Community health = healthy communities

The benefits of integrated care

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Researchers have made an important breakthrough in the fight against the sheep blowfly.

Researchers have decoded the Australian sheep blowfly genome, adding ammunition to the battle against one of the nation’s most insidious pests.

Around 2000 genes not seen before in any other organism were discovered. These genes can now be investigated as potential drug and vaccine targets.

This blowfly is responsible for about $180 million in losses to Australia’s sheep industry each year from flystrike.

All 14,544 genes of the blowfly (Lucilia cuprina) were identified by the international research team, led by the University of Melbourne, in partnership with the Baylor College of Medicine Human Genome Sequencing Center, and funded by the United States National Human Genome Research Institute and Australian Wool Innovation.

The research, published today in Nature Communications, provides insights into the fly’s molecular biology, how it interacts with the sheep’s biology and, importantly, shows its potential to develop insecticide resistance.

Blowfly maggots live on the skin of sheep and invade open wounds, where they feed on tissue and cause severe skin disease, known as myiasis or flystrike. It is an aggressive and notoriously difficult pest to control.

Lead researcher on the project, Dr Clare Anstead, of the University of Melbourne Faculty of Veterinary and Agricultural Sciences, says the genome map has “limitless potential” for fighting the blowfly at home and abroad.

“Lucilia is a beautiful name, but it is an extremely nasty parasite. The sheep is literally eaten alive. It’s horrific. The Lucilia species are responsible for more than 90 per cent of flystrike in Australia and New Zealand,” Dr Anstead says.

“This fly is especially good at evading resistance to insecticides. There has been a massive amount of research into prevention and control of flystrike, from developing a vaccine, new insecticides, to targeting weak areas of the fly, and even biological control with bacteria and fungi. But none is completely effective.

“It’s exciting that we have now identified more than 2000 genes that have never been seen in any other animal or plant. Some of these ‘orphan’ genes hold the key to the parasitic relationship between the blowfly and the sheep. They could be targeted to develop a completely new method of control.”

MUP Publications

This month’s featured MUP Publication is Seven Poor Men of Sydney, by Christina Stead, with an introduction by Delia Falconer.

About Seven Poor Men of Sydney

First published in 1934, Seven Poor Men of Sydney is Christina Stead’s first novel, a brilliant portrayal of a group of men and women living in Sydney in the 1920s amidst poverty and social turmoil.

Set against the vividly drawn backgrounds of Fisherman’s (Watson’s) Bay and the inner-city slums, the various characters seek to resolve their individual spiritual dilemmas through politics, religion and philosophy.

Their struggles, pain and frustrations are portrayed with consummate skill in this memorable evocation of a city and an era.

About the author

Christina Stead was born in Sydney in 1902 and died there in 1983. Most of her life was spent elsewhere: in London, Paris and other European cities, and in the United States. Her first book, The Salzburg Tales, was published in 1934, followed by 12 more works of fiction. She was the recipient of the inaugural Patrick White Literary Prize in 1974.
JULY

Heavy lifting

When you think “heavy” things, schoolbags, backpacks, handbags, and shopping bags spring to mind. Overheard every day in a shopping precinct is: “What’s in here, lead weights?” as bags are handed over to the designated family Sherpa.

Lead is a stable metal that’s often used as weights and sinkers. The reason it’s heavy in terms of mass per unit volume (or think about it as per teaspoon), is because the lead atoms are very close, making it a dense material.

The expression “it went down like a lead balloon” actually needs to be updated to “osmium balloon.” Osmium is one of the heaviest materials on earth, weighing twice as much as lead per teaspoon.

Osmium is a chemical element in the platinum group metals; it’s often used as alloys in electrical contacts and fountain pen nibs. As for the heaviest, most dense substances in the known universe, Andrew Melatos from the University of Melbourne’s School of Physics says that would have to be the insides of a neutron star.

“A teaspoon of neutron star would weigh and a billion tons.”

The birth of a neutron star is essentially the collapse of a giant burnt out star, a sun that is 10 to 100 times bigger than our own sun.

“As a giant sun burns out it uses up all its fuel. Gravity is then so strong it collapses in on itself. The pressure is so intense that it explodes into a spectacular Super Nova spewing gas everywhere. For a few seconds it outshines the other 100 billion stars in our galaxy.”

“What’s left behind is a tightly packed ball of neutrons – a neutron star – which is about 30km across, roughly the size of Melbourne, but it has the mass of a giant sun packed into it, so it’s insanely dense.”

Associate Professor Melatos studies neutron stars. Their high density means their gravity is so strong and allows for the study of gravity waves, which will provide clues to the fabric of space and time as predicted by Einstein in 1916.

“But don’t panic, our sun won’t burn out for another five billion years,” he says.

