. After his Oscar success, he went on to make a feature film, *Mary and Max*, in 2009. His obsession with storytelling, he says, continues to shape films such as the recent short *Ernie Biscuit*. "I'm certainly not an experimental filmmaker, I'm pretty old-fashioned, I tell pretty basic narratives."

CAREER HIGHLIGHTS
"I remember the very first time I screened one of my films at the St Kilda Film Festival opening night. Just that buzz of hearing people laugh at what you've created. Any award opens doors and the Academy Award certainly did. I got to make *Mary and Max*, which opened the Sundance Film Festival."

CAREER AND INFLUENCES
A self-confessed 'lost soul' before his time at the VCA, he was selling hand-painted T-shirts at art and craft markets. Choosing an animation course, he knew he had to study hard. "But it really transformed me. I discovered animation was an amalgamation of all the things I loved — making things, telling stories, entertaining large audiences."

WHAT BEING AN ANIMATOR MEANS TO ME
"You can reach so many people with a film whereas with a sculpture or a painting it's more limited. I get letters from people who've seen my films in Iran and Argentina and Iceland, so it's very validating when you hear from people who have been moved or educated or enlightened or inspired."

A UNIVERSITY MEMORY
Elliot recalls the day the highly respected director and producer Fred Schepisi paid a visit. "We were all in awe of him. When someone so well-known takes the time to come to film school you realise it is a generational thing." Elliot is also keen to support emerging talent. "So that's why I go back (to school) and talk as well, because you never know who's sitting in the audience and might make a fabulous film."



Right: One of Adam Elliot's characters, Ernie Biscuit.

PICTURE: CHRIS HOPKINS

ANNA SAMSON
ACTOR
(BDrama 2011)

Anna Samson's youth belies the breadth of stage roles she has mastered since graduating from the VCA five years ago. Having performed with Australia's major theatre companies and appeared in plays by Brendan Cowell and Joanna Murray-Smith (BA(Hons) 1985) among others, she co-starred recently with Colin Friels in a Melbourne Theatre Company production of David Hare's *Skylight*.

CAREER HIGHLIGHTS
"For me the highlight of *Skylight* is the quality of the writing I got to work with," she says. "I made dear friendships and gained some surprising recognition for *Birdland* at Melbourne Theatre Company. I've always adored working for the MTC, and Red Stitch, too — an important little theatre and a piece of the puzzle that is my career. And, of course, there was the time I was in a film and met my now fiancé."

CAREER AND INFLUENCES
Influences are "a patchwork of people, places and things" for Anna: "Teachers who inspired me, friends whose work and way of viewing the world surprises me. Artists, performances and people that try to be brave, to do something different or something pure. My friend Olga, my first drama teacher, the Schaubühne theatre company, my dad, Winnie the Pooh, my talented mates, Ralph Fiennes ..."

WHAT BEING AN ACTOR MEANS TO ME
"Acting is the one area of storytelling I felt I was most gifted in," she says. "I've always found the theatre to be a place of great freedom and magic. I'm still finding myself in the world and that can be scary; finding yourself onstage always felt a little more comfortable. I think being able to go out under some lights and find the way another human thinks, somehow filtering it all through your own truth, is magic."

A UNIVERSITY MEMORY
"My friend Tom Hobbs (BDrama 2012), a classmate, created what can only be described as a miracle of performance — he became the personification of Vegemite. It had to be seen to be believed."



Left: Anna Samson in a Melbourne Theatre Company production, *Birdland*.

PICTURE: CHRIS HOPKINS



BRUCE PASCOE (BEd(Sec) 1982)
MEMBER OF THE BUNURONG CLAN
AND AUTHOR OF *DARK EMU*

Reaping seeds of discontent

A chance botanical encounter reveals what the explorers knew long ago: that Australia's Indigenous people had been cultivating crops well before the first Europeans arrived.



"I began to question everything, especially those things Australians claimed to know about Australia."

We were stranded on a heathland west of Shipwreck Creek like an unhappy family of arthritic brolgas.

Our mission had been to find a rare banksia and our success had been achieved so quickly we were faced with the prospect of returning before we'd even popped the plugs on our battered vacuum flasks.

We stood there surveying the scene of our triumph in doleful exhilaration. We were boffins mostly, so the emotion came as easily to us as our woeful choice of tailors.

One of the gayblades swept his cap across the tops of the grass. He'd received his cap during a Bi-Lo grocery chain promotion; you can't look a free cap in the peak, so it had become part of his ensemble.

"What's this?" he hooted mournfully as we all looked into his cap wishing it was us who'd been there the day Bi-Lo went mad with generosity. His cap was full of seed.

"Themeda triandra," another of the thrillseekers murmured, "kangaroo grass." The brolgas moved on, planning a grand celebration of Thermos coffee on the beach. I dawdled behind them, not wanting to get involved too early in the shenanigans, and repeated Bi-Lo's action with my own cap, found on the river bank after the 2009 flood. We love a good flood.

My hat was full of seed, too, and I looked around at the uniform height of the grass heads. Growing through the heath and banksias was a monoculture of kangaroo grass, all the same height and nearly all maturing its seed at the same time. If twenty of you stretched out in line with … let's say coolamons, you could harvest this 200-acre field in three or four days.

That's too much seed to eat all at once, but if you milled the grain and stored the flour you could eat it later on. Giles and Mitchell had found such stores on their Australian explorations, Gregory had seen fields being sowed and irrigated, and Sturt had seen the grinding process.

I've been walking this heath since 1974 looking for orchids, tawny crowned honeyeaters, banksias, ground parrots and the sort of stuff that interests people who wear second-hand hats. I should have noticed this grass before, should have wondered why it was so predominant, why it was seeding all at once. But I didn't. I'd been educated in Australia, where we train our minds not to think of stuff like that, preferring instead to be excited by rare sightings of a dull green parrot.

The accepted history of Australia is so pervasive, and laded so thoroughly with warm platitudes of self-congratulation, that the image of the Australian as a good-natured knockabout humourist has seeded our literature and society so thoroughly that any questioning of the national character is met with instantaneous incredulity followed soon after by venom. The letters pages of all national newspapers were whipped into a froth of indignation when it was suggested in a school curriculum that Australia was invaded rather than settled. We like the word "settled" for its benign passivity.

