Can hi-tech save Australian manufacturing?
Investing in a hi-tech workforce for creative manufacturing

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With the growth of globalisation, the skills required for the Australian workforce are changing. As the world economy becomes more competitive, Australia must develop a skilled workforce capable of competing in the global market. The University of Melbourne is committed to preparing its students for the future by providing them with the knowledge and skills needed to succeed in their chosen fields.

The University of Melbourne offers a wide range of programs, from undergraduate to postgraduate, across a variety of disciplines. Our students are provided with the opportunity to study in a supportive and innovative environment, allowing them to develop the skills and knowledge necessary to succeed in today’s globalised world.

Furthermore, the University of Melbourne is committed to providing its students with the resources and support they need to succeed. Our students have access to world-class research facilities, expert staff, and a diverse community of peers.

In conclusion, the University of Melbourne is dedicated to preparing its students for a successful future in the global workforce. By providing a high-quality education and a supportive environment, we are confident that our students will be well-prepared to succeed in their chosen fields.

Katherine Smith
Editor
Where to now for Australian manufacturing?

Over 100,000 jobs lost in six years, the cessation of manufacturing at Ford, Holden and Toyota, the closing of the Alcoa plant and crises at Cadbury and SPC Ardmona have sounded warning bells for the industry. But what are the actual prospects for a sector that generates so much debate? By Eoin Mahessy.

In an office on the corner of Pelham Street and Barry Street in Carlton Professor of Economics Jeff Borland runs his hand along a graph that he has produced. It shows the number of Australians employed in manufacturing since the 1960s, the zenith of Australian manufacturing, when a quarter of the workforce were employed in this emotive sector. But from that period on the graph tumbles to show that just under 10 per cent of total Australian employment currently hails from manufacturing.

“The decline in manufacturing has been going on for a long time. It’s not something that has just happened in this downturn, during this period of a high exchange rate. It has been declining since the early 1970s,” says Professor Borland, who recently conducted an analysis of Australia’s manufacturing sector.

At every major downturn Australia has experienced we have lost jobs in manufacturing. Yes we have lost a lot of jobs recently but this loss of jobs in manufacturing has been occurring steadily for the past 40 years.

“To a large degree this reflects the difficulties that manufacturing faces in Australia compared with countries like the United States and Japan,” says Professor Borland. “Manufacturing in the 20th century has been about large-scale production to gain economies of scale. With our small population and distance from the richer world markets we have never had access to the size of market that is needed to underpin large-scale production.”

Fast forward to today and Professor Borland’s analysis of Australian manufacturing provides interesting insights about the changing balance of Australia’s industrial base. The “rust belt” states of South Australia and Victoria are commonly considered the manufacturing heartlands of Australia but that has changed, and we’re witnessing a convergence of manufacturing jobs across all Australian states.

“In 1985 one in five jobs in Victoria was in manufacturing and only one in 10 in manufacturing jobs were in Queensland, but today basically every state has the same share of its jobs in manufacturing industry. So while there is a lot of focus on the decline in Victoria and South Australia, in fact all states’ fortunes depend to pretty much an equal degree on manufacturing.”

While manufacturing has declined in the proportion of the workforce it employs, its death has been highly exaggerated, according to Professor of Management Danny Samson, who has been observing and teaching, researching and advising businesses on matters related to manufacturing and operations strategy for 25 years.

While Professor Samson agrees the challenges have never been greater, brought on by the forces of globalisation, high local currency, and diminishing scale in some industries, the fact is that some manufacturers are thriving. Professor Samson has shown that while “cost leadership” and scale economies are particularly difficult for local firms as a basis for competing, there are still many niche strategies, where companies can specialise, and in which Australian manufacturers can be sustainably profitable and successful.

Professor Samson recently conducted a series of case studies and a large survey of local manufacturing firms, large and small and the results were compelling. The successful firms innovated in a few different ways, ranging from their leading-edge product designs, their process innovations, and even to their marketing methods and business models.

“In a generally declining sector, we have shining beacons of success, still profitably and sustainably manufacturing everything from machine tools, electronics, textiles, plastics, food, trucks, and a host of other things,” Professor Samson says. “These fine firms have found a point of difference.”

Ensuring Australia’s existing manufacturers, particularly our Small and Medium Enterprises (SMEs), benefit from improving their leadership capabilities is a key focus of the recently established Centre for Workplace Leadership (CWL) at the University of Melbourne.

“Academic research has shown those businesses which implement high performance work practices improve their profits by 13 per cent,” says Centre Director Professor Peter Gahan. “Improving the quality of leadership in Australian workplaces is an often neglected issue in the debate on competitiveness. We’re working with businesses large and small to show them how to improve leadership that motivates employees, leads to less staff turnover and ultimately drives growth in their business. There is significant unrealised potential within Australia’s manufacturing industry and we are here to help Australian business realise that potential.”

The CWL is currently rolling out a study for the Australian Government Department of Industry with Australian SMEs to better understand the challenges they face so that informed policy can be implemented.

“It is now 20 years since the Karpin Report was released. This groundbreaking report, entitled Enterprise Nation, identified a number of critical challenges facing Australian managers as Australia entered the ‘Asian-century’. It’s time to take stock of these new challenges and the ability of Australia’s business leaders and managers to meet them.”

www.workplaceleadership.com.au

Read more about the Centre for Workplace Leadership at: http://voice.unimelb.edu.au/volume-10/number-2/what-makes-good-workplace

In the Faculty of Arts’ Winter School you’ll be treated to a series of inspiring lectures, seminars and tutorials in two VCE subjects: Literature, and History: Revolutions.

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Training doctors for a better world

As the challenges of providing healthcare in resource-poor settings continue to mount, there is a growing need for medical doctors to be trained in the basics of public health and to play a role in developing effective policy solutions to public health problems. By Elizabeth Brumby.

**LEARNING AND TEACHING**

"I'm indigenous to Nagaland, in north-east India, near the Burmese border, and moved to Melbourne with my family when I was six," says Visopiano Sanyü.

"The experiences of my village, my people and our life here in Australia have all had a profound impact on my sense of belonging as a global citizen, and shaped my ambition to effect change in the world as a global health practitioner."

Ms Sanyü has been studying medicine at the University of Melbourne since 2011, and has much in common with Leander Timothy, a Melbourne student whose passion for public and global health stems from his experience leading a nomadic lifestyle as a child and young adult. Leaving South Africa during the apartheid era, Mr Timothy moved with his family to Whangai, New Zealand, where his family found support among the Maori community. Later they moved to Singapore, and finally, Mr Timothy found himself in Cambodia – where he was first compelled to "give back" to communities in need by working with local health organisations in under-resourced rural areas.

Ms Sanyü and Mr Timothy are two of eight students who form the inaugural cohort of the dual Doctor of Medicine (MD) and Master of Public Health (MPH) offered by the Faculty of Medicine, Dentistry and Health Sciences.

This program, the first of its kind in Australia, offers medical students the opportunity to undertake the Master of Public Health between the third and fourth years of their medical studies, providing them with the opportunity to be trained and engaged in public health prior to undertaking their advanced medical training.

Rob Moodie, Professor of Public Health at the Melbourne School of Population and Global Health, says the intercalated program was established to equip medical students with a thorough grounding in public health and better prepare students to develop as globally-minded leaders.

"This program is a response to a real and growing interest in public health among medical students and professionals," Professor Moodie says.

"Whether these students will continue to work clinically or whether they’ll shift to a career in public health, they will finish their medical degrees with a greater understanding of national, state and local health systems – greater insights into how to work within these systems, and a greater understanding of how to contribute to these systems to solve public health problems, both in Australia and internationally."

"What I’m keen to see as a result of this program are health clinicians who understand the bigger picture."

Professor Moodie studied medicine at the University of Melbourne before going on to complete his Master of Public Health at Harvard University. His own capacity to see the bigger picture first emerged when he was a young doctor working in refugee camps treating children with preventable diseases.

"Working in refugee camps was without doubt one of the most instructive parts of my medical training, learning that we should be talking more about what’s going on in the camps around diets, water and sanitation, and a greater understanding of how to contribute to these systems to solve public health problems, both in Australia and internationally."

"At some point, I hope to become involved with REACH (Realising Education and Access in Collaborative Health), a student-driven health initiative that promotes social change. Her work with REACH has seen the launch of Australia’s first student-run clinic, a multidisciplinary, after-hours service which treats clients from refugee and migrant backgrounds in Melbourne’s northern and western suburbs."

Ms Sanyü’s commitment to social justice and global health has been realised through her involvement with REACH, her knowledge of global health.

Mr Timothy is the founder of Ubuntu, the University of Melbourne School of Population and Global Health and Global Health, says the intercalated program was established to equip medical students with a thorough grounding in public health and better prepare students to develop as globally-minded leaders.

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Professor Moodie says.

"In the domain of global health, I am particularly interested in health systems development. Whilst in Australia we have the privilege of access to a universal health service in the form of Medicare, in South Africa there is no comparable system," Mr Timothy says.

Professor Moodie says.

"In the early days of the HIV/AIDS epidemic he played a key role in the United Nations’ efforts to warn communities of the growing risk of the epidemic, and more recently, his focus has turned to non-communicable diseases caused by smoking, obesity and excessive alcohol consumption. He says his early medical training has played a critical role in preparing him to work effectively in communities across the globe.

In its first intake, the MD/MPH program has been successful in attracting high calibre students who are committed to making a difference in public and global health.