“Our sun is a small size star. It won’t become a neutron star, but it will burn up all the hydrogen and helium, and become a red giant. At that point our sun will gobble up surrounding planets including Earth, nuclear reaction will continue to transform helium into carbon and it will be like a giant Earth-sized diamond, at which point it is called a white dwarf. So massive stars become neutron stars – the heaviest things in the universe – and even more massive stars become black holes. Massive stars. And some handbags.

A smart way to save some money on your power bills

A new study shows smart meters can lead to savings on your bill. By Dr David Byrne and Dr Leslie Martin.

REWARTCH

Recent advances in information technology have the potential to transform electricity markets worldwide.

New research by the University of Melbourne shows customers who are informed about their energy use can save up to $50 on their electricity bill, which translates 212.40kg less dangerous carbon dioxide (CO2) in the air per household every year.

In Exchange magazine, which will be launched next month by the Faculty of Business and Economics, economists Dr David Byrne and Dr Leslie Martin discuss the potential for smart meters, which track energy usage every 30 minutes, to save Victorians on their power bills.

In an excerpt from the Exchange article they write:

“A mandatory state-wide rollout of “smart meter” technology in Victoria is set to transform supply and demand in the electricity market. Smart meters record real-time electricity use every 30 minutes. With online tools for customers to track their energy activity immediately, the potential for better management of energy resources is huge.

“However, outside small-scale pilots, there is little evidence of the actual impact of smart meters, and policy-makers worry whether consumers will ultimately benefit from their widespread adoption, especially in a market like Victoria with active retail competition.”

“With funding through the Australian Research Council Linkage Project, the University has partnered with electricity retailers and Billcap, an online consumer smart meter tool, to evaluate how consumers engage with smart meter data, and how that affects their bills and carbon footprint.

“Early research suggests that the more customers know about their energy usage, the more likely they are to make changes that benefit their pockets and the environment.

“Using a sample of 8,000 Victorian household the researchers used randomised control trials to analyse the behavioural changes brought about by access to smart meter data. Some households were randomly given real time feedback and peer comparisons on electricity use from their smart meter, while others were not.

“The economic and environmental impact of simply providing the information was striking: informed customers managed to reduce their electricity consumption by 4-5% relative to uninformed customers. “For an average customer, this represents a $50 savings and 180 kWh reductions in electricity use per year.”

“These effects are largely driven by a particular household type. People who thought they were low electricity users before the experiment realised that they were not as green as they thought. So while we find environmentally-conscious consumer types are those who are better able to take advantage of their smart meter data to realise cost and environmental savings, they do so because they were mistaken about their relative environmental impact. Providing them with feedback based on their smart meter data encourages them to become who they thought they were.

“These experiments are the first and largest of their kind ever run and will continue to inform industry best practice.”

“Ongoing experimentation in partnership with Billcap will enable us to tackle pressing questions such as: How can smart meter data be used to simplify customer choice? Can we make electricity like petrol in terms of price sensitivity? How will customers respond as electricity prices become increasingly dynamic in the retail market? Who will win and lose from dynamic pricing, and how should policy be designed to protect socio-economically vulnerable households going forward?”
Community health in

ABC’s Doctor Blake Mysteries series, filmed in Ballarat, depicts Dr Blake as the local GP who grew up in the area, knows the town and its inhabitants, and who has just taken over his late father’s practice.

Murders aside, this series presents a somewhat romanticised picture of medical care in the 1950s when the local doctor and district nurse took care of everyone in the area. A true, albeit outdated, picture of integrated care that is delivered largely through community networks.

Even in our busy modern times rich with medical discovery, specialities and emerging illnesses, a personalised and contextual model of care is not a thing of the past but something that continues to be refined with the advances of technology and with a truly engaged community. Christina Tait and Lisa Mamone explore the importance of community plays in having a healthier region.

It doesn’t come as a surprise that medical students at the clinical schools in Shepparton, Epping and Sunshine relish the medicine they experience, although it’s interesting to see how a strong sense of community influences their approach to medicine and is becoming embedded in their lives.

When Ed Siauw moved to Shepparton as a student in 2008 he was impressed by how much he learnt from the variety of medical conditions doctors treated, but didn’t imagine he would one day work as a doctor, training students like himself.

“The diverse medicine we were exposed to made learning interesting and gave us a really good overview of things,” he says. “We got a lot of exposure to patients.”

Ed also noticed the versatile workload rural clinicians manage and felt it gave them a holistic view of a patient, which he found useful to learn from.

After completing his medical training at the University of Melbourne’s Rural Clinical School, Shepparton Campus, and his internship and residency at the Goulburn Valley Health Hospital, Ed now practises as a Trainee GP at the University of Melbourne Shepparton Medical Centre.

“I chose to work at the Shepparton Medical Centre because of its association with the University and the fantastic learning culture, which really appeals to me,” says Ed.