I swallowed that history hook, line and sinker, but the gruff teachings and questions of the elders eroded that confidence. I began to question everything, especially those things Australians claimed to know about Australia.

We had just walked through a field of harvest, but a field where the harvesters had been discouraged from their labour 170 years ago. Discouraged by murder.

The image of the hat full of grain stayed with me. And when at last I began to investigate the real Aboriginal economy so frankly described by the explorers, I remembered the ugly hat. I'd been growing murrnong for five years and the Barkinji, Latji Latji and Mutti Mutti had shown me how to make bread from panicum decompositum in the sand dunes of Lake Mungo. A grinding dish analysed at Cuddie Springs revealed that it had been used to grind grain into flour 34,000 years ago, thousands of years before anyone else on earth had discovered the alchemy of flour water and heat. This needed further examination.

I went back to the heathland, eschewing the charms of parrots and obscure banksias, and stripped the heads of the Themeda triandra. I posted the grain to a mate whose edgy glee comes from milling the seed of grasses. I knew the first time I met him that he knew what he was doing because he was still driving his mother-in-law's 1986 Mercedes that gloried in a dashboard cracked like a surfer's lips and decorated by enough tartan rugs to keep the highlands happy for a decade.

Uncle Mercedes produced 500 grams of wholemeal flour and 200 grams of more refined flour from three kilograms of seed heads. The flour was dark but smelt like a late summer field at dusk, earthy and warm, and tasted rich and fruity.

Next day, my wife, Lyn, the only orchid boffin I know who can walk into a bush paddock looking like Shelley Ware from the Marngrook Footy Show, blended the Themeda flour with white flour and combined them with her starter yeast and baked a loaf of bread. I was nervous. I chewed a corner off the loaf and my heart leapt. It was beautiful and had the unmistakable perfume and flavour of the kangaroo grass.



"Why had we spent 220 years refusing to eat what the First Australians ate?"

We had a bread of exceptional taste, and even at the rate at which we'd combined it with conventional flour, it was going to mean a new agricultural industry would be created on the back of a grass that needs no more water or fertility than our climate and soils provide naturally. A plant domesticated and acclimatised for the land. Why had we spent 220 years refusing to eat what the First Australians ate? Spleen or ignorance?

Millionaires are going to be made by growing and merchandising murrnong and kangaroo grass, but I hope some of them are Aboriginal. Mick Dodson assures me that Monsanto makes it impossible for Indigenous people to take advantage of the intellectual property invested in their foods, but the tiny second-hand hatman of my soul believes that maybe Australians are ready to acknowledge the whole history of their country. After all, it can't be as hard to do as Richmond winning a premiership. The local South Coast Aboriginal Food Communities plan to harvest Themeda in December and market flour under their own brand.

Please God, let Australia remember who domesticated this grain and invented bread 15,000 years before anyone else on Earth. We won't get many better chances to come together in friendship.

But remember that you can't eat our food if you can't swallow our history.

Bruce Pascoe's *Dark Emu* won the NSW Premier's Book of the Year in 2016.

ILLUSTRATIONS: JUDY GREEN

Creature comforts

Dr Stephen Cutter (BVSc(Hons) 1995) founded The Ark animal hospital in Darwin in 2006, the only veterinary clinic in the area that treats wildlife and domestic animals. Over the past 16 years, Stephen has also established canine health programs in more than 100 Indigenous communities.

Dr Ella Richardson (BSc 2012, DVM 2015) moved to Darwin this year to work with Stephen.

They spoke to **Erin Munro** (BA 2006).

ELLA

One day an owner brought a freshwater crocodile into the clinic. We also get lots of pythons, lots of reptiles and bird species that are native to the Northern Territory. It's very different to the wildlife I had seen in Victoria.

I had wanted to be a vet since I was a little kid. Coming through the veterinary course at Melbourne I found that I also loved problem solving, so it was more than just a love for animals.

My partner and I both decided that we'd like to move to a different area, and we'd wanted to move up north for a while. Last year I came up here with Liz Tudor (BVSc(Hons) 1973), a professor at the uni, and did de-sexings in Arnhem Land. I absolutely loved it and found a passion for public health.

Stephen does all the work with the bush trips and the dog de-sexings out in Aboriginal communities, so when I saw an advertisement for a job at The Ark I made an application.

I started work here in January. We are a small-animal clinic so we don't work with any large animals like cattle or horses. There are a lot of dogs, and then obviously all the wildlife that comes into the clinic through Ark Aid, which is the spin-off wildlife charity that The Ark runs. As a vet student you don't get a lot of opportunities to work with wildlife; the course is focused on domestic animals, so it's been great to get the opportunity to treat wildlife. It's different when you've got a wild animal. You have to consider how we go about rehabilitation.

One time a pelican came in from the Territory Wildlife Park. Stephen was out on a bush trip so it was down to me to treat this bird, which had been grabbed and injured by a freshwater crocodile in one of the billabongs.

Stephen goes out on a lot of bush trips, so he's in and out of the clinic a lot, but he's great. As soon as he walks through the door he's happy to give his time and I never feel as though I'm annoying him. He's got a wealth of experience, especially with wildlife, so you can always rely on Stephen if you've got something tricky.

I've been out on one trip with him so far. I'd love to go out more, but, given that I've just started, I need to be in the clinic and learning on the job. The clinic is always very busy. There's always something to do, and something new to learn every day.



PICTURE: GLENN CAMPBELL

"We treat over 1000 wildlife cases a year, and a lot of exotic pets… We treat a lot of snakes, goannas and crocodiles."

STEPHEN

I grew up in Alice Springs where there's lots of wildlife and we had lots of pets. I spent most of my childhood denying that I was going to be a vet, even though most people told me, 'Oh, you must want to be a vet'. But it turns out I did want to be one.

On the application for Melbourne University, you had to write why you wanted to become a vet. One of my reasons was I wanted to de-sex dogs in the Aboriginal communities. I already had that passion. I'd grown up in an Aboriginal community, so I knew how important dogs were to the people, and I'd seen how badly a lot of people outside of the community treated them.