Ms Sanyü’s commitment to social justice and global health has been realised through her involvement with REACH (Realising Education and Access in Collaborative Health), a student-driven health initiative that promotes social change. Her work with REACH has seen the launch of Australia’s first student-run clinic, a multidisciplinary, after-hours service which treats clients from refugee and migrant backgrounds in Melbourne’s northern and western suburbs.

"Social justice and global health are huge passions of mine. That’s why I chose to study medicine – to work with communities around the world to improve their health through empowerment and sustainable development," Ms Sanyü says.

Mr Timothy is the founder of Ubuntu, a student health organisation focusing on improving the health of African communities, both in Australia and Africa. The organisation is currently working to develop an Africa-Australia clinical and research student exchange program.

In his future work, Mr Timothy hopes to draw upon both his expertise in clinical medicine and his knowledge of global health.

"In the domain of global health, I am particularly interested in health systems development. Whilst in Australia we have the privilege of access to a universal health service in the form of Medicare, in South Africa there is no comparable system," Mr Timothy says.

"At some point, I hope to become involved in the development of a culturally appropriate health system similar to Medicare in South Africa, with a focus on preventative medicine."

www.medicine.unimelb.edu.au
www.pgh.unimelb.edu.au
Can we still make things?

Annie Rahilly and Zoe Nikakis ask engineering experts what manufacturing in Australia will look like in the future. The answer is firmly: hi-tech, collaborative and innovation-based.

Australia, and Victoria in particular, have long been places that make things. From the massive Ford plant in Geelong to Arnott’s tomatoes and SPC canned peaches, to boutique clothing operations like Queensland’s Black Milk, manufacturing and the encouragement to ‘buy Australian’ has always been part of the nation’s cultural identity. It’s an expensive way to be proudly Australian though, and the costs are increasingly making Australian manufacturing unviable.

Dr Colin Bursill from the University of Melbourne’s Department of Mechanical Engineering says the future of Australian manufacturing, and engineering more broadly, relies strongly in what he calls “continuous innovation”.

“Innovation, invention and the associated design skills that enable practical realisation are crucial to retaining local manufacturing,” he says.

“We are losing the major automotive from Victoria and while this is problematic, the concern should be for the workforces. In particular, the highly trained people whose skills should not be lost, whether those skills are used directly in other industries or to assist the training of the next generation.”

Paul Minter from the Melbourne School of Engineering (MSE) says a competitive manufacturing sector is still viable.

“Two people may buy the same machine but one asks, how can I make this machine operate better? How can I optimise its performance? This is innovation. Having an idea and realising it.

“Australia has a full range of such innovation skills to offer. At MSE, staff build the machines, apply them to manufacture and understand how the equipment will work.

“In the quest to improve quality, manufacturers can increase volume and shorten the time to market. In my associations with industry, I have seen how clever manufacturers invest in upgrading machinery and tools to increase batch runs that result in products being made quicker and cheaper,” he says.

“By going back to the essence of engineering, small businesses can adopt new tools and technology with positive results. Engaging with new research is key to this continuous improvement.”

Dr Alan Smith is the senior manufacturing lecturer in Mechanical Engineering. He agrees there is an imperative for engineers, and particularly the future engineers he teaches, to change and adapt throughout their careers.

“As engineers, invention is part of what we do and it is all wrapped in disciplines and systems,” he says.

“We must retain our expertise to keep improvement going through product innovation, invention and design.”

To change the ways engineers and manufacturers innovate and invent new methods, first the way in which they are taught must change.

This future, where students must be innovators and inventors as well as specialists in specific disciplines, is one the University of Melbourne is actively pursuing by changing the ways in which it teaches students.

Successful innovation and invention also means supporting different ways of undertaking research projects.

At Melbourne, research innovation, not just in manufacturing but also across sustainability and resilience challenges and other complex global problems is increasingly being explored by collaborative teams of experts from across different faculties.

Where once a project may have been solely engineering’s territory, to be truly innovative now requires multi-disciplinary teams comprising experts from faculties as diverse as Information and Computer Technology, Science and Medicine, Dentistry and Health Sciences.

The University is in many ways supporting this new way of working on multi-disciplinary projects, and the teams required to undertake them, including by creating a new facility designed from the ground up for this purpose.

The project, known as the Carlton Connect Initiative, will help accelerate the transition to the economy of the future, says Project Director Charlie Day.

“Victoria is moving from a product-based economy to a knowledge-based economy,” he says.

“The sustainability challenges around issues such as water, energy, food and liveable cities are areas in which we have globally-recognised strengths, and we need to think about how to build on those.”

“We are planning to co-locate academics with industry and government experts to work collaboratively to drive innovation in these fields.”

Mr Day says to successfully nurture these future innovators, partners are needed to help with the translation of ideas into reality.

“If we get this right now, it will create the opportunities for the new businesses that will underpin our future prosperity,” he says.

“Companies must not be afraid to engage with engineers; they can learn from being on the ground in industry gaining practical experience and industry can learn from engineers about problem-solving.”

Mr Day says implementing an equal exchange system between universities and industry is a plan worth considering.

“The benefits are positive as overseas programs have demonstrated,” he says.

“But research and industry need to be matched. Industry doesn’t need raw scientific research but research that connects with them. Better links are needed.”

One of the great developments in manufacturing in the past few years, 3D printing, was a result of industry-engineering alliances, and has already resulted in advanced manufacturing practices.

“Academics are forced to focus 15 years into the future. Industry is forced to look at next week’s problem,” Mr Day says.

“Structurally we need to look half way.”

www.eng.unimelb.edu.au
www.carltonconnect.com.au
Elizabeth Blackburn School of Sciences launched

A new partnership is enabling year 11 and 12 students with a passion for the sciences to grow their passions at the newly opened Elizabeth Blackburn School of Sciences. Rebecca Scott speaks to Professor Field Rickards, Dean of the Melbourne Graduate School of Education and Professor Tony Bacic, Director of the Bio21 Institute about the vision for the school.

**VOICE:** How will the Elizabeth Blackburn School of Sciences contribute to the learning and teaching of the sciences?

**FIELD RICKARDS (FR):** The new science school is not just a training facility for the next generation of scientists, but also a science education laboratory where we can investigate different teaching techniques and see what is effective.

**THE MELBOURNE CONVERSATION**

**VOICE:** What is the vision for the school in how it will contribute to Victoria?

**TB:** The Elizabeth Blackburn School of Sciences will build access for the University in a socially inclusive way to high achieving secondary school students who are interested in science and maths. The school will make a significant contribution to the University's goals for engagement with the local community.

Inspiring the next generation of scientists and teachers is the fundamental basis to the school's vision. By improving science education at both the school and university level, the EBSS is a great investment in helping keep Victoria (and Australia) globally competitive, by increasing the number and quality of people in science.

**VOICE:** What is the benefit of the school's location at Bio21 Institute site and what is unique about the building?

**TB:** The Bio21 Institute's vision is to develop an environment that connects 'school to bench to workplace'. By co-locating the EBSS at the Bio21 Institute site we are able to facilitate the development of relationships between school students, teachers and scientists at the University and the Parkville Precinct. This not only exposes students, teachers and scientists at the University to workplace 'by co-locating the EBSS at the Bio21 Institute site we are able to facilitate the development of relationships between school students, teachers and scientists at the University and the Parkville Precinct. This not only exposes students, teachers and scientists at the University to workplace.

In addition to that, they will be working alongside the researchers from the Bio21 Institute who are mentoring the students. So effectively, the researchers will deliver the science, and teachers will deliver the pedagogy – the science of teaching – and they will learn from each other and from the student at the EBSS.

**VOICE:** How important are scientists as figureheads in secondary education?

**TB:** Scientists play a vital role in engaging students, teachers and the broader community. They provide insights into the wide range of science disciplines and the significant impact science has in tackling some of society's major challenges. As science mentors, they will not only inspire the next generation but help foster a future workforce of high achieving scientists for Victoria.

The Elizabeth Blackburn School of Sciences is the result of a partnership between the University of Melbourne, University High School and the Victorian State Government, and is located at the Bio21 Institute site. Applications for 2015 are currently being accepted. For more information visit http://www.unihigh.vic.edu.au.

Watch an episode of Visions about the school:

Elizabeth Blackburn is a professor of biology and physiology at the University of California (San Francisco) and a graduate of both University High School and the University of Melbourne. She is Australia's first female and 11th Nobel Laureate. She was awarded the 2009 Nobel Prize in the field of Physiology or Medicine for her discovery of the way that telomeres and the enzyme telomerase.

**VOICE:** How will the school contribute to the learning experiences of MGSE Masters of Teaching Students?

**FR:** The Master of Teaching is unique in that it focuses on teaching as a professional, clinical practice that uses evidence-based interventions to meet the needs of the individual learner. MGSE candidates who are drawn to teaching science will be able to do their placements at the EBSS. There, they will experience teaching for the first time in an environment where the students are there because they love science too. In addition to that, they will be working alongside the researchers from the Bio21 Institute who are mentoring the students. So effectively, the researchers will deliver the science, and teachers will deliver the pedagogy – the science of teaching – and they will learn from each other and from the student at the EBSS.

**VOICE:** What is the benefit of the school to workplace?

**TB:** EBSS is an innovative teaching and learning environment that will assist students to transition from school to higher education. This is further enhanced by incorporating programs that allow them to be part of the broader scientific community and by providing each student with a science mentor for their extended research project.