“The diversity of patients we see is incredible, all ages and backgrounds, and each day you don’t know what you are going to see or how critical the cases will be.”

“Sometimes the students just observe me and other times they will be seeing one of my patients in another room where I can duck my head in to see how they are going. I enjoy teaching and it can help my own learning.”

“If you work rurally it is important that you get involved in the community – people are eager for better doctors and clinicians and are very welcoming”.

Annie Tan, in her final year of the MD at the University of Melbourne’s Western Clinical School at Sunshine Hospital, has passionately embraced her community. Born at Sunshine Hospital, she feels strongly about how community engagement positively influences the relationship between doctor and patient. Her involvement as co-director of the Western Community Cookout Program demonstrates her commitment. This student-run program aims to empower and educate people in the community to take care of their own health.

Student volunteers are invited to people’s homes or community halls where cooking is used as a gateway to talk about health. After being taught to prepare a meal, which they share with community members, medical students set up booths where they can begin discussions and activities focused on the health of the community.

“It’s important to have a conversation and encourage people to ask us questions and discuss things. This helps to break down the barrier between patient and doctor, and hopefully makes it easier for them to talk about their needs,” says Annie.

“I have learned that different cultures understand healthcare differently and expect different things from it.”

Annie explains there are many opportunities for students to become involved in community work at the Western, including the Sons of the West Men’s Health Program and Building Healthy Communities in Melbourne’s West for the primary school community.

She points out there also is a strong sense of community within the clinical school.

“Everyone is like family. I feel free to approach senior staff and I don’t feel any sense of hierarchy. People are willing to teach and take medical students on ward rounds or in clinic, and the more initiative you show the more you get out of it.”

Andrew Feehan is originally from Shepparton and wanted his first clinical year to be in a smaller rural hospital. He was keen to have access to one-on-one teaching and to practise procedural skills. In his first clinical year at the University of Melbourne’s Rural Clinical School, Shepparton and Goulburn Valley Health, he can already see his confidence and skill level improving faster than he expected.

“We tend to see the very common ailments such as arthritis, heart attacks, heart failure and managing chronic conditions and acute exacerbations of these conditions,” describes Andrew. “Its good experience because it’s the ‘bread and butter’ of medicine.

“I feel very lucky with the quality of teaching we have received and the willingness of the doctors to spend their time with us to explain things. Sometimes learning can be very spontaneous – you can be at the right place at the right time, and if a consultant sees you’re keen to learn, they will make an effort to teach you.”

Ed also noticed that being a GP who grew up in the area, knows the town and its inhabitants, and who has just taken over his late father’s practice.

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An integrated system of care

We can look at the portrait of a village doctor such as ABC’s Doctor Blake, and think that a time when the village doctor knew you, your family, its history and socioeconomic background, who conducted most of the cradle to grave care, is outdated, impractical and hopelessly idealistic.

But a modern integrated health system can deliver the essential healthcare services which were once the domain of the village doctor.

A village doctor must respond to the needs of their immediate surroundings, as must an integrated healthcare system. In teaching hospitals in Melbourne and regional Victoria, the needs of the community drive the research, which in turn drives improved policy and patient care. From Melbourne to Bendigo, the Hume to the Grampians, each health system has its own priorities, its own projects and above all, its own patients and medical staff.

Integrated healthcare is a worldwide trend in healthcare reform, focusing on more co-ordinated and integrated forms of patient care. In Australia, integrated healthcare is generally understood to be the development of a patient-centred integrated health system, with connected service provision across different healthcare providers and greater emphasis on community-based services.

Teaching in an integrated care model across metropolitan and rural Victoria shows students the different pressure points which are specific to that local community. While accidents and emergencies might dominate the landscape in some areas, others are groaning under the weight of diabetes, heart disease and other non-communicable diseases.

The new expectation of health professionals is to work within an integrated system where data is shared across a number of specialists and is available to general practitioners who have ongoing direct contact with patients. A co-ordinated and connected network of health professionals covering dental, primary care, nursing, allied health, maternal and child health, and medical specialists, is becoming increasingly important.

Managing these expectations in the 21st century requires better record-sharing and medical history across disciplines, understanding and adapting to the needs of the patient and the community, and training health professionals accordingly.

For example, at the Ballarat and District Aboriginal Co-operative clinic, optometrists, doctors and nurses work in a team with their patients always at the centre of care. Each healthcare professional brings their own specialist knowledge but also understands the expertise of others so that they work cohesively and refer appropriately.

Integrated healthcare forms an inherent part of the Faculty’s research and teaching programs and the drive to modernise the health system. Academics from all disciplines have conducted deliberate research translation projects to establish and evaluate integrated health services initiatives.

“Integrated care promises a better and more personalised experience for the patient and community at a lower cost as hospitals, clinics and health workers become more efficient and connected,” says Professor Terry Nolan, Head of the School of Population and Global Health. “It also provides continuity of contact and access to the patient history that facilitates greater emphasis on prevention of disease and other health promotion activities.”