I've been living here full-time since December '99, but for three or four years before that I commuted back and forth between the top end and Victoria.

I spend about four months a year travelling, but it's scattered through the year in one-to-two week blocks. My practice area covers the north-western corner of Australia. I go to the Pilbara and the Kimberleys as well as down into the Central Desert. I've done de-sexings at the base of Uluru and in the Kimberleys.

We see a lot of exotic animals. We treat over 1000 wildlife cases a year, and a lot of exotic pets. It's more reptiles and birds than mammals; we treat a lot of snakes, goannas and crocodiles. We also have a dedicated sea turtle facility – we treat about six or seven sea turtles a year that come in for a variety of reasons, like being hit by a boat.

I'm naturally quite a cautious person so I tend to always think about safety first. Most of the hair-raising and risky experiences I've had have come from being persuaded by various people to do something.

In Aboriginal communities people go out into swamps and places like that to collect food. I've certainly been in crocodile habitats with people who know it, and it's their country, but there has been a risk. I haven't had any close calls that I know of, but there's always the potential.

Ella's great. She came here for a variety of reasons, but one of her motivations was to get involved with the dog programs in the community. She's picked things up very quickly; she's a conscientious worker and is very caring and compassionate about wanting to learn and to do the right thing. She has a general interest in a lot of the things I'm interested in, like exotic animals and dog programs, so we're a good team.

Master of the masterpiece



Dr Ted Gott with Degas' *Dancer with Bouquets*, part of this year's Winter Masterpieces at the NGV.

PICTURE: JULIAN KINGMA

Even the French are awed by Ted Gott's deep knowledge of their art and culture.

BY **ANDREW STEPHENS**
(BFineArt 1994, PGDipArts (ArtHist&ClinSt) 2001)

Ted Gott stands before an Edgar Degas oil painting. It is of a cotton-dealer's office in New Orleans, which Degas and his brothers visited in the 1870s when their uncle worked there. It seems, at first, like an odd favourite for Gott: there are no radiant ballet dancers, no vibrant colours, no single storyline we can easily latch on to when gazing at it.

Then Gott starts talking.

He is the Senior Curator of International Painting and Sculpture at the National Gallery of Victoria (NGV) and he has a talent for bringing a work, with immense vitality, into the present tense. He makes art relevant – and this painting's central subject is "work", something with which Gott is familiar.

Many people moving around him during their visit to *Degas: A New Vision* try to eavesdrop as he talks, for it's evident to them that this man not only has extraordinary knowledge about Degas but an entrancing way of delivering it. Heads lean inwards, chatter abates.

The painting, *A Cotton Office in New Orleans* (1873), pays homage to Rembrandt in its dramatic use of black and white and, while it is not large, it tells multiple stories as the dozen or so figures within its frame go about their business. But it is the light – coming from multiple sources, even the huge mounds of cotton lying on the tables – that is so captivating, plus the way Gott animates it all.

He has curated, co-curated or coordinated more than 25 exhibitions during his long career, and many have been French-themed. Mostly at the NGV or the National Gallery of Australia (where he worked from 1991 to 1998), they have included: *The Enchanted Stone: The Graphic Worlds of Odilon Redon* (1990), *The Impressionists: Masterpieces from the Musée d'Orsay* (2004), *Picasso, Love and War* (2006) and *Napoleon: Revolution to Empire* (2012).

Now he has just completed work as the Australian curatorial coordinator for *A New Vision*, which opened in June at the NGV and whose primary curator was Henri Loyrette (former director of both the Louvre and the Musée d'Orsay).

"I love telling stories and it is a great thrill to be able to fashion something that you've learnt and turn it into a story that will excite people," Gott says. "That is the great thing: once an exhibition is open, to go in and listen, watch people and see what they are saying and what they are enjoying. It is a real privilege."

Given his extraordinarily detailed knowledge of French culture, it is no surprise that in June, Gott (BA(Hons) 1981, PhD 1987, Ormond College) received a knighthood from the French Government. Called the Ordre des Arts et des Lettres, it was presented by French Ambassador Christophe Lecourtier. The order recognises significant contributions to the arts, literature, or the propagation of French culture. M. Lecourtier said on the night that Gott spoke perfect French – a compliment rarely paid to a foreigner.

"Dear Ted, we understand that arts and artists have driven your life," M. Lecourtier told him. "Furthermore that you also embrace the French culture and the French language in its entirety. We just need to hear you talking about France and your next trip to France … to feel the deep emotional attachment, not to say love, which animates you."

Similarly, NGV director Tony Ellwood praises Gott's exceptional ability to bring artists' stories to life. "His passion for French culture is great and his knowledge of French art history is extremely impressive," he says. "His overall depth of knowledge as an art historian is greatly respected."

That love of French culture was nurtured at the Alliance Française, sited in Flemington when Gott was a boy. He had studied French in secondary school in Box Hill.

"Fortunately I had a teacher who recognised my love of French and organised for the school to enrol me in the correspondence course. That gave me a very personal love of French. These packages would arrive every week with my homework and [the teacher's] corrections." His parents then organised Alliance Française visits and he won the Alliance French grammar prize in 1977.

Two years earlier, when Ted was 15, his parents had taken him and older brother Robert to Paris on a six-week trip. "They weren't rich but they saved all their pennies. That was my first time. It was magical, as you can imagine."

"What a great joy to do for a living something that you love, and work with what a lot of people associate with recreation – visiting museums."

When he later went to the University of Melbourne, it was in order to become a French and classics teacher. "I had always loved Greek and Roman history from the 'sword-and-sandals' Sunday afternoons' Epic Theatre on television, after Bob Santamaria and the world wrestling."

Brother Robert (BA(Hons) 1978, GDipEd 1979) steered Ted into fine arts, and after studying art history and classics, Gott embarked on a PhD on French artist Odilon Redon.

He returned to Paris again to do more Redon research in 1982 and 1983 on bursaries from the University, and in 1984 with help from his parents. These trips helped enormously with his French. "I was alone in Paris and I had no choice," he says. "At first I was really terrible, but then you get your confidence. I was spending my days in the Bibliothéque Nationale and other libraries just reading French newspapers. It was hard – a lot of it was on microfilm and you would come out feeling like your eyeballs were bleeding. I was trying to find contemporary reviews of my artist so I was just reading all sorts of newspapers from the 1860s onwards.