**VOICE:** How will the school contribute to the Victorian State Government's goals for engagement with the figureheads in secondary education?

**TB:** Scientists play a vital role in engaging students, teachers and the broader community. They provide insights into the wide range of science disciplines and the significant impact science has in tackling some of society's major challenges. As science mentors, they will not only inspire the next generation but help foster a future workforce of high achieving scientists for Victoria.

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Read more about Professor Blackburn's views on women in science at:

**Students of the new Elizabeth Blackburn School of Sciences**
Kate Auty new V-Cs Fellow at Melbourne

Andi Horvath speaks with newly appointed University of Melbourne Vice-Chancellor’s Fellow Professor Kate Auty.

**PROFILE**

Professor Kate Auty, the former Victorian Government Commissioner for Environmental Sustainability, has been appointed as a 2014 Vice-Chancellor’s Fellow at the University of Melbourne.

Vice-Chancellor’s Fellowships were founded in 1997 to provide a residency for distinguished public intellectuals who contribute to the public life of the University.

Professor Auty’s extraordinary public career spans Indigenous justice issues, native title, community consultation, curriculum, natural resource management and environmental policy.

Her early experiences of living in different parts of Australia combined with her strong sense of ‘the right thing to do’ put her in good stead for roles in public advocacy as well as planet advocacy.

She has worked in agriculture, academia, as a solicitor in her own law firm, and as a barrister. No wonder people are keen to know more about her.

As a Vice-Chancellor’s Fellow Professor Auty will participate in the public life of the University as well as undertake some research for publication.

“I am looking forward to contributing in the areas of environmental policy and management and environmental public participation. When it comes to climate change the evidence is in and the time for skepticism about the link to greenhouse gases emissions and climate change has passed. It’s now about implementing more action plans,” Professor Auty says.

Professor Auty will also be involved in writing, speaking and lecturing on Indigenous justice issues in Melbourne Law School as her former roles included a time as senior lawyer for the Royal Commission into Aboriginal Deaths in Custody (Victoria, Tasmania, WA), and as the inaugural Koori court magistrate in Victoria. She also set up similar justice procedures in the goldfields of WA.

And in an act of serendipity, Professor Auty’s professional worlds of environmental sustainability and Indigenous issues have started to merge. She works with Aboriginal communities such as the Yorta Yorta Climate Change group. “I met Aboriginal communities of north-east Victoria when I was a very young lawyer at the Victorian Aboriginal Legal Service and continued this relationship into my work as the chair of the Victorian Ministerial Reference Council on Climate Change Adaptation. I plan to document and compare environmental and Indigenous issues associated with red-green tape, institutional management, communication and public participation.”
Greening the skies

The push for ‘greener’ energy solutions extends beyond the home and the car, with researchers in Australia and India working towards a more sustainable fuel for the world’s aircraft. By David Scott.

Inventing the Sader Method

Andi Horvath speaks with Professor of Mathematics John Sader about his enthusiasm for maths at the nano-scale.

Most of us don’t get an opportunity to drive or operate an atomic force microscope, but if we did we could use the official ‘Sader method’ to calibrate this machine that reveals the atomic and molecular details of materials and biological specimens. The ‘Sader method’ is named after University of Melbourne’s Professor John Sader from the Department of Mathematics and Statistics. While having anything named after you is a great lifetime achievement it’s the unofficial Sader method that is also worth acknowledging, and that is the daily passion to pursue the mathematical problems of the physical world with a sense of gleeful adventure.

It’s not usual for professors to start their academic life in one field and end up mastering another. Professor Sader is one of these cross-disciplinary adventurers. He started work in India to discuss progress toward bio jet fuel.

“High-energy-density fuel is ultimately going to be required to replace others than petroleum, and eventually sustainably produced bio jet fuel will have to fill this gap,” he says.

However while it would be nice to explore a whole range of potential bio jet fuels, the reality is that there is still a gap in investment for further work on the development of so-called “drop-in” biofuels that can fit with the current stringent specifications, which were designed with petroleum fuels in mind,” Dr Martin says.

“There is some suggestion that these rules are not set in stone, that there is some room to move to accommodate fuels with slightly different properties, however it is going to be up to us, the producers, to come up with efficient means of producing fuels that meet the right specifications and can be used safely by existing aviation infrastructure.”

Held in Dehra Dun, north-west of New Delhi, the workshop brought together aviation and biofuel experts from the University of Melbourne, the CSIRO and RMIT with those at the Indian Institute of Petroleum. Representatives were also present from major companies such as industrial firm Reliance, Canadian aerospace manufacturer Pratt & Whitney, Virgin Australia and petroleum giant Hindustan Petroleum Corporation Limited (HPCL), as well as two pilots from Air India.

The project was supported by the Australian Government’s Australia-India Strategic Research Fund.

A University of Melbourne PhD graduate, Dr Mo Garg, now the Director of the Indian Institute of Petroleum, drove the gathering, after he had seen a similar workshop on Australia-America collaboration on bio jet fuels at the Geelong Air Show.

According to Dr Martin, India has a real advantage over Australia in its ability to rapidly implement promising technologies at an industrial scale which allows demonstration of these processes and the production of useful quantities of bio jet fuels.

“For instance, a lot of the current work in India is using jatropha, which is considered a weed here but is widely available there,” Dr Martin explains. “They’ve been able to demonstrate that they can convert the oil from the plant into a fuel that meets aviation specifications, and so now they’re building a processing plant to produce enough fuel to get some demonstration flights happening. It’s difficult to see things move that quickly in India.”

However the workshop has sown the seeds for future collaboration. Dr Martin’s own work has centered on the use of microalgae – or specifically, the oils derived from these algae – as a potential feedstock, leading to the possibility that oil extracted from algae grown in Australia could be converted and tested for fuel suitability in India.

At the heart of it all though is the issue of money, even as the cost of petroleum continues to rise while the cost to produce biofuel continues to gradually come down. “There was a lot of talk about a potential tipping point,” Dr Martin says, “but it’s a bit like gazing into a crystal ball to find out where the two cost ‘lines’ are going to coincide. We could be 10 years away, or 20.”

“We while we know that airlines would like to be in the position to pay a premium for bio jet fuel, as it stands their margins are just too tight. While government intervention could bring the timeline forward, policies to support biofuels need to be clearly defined in the future in order to attract the necessary substantial investment to get a bio jet fuels industry established.”

In the end, he discovered a beautifully elegant formula that took into account the differences in the micro and nano-worlds, but he had no idea if the formula worked in the real world of engineering design.

“My colleagues at the California Institute of Technology offered to test it out; they made six sensor devices, shrunk them in all three dimensions and tested out my formula. It worked beautifully,” Professor Sader says with a gleeful smile, delighted that his curiosity, can-do and this-will-be-fun attitude had paid off.

“The beauty of mathematics is that it’s a universal language that can be used to understand our world, so mathematicians are able to work in many different disciplines and industries.”

For example, their expertise is useful in spacecraft design, communications technology, understanding the way materials behave, and even financial institutions like banks.

“A couple of my students have gone to work for banks developing financial products, as the banks need people with good quantitative skills. I had a coffee with one of them the other day. He seems to be having fun resolving the analytics. But its the mathematics that drives us, we love a mathematical adventure that delivers a useful solution.”

This is the unofficial Sader Method, which works for both its inventor, his diverse research group, and which infects the next generation of successful mathematicians.

www.ms.unimelb.edu.au
Building a social network with a house-sharing app

Monique Edwards discovers a new app developed by Melbourne alumni which aims to make life in share-houses fair and successful.

University of Melbourne alumni and current students have collaborated on a new smartphone app for iOS and Android that helps make share-housing a success.

Fairshare, cofounded by Jules Malseed-Harris and Oliver May, is an app that enables people living together to organise household tasks, split shared expenses and easily communicate with one another.

CEO and Cofounder Jules Malseed-Harris, a Melbourne alumnus and former Commerce tutor at the University, said the app is like a private social network for the home.

"It helps you organise and manage the communal tasks of cooking, cleaning and shopping," he says.

Fairshare users are able to earn points for doing various tasks around the house and record different house expenses.

"The app keeps track of bookkeeping and house finances surrounding rent, bills and shopping. It has a house feed which that information flows to and allows people to maintain a communication device just with their housemates."

The team is able to track the success of their app based on the number of downloads and the number of people who use it every day.

Bachelor of Science student Alex McLeod balances his studies while working in the role of Chief Technology Officer at Fairshare.

"For me, all the technical skills required to create the app were learnt in my studies here," Mr McLeod says.

"If there was one thing I would want to convey, it’s that people should definitely consider studying software engineering, computing or anything like that, because the opportunities are huge.

"It’s a great industry to be in, and there’s a massive shortage of people doing it."

Fairshare is a synergy of like-minded, highly-skilled individuals across various disciplines, from computer science to economics and communication.

Although launched in February this year, the idea for Fairshare came about over a period of several years.

While studying a Combined Honours in Economics and Management degree in 2004, Mr Malseed-Harris moved into a house with fellow Melbourne students.

"We tinkered with a points based system for tasks, doing it on a paper based arrangement between 2006 to 2013," Mr Malseed-Harris says.

"In April last year, Mr Malseed-Harris attended an event called Startup Weekend at the York Butter Factory. Startup Weekend is a global event in which entrepreneurs get together and attend workshops to pitch ideas and start up their own companies.

"It was a 54 hour event where we all got together, formed teams and coded up a new idea," he says.