Research, teaching and practice networks all contribute to exposing students to integrated care.

With the health of the individual and the community at its heart, integrated care provides a village doctor for a new generation — providing care from one to many.

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and motivated they might drag you along to whatever they are doing.

“I enjoy living in Shepparton and have joined the local gym and local SES to try to get involved in the community as much as I can, and assist with any accidents wherever the SES is called out.

“Involvement with the community is important. It makes you feel like you are a part of the town.

“Half the medical students in the course tutor every Wednesday night at the Smith Family.”

Simone Allen had the opportunity to connect with many doctors during Year 12 when her father was critically ill. Some years later, after a career as a wedding planner, she embarked on a Bachelor of Biomedical Science at Deakin University with plans to become a doctor.

“Quite the change,” she says, “I came in a little differently.”

Now in her final year with the Clinical School at Northern Health, Simone has been enriched and inspired by the value of community involvement.

The Community Screening Program “Prevention Express,” run out of Centrelink offices, is a prime example.

“We practise defensive medicine and ensure we make the right diagnosis and do all the right things, but going out in the community is an opportunity to practise preventive medicine — maybe 30 people of the hundreds we saw at Centrelink might not go to hospital because they went to see their GPs,” says Simone.

“The cost minimisation of prevention is important. We are a curative culture, not a preventive culture, so to get out there and do something with these community programs felt really good,” she adds.

“We were seeing people who were not usually health-conscious and helping them to become aware that, even at 25, they can do something about their health by addressing their at-risk behaviours.

“I learned so much during the Primary Care Community Base Program where I spent one day a week with the same GP for two years. Delivering babies, taking ante-natal care the whole way through, managing cancer patients, mental health — the breadth of what you can learn in General Practice with the same people for two years is sensational.”

As the recipient of a bursary from the Melbourne Medical School last year, Simone is acutely aware of the pressures that affect the early careers of young doctors and recently wrote a letter which her local MP read out in Parliament, voicing her concerns about the shortage of funding available for graduates to qualify and specialise.

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Healthy communities

“Community health in healthy communities

JULY

An integrated system of care

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Why street art is controversial

Criminalising graffiti and street art threatens Melbourne’s urban regeneration efforts, says Professor Alison Young, By Chris Weaver.

Melbourne’s laneways are world-renowned tourist attractions. The appeal lies partly in Melbourne’s café culture, but also in the street art and graffiti adorning many walls. Thousands of interstate and international visitors flock every year to see the stickers, paste-ups and stencils in places like Fitzroy, Collingwood and the CBD.

This street art attracts considerable controversy. Some view it as a vital part of the city’s artistic landscape; others decry this visual work as vandalism. Street art is consequently a highly valued social norm. “Graffiti challenges many dominant social values and the deeply entrenched authority given to property owners, since graffiti writers or illicit street artists — assert their own authority when they paint on others’ property,” she says.

“Acting respect, recognition and exposure as artists doesn’t necessarily involve paying attention to property ownership, which is a highly valued social norm.”

The street artist’s disregard for private and public property attracts condemnation. However Professor Young says the increased focus on criminalising graffiti and street art runs counter to Melbourne’s tourism advertising. “Melbourne is synonymous with street art because visitors and residents have gone to great lengths to post talented artists’ images online,” she says.

“The city lends itself to street art as it possesses narrow, private laneways in a central location.”

Tourism Victoria and the City of Melbourne have spent the past decade marketing Melbourne as a centre for high-quality street art, because many tourists have said the art was a primary reason for visiting the city.”

Professor Young says criminalising graffiti and street art threatens urban regeneration efforts. “It is clear that street art is an important factor in stimulating the cultural economy of certain neighbourhoods,” she says.

Whether the street art and graffiti is done illegally or as part of a mural project, it communicates a hip or creative vibe to residents and visitors alike.

Urban regeneration and the use of public space attract much of Professor Young’s work. She believes law, crime and culture are critical in governing how we use urban space. The endowed Chair will enable her to increase study and interest in this field.

“I am setting up a research network that will connect academics and students interested in understanding law, crime and governance of public space,” she says.

“Criminalising is a global discipline, but its impact can be felt clearly at a local level.”

This research will become increasingly critical in looking at public space, as urban communities take greater interest in how and why crime occurs.”

The new Chair provides an opportunity for the Faculty of Arts to internationalise the Master of Criminology, attracting students interested in multi-disciplinary approaches to crime. Professor Young believes the Chair’s late benefactor would approve of this approach.

“Francine McNiff’s research and writing understands the connection between criminology and the law,” she says.