"I had to learn to speed read but, of course, you'd stop and read all these other fabulous stories about contemporary life – tragedies, murders, robberies. It would divert my attention. But it was total immersion in French language and literature."

What excites Gott is ferreting out information, and the various scholarships he has been awarded – including a Harold Wright Scholarship to the British Museum in 1987 and a Harkness Fellowship to the United States in 1987–1988 – have enabled that. "It gets in your blood. That is what I love about research. Your questions might be answered and other times you might find things that challenge your accepted theory. That is the spirit of the chase. That is what captivates me about curating and art history."

As we walk through *Degas: A New Vision* and he talks about the rest of his career, Gott repeatedly mentions how fortunate he has been to have worked at places such as the NGV, the National Gallery of Australia, the Heide Museum of Modern Art, and as a curator for the Robert Holmes à Court collection.

"I have been in the right place at the right time and been enabled to travel and study to my heart's content," he says. "What a great joy to do for a living something that you love, and work with what a lot of people associate with recreation – visiting museums. I do it for a living. There is no work-life balance because there is no division."

The University of Melbourne's Learning Partnership with the Melbourne Winter Masterpieces at NGV allows alumni and friends to discover treasures of the art world. Visit **alumni.unimelb.edu.au** to keep up to date with special offers.

Painting by numbers

- This year's Degas exhibition was the 13th Melbourne Winter Masterpieces staged by the NGV.
- The biggest attendance so far was for *The Impressionists: Masterpieces from the Musée D'Orsay*, which drew **380,234** visitors in 2004.
- More than **2.8 million** visitors attended the first 12 exhibitions.

Cyber crime casts an evil net

FIVE QUESTIONS FOR CYBER SECURITY EXPERT BEN RUBINSTEIN.

BY GARRY BARKER



The world depends on the internet, that tangle of interconnected wires and cables girdling the Earth and penetrating ever deeper into the fabric of our lives. But it is also a jungle.

1 For years now we have heard about cyber criminal attacks on individuals, banks, companies and nations. Just how concerned should we be about the security threats we face on the internet?

I think a lot does not get reported. Companies don't always want to advertise an attack, especially not banks. They generally have very good cyber security, and support customers who have suffered credit card loss through cyber fraud. Australia does not have a very big cyber security industry but the banks do quite a bit. I don't know what banks report on losses from cyber crime but we know its impact in Australia is huge; globally many billions of dollars.

Governments are reticent, too. The Australian Government has never reported a large hack. The US Department of Defense has reported being broken into and military equipment designs stolen. US investment in cyber security is quite large; about 28 times more per capita – about 400 times greater as a nation-spend – than the $250 million over four years that Australia invests. The US is a prime target, but so is Australia. Attacks are not only for money. There is potentially strategic value in a country hacking into the systems of another and I think they all do it. I think there have been attacks on Australian Government systems, but we don't hear about them.

2 Where initially there was a limit of 4 billion internet addresses, now the number is almost infinite to handle the rising demand of the Internet of Things (which connects everyday items and devices, such as home appliances, to a network). Is it growing too fast for us to keep secure?

Developers of IoT devices may not necessarily think about security. Their device might have a vulnerability but it takes time for security to catch up. That's a worry, too. With IoT, billions more things are connected to the internet, which means there is some kind of an attack vector. It may not really matter if your IoT connected refrigerator fails to order more milk, but think about critical sensors in transport networks and medical devices, such as pacemakers or glucose monitors for diabetics. If a technical glitch or a cyber ransom demand interfered with those it could be pretty bad.

3 Could a "black hat" state stun the economy of another nation or group of nations – deprive people of water, food or energy – by attacking such a network?

I definitely think they can. The stock market is very much connected to the internet with significant high frequency trading, which relies on having a machine close to the exchange so that with low latency you can make small trades very quickly and make money. But an attack on the computer system of a stock exchange could hurt a national economy. Affecting a power station, even without disrupting production for very long, could affect industries and consumers.

The international banking industry has a system called SWIFT (Society for Worldwide Interbank Financial Telecommunication) used to identify banks in money transfers. Banks have a special machine running SWIFT's software that is supposed to be separate from other machines in the bank, but some banks are less rigorous than others. Earlier this year Bangladesh's central bank SWIFT system was hacked because their SWIFT machine was being used for other functions. A large amount of money was lost.

In Ukraine last year a power station was hacked, turning off power to a huge number of homes and businesses. In Germany a furnace in a steel mill was badly damaged by a cyber attack.

It's not just about turning things off or on. If there is a control system that is in some way connected to the internet or connected to another thing connected to the internet, damage can be done. It might be connected to a computer where an email attachment is opened, or a thumb drive connection from which a worm or a virus is inserted to override the control system and make a process or machine go outside its design limitations. Even for critical infrastructure, where you would expect to see close oversight, there could be vulnerability because of the IoT.

4 So what about the suburban grandmother with an iPad who does her internet banking, swaps emails and makes FaceTime calls to her friends and relatives? You hear of all sorts of scams preying on people like her. How big is that?

Phishing – as it is called – and other social engineering exploits are among the most serious issues in cyber security, for individuals and companies. Companies put their employees through security awareness training; how to spot phishing emails and other scams. Phishing can be general – fake letters from banks, fake offers of prizes and other come-ons – but it also can appear to come from, say, a company manager and be aimed at an individual whose identity has been obtained from a social network or other internet source. The email might ask for information or have an attachment that carries malware, say a keystroke logger by which the criminal can obtain passwords and key information. Be cautious. Mouse over the link and see if it is genuine. Think about content; don't accept what looks like a bank letterhead.

The national cyber security plan recommended adoption of an awareness strategy to train people to be cautious and recognise threats – 'Don't Take the Bait'. Software should be regularly updated to get the latest security patches, applied to emails and phone calls – would Microsoft or Telstra make such a call, would PayPal send such an email? Never disclose a password or an ID.