"We've been working on the Fairshare app since then with a big team of about a dozen of us in total, with five of us full-time."

"As some people have observed, there’s a lot of basic first year microeconomics ideas within the app, in terms of incentive structures and transparency. It’s ultimately about aligning those individual incentives with the overall household, which is something I studied and taught here in Melbourne.”
The University of Melbourne has received Fulbright scholarships to advance its fields in Australia and around the world.

The recipients are playwright Lachlan Philpott, river system manager Tony McLeod, nuclear physicist Mark Boland and biomedical engineer Dean Freestone.

Four University of Melbourne researchers have won prestigious Fulbright Scholarships to work in the United States. By Stuart Winthorpe.

Scholarships

Our University of Melbourne graduates have received Fulbright scholarships to advance their fields in Australia and around the world.

The recipients are playwright Lachlan Philpott, river system manager Tony McLeod, nuclear physicist Mark Boland and biomedical engineer Dean Freestone.

Founded in 1946 by US Senator J William Fulbright, the program promotes research collaboration and cultural exchange to foster understanding between the United States and other nations.

University of Melbourne Deputy Vice-Chancellor (Engagement) Sue Elliott says the scholarships highlight the University of Melbourne’s world-class research and global focus.

“It’s particularly pleasing to see Melbourne graduates awarded scholarships from a diverse range of disciplines, from physics and engineering to playwriting,” she says.

Growing understanding through theatre

Lachlan Philpott is the first Australian to receive the Fulbright Professional Playwriting Scholarship. Since graduating from the Victorian College of the Arts in 1999 he has had 10 plays published and over 50 productions performed in Australia, the UK, Ireland and Spain.

Many of Mr Philpott’s plays relate the stories of real-life outsiders: women working as prostitutes for truck drivers in western Sydney, and people who claim to have been abducted by aliens.

He will write and produce a new play with staff and students at the American Conservatory Theatre in San Francisco, with the aim of increasing understanding between different cultures.

He says that theatre is one of the few remaining places where people gather to experience the same event in real time.

“There’s nothing quite the same as experiencing an actor in the flesh and blood,” he says.

“That sort of magic and surprise are at the heart of all the experiences that we’re trying to create, no matter what area of the arts we’re working in.”

The Fulbright Program is intended to ensure that experience and collaboration benefits both countries. Mr Philpott says this is particularly important in the performing arts.

“If we’re sending artists overseas we need to ensure they’re coming back and sharing what they’re learning with other artists so it becomes part of a wider cultural understanding.”

Continuing a history of river management exchange

Meanwhile, graduate Tony McLeod — a General Manager at the Murray-Darling Basin Authority in Canberra — received the Fulbright Senior Scholarship. He will compare the water management challenges of the Colorado and Murray Darling river basins with the Getches-Willkinson Centre for Natural Resources, Energy and the Environment at the University of Colorado, Boulder.

Dr McLeod’s work in the Colorado Basin will continue a long history of exchange between experts in these river systems, which began with the second Australian prime minister Alfred Deakin’s visit to Colorado in 1885 as a member of the Victorian government.

“That exchange was fundamental in the water management arrangements in place in Australia to this day,” Dr McLeod says. “There have been exchanges going on for 130 years, but also shared future challenges.”

Dr McLeod says the exchange will not only give Australian authorities access to fresh approaches, but also promote further collaboration.

“There’s also an opportunity for some of the ideas we’ve tried in Australia over the past 15 to 20 years to be shared, so I see it as a two-way exchange and one that will hopefully benefit both countries.”

Watching more closely than ever before

Nuclear physicist Mark Boland received the Fulbright Professional Scholarship in Nuclear Science and Technology.

Dr Boland is the Principal Accelerator Physicist at the Australian Synchrotron particle accelerator lab and Honorary Senior Research Fellow at the School of Physics at the University of Melbourne, where he co-supervises students in the Experimental Particle Physics Group.

He will study at the SLAC National Accelerator Laboratory at Stanford University in California, with the goal of extending the ability of the US Australian Synchrotron to measure processes at the level of picoseconds — one trillionth of a second.

“To be able to look on the smallest timescale that we can at the Synchrotron will open up new areas of science and new knowledge of science in areas like chemical reactions, where we will be able to observe reactions as they happen,” Dr Boland says.

This will allow Australian scientists to examine chemical reactions with a new level of detail and help improve miniaturisation of computers.

“To better understand and improve the mechanisms used in computer processes for example, you need to be able to look at timescales in a dynamic way, rather than just a before-and-after snapshot of what has happened.”

Stopping epileptic seizures

Dean Freestone is Victoria’s Fulbright Postdoctoral Scholar.

He will develop a framework for creating subject-specific models of epileptic patients’ brains at Columbia University’s Department of Statistics in New York.

Such models would allow researchers to predict how an individual’s brain will react to electrical stimulation, which could be used to develop medical devices to stop epileptic seizures in some sufferers.

“We have known for quite some time now that you can use an electrical stimulation to stop seizures in certain cases,” Dr Freestone says.

“It’s kind of like a defibrillator for the brain. Because of the varied behaviour of each case of epilepsy, Dr Freestone says mathematical models—and any solutions that arise from them—must be adaptable and able to actually work out ways to optimally control it for an individual.”

Dr Freestone says he hopes he will return to the Department of Medicine at St Vincent’s Hospital with knowledge that he could apply to improve the medical implants capable of stopping seizures currently being trialed in Melbourne.

In Brief

University committed to tackling racism

The University of Melbourne will join a national campaign empowering staff and students to take a stand against racism in the community.

Launching the University’s participation in the Australian Human Rights Commission’s Racism. It Stops with Me campaign, Provost Professor Margaret Sheil said the University is committed to being a part of the nation-wide dialogue about how best to deal with racism.

“This campaign is about making the community at large more safe and inclusive for all individuals,” she said.

“We are very committed to being a community leader and speaking out against racism in its many forms.

The University supports diversity through a range of equity policies and programs that foster intercultural communication and international cooperation.

“Education and research works best when it’s part of an inclusive community where all people feel safe and their input is valued,” Professor Sheil said.

Renowned Australian doctor to head international eye organization

Eye health expert Professor Hugh Taylor, Melbourne Laureate Professor and the Harold Mitchell Chair of Indigenous Eye Health at the University of Melbourne has been named President of the International Council of Ophthalmology (ICO).

He is the first Australian to be appointed to this role. Professor Taylor is recognised worldwide for his leadership in trachoma, advocacy for improved Indigenous eye health and other initiatives to eliminate avoidable vision loss.

He has held numerous leadership positions, including previous Vice President for the International Agency for the Prevention of Blindness and current ICO Director for Advocacy. He is the current ICO Treasurer.

Within Australia he was Professor of Ophthalmology at the University of Melbourne for 20 years and established the Centre for Eye Research Australia. He is currently Deputy Chair of the board of Vision 2020 Australia.

Professor Taylor’s new role with the ICO comes at the same time as the most recent statistics on blindness were published in a study in the British Journal of Ophthalmology.

Australia has recorded a 21 percent reduction in the prevalence of blindness in the last 20 years, according to The Global Burden of Disease study.

“These figures are encouraging as we continue to see great improvement in health systems,” Professor Taylor said.

Melbourne founding partner in $100 million scholarship program

The University of Melbourne has partnered with the Westpac Bicentennial Foundation to establish the largest private education scholarship program in Australian history.

The $100 million dollar fund launched today in Sydney will provide approximately 100 scholarships every year in perpetuity, starting in 2015.

The University will offer three of the five scholarships instigated by Westpac, including Future Leaders, Best and Brightest and Asian Exchange. The programs are expected to be fully operational by January 2017.

Deputy Provost Professor Susan Elliott said the University welcomed the addition of the program to the Australian scholarship scene.

“The University is thrilled to announce its founding partnership with Westpac Bicentennial Foundation and looks forward to working closely with Westpac to strengthen our existing programs on offer.”

The Westpac Bicentennial Foundation launch was conducted by Westpac CEO Gail Kelly and Westpac Chairman Lindsay Maxsted, as part of the bank’s approaching 200th anniversary in 2017.

“Westpac Bicentennial Foundation is designed to support Australians who are shaping a better Australia, while also supporting and nurturing the keys to our future, and who are proud to be able to provide around 100 scholarships and awards each year,” Mr Maxsted said.

Gail Kelly said Westpac strongly believed that as a part of the Australian community, the organization had a responsibility to play a role in investing in the nation and capitalising on every opportunity to help nurture future leaders.

The University of Sydney was also announced as a founding partner in today’s launch.

Fulbright Scholars Tony McLeod, Lachlan Philpott and Mark Boland.
High-level collaborations with China unis for Melbourne

Collaboration on mental health

C o l l a b o r a t i v e r e s e a r c h on mental health issues, from schizophrenia to disaster mental health, will be the focus of a new University of Melbourne and Peking University Centre launched in Beijing recently.

The University of Melbourne-Peking University Centre for Psychiatric Research and Training will bring together world experts from both institutions to study all aspects of mental health, from biological to epidemiological and psycho-social.

It will also provide co-supervision of PhD students and support post-doctoral exchanges.

The new centre is the culmination of a 10-year partnership between the two universities on issues of mental health, led by Melbourne's Department of Psychiatry, AsiaLink, Australia Australia Mental Health and the Peking University Institute of Mental Health.