“This gift creates the possibility of new collaboration with the Melbourne Law School and is a significant endorsement of criminology’s capacity to contribute to research, teaching and public debate.”

www.campaign.unimelb.edu.au

The first book to explore the importance of country music in Australian society has been released by Lyrebird Press, an historic imprint owned by the University of Melbourne in the custody of the Victorian College of the Arts and Melbourne Conservatorium of Music (VCA& MCCM).

Yodelling Boundary Riders: Country Music in Australia since the 1920s, was written by Australian historian and musician, Dr Toby Martin, whose ARIA nominated band, Youth Group, had a number one hit with their cover version of Forever Young by Alphaville.

Dr Martin says his book illustrates a range of historical characters from yodelling stockmen to Australia’s craziest hillbillies.

“Prior to the 1950s, country music was called hillbilly music and was the rock ‘n’ roll of its day,” Dr Martin says.

“The latest craze, straight from America, was young, exciting and glamorous. Today, it is young, exciting and glamorous. This book traces the journey from ‘hillbilly to country’, telling the story of some of the most enduring forms of popular culture in Australia, country music.”

The book also illustrates the varying Australian responses to the rapidly changing music of the 20th century and the global fascination with artist “authenticity”.

Clint Walker, the author of Buried Country: The Story of Aboriginal Country Music says country music was Australia’s original modern pop form, which has not been reflected in our written histories to date.

“This fine book offers an accessible and entertaining exploration of the country music genre,” Mr Walker says.

“Who’d have thought that Toby, singer of the beautiful 2005 number one single Forever Young, would make such an elegant transition from stage to page.”

Lyrebird Press publishes books about music and Australia and are the publishers of the Australasian Music Research (AMR) book series founded in 1996.

www.vca-mcm.unimelb.edu.au

Dr. Toby Martin and (inset) the book
Dr Mark Triffitt says a new website, to be launched by the Melbourne School of Government, will help unlock the often complex and sometimes arcane debate about what’s wrong with contemporary democracy and how to fix it.

It is my contention that our current system of democracy is in crisis. In Australia, I believe citizens are losing faith and turning their backs on democracy as the best political system.

Other research reveals that such is the state of apathy and mistrust in our current system, only 43 per cent of Australian voters believe it makes any difference which party is in power. But we tend to explain them away as one-offs rather than systemic problems.

In this way, we convince ourselves we are seeing only disconnected dots, rather than patterns that speak to deeper dysfunctions.

Perhaps this isn’t surprising. We are engaged to see democracy as the best system to manage the 21st century. And because it is the best system, it cannot fail.

That’s why we tend to blame democracy’s current malaise on what we see as the personal foibles or weaknesses of individual leaders.

Alternatively, we think democracy is working better elsewhere and that our system could be better “if only our worked like theirs”.

As a last resort, we tell ourselves democracy is an aberration, and like a cork, democracy will bob to the surface and sail effortlessly along.

Connecting the dots to help see the bigger picture is the rationale behind the Melbourne School of Government’s Democracy Renewal website.

The website collates a wide range of academic writing, reports and opinion articles by scholars, political and policy experts, journalists and think-tanks about democracy, the challenges it faces and ways to solve them.

The Democracy Renewal website is organised into a simple taxonomy centred around Challenges and Solutions.

This taxonomy is aimed at unlocking the often complex and sometimes arcane debate about what’s wrong with contemporary democracy and how to fix it.

The Challenges section includes categories such as citizen disenagement, policy failure and gridlock, the decline of political parties, money politics and political leadership (or lack thereof).

There are many challenges occurring across Western democracies, particularly in established democracies, including the United Kingdom, Germany and France.

The result is policy instability or gridlock that feeds perceptions that the current configuration of democracy is unsuited to manage the big policy challenges of the 21st century.

The Challenges section also highlights how money politics has reached such suffocating levels that the people’s voice has become at best marginalised.

In the US, candidates and interest groups spent $6.2 billion – much of it provided by wealthy donors – on influencing the outcome of federal elections in 2012.

In the European Union, there are now more lobbyists than bureaucrats. Most represent the interests of large corporations.

The other side of the Democracy Renewal website organises a similar diversity of scholarly and mainstream proposals, reports and opinion articles into Solutions.

These innovations are not eclectic one-offs. Instead, they are an emerging pattern of political and institutional change - largely driven by the public and others - to lift democracy out of its current crisis.

And some are proving successful in addressing the touch points of democracy’s current malaise.

These and other innovations aim to generate greater citizen engagement and trust in democracy as people begin to actively “own” decisions rather than having policy handed to them by an increasingly disconnected political class.

Through more dynamic, citizen-led decision-making, we may see more effective policy outcomes more in tune with what has become a super-speed and highly networked world.

The Democracy Renewal website will be expanded on a regular basis to deepen its information base with the latest research and reports on democracy’s challenges and potential solutions.

The key to solving democracy’s challenges is generating much greater public awareness and knowledge about the pattern of its problems.