5 So it's a constant battle between the good guys and the criminals. Who is winning?

It is easy to overhype, but the threat is there and growing. Cyber crime presents very real, hard problems. Defence is difficult because of the asymmetry between attackers and defenders. The attacker needs only to find one way in, one door to break down, but the attacked must defend everything. As long as there is an economic or political incentive for criminals or a country to attack a system, they will.

The IoT is only going to make the problem bigger. Self-driving cars will make it bigger. Everything becoming digital and systems becoming more connected to increase productivity – and the kinds of insights you get from data – means it is easy to break into a system, jump between systems and make lateral movements. Services such as Gmail have very good spam filters that don't just look at content, but sources. They have a big view of the internet and can gather a lot of intelligence. But it's an arms race and that makes it a wicked problem.

Dr Benjamin Rubinstein (BSc, BE(Hons) 2002, MCS 2009) is a computer scientist who understands the wiles of cyber criminals. He has worked in the Department of Computing and Information Systems at Melbourne since 2013.

ILLUSTRATION: FRANK MAIORANA



PICTURE: MATHEW LYNN

On the road less travelled

JEMMA XU
(BE, BCom 2012)

Jemma Xu was travelling in Europe when she was struck by a compelling idea. After a whirlwind of old palaces and glamorous tourist traps that left her a "bit bored", Xu was pleased to visit an old friend in Krakow, where she was introduced to local life in Poland.

"I had the best time when I had local friends who took me around," she says. "It was nothing special. Nothing that looked any different to what a normal Polish person would do."

And then she had that thought: what if there was a platform where one could find local experiences everywhere one travelled?

It would be a few years before her idea came to fruition. After graduating from the University, Xu started on a "traditional path" through the banking sector. She worked for three years at Macquarie Group.

Her business idea, however, kept bobbing up when she travelled. She took three weeks of annual leave to volunteer in rural China, where she stayed at a school and "did everything a local person would do".

"It got to a point in my career where I felt if I didn't leave banking I'd be there forever," says Xu, who knew that the further she advanced in her career, the more difficult it would be to pass up the high salary and security such a lifestyle afforded.

In 2014, Xu founded Tripalocal, an online platform that connects Chinese travellers to local experiences in Australia and New Zealand. She and her co-founders moved into a start-up incubator based in Sydney, where they spent months developing a plan.

It was a steep learning curve for Xu, a crash course in entrepreneurship. She says the idea for Tripalocal evolved to a business that focused exclusively on the Chinese market, particularly "education tourism". By May 2015, the company had secured $850,000 in angel funding.

Since then, Tripalocal has maintained a Melbourne presence and opened an office in Beijing, where Xu now spends most of her time. She travels to universities and schools in smaller cities outside of the saturated Beijing and Shanghai markets.

She says students at Chinese schools and universities are particularly interested in travelling to English-speaking countries with the prospect of eventually enrolling in a full-time degree course. Tripalocal helps plan tours – for larger organisations or individuals – that include university visits.

"Education is the most important thing for Chinese families," Xu says. "They want to look at schools, they want to speak to teachers, get an experience of what it is like to study in Australia, in New Zealand, in the US, in the UK."

KATE STANTON

Lawyer opts for class action

GRANT ANDERSON
(BCom(Hons) 1987, LLB(Hons) 1988)

Grant Anderson had worked for decades as a corporate lawyer when he left his high-paying career for a decidedly less lucrative one – teaching.

"There were some who wondered what on earth I was doing," he says, with a laugh. "Because the salary cut is quite significant."

He had spent the previous 27 years, 18 as partner, at the legal firm Allens in Melbourne. He was 50 and knew if he wanted a change, he would have to start soon.

"I wanted to have a second career," he says. "I didn't want to leave it for too much longer because there's obviously training you have to do and I wanted to work for perhaps another 15 or 20 years."

One of the things Anderson had enjoyed most about his work in the law was mentoring and interacting with younger lawyers. "I had it in the back of my mind for a while that teaching was probably the sort of career that would suit me," he says, "because of the communication of information and interaction you have with younger people who are starting off in their career."

Anderson left Allens in November to pursue a Master of Teaching at the Graduate School of Education, a three-year program that involves a large measure of practical experience in classrooms. In February, Anderson started work at Victoria University Secondary College in St Albans, teaching legal studies, economics and business management to years 10, 11 and 12. It was no easy feat, even for a man with years of experience in the field.

"I've stood up in front of lawyers and clients. But I was nervous," he says of his first day back at school. "I'd never been in front of a classroom of teenagers. Having three teenagers myself, I knew there'd be a few challenges in there."

Anderson says he has had to learn the art of keeping kids interested in the material.

"You have to grab their attention from the first minute. If you don't make your lesson interesting within those first couple of minutes, then they're going to just lose interest. And once they've lost interest it's very hard to get it back," he says.

Anderson says the transition from lawyer to teacher is not necessarily a stretch. Both professions try to make difficult information easy to understand. "There's a bit of an art to identifying what's relevant, packaging it up and explaining it to clients and particularly non-lawyers," he says.

And though he worked longer hours as a lawyer, Anderson has found that teaching can be just as tiring.

"Kids just see teachers in the classroom, but that's the tip of the iceberg," he says. "There's a huge amount of preparation and thought, along with administration."

KATE STANTON



PICTURE: HOLLY BENNETT



PICTURE: DAVID WOOLFALL

A word to the wise

ANYA ADAIR
(LLB 2008, DML 2008, BA(Hons) 2009, MA 2012)

Anya Adair has always loved languages, even as a child in Ballarat, when she used to spend recess in a teacher’s office learning Latin. “That’s the kind of student I was. I must have been insufferable,” she says.

Adair thought she might be a lawyer, but it was at Melbourne that she fell hard for Anglo-Saxon Studies and the languages of that era, particularly Old English.

After interviewing for several firms, Adair knew she needed to think outside the legal profession.

“It just occurred to me that it wasn’t what I loved,” she says of the corporate offices she visited. “That maybe there was something that I loved more.”

Adair went on to complete a Master’s degree in Old English Literature at Melbourne. Studying a language, she says, means an Arts degree can be both practical and theoretical. She also enjoyed learning about a historical culture through its words.

In 2011, she left Melbourne to pursue a PhD at Yale University, where she is writing a dissertation on medieval statute law. She wants to know how old legal codes were recorded and used outside the courtroom.