Mental disorders make up approximately 13 per cent of the world's disease burden and are one of the largest contributors to all diseases. It is estimated that 173 million Chinese people suffer from a mental disorder, with 91 per cent having never received any type of treatment before 2004.

Over the past 10 years, the two universities have collaborated closely, particularly in the national roll-out of modern community mental health services across China through the so-called '686 Project'.

"This project is one of the largest mental health reform programs globally, delivering community psychiatric services covering a population of over 900 million people," says Professor Ian Everall, Head of the Department of Psychiatry at Melbourne.

"Our students will receive a greater understanding of the key mental health issues in Asia and conversely, students from Peking will have full access to the range of psychiatric research expertise Melbourne has to offer."

"The partnership has grown from clinical services to knowledge transfer and now, in this new venture, collaborative research. Our aim over the next 10 years is to have 50 PhD students jointly trained between Melbourne and Peking."

"Our students will receive a greater understanding of the key mental health issues in Asia and conversely, students from Peking will have full access to the range of psychiatric research expertise Melbourne has to offer."

"The partnership has grown from clinical services to knowledge transfer and now, in this new venture, collaborative research. Our aim over the next 10 years is to have 50 PhD students jointly trained between Melbourne and Peking."

"We already have one PhD student coming to Melbourne who will be working on the genomics of schizophrenia, trying to identify the genetic markers to help the diagnosis of the disease."

"We also have a post-doctorate fellow arriving this month who is reviewing the data of 1000 children born to Chinese mothers with schizophrenia."

Celebrating collaboration for improved health in Mozambique

Kate Dukes speaks to Associate Professor Jim Black from the Nossal Institute for Global Health about how a collaboration between Eduardo Mondlane University in Maputo and the University of Melbourne has contributed to the development of Mozambique.

Visions mini documentaries
Visions takes a closer look at a unique cultural partnership between the University Library, the Ian Potter Museum of Art and the State Library of Victoria which showcases the two libraries collections of works by 18th Century printmaker and architect Giovanni Battista Piranesi. The collections are the largest of their kind in Australia, and the resulting exhibitions, “Rome: Piranesi’s Vision” at the State Library of Victoria and “The Piranesi Effect” at the Ian Potter Museum of Art, explore Piranesi’s work and its impact on artists, writers and architects in his time and in ours. Available at visions.unimelb.edu.au or via iTunes Store

Up Close Podcast
http://upclose.unimelb.edu.au
@upclosepodcast

Exhibiting behaviors : The business of running metropolitan art galleries and museums
Art historian and former gallery director Professor Gerard Vaughan discusses the challenges, fiscal and otherwise, facing publicly-funded art galleries. He also explores the evolution of curatorialship in these galleries. With host Elisabeth Lopez

Professor Julie Cliff and Associate Professor Jim Black

“Low-cost technology for health” group began collaborating with colleagues of the Pharmacology Department at UEM to test Mozambican versions of mobile phone support applications aimed at improving the care of patients in small health centres.

“I spent the first four years as a ‘general duties doctor’ in various small rural hospitals in two different provinces, working at every level within the Mozambican national health service from tiny sub-distinct health centres to a provincial hospital, doing everything from trauma surgery to leprosy treatment,” Associate Professor Black says.

“I came to highly respect the excellent training the Mozambican doctors had received at UEM, and the vital contribution made by all the non-doctor cadres of health workers – who are actually the backbone of the health service throughout most of Africa.”

“Associate Professor Black now travels to Mozambique at least once a year, along with Professor Rob Moodie from the Melbourne School of Population and Global Health, to teach in the UEM Master of Public Health course. During a recent visit to Melbourne, Professor Cliff awarded Professor Moodie and Associate Professor Black with certificates in recognition of their outstanding and enduring collaboration with the Department of Community Health of the UEM’s Faculty of Medicine. He says that he has earned a reputation as a clinical and public health practitioner, as well as his knowledge of the provinces and rural areas, have stood him in good stead as he teaches the current generation of young Mozambican public health workers.”

“Since the establishment of the Memorandum of Understanding between the universities, we have taken one UEM medical graduate, Dr Abu Safodine, through a successful PhD at the Nossal Institute for Global Health. We also provide tutorial support to the one or two Mozambicans per year who undertake the University of Melbourne Master of Public Health course,” says Associate Professor Black.

Recently, Associate Professor Black’s colleagues, meaning they have been able to build a strong ongoing collaboration.

“We work in a mutually respectful partnership with our Mozambican colleagues. Ever since independence Mozambique has had a proud history of innovation in providing health services to its widespread, impoverished and mostly rural population – so there is a lot we can learn,” Associate Professor Black says.

This collaboration is further enhanced by the close friendship that has developed between Nossal Institute staff and the Dean of the UEM Medical School, Professor Mohsin Siddat. Professor Siddat undertook his PhD on HIV care at the Melbourne Sexual Health Centre, supervised by Professor Kit Fairley, who was previously Associate Professor Black’s own PhD supervisor.

“The close friendship that has developed over the years with Professor Siddat and other key UEM academic staff is an important part of the process,” Associate Professor Black says.

“It is my belief that institutional academic collaborations only really work where there is trust and true friendship between the individuals involved.”

Online now

Improving the view: Positive Psychology in preventing the repeat of psychotic episodes
Clinical Psychologist, Dr Mario Alvarez-Jiminez, discusses research into non-drug approaches such as Positive Psychology in preventing the re-occurrence of psychotic episodes in young people.

Presented by Dr Dyani Lewis.

Dr Mario Alvarez-Jiminez is a research fellow at the Orygen Youth Health Research Centre, and Director of online interventions research at the Centre for Youth Mental Health at the University of Melbourne.

Online 18 April

All heart, virtually: What we’ve learned about the heart from building computational models
Computational biologist, Professor Edmund Crampin, examines the the challenges of creating a computational model of the human heart, and discusses what scientists have learned about the actual organ from this enterprise. Presented by Dr Shane Huntington.

Edmund Crampin is Professor of Systems and Computational Biology at the Melbourne School of Engineering at the University of Melbourne, where he also holds appointments in the faculties of Science, and Medicine, Dentistry and Health Sciences.

Online 25 April
Ryan Sheales speaks with Peter Scanlon about a Business Practicum project being conducted with the North Melbourne Huddle.

This is why the MBP students were tasked with developing a sponsorship proposal to help ensure The Huddle’s long-term financial sustainability.

“The MBP students were tasked with developing a sponsorship proposal to help ensure The Huddle’s long-term financial sustainability.”

“Not only will this provide more students with this experience but will also allow a greater diversity of student talent with different skills to contribute to solving real problems.”

Professor Abernethy believes there’s scope for the Melbourne Business Practicum to expand.

“The program could be extended to include other faculties.”

In immune cell defenders protect us from bacteria invasion

Researchers have discovered the biological key that could ‘wake up’ T-cells and send them on the infection fighting path. By Annie Rahilly.

An international team of researchers including University of Melbourne staff has identified the exact biochemical key that awakens the body’s immune cells and sends them into fight against bacteria and fungi.

The patented work, published in Nature recently, provides a deeper understanding of the body’s first line of defence, and what happens when it goes wrong.

It will lead to new ways of diagnosing and treating inflammatory bowel disease, peptic ulcers and even TB. It could also lead to novel protective vaccines.

The discovery is the result of national and international collaboration between the universities of Melbourne, Monash, Queensland and Canberra and depended on access to major facilities including the Australian Synchrotron and the Bio21 Institute.

One of the leads in the research, University of Melbourne Deputy Vice-Chancellor (Research) Professor James McCluskey says it builds on work conducted last year that was acknowledged with an Australian Museum Eureka Prize in 2013.

“Our intestines, lungs and mouths are lined with mysterious immune cells that make up 10 to 20 per cent of the T cells in our immune system. Last year we showed that these cells act as sentinels against invading bacteria and fungi. Now we’ve identified the precise biochemical key that wakes up these sentinels and sends them into action.”

The immune cells, known as mucosal-associated invariant T cells (MAITs), initiate the immune system’s action against foreign invaders when they are exposed to vitamin B2, which is made by bacteria and fungi.

“MAIT cells are a discovery so recent that they have not even made it into the textbooks,” Professor McCluskey says. “Most doctors know nothing about them. Yet they constitute about one in ten of the body’s T-cells and half of all the T-cells in the liver.

“This is an excellent example of how our collaborative research in Australia can bring groups with expertise in different areas together to make significant advances,” Dr Alexandra Corbett, a lead author on the study, says.

“Not only will this provide more students with this experience but will also allow a greater diversity of student talent with different skills to contribute to solving real problems.”

Music and Performing Arts Short Courses

Inspire yourself through a range of upcoming short courses at the Victorian College of the Arts and Melbourne Conservatorium of Music. With programs for teens and adults, you can explore and train in:

• Pop Song Writing
• Acting Studio Intensive
• Jazz Ensembles Program
• Theatre Winter School

To view the full range of courses, visit vca-mcm.unimelb.edu.au/shortcourses
Those little asterisk-shaped plants that float around on windy days; are they? Andi Horvath asks the experts. Do you have a burning question you’d like answered by the experts? Email us at news@unimelb.edu.au

**AURORA NEWSPAPER**

**14**

**THE UNIVERSITY OF MELBOURNE**

**“I wish I knew what these floating ‘fairies’ are”**

Summer 2013/2014 presented two University of Melbourne students with unique opportunities to participate in the Aurora Native Title Internship Program – an experience which has had significant impact on next steps. Here they share their stories.