Once we understand that we must proactively shape a new and better system for the 21st century, democracy’s innate capacity for innovation and renewal will come to the fore.

The Democracy Renewal website can be found at democracyrenewal.edu.au

Dr Mark Triffitt lectures in public policy at the Melbourne School of Government and is a former political adviser.
Where arts and sciences collide

They couldn’t be more different as disciplines, but there is a way for them to successfully work together. By Andi Horvath.

**INNOVATION**

Disciplines like arts and science have their own unique way of examining and understating the world. They have their own language, journals and cultures. They not only seem poles apart, they are.

In school we often find ourselves with a learning towards one or the other. And full immersion can become inaccessible to the point where even a visit to a science museum or art gallery is usually by default and not intent.

Arts and sciences, however you define them, seem like insufferable neighbours but there are many occasions where they can live without the other.

Daniel Glaser, director of the Science Gallery at London’s King’s College, alludes to something magical that happens when art and science collide, not just in the research sector but also in the public arena.

The science and art collision becomes an effective portal for people to access the issues of our times in a recreational setting.

Dr Glaser heads up this new type of interdisciplinary public institution aimed at engaging 15 to 25-year-olds. It won’t have a building until 2017 but it’s already running programs. He recently visited Melbourne as a guest of Carlton Connect, The Florey Institute and University of Melbourne, and spoke about the rise of the public Sci-Art movement and insights into functional interdisciplinary research.

He says the Science Gallery is “is a place where anyone can come in and see the world in their own terms.

“We have a program at the moment called Fed up – the future of food. It’s more like a performing arts activity than a museum. Each of our shows has a different curator with an open curatorial policy that is informed by the audience.

It’s not about scientists who do art and it’s not a new temple to culture,” he says.

A former neuroscientist, Glaser recounts a research project where his team wanted to examine the instructions for movements in the brain using functional MRI.

Glaser sought the expertise of a dance choreographer.

He describes his Dionysian frenzy in which the two disciplines enter a neutral zone, normal rules of engagement are suspended and parties feel safe to question each other’s assumptions and disruption is welcome. “You end up in space which neither of you could have got to without the other, “ he says.

In other words, a space that’s inspirational, creativity, resolution and innovation.

Glaser further describes the collaborative project: “We ended up using classical ballet and capoeira (a Brazilian martial arts) expert to examine the brain’s response to movement instructions and the results showed actual areas of movement lit up when given similar movement instructions.”

What was more interesting – and the motivation for Dr Glaser — was the fact they both went back to their respective fields and both added new knowledge to their disciplines. Dr Glaser wrote up the scientific paper but the choreographer went on to develop a dance piece influenced by his brilliance in brain science.

Adventures in children’s literature

Katherine Smith previews a new exhibition in the Baillieu Library showcasing iconic items from the University of Melbourne’s collection of literature for children.

**PREVIEW**

The concept of childhood is relatively new in the history of humanity, at least in “western” culture. Only around 400 years ago the world considered children to be incomplete adults.

The idea that children needed particular attention and instruction from adults to achieve successful adulthood started to develop with the onset of the industrial revolution. Experts credit English philosopher John Locke and French thinker Jean Jacques Rousseau as describing and defining childhood in the way we now know it today.

Grace Moore, a lecturer in English and Theatre Studies, and a researcher in the Centre for the History of Emotions, is curator of a new exhibition at the University of Melbourne which draws on the Baillieu Library’s large collection of children’s literature.

Dr Moore says some researchers identify a little pretty pocket-book, published by John Newbery in 1744, as the first book created in English specifically for children.

“This lovely little volume sought to both entertain and instruct its young readers, following Locke’s educational model,” she says.

Dr Moore says the cheap paper, more efficient printing techniques and the affluent middle class that emerged with industrialism allowed the idea of childhood to develop.

“There was a growing recognition that an infant’s early years should be characterised by learning through play,” she says, “while books such as Rousseau’s Émile (1762) emphasised the key role of play in helping children to think independently and to understand the world around them.

“As a result, privileged children were encouraged to relate their early years, to draw upon their imaginations, and enter a world of fantasy.”

Dr Moore says the exhibition — called Reading Adventures — uses the theme of adventure because of the genre’s prevalence in children’s literature over the centuries, but also because it demonstrates the way books for children were used to transmit ideas about the world and people’s roles in society.

Military, naval and chivalric stories are found among the earliest books for children, but the growth of the British empire — particularly after 1870 — cemented adventure as a central theme of interest for children, according to Dr Moore.

“The horizons for adventure writers in terms of their settings were broadened, while at the same time new markets appeared in settler colonies of readers whose cultural ties to the ‘mother country’ remained important to them.”

The University’s holding of children’s literature developed from the donations of several collectors, including former state MP Ian McLaren.

The Public School Fiction Collection is a rich and varied source of school stories, brought together by the English collector, bookseller and science fiction author Timothy d’Arch Smith, and acquired by the University in 1989.