The work involves intense scrutiny of old English texts, a meticulous study of history through words, something that gives Adair enormous satisfaction.

“Some of them are very highly and beautifully decorated,” she says of the old legal manuscripts. “It fascinates me to ask not just how they were composed from a more literal perspective, but also who was reading them and why it mattered so much to own one of these collections.”

While at Yale, Adair also founded the Digital Manuscript Studies Working Group, an interdisciplinary workshop that helps participants learn how to archive digital versions of old manuscripts. Nowadays, Adair can speak French, German, Russian and Japanese, and she can read and understand Latin, Spanish, Old English, Old Norse and Old French. It’s an impressive list, but her favourite language is English.

Adair is currently researching legal manuscripts at the British Library. She and a colleague also teach ‘The History of the English Language’ at Yale, where they discuss the diversities and dialects of English through time – a subject that gives Adair a chance to discuss the Aboriginal Australian English varieties of her home country.

Adair says she has met people who are puzzled by her fascination with a defunct language and culture.

“The first thing they ask is ‘why?’ It seems so specialised and so particular a set of things to be working on. But I think that you can’t go forward without the humanities,” she says.

KATE STANTON

COUNCIL ELECTION



BY **CHRIS WEAVER**
(BA, LLB 2006)

No matter where in the world you are, as a Melbourne alumnus you are forever part of a unique community. Strengthening this bond through meaningful networking, mentoring and career development opportunities is a key focus area for the Alumni Council as it approaches its sixth year.

The Alumni Council’s goal is to engage alumni and current students, helping them understand how a continuing relationship with the University can be beneficial long after completing your studies. The Alumni Council also supports initiatives to expand mentoring and peer-to-peer professional networks for alumni.

Such is the background to the 2016 Alumni Council Elections, running throughout October, which will see six members elected from across the University’s 10 academic divisions for a two-year term.

David Laidlaw (LLB 1975) is the President of the Alumni Council and has been a member since its inception. The Melbourne lawyer says that in establishing the Council in 2011, the University prioritised a need to provide social and professional value for alumni, encouraging a lifelong relationship.

Voting is quick and easy:

STEP 1
Visit the voting form from Saturday, October 1:
alumni.online.unimelb.edu.au/ACE2016

STEP 2
Check out the profiles of our candidates.

STEP 3
Cast your vote by Tuesday, November 1. Results announced in Melbourne Alumni e-News on Wednesday, November 23.

“Being a member of the University of Melbourne alumni community means being part of one of Australia’s best-connected professional networks,” he says.

“But it’s often hard for alumni to know where they should turn for support on matters such as job advice and career planning, or simply on how to continue the lifelong learning and connection that is so important to our alumni.

“The Alumni Council’s job is to advocate for alumni, providing direction on the issues that will most affect our community’s relationship with the University.”

One of the key areas of focus has been a networking program. The next two years are particularly crucial for the Alumni Council, as it looks to expand this program.

Associate Professor Sarah Ellis (BSc(Hons) 1982, MSc 1987, PhD 2011) is a current Alumni Council member with a passion for mentoring. She leads the Careers and Mentoring working group, which helps the University to identify opportunities for alumni and student engagement in mentoring and career-related activities.

“The Alumni Council constantly revises its working groups, ensuring they are relevant and responsive to the needs of the University, its alumni and students,” she says.

“We work to ensure the University understands and acts on the professional and social aims of our alumni.”

It has never been more important to expand on that commitment, as the University announced earlier this year that *Believe – the Campaign for the University of Melbourne* is extending its target to include engaging 100,000 alumni in the life of its community.

“Exciting times lie ahead for Melbourne alumni and students,” says Professor Ellis. “But the Alumni Council needs your support to make major programs happen, so have your say and vote now.”

AWARDS, HONOURS & ACHIEVEMENTS

AWARD

Associate Professor Kevin Tolhurst AM (DipFor 1976, BForSc(Hons) 1979, PhD 1996) received the prestigious Ember Award from the International Association of Wildland Fire for his work on the Phoenix RAPIDFIRE bushfire modelling and prediction software. The Phoenix RAPIDFIRE software has been used to successfully predict the path of dangerous bushfires, such as those that occurred in New South Wales in January.



APPOINTMENTS



Agricultural scientist **Professor Lindsay Falvey FTSE** (DAgrSc 2005) has been elected Chair of the Board of the International Livestock Research Institute (ILRI). ILRI is one of the elite Green Revolution Centres that conducts research across the globe for the specific benefit of developing nations, addressing the basic human needs of several hundred million people. Professor Falvey was previously Dean of what is now the Faculty of Veterinary and Agricultural Sciences.

Sean Rooney (MBA 2004) has been appointed inaugural Chief Executive Officer of Leading Age Services Australia, the national peak body representing private and not-for-profit providers of retirement living, home care and residential aged care services. Mr Rooney was previously Executive Director of Sustainability and Climate Change in the ACT Government.

Former Australian Government international education counsellor to Beijing and Thailand **Jennifer Tyrell** (BA 1999, BSc(Hons) 2001) has been appointed Director of International Education for TAFE Directors Australia.



The University has established the role of Enterprise Professor, a senior academic position designed to enhance University links with industry and business. Four Melbourne alumni were among the inaugural group of 12 appointees, who will work with individual faculties to deepen industry collaborations. **Dr Colin McLeod** (BA 1984, MBA 1989, PhD 1998) will join the Faculty of Business and Economics, former Victorian premiers **Ted Baillieu** (BArch 1976) and **John Brumby** (BCom 1974) will join the Faculty of Architecture, Building and Planning, and **Dr Andrew Cuthbertson AO** (BMedSc 1978, MB BS 1980, PhD 1986) will join the Faculty of Medicine, Dentistry and Health Sciences.



Professor Kate Auty (BA(Hons) 1977, LLB 1979) is the ACT's new Commissioner for Sustainability and the Environment. Professor Auty previously held the same position in Victoria, before leaving to become a Vice-Chancellor's Fellow at the University of Melbourne.