This year the Aurora Native Title Internship Program will celebrate its 10th year of operation – and even just going by the statistics, it’s been quite a decade.

More than 3800 applications from Australian and international students and graduates, over 1350 internships; placements in all corners of the country, like Adelaide, Alice Springs, Broome, Karatha, Kununurra, Sydney and Thursday Island; and upwards of 80 Native Title Representative Bodies (NTRBs), Indigenous corporations, government departments and commu-

nity groups all contributing to the program – it’s truly a collaborative effort with valuable impacts for intern and placement organisation alike.

Established in 2004 with the placement of legal interns at a limited number of NTRBs and other organisations working in Indigenous affairs, the Aurora Native Title Internship Program has since expanded and now intro-

duces students and graduates of anthropology and other social sciences to valuable opportunities in native title, policy development, social justice and Indigenous affairs.

Interns who demonstrate a keen interest in native title, social justice, policy and Indigenous affairs more generally, are linked with host organisations to provide assistance in the legal, anthropology and other research-related areas of their work.

Summer 2013/2014, as part of the University’s Graduate School of Humanities and Social Sciences range of internship opportunities, this year’s summer program placed Arts graduates Camilla Price and Carolyn Painstowe with particip-

ating host organisations. Over six weeks during the summer break, they gained a unique appre-

ciation of what is often an under-researched and over-worked community of practice.

Ms Painstowe approached her internship at the Centre for Aboriginal Economic Policy Research as a valuable linking opportunity between studies – what she describes as “a per-

ductive and inspirational way” to spend the summer before starting her honours year at the Australian National University. Indigenous affairs, she says, are interesting in that “there is a strong interest in Aboriginal affairs throughout my time at University, but my sub-

jects in geography and anthropology focused much more on theory. I do not have a strong desire to become an academic so I decided that a better understanding of the issues at hand would lead to the more interesting anthropological career. I was also keen to trial this interest in the work-

place before committing to my thesis research and was interested in how Aboriginal land management intersects with identity.”

Ms Painstowe’s internship work included analysis of legal findings. Economist Dr Nicholas Biddle during analysis of Australian Census data from 2006 and 2011. It was a challenging task producing cypselae that look like little parachutes and are released in much the same way as dandelion, as they are also a daisy that produces cypselae that look like little parachutes and are released in much the same way as dandelion seeds and you will see them in pastures and weeds and you will see them in pastures and

environs around Melbourne and they are common throughout southern and eastern Australia. Each plant is capable of producing large numbers of seeds each season, hence are quite pervasive globally. One interesting fact about cypselae is the edible globe artichoke was actually cultivated from artichoke thistles.

While it’s refreshing to finally know the science of this ubiquitous star-like seed dispersal unit, hang on to your inner child, try to catch a ‘fairie’ with a fairy, a cypselae if you will, so you can pluck it, turning it into an old man pappus, and make that wish.

“Some of his main findings are that the population who identify with the Indigenous category in the Census has grown by over 20 per cent between 2006 and 2011, they are also young, mobile and increasingly urban,” she says.

“This growth is occurring much faster than that of the non-Indigenous population and has great potential as an untapped work force, however the figures also outline that they are much less likely to participate in education or mainstream employment. There is a disparity in the levels of disadvantage, disability, and sat-

isfaction with housing between the Indigenous and non-Indigenous populations. Such findings highlight the importance of understanding con-

temporary Aboriginal lifestyles by policy-makers, educators and academics.”

Fresh out of her undergraduate degree, fellow student Camilla Price was also eager for the opportunity to contextualise theoretical issues in a practical, professional setting, and discover how that knowledge could contribute to Indigenous affairs in Australia. Her six-week placement was at Recognise, a Sydney-based people’s movement to recognise Aboriginal and Torres Strait Islander peoples in the Australian Constitution.

“The Constitution is our nation’s founding document, and yet it excludes any recognition of Aboriginal and Torres Strait Islander peoples and allows states to ban people from voting based on their race,” she says.

“At Recognise they believe that in order to see fairness and respect at the heart of the Constitution, and to achieve a more united nation, this must be changed. With more than 178,000 supporters this national campaign seeks to build a grass-roots movement through advocacy, awareness and education so that when the referendum is announced, Australians are ready to make an informed decision to forge a more equitable future together.”

With more than 80 organisations from all corners of Australia contributing and supporting the Aurora program, each internship is unique in activity and approach. In Ms Price’s case, she had the opportunity to work closely with three departments of Recognise, collaborating on key tasks and producing a number of independent projects.

“I was very proud to see the type of interaction which all interns offered through the University’s Graduate School of Humanities and Social Sciences aim to nurture. Sitting alongside formal study require-

ments, internships provide that valuable vehicle where students can better understand how their studies are applied in practice and then critically reflect on the relationship between theory and practice.”

“The Recognise team were very welcoming and I feel very fortunate that I was integrated into the team on a professional level and my work was valued in its contribution to the or-

ganisation. My time there has consolidated my desire to work in social justice and Indigenous affairs and has given me great insight into the professional context of this work.”

Participants in the Aurora Program have transitioned into a wide range of employment or study paths following their internship exper-

iences. In the past decade, 49 law graduates and 29 anthropology graduates have taken up full-time positions at NTRBs, more than 20 percent of program alumni are working or have worked in native title or Indigenous affairs, and five of the 45 Australian Indigenous internships led to full-time positions in the NTRB system.

**Applications for Aurora Program intern-

ships open annually in March and August.**

http://www.auroraproject.com.au

http://arts.unimelb.edu.au/graduate-studies/coursework/planning/internships

**MUP Publications**

This month’s featured MUP title is Simpson and the Donkey: the making of a legend (Anniversary edition) by Peter Cochran.

To win a copy of Simpson and the Donkey: the making of a legend (Anniversary edition) email your answer to the following question by Monday 21 April 2014 to:

voice-competition@lists.unimelb.edu.au

Q: Images of Simpson and his donkey have appeared twice in issues of Australian currency. What were they, and when were they issued?

**About Simpson and the Donkey: the making of a legend (Anniversary edition)**

Updated Edition

The simple tale of Simpson and his donkey is the pre-eminent legend ofhorse. It is the story of a humble water-carrier, a rescuer of wounded men, a tale of compassion, stoic persistence, with a tragic end. His tale is an integral part of the Anzac story.

Across time, a simple tale can acquire a complicated history. This is what happened to the man with the donkey and is the subject of this book, Simpson’s _afterlife_, the legend.

About the author

Peter Cochran’s most recent work is the novella Governor Bligh and the Short Man (Penguin, 2011) his 2003 book (Colin Amblington, published by Melbourne University Press, won the Prime

Minister’s Prize for Australian History and The Age Book of the Year Award in 2007. Simpson and the Donkey won the Fellowship of Australian Writers’ Award for non-fiction in 1993.

Congratulations to David Hughes of Cambewar who was the first Voice reader to correctly name the Medal presented each year to the best player in the Central Australian Football league as the M parish.
Committed to reconciliation

When Australia’s first Indigenous university graduate commenced her studies in 1957, there was a lot of publicity but not a lot of support. But when she returned to her alma mater in 2014, Margaret Weir found herself no longer one, but one among many. Gabrielle Murphy reports.

Communal

In what has become a tradition at the University of Melbourne, last month students and staff were welcomed to the academic year in a formal Wurundjeri Welcome to Country held in the North Court in the centre of the Parkville campus.

The introduction of a Wominjeka – ‘Welcome’ in the Woiworung language of the Wurundjeri people, the traditional owners of the land on which the campus stands – is recent, but according to Vice-Chancellor Glyn Davis, an important new tradition which gathers momentum each year.

“It’s lovely to come together – students, staff and members of our wider community – and to be welcomed so generously to the new academic year,” says Professor Davis.

This, the fourth consecutive year that a formal Wominjeka has been conducted on the Parkville campus, included performances from respected didgeridoo player, Wamba Wamba man and cultural educator Ron Murray, a Welcome to Country by Wurundjeri Elder Aunty Diane Ken, and story telling, song and dance by the Indi Wurabak Dancers.

This year’s Wominjeka held special significance for the Vice-Chancellor and the crowd gathered in the North Court to receive the welcome.

“Today it has been a great surprise and immense pleasure for me to meet our first – and Australia’s first – Indigenous graduate,” says Professor Davis.

Dr Margaret Weir (nee Williams) is a Malara-Bandjalang woman whose ancestral country lies in northern New South Wales. She is an alumna of University Women’s College (now University College) and on the day of the Wominjeka, was in Melbourne to attend her college reunion.

“It’s my pleasure to be here today,” says Dr Weir. “I have an affiliation with the University of New England where I did my graduate studies, but this is my home, the University of Melbourne is my place.”

we want to deepen and broaden our commitment to reconciliation

“It’s particularly wonderful to be part of this event, to see so many young Indigenous students, and to be here with my friend and long time supporter Janet Ristic who, all these years ago when she was still Janet Deans, found my University fees, and so made it possible for me to come to an elite college like University Women’s College on scholarship. Janet’s family, the Deans always made me feel at home and less lonely.”

Dr Weir graduated from the University of Melbourne in 1955, after transferring from the University of Queensland where as an undergraduate studying Arts, she was the first Indigenous person to attend university in Australia.