The Frederick Morgan Collection offers the largest selection of adventure stories, reflecting its donor’s particular passion. Morgan and his daughter Penelope preserved more than one thousand rare children’s books (the collection today stands at more than 4000 volumes, having been added to since its arrival in 1954) at a time when works of this kind were not considered worthy of serious attention.

Morgan wrote with great animation and affection of tales of derring-do by Ballantyne, Kingston and Marryat in a memoir of his boyhood, in which he remarked: “What a great period the 19th Century was for the publication of exciting books … has anything approaching it happened since?”

Reading Adventures is on show in the Noel Shaw Gallery in the University of Melbourne’s Baillieu Library until February 2016.

www.lib.unimelb.edu.au/collections/special
VCA graduates take Flight with five new plays

Alix Bromley showcases the innovative works of five emerging playwrights about to stage their plays.

FLIGHT, a festival of five new Australian plays by some of our most innovative emerging playwrights, will premiere at Theatre Works and Footscray Community Arts Centre in July and August. Fleur Kilpatrick, Morgan Rose, Bridget Mackay and Patrick McCarthy will each present a 10-day season at Theatre Works. A site-specific performance by playwright Chi Vu sees her work commence from a secret location and move in and around the Footscray Community Arts Centre.

All the playwrights are graduates of the Victorian College of the Arts’ Masters in Writing for Performance.

Creative Producer at Theatre Works, Daniel Clarke, says: “I was presented with so many new scripts from artists who had completed the Masters course (at the VCA) that I was inspired to create a specific context in which to stage them. Flight provides a platform to support playwrights to create new work while enabling experimentation and risk-taking. I am so excited to see these works evolve and to support the careers of these five emerging playwrights.”

Bridget Mackay’s Kindness follows an unlikely friendship between three bored office workers and a woman in her late 80s fuelled by a need to escape.

Under the direction of Robert Reid and Sarah Walker, Yours The Face is written by Fleur Kilpatrick and tells the story of a photographer and his model, both played exquisitely by Roderick Cairns, who come together to create one perfect image.

A coming-of-age play by Morgan Rose, Virgins and Cowboys tells the story of Sam who meets two women online. They are both virgins when Sam decides it would be really interesting if he were the one … to, you know.

Writer and director Patrick McCarthy launches his new company Fabricated Rooms with his debut play Grief and the Lullaby, a delicate and moving work which explores what it means to grow apart from those you grew up with.

Chi Vu’s The Dead Twin reimagines the horror genre as an immersive, cyclical, site-specific performance.

While at the VCA the five playwrights were led by acclaimed dramaturg and writer Raimondo Cortese of Ranters Theatre, a postgraduate lecturer in Theatre.

“Flight demonstrates the progressive rigour that underpins programming at Theatre Works under Dan Clarke’s direction,” Mr Cortese says. “These plays provide a wonderful opportunity for audiences to experience the diversity of contemporary aesthetic practice currently happening in Melbourne theatre writing, which places the city right at the forefront of experimentation and provocation in world theatre.”

Bookings: theatreworks.org.au. 03 9534 3388 and footscrayarts.com. 03 9362 8888

Roderick Cairns performs in Yours The Face, written by Fleur Kilpatrick.
Indigenous voices: a shining light in new health and advocacy program

Warwick Padgham on how the Faculty of Medicine, Dentistry and Health Sciences has allied with Indigenous academics to transform Indigenous healthcare.

Australasia’s leading Indigenous academics are heading an initiative within the Faculty of Medicine, Dentistry and Health Sciences to transform the health landscape for Indigenous Australians and support Indigenous staff and students to become leaders.

In response to the University of Melbourne’s recent Reconciliation Action Plan 2015 (RAP), the Faculty has put together its own ambitious programs. Outlining the Faculty’s vision in response to the RAP, the Indigenous Development team recently published a report titled A Uniquely Australian Faculty: Indigenous Health and Development as the Cornerstone. Dean of Faculty, Professor Stephen Smith, says: “This publication outlines some of the many ways we are working towards reconciliation across the Faculty – from our employment practices to our teaching programs, from our research to our community engagement.”

In the critical area of research, our aim is to contribute through a range of programs, such as the use of new-generation technologies to preserve Indigenous culture or solving chronic or endemic health problems like otitis media in young children.”

Leading the way through early intervention programs, the Chair of Indigenous Health, Professor Kerry Arabena, is undertaking innovative research which seeks to establish an evidence-based approach in supporting the health planning for Indigenous children from conception to age two. First 100 Days.

A global movement in this area of health, this international research into a key area of focus for Indigenous Australians has been adapted by Professor Arabena.