The Faculty of Architecture, Building and Planning announced a new Dean in July. **Professor Julie Willis** (BPD 1989, BArch(Hons) 1992, PhD 1997) will replace **Professor Daryl Le Grew** (BArch 1969, MArch 1972, PhD 1983) who has been Interim Dean since July 2015. In nearly 20 years at the University, Professor Willis has served in numerous senior roles – most recently as Pro Vice-Chancellor (Research & Research Capability). She will commence her role as Dean in November.

Heather Campbell (BE(Hons) 1988, MEngSc(EnvEng) 1995, International House), General Manager of Health, Safety and Environment at CSIRO, is the newly appointed Chair of Sustainability Victoria.

AWARDS

Dr James Hunt (BSc(Hons) 1999, PhD 2006, St Hilda's College) has been presented with the 2016 Grains Research and Development Corporation Southern Region Seed of Light award for his contribution to communicating the outcomes of grains research. Dr Hunt's pioneering research into water use efficiency, time of sowing and stubble management has changed many growers' practices.

Neurosurgery trainee **Dr Ruth Mitchell** (BSc 1981, MB BS 1986) was presented with the Australian Medical Association's Doctor in Training of the Year Award in recognition of her work to address bullying and sexual harassment in the medical profession. Dr Mitchell is completing a PhD at the University of Melbourne and is a neurosurgery registrar at the Royal Melbourne Hospital. She is also Chair of the Royal Australasian College of Surgeons Trainees' Association.



Professor Robyn Sloggett AM (BA(Hons) 1979, PhD 2010), Director of the Grimwade Centre for Cultural Materials Conservation at the University of Melbourne, has been named the winner of the 2016 Bathurst Macquarie Heritage Medal. The award recognises an individual who has made a significant contribution to the protection or promotion of Australia's built, social, cultural or environmental heritage.

Dr David Hall (BVSc 1978) has been presented with the Australian Cattle Veterinarians' Bovine Practitioner 2016 award at Uluru. The award recognises his contribution to the cattle industry and work with students.

Architectural renderer **Brian Burr** (BArch 1964) has been awarded the William J. Mitchell International Chapter Prize in the Australian Achievement in Architecture Awards. The prize recognises Mr Burr's significant contribution to architecture internationally.

The 2016 Australian Institute of Architects Gold Medal has been presented to **Howard Raggatt** (BArch(Hons) 1978) and the late **Stephen Ashton** (BArch 1977, Ormond College) of architecture practice Ashton Raggatt McDougall (ARM). ARM's projects can be found across Australia and include the Perth Arena and the National Museum of Australia in Canberra. They shared the honour with **Ian McDougall**, the third founding director of ARM.

AWARDS, HONOURS & ACHIEVEMENTS

For more Milestones visit **unimelb.edu.au/3010**



University of Melbourne researchers **Dr Jake Shortt** (PhD 2012) and **Dr Ricky Johnstone** (BSc(Hons) 1988, PhD 1993) (pictured) have been awarded the Happy Hour research Award from Cancer Council Victoria. The award was created to recognise the fundraising efforts of the Kerang Happy Hour group, which raised more than $95,000 for cancer research and support. Dr Shortt and Dr Johnstone will use the award to research the treatment of leukaemia and lymphoma.

The University of Melbourne's **Dr David McInnis** (BCom 2004, BA(Hons) 2005, PhD 2011) has been awarded the 2016 Max Crawford Medal by the Australian Academy of the Humanities. The medal is presented to early-career Australian researchers for outstanding scholarly achievement in the humanities, and to those whose publications make an exceptional contribution to the understanding of humanities disciplines by the general public. Dr McInnis has been internationally recognised for his Lost Plays Database, a forum where scholars can share information about lost plays in England from 1570 to 1642. This year he is leading Shakespeare 400 Melbourne, a series of events marking the 400th anniversary of the playwright's death.

More than 60 University of Melbourne alumni, staff and friends were recognised in the 2016 Queen's Birthday Honours. For a full list visit bit.ly/294NZTU.

ARTS

Opera singer **Shakira Tsindos** (BMus(Hons) 2015) made her professional debut when she starred in Victorian Opera's production of Donizetti's *Lucia di Lammermoor* at Her Majesty's Theatre, Melbourne in April. She took on the role of Alisa in the production just months after graduating.

On Stalin's Team, the new book by **Professor Sheila Fitzpatrick** (BA(Hons) 1962, University College), looks at the team of people surrounding the former Russian dictator.



Soprano **Shauntai Batzke** (BMus 2014) starred in Indigenous opera *Pecan Summer* at the Sydney Opera House in September. *Pecan Summer* was written by **Deborah Cheetham AO**, Artistic Director of Short Black Opera and Associate Dean (Indigenous Development) at the University of Melbourne's Faculty of Victorian College of the Arts and Melbourne Conservatorium of Music.

A documentary by filmmaker **Aidan Prewett** (GDipFTV 2008, MFTV 2010) has been picked up by US distributors. *A Venue for the End of the World*, which looks at the dangers of audience manipulation and leader worship, is Mr Prewett's first full-length feature.

Phoebe Panaretos (BMusThtr 2012) and **Anna O'Byrne** (BMusPerf(Hons) 2008) were nominated in the Musical Theatre category of the Green Room Awards. Ms Panaretos was nominated for her lead role in *Strictly Ballroom*, while Ms O'Byrne was nominated for her performance in *Nice Work If You Can Get It*.



Everywhere I Look is the latest book by acclaimed author **Helen Garner** (BA(Hons) 1967, LLD 2003, Ormond College). It is a collection of 33 essays written over a 15-year period. Earlier this year Ms Garner won Yale University's prestigious Windham-Campbell Prize for Nonfiction.



Richard Lewer (MVisArt 2000) won the 2016 Basil Sellers Art Prize for his compendium of 12 paintings, titled *The Theatre of Sports*. Mr Lewer's work examined the role sport can play in relation to mental illness, focusing on the extremes of behaviour that follow very public moments of failure. The Basil Sellers Art Prize is a biannual exhibition of sport-related art displayed at the Ian Potter Museum of Art until November 6, 2016.

The first feature film by **Simon Stone** (BDramArt 2005, Ormond College), *The Daughter*, made its debut to critical acclaim in March. The film is a reworking of Henrik Ibsen's *The Wild Duck*. Stone was previously best known for his work as a theatre director.