The 2014 Wominjeka coincides with the University of Melbourne’s completion of its first Reconciliation Action Plan (RAP) which rolled out between 2011 and 2013, and its foray into a second three-year cycle. Melinda Cilento, co-chair of Reconciliation Australia, also attended the 2012 Welcome and RAP celebration.

Both have been exciting and inspiring events, and Reconciliation Australia is delighted to have Melbourne University as a RAP partner,” says Ms Cilento. “The Melbourne University RAP contains serious commitments in each of the areas of respect, relationships and opportunity – which are the cornerstone of the RAP program. According to Ian Anderson, the University of Melbourne’s Foundation Chair of Indigenous Higher Education and Assistant Vice-Chancellor (Indigenous Higher Education Policy), the University continues to be committed to achieving population-parity targets for both Indigenous student intake and Indigenous employment at the University through its Reconciliation Action Plan.

“But in this next phase we want to deepen and broaden our commitment to reconciliation by creating an environment in which our faculties can lead a more comprehensive and ambitious agenda for change.

It is this determination that most impresses Reconciliation Australia. “There are plenty of actions that I could point to and applaud,” says Professor Anderson, “but with clear targets we can focus our attention on the strategies that deliver the outcomes we need year by year.”

As she looked out at the sea of people which included a large group of enthusiastic pre-schoolers from the university’s childcare centre, Dr Weir offered her thanks and some advice.

“I’m deeply grateful to the University, for the scholarships I received, to my friend Janet and the other friends and supporters I’ve met along the way.

“It took me until I was 61 to complete my PhD. So I can say to you all, and please believe me – it’s never too late to realise your dreams!”

Melinda Cilento shared Dr Weir’s feelings, commenting: “As I glanced around the attendees at this wonderful RAP launch – including the toddlers from the Uni childcare centre – I couldn’t help but think: this was the future of reconciliation before my eyes.”

www.about.unimelb.edu.au/reconciliation
A major philanthropic gift of $6.9 million will support the practice, teaching and research of art conservation at the University of Melbourne. It was pledged by the Cripps Foundation to the University of Melbourne’s Believe – The Campaign for the University of Melbourne – to support research, learning and teaching in the increasingly hi-tech field of art and cultural materials conservation.

The gift is believed to be the world’s largest in support of this field and the largest gift ever received by the Faculty of Arts.

The Cripps Foundation is a charitable organisation that supports projects in education, health and the Anglican Church. Their donation will be invested with additional funding from the University to provide a new Chair of Cultural Materials Conservation and create a new, state-of-the-art teaching and research facility that will become the leading centre in Australia for the conservation and preservation of important works of art, including vital Indigenous art.

The new facility, to be known as the Grimwade Centre for Art Conservation, will be the home for the University’s Centre for Cultural Materials Conservation and, alongside undertaking vital restoration of treasured works of art, will be used to train future generations of specialist art conservators.

The Centre for Cultural Materials Conservation was founded in 1989 with support from the Ian Potter Foundation and the Sir Russell and Lady Mab Grimwade Miegunyah Fund. Until recently, it was housed within the Ian Potter Museum of Art, however demand for its services and increased numbers of students undertaking the Masters in Cultural Materials Conservation meant it had outgrown its facilities and needed a new home.

Students and staff should be accommodated in their new state-of-the-art laboratories by the end of 2014, while the inaugural appointment to the Chair is expected in early 2016.

Director of the Centre for Cultural Materials Conservation, Associate Professor Robyn Sloggett, says the Cripps Foundation gift will ensure the University remains a leader in art conservation.

“The new labs in the Grimwade Centre for Art Conservation will allow us to better provide the research needed to inform the practice-led nature of conservation,” she says.

“These new spaces will have dedicated doctoral research labs, focused on cultural materials conservation – the first labs of their kind in Australia.” Associate Professor Sloggett says these facilities will be home to the Centre for Cultural Materials Conservation’s highly regarded Masters by coursework program. She says the Centre possesses a teaching program dedicated to providing students with widely transferable conservation skills.

“Teaching conservators is about giving students the necessary problem-solving mechanisms to deal with complex cultural issues,” she says.

“If you teach someone the right problem-solving skills, then you’ve given them a very good life skill that’s highly sought after by employers.”

Associate Professor Sloggett says these conservation and problem-solving capabilities are underpinned by a wide knowledge base.

“Art conservation is a highly interdisciplinary and requires students to have very good hands-on skills,” she says.

“Students have to do chemistry and physics, but they also have to possess a very strong sense of culture and history to help them to understand the place of an object in the world.”

The Centre has acknowledged expertise in the conservation of Western art materials in tropical and subtropical environments. The conservation of Indigenous artworks has been particularly important. In 2011, the Centre worked in partnership with the Warmun Art Centre to rescue and restore around 200 pieces of artwork damaged in the East Kimberley floods. Associate Professor Sloggett says the relationship with the Gija people has been particularly pleasing.

“We have now developed a partnership that involves Gija elders and artists teaching in our program,” she says.

“Our staff also travel to Warmun to help the elders and artists with the care of their collection.”

She says the knowledge transfer has been enlightening.

“We are learning about Gija science and history, and the Gija are learning about how our Western science and art-making can help preserve those valuable works.”

This involvement in Indigenous art conservation has been informed by the existing involvement with South-East Asian museums.

“We have long-standing Australian Research Council and industry partnerships with museums predominantly in the Philippines, Malaysia, Thailand and Singapore,” she says.

“As happens with our work in Indigenous Australian communities, we are helping to understand how materials degrade and survive in tropical or sub-tropical climates.”

Vice-Chancellor Professor Glyn Davis says the University is indebted to the Foundation for its generous gift, and personally thanked Cripps Foundation Director Amy Tennent who is also the daughter of the Foundation’s Director of Philanthropy, Robert Cripps.

“Art conservation as an academic discipline is a field that brings together deep understandings of the theory, history and practice of art with chemistry and physics, and which relies on properly equipped laboratories,” he says.

“This gift allows us to ensure that the Grimwade Centre for Art Conservation has facilities equal to those anywhere in the world and enables practice leadership into the future.”

www.campaign.unimelb.edu.au
www.arts.unimelb.edu.au

Watch an episode of the vodcast Visions to see Australian abstract artist Yvonne Audette talk to Robyn Sloggett about restoration of her work Overpass #1.

A Quill Award for journalism student

A story about a Facebook stalker has garnered a Quill award for Masters of Journalism student Aliyah Stotyn. By Stav Psonis.

Melbourne leads Aussie Nature rankings

"Melbourne researchers published several notable papers in 2013, across the range of Nature publications," Professor James McCluskey says.

"Melbourne earned approximately three quarters of its total papers in life sciences. Research excellence is our priority. I congratulate all researchers who are at the core of our fast research endeavours and on the outstanding result in the Nature Publishing Index." The University's 2013 Nature publications included:

- a Nature Genetics paper by leading paediatrician and researcher Professor Ingrid Schieffer who revealed two new genes associated with severe childhood epilepsies
- Dr Linda Wakim and her colleagues in the Laboratory of Professor Jose Villadangos from the Department of Biochemistry and Molecular Biology and the Department of Microbiology and Immunology, came closer to understanding why some people fight infections better than others during influenza season.

Nature is a weekly international journal publishing peer-reviewed research in science and technology. It is the world's most highly cited interdisciplinary science journal, according to the 2010 Journal Citation Reports Science Edition (Thomson Reuters, 2011). — Annie Rahilly

www.unimelb.edu.au/ausresearch

Steve Bush on show: historical landscape painting with a twist of kitsch

Melbourne artist Steve Bush's surreal sensibility will be on display at the Ian Potter Museum of Art, University of Melbourne, in an exhibition of new and old work spanning the past 30 years.

The exhibition, titled Stephen Bush: Steenhuffel, follows Bush's award as the fourth recipient of the $30,000 Vizard Foundation Contemporary Artist Project grant, which enables the selected mid-career artist to pursue new directions in their practice and make new work.

Bush can be described as a figurative painter who borrows from historical landscape painting conventions and 19th century photography and then dismantles those traditions by juxtaposing kitsch and folksy elements with accidental effects such as swirling pools of acrid coloured paint.

His works are often populated with bee-keepers, farm equipment, rubbish bins, alpine scenes, men on horseback, and portrayals of Babar the elephant.

Bush is also known for repeatedly using self-imposed parameters in his painting practice, such as limitations on his colour palette to just red or green and, as revealed in one gallery space in this exhibition, purple.

Exhibition Curator and Director of the Potter, Kelly Gellately, says she likes Bush's painting practice to that of a contemporary musician - remixing and reusing the motifs and subject matter that have reverberated through his work for several decades, pushing and re-inventing both the practice and art of painting itself.

"Bush's oeuvre is tantalisingly playful and confounding in its embrace of circularity and repetition, and never ceases to surprise in its creative reuse of an expansive back catalogue of subject matter and motifs."

"At the heart of Stephen Bush's practice is the constant, almost nagging question of what it means to be an artist and particularly, what it means to work in the most anarchistic of mediums – paint," Ms Gellately says.

Liza Stanton, author of the catalogue essay titled, Stephen Bush: Unconditional reinvention, summarises by writing: "Though seemingly curious and incongruous, such an assortment of interests reveals a fascination with the ordinary, a contempt for the notion of progress, and a view that paintings are constructed things that question both the subjectivity of the artist and the viewer."

The exhibition will include a large suite of new works on paper featuring a new theme, 'chicken coops', several new paintings, and selected earlier works from the past three decades, alongside an idiosyncratic grouping of works chosen by Bush from the University of Melbourne Art Collection, including a 19th century lithograph by S T Gill, a gouache of a snow hut by Melbourne-based architect Lloyd Orton, a Gould print and an eccentric collection of ink on wood paintings - revealing Bush's whimsical and irreverent sensibilities.

— Katrina Raymond

Stephen Bush: Steenhuffel, runs at the Ian Potter Museum of Art until 6 July.

www.art-museum.unimelb.edu.au

APRIL

THE UNIVERSITY OF MELBOURNE

VOICE

GRADUATE STUDIES

April

Dr Linda Wakim and her colleagues in the
painting with a twist of kitsch

Steve Bush on show: historical landscape painting with a twist of kitsch

A Quill Award for journalism student

Melbourne leads Aussie Nature rankings

Steve Bush on show: historical landscape painting with a twist of kitsch
Eric Mangini is best known as the former head coach of the NRL’s New York Jets and the Cleveland Browns, who now ply his trade as a senior Offensive Coach for the San Francisco 49ers. However Mr Mangini’s coaching career started way back, on the suburban footy fields of Doncaster and Kew, during a six-month study abroad semester as an arts student at the University of Melbourne.

“I was originally going to study in London for a semester but my brother Kyle worked as an investment banker in Melbourne and convinced me to come out. I had a lot of free time over Christmas before classes started, and I met up with a few of his friends and they convinced me to come and help out with their team.”

While that first team folded, the players asked Mr Mangini to come and lead their new team, the Kew Colts, who would go on to win the championship during his first season in charge. He led his second semester of senior year off to stay in Melbourne, and coached the club to a second consecutive title the following season.

“It was a great thing for me as a young coach, as I had to coach a lot of positions and learn a lot from the other coaches. It would give me information that I studied during the day and then had to pass on to the players that night. A lot of stuff was trial and error, but it was fun.”

He’s retained connections with many of those he coached during his time in Australia, hosting them at the Super Bowl, his wedding and at various other times as people have travelled in the United States.

“It’s definitely one of those experiences that created lifelong relationships,” he says. “We had a team that included kids from 18 years of age through to family men of 44. I even had Mike Fitzpatrick (former Carlton premiership player and current AFL chairman) for a game at tight end. He was good!”

Mr Mangini can also lay claim to being one of the first to discover Geelong star Ben Graham, whose transition as a long kicking key position player for the Cats to a punter in the NFL helped spark renewed interest in ‘Americans Game’.

“When I was working for the Jets as a consultant I worked Ben out in a cow paddock in town. I had seen him kick the ball over the Yarra and thought to myself he would be a great punter! He was only an emerging player at that point, but 10 years later he ended up being my punter when I coached the Jets. It was amazing! He’s a great guy, and a great friend.”

While Mr Mangini helped give the local gridiron scene a shot in the arm in the early 1990s, it took until 2010 for the University’s first official club to be formed, the Melbourne University Royals. This year is a milestone in the club’s short history, with the Royals competing in Division One for the first time, having won the Division Two championship in 2012 and making the playoffs last year.

The club will also add a second team, the Lions, playing in Division Two, as well as continuing the women’s team (the Chargers), one of only three clubs in the state to do so. Club treasurer Henry Wright says the players are excited about the year ahead.

“There is certainly an air of excitement and a fair degree of confidence around the club. Everyone is rallying around each other, the veterans are doing a great job with our younger guys and we’ve got even more members involved behind the scenes as well.

“Having a new coach and an infusion of new players also helps keep things exciting during press season.”

In 2014 the club will be led by Jordan Rodd, a former high school coach in Canada who will become the first imported coach in the club’s history.

“Like many American and Canadian coaches, he’s been immersed in football for most of his life,” club president Bryce Cilia says.

“Already we’ve found that Jordan has a wealth of knowledge about football, as well as the schemes and game plans required to formulate a successful strategy, not to mention a genuine love of the game. And as a former school coach, he’s had experience in teaching many students new to the game, which is an important skill that will transfer well to our club.”

Mr Wright agrees that gridiron is growing rapidly down under, particularly in Victoria.

“While gridiron has been around locally since the 1980s, with NRL games being shown on free-to-air TV, over the past few seasons we’ve seen a real growth in interest in people wanting to try it.”

“We’ve had a great response to the team’s growth as well, with MU Sport backing us since the start, and we’re seeing more and more students and alumni join in on the action every year.”

Mr Cilia says the atmosphere at the Royals is positive. “We’re enjoying the new coaching style, and the energy and excitement Jordan has brought to the club. We’re running a style of football that’s not previously been seen locally, giving both our students and rookies something exciting to learn and create a lot of buzz around the club.”

And it’s only fair to wonder whether the Royals may yet be home to a future NRL star in their own city.

“I think Australian athletes, a lot of their skill sets are transferrable,” Mr Mangini says. “In our game there’s a lot of different skills. You don’t need to be good at everything, so you can take a guy who’s really good at marking for example, and turn them into a wide receiver or tight end. That’s what I found when I was teaching classes with local physical education teachers when I was in town.

“There’s a very passionate group of players and fans in Australia, the people in it are really into it. I’m excited the Urs has a local team now!”
The Piranesi effect is the companion exhibition to Neighbourhood Night at the Museum 'Italian Prints, 1700–1850', curated by guest curator Jenny Long, The University Library and the State Library of Victoria, on until 6 July.

**April Timetable**

**TUESDAY 15 APRIL 6PM**

Creating a sustainable green revolution, by Mr Anthony Pratt (Visy), Land and Environment Lecture

**Wednesday 14 May 1–1.30pm**

Jenny Long with artist Mira Gojak

Wednesday 7 May 5–7pm

Piranesi effect is the companion exhibition to Neighbourhood Night at the Museum ‘Italian Prints, 1700–1850’, curated by guest curator, Jenny Long, The University Library and the State Library of Victoria, on until 6 July.

**Wednesday 14 May 6.30PM**

Infinite social landscape: Chinese contemporary art on the global stage, by Professor Tim Shao (China Academy of Fine Art, Beijing). Arts Lecture

**Monday 5 May 6PM**

The History of the National Trust of Victoria: Victories and Defeats, by Dr Shane Carney (University of Melbourne), Newman College Lecture

**Wednesday 29 April 5.30PM**

Visions for a disease-free world: Vaccinations against infectious diseases, by Dr Ilina Cammack (Bumet Institute), Professor Stephen Turner (University of Melbourne), Dr Kristyl Evans (Walter and Eliza Hall Institute of Medical Research) and Professor Nigel Curtis (Royal Children’s Hospital)

**Tuesday 1 May 5.30PM**

Floor talks:

- Simon Ancher, Megan Campbell, Michael Doolan, Stephen Haley, Wayne Hudson, Lynal Doherty, Vera Morgan (University of Western Australia).
- The substantial and generous support of the Australia Council’s Visions of Australia and the Contemporary Touring Initiative, will also enable The world is not a foreign land to travel to Drill Hall Gallery at the Australian National University, Canberra; Canberra Regional Gallery, Qld; Tweed Regional Gallery, Murwillumbah NSW; Flinders University Art Museum, Adelaide and Latrobe Regional Gallery, Morwell, Vic. in 2014–2016.
- The exhibition has also been supported by the Copyright Agency Ltd Cultural Fund.

**Tuesday 14 April 5.30PM**

The Indonesian Election: What Really Happened, by Dr Dirk Torrao (La Trobe University), Dr Vannisha Hearman (University of Sydney), Professor Thomas Reuter (University of Melbourne) and Dr Dave McRae (Australian National University), Law Lecture

**Monday 14 April 6.15PM**

The Camel and the Prophecy, by Dr Samia Khatun (University of Melbourne). Arts Lecture

**Wednesday 5 May 5PM**

The History of the National Trust of Victoria: Victories and Defeats, by Dr Shane Carney (University of Melbourne), Newman College Lecture

**Friday 9 May 1PM**

Feminist Encounters with International Human Rights Law, by Professor Diane Otto (University of Melbourne). Law Lecture

**Tuesday 1 May 5.30PM**

Floor talks:

- Rick Amor, Mira Gojak, & Archaeology Collection, and works by Michael Graf, Andrew Hazewinkel, Peter Doolan, Stephen Haley, Wayne Hudson, Lyndal Jones, Danielle Thompson, Shaun Wilson.
- Simon Ancher, Megan Campbell, Michael Doolan, Stephen Haley, Wayne Hudson, Lynal Doherty, Vera Morgan (University of Western Australia).
- The substantial and generous support of the Australia Council’s Visions of Australia and the Contemporary Touring Initiative, will also enable The world is not a foreign land to travel to Drill Hall Gallery at the Australian National University, Canberra; Canberra Regional Gallery, Qld; Tweed Regional Gallery, Murwillumbah NSW; Flinders University Art Museum, Adelaide and Latrobe Regional Gallery, Morwell, Vic. in 2014–2016.
- The exhibition has also been supported by the Copyright Agency Ltd Cultural Fund.

**Wednesday 16 April 6.15PM**

The Camel and the Prophecy, by Dr Samia Khatun (University of Melbourne). Arts Lecture

**Monday 5 May 6PM**

The Global Human Rights Imagination, by Professor Mark Philip Bradley (University of Chicago). Arts Lecture

**Wednesday 1 May 6PM**

The Global Human Rights Imagination, by Professor Mark Philip Bradley (University of Chicago). Arts Lecture

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