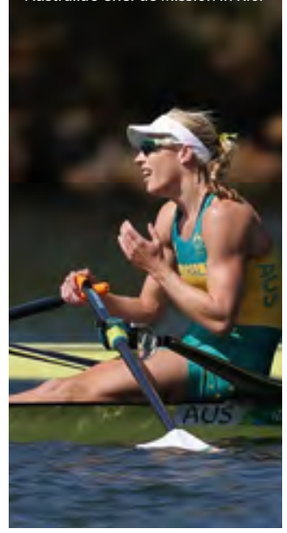
Amy Lehpamer (BA 2008) fulfilled a lifelong dream by starring as Maria in *The Sound of Music*, which toured Australia between May and September this year. Ms Lehpamer's previous stage roles include Christine Colgate in *Dirty Rotten Scoundrels* and Sherrie in *Rock of Ages*, and she has appeared in several prime time television shows including *Winners and Losers* and *House Husbands*.

Melbourne artist **Louise Hearman** (BFA 1984) won the 2016 Archibald Prize, which is renowned as Australia's best-known portraiture prize. Ms Hearman's portrait of humourist Barry Humphries (LLD 2003) was selected as the winning entry from a final pool of 51 portraits, following a vote by the Art Gallery of New South Wales trustees.

Australia's top subject and genre painting award, the Sir John Sulman Prize, this year went to **Esther Stewart** (MACM 2010). Ms Stewart's entry, titled *Flatland dreaming*, was voted the winning painting by guest judge and former Archibald Prize-winner Judy Watson.

SPORT

Two Melbourne alumni won rowing medals at the 2016 Summer Olympics in Rio de Janeiro. **Kim Brennan** (BA(Media&Comm), LLB 2010), pictured below, won Gold in the women's single sculls, four years after claiming Silver and Bronze Olympic medals, while **Josh Booth** (BSc 2012) won Silver in the men's coxless four. Another six alumni competed in Rio – **Charlotte Sutherland** (BAgr 2014), **Sarah Banting** (BBiomed 2015) and **Jennifer Cleary** (BSc 2015) participated in the rowing regatta, **Elena Galiabovitch** (BBiomed 2010, MD 2014) contested the 10m air pistol and 25m sport pistol events, **Mary Hanna** (BA 1974, DipEd 1988) rode in equestrian dressage (her fifth Olympic Games appearance) and dual national **Matthew Guest** (BMedSc 2006, MB BS(Hons) 2010) played field hockey for Canada. Current students **Joel Baden** and **Regan Lamble** (both athletics) and **Jessica Morrison** (rowing) also took part. The University had two representatives in the Paralympics – tennis player **Dylan Alcott OAM** (BCom 2016) and table tennis competitor **Barak Mizrachi** (BE, BSc 2012). Meanwhile former Olympian **Kitty Chiller** (BA 1984) was Team Australia's Chef de Mission in Rio.



Drawing inspiration from our family's fields of gold

BY **ALICIA CAIN** (BCom, BProp 2010, Queen's College)

We were drinking a nice bottle of wine when the idea came to us. My brother Peter (BAgr, BCom 2007) and I were reflecting on how good the wine industry is at reserving the highest-quality grapes for making the best wines and at telling the story behind the labels. In the wine industry, provenance matters.

Other farmed produce, such as grains, are treated as simple commodities, sold by farmers in bulk quantities, pushed out the farm gate, losing provenance and any quality distinction.

Our Dad has always grown top-quality oats on our farm, winning several awards during his 55 years on the land. The more we thought about it, we wanted to embrace the example of wine by taking something from our farm to complete the journey from paddock to plate.

We couldn't name one brand of rolled oats that was single origin, supplied directly from an Australian farm. So, the concept was born: we would sell traditional rolled oats, quick oats, groats and steel-cut oats, all from our family farm at Natte Yallock, north-central Victoria.

As the idea firmed, we chose the name 'Dad's Oats' as a tribute to family farming, to our Dad and Mum – Maurice and Ruth – and to the generations who have tirelessly worked the land before us.

We revealed the brand name to our parents after we had packaged the first batch. They were surprised and delighted. Even if the idea didn't go anywhere, and we struggled to sell even a packet, we would still enjoy eating Dad's Oats for breakfast.

Our fifth-generation family farm is in the foothills of the Pyrenees, about 100 kilometres north-west of Ballarat. There are no shops or pubs nearby, just a sports reserve and a primary school.

But life was never boring growing up at Natte Yallock. On school holidays we'd help Dad with the cropping, the sheep or just general farm work. Ours was the biggest backyard you could imagine, with endless places to explore and trees to climb.

Even if the idea didn't go anywhere, and we struggled to sell even a packet, we would still enjoy eating Dad's Oats for breakfast.

When we told Dad about our idea of selling branded rolled oats from the 800-hectare farm he was a little apprehensive. Although he understood the difference in quality, he was concerned we wouldn't be able to compete with cheap oats in the supermarket.

Mum and Dad always encouraged us to follow our ideas and have been very supportive. This time was no different. Although they had some initial reservations, I think they were excited by our enthusiasm and energy.

We started selling oats late last year at farmers' markets in Melbourne. Since then, we have expanded to supply a number of cafes around the city, and have launched an online store and a subscription-based service. It's early days, but we have been encouraged and excited by the market feedback.

Dad's faith in the concept was boosted when he came to one of our markets, in Daylesford. It was a busy day and we were a little short of staff, so he was thrown into the role of explaining to customers where the oats were from, how they were grown and processed.

On that day, he realised just how important food provenance is to many people. Not everyone is focused on simply buying the cheapest food they can find in the supermarket. There's another group of consumers that cares about quality and embraces the single-origin concept.

Our brother Matthew (BAgr 2003) now operates the farm, with the experience and the wise counsel of Dad close at hand. He has also enjoyed talking directly to customers who appreciate the quality of the grain, the hard work that goes into ensuring the best produce, and the best-practice farming techniques we employ.

And then there's the care that goes into maintaining the sustainability of that precious land at Natte Yallock.



Peter and Alicia Cain with their Dad, Maurice, on the farm at Natte Yallock.

PICTURE: ALLI CAMPBELL



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