Along with funding from various grants, programs within the Faculty supporting Indigenous development are made possible through generous philanthropic support. In particular, the Melbourne Poche Centre for Indigenous Health, launched in October 2014, was established as a result of a $10 million gift from Greg Poche and Kay van Norton Poche.

The Poche Centre aims to develop the next generation of Indigenous leaders through research higher degrees and leadership programs. In key to the success of the Melbourne Poche Centre for Indigenous Health, Professor Arabena, is undertaking international research into a key area of focus for Indigenous Australians has been adapted by Professor Arabena.

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The Poche Centre aims to develop the next generation of Indigenous leaders through research higher degrees and leadership programs. Key to the success of the Melbourne Poche Centre for Indigenous Health, Professor Arabena, is its ability to contribute to the national goals reducing Indigenous health disparities, through its work around Indigenous health leadership.

Kristi Roberts, Indigenous Development Program Manager, says: “The Faculty’s vision and activities align with the RAP to create opportunities across the breadth of the Faculty, initiatives such as the Indigenous Curriculum Framework, employment pathways and the Indigenous PhD Familiarisation Program, all contribute to this diversity.”

This, coupled with exceptional collegiality from the Faculty’s non-Indigenous colleagues, is crucial for sustaining growth and ensuring a lasting impact and the Poche Centre is providing both the necessary health and Indigenous leadership.

Professor Shaun Ewen, Associate Dean (Indigenous Development), believes that although the Faculty is unique in its approach to Indigenous advancement, there is more work to be done.

By acknowledging, evaluating and always improving the work in Indigenous development, the Faculty will continue to improve its contribution to better health outcomes for Indigenous Australians, and clearly demonstrate the role that universities can play in support of this national goal.

Creative credit: Misty Jenkins, Shawana Andrews, Nichole Allider & Kristi Roberts The art is a combination of cell photography, dot art and design of the tuber of the Myrnong (yam daisy) to create a work of art that brings together Indigenous culture, community and the health sciences.

In this picture, we have reinterpreted white blood cells, called cytotoxic lymphocytes which destroy cancerous cells, and the circles with dots around the tuber of the Myrnong (yam dais) to create a work of art that brings together Indigenous culture, community and the health sciences.

Indigenous voices: a shining light in new health and advocacy program

A great Australian life: Sir John Monash

Katherine Smith looks at the legacy of former Vice-Chancellor and World War 1 general Sir John Monash.

UK/UNIMELB

There’s a university, a metropolitan city, a hospital and even a freeway named after him. His face is printed on money and on every $10 note, but experts agree the legacy of World War 1 general and former University of Melbourne Vice-Chancellor Sir John Monash is not widely acknowledged as it ought to be.

Elected University Vice-Chancellor in 1923, a position he held until his death in 1931, John Monash also had been a student of engineering of the University, and was described by one friend and biographer as having a “strenuous, almost aggressive” personality.

While studying part-time he was put in charge of construction of the Outer Circle railway line, and in 1890, aged 25, became manager of the Melbourne Harbour Trust. Over his student career, he earned a masters in engineering, and arts and law degrees, and sat examinations to become an army major in 1887. He attended the University’s 150th anniversary publication 150 Years: 150 stories, Peter McPhee and Juliet Flesch say he combined a military, academic and business career, and “proved to be an outstanding general during campaigns in Gallipoli and France.”

Indeed commentators often note that amid the nation’s interest in Gallipoli and World War 1, which largely focuses on the pathos and the tragedy of wasted life, the successful repatriation of nearly 160,000 personnel at war’s end, orchestrated by Monash in only eight months, is one of the most remarkable and often overlooked of ‘war stories’.

An adept pianist who also had a talent for writing, Monash was clearly a man of some accomplishments, having served as Chief Censor in the early part of the war, and Chief Intelligence Officer immediately prior to it. Official war historian Charles Bean wrote that he continually “exhibited that extreme care through all the intricate details of organisation which always greatly impressed the Higher Command, and gave confidence to the men.”

So why the poverty of recognition of a man who after the war also oversaw the expansion of a gas industry which eventually powered the entire state of Victoria? Historian, and his biographer, John Seif wrote that during the war Bean and the newspaperman Keith Murdoch both attempted to undermine Monash because of their discomfort with his Jewish/German heritage. Referring to Monash, Bean wrote: “We do not want Australia represented by men mainly because of their ability, natural and inborn in Jews, to push themselves.”

Despite this, Monash’s distinguished career of service and development of his country, of the field of engineering and his energy as a man, make him one of the great characters of Australian history.

Perhaps his greatest achievement is that remarked upon by Serle: that Monash’s “presence and prestige...made anti-Semitism...impossible in Australia.”
Countless Australian women are living with the very real threat of intimate partner terrorism. Yes, terrorism.

When nearly two women are killed at the hands of their current or former partners in Australia every week, we shouldn’t be sugar-coating the epidemic.

Australian of the Year Rosie Batty recently shared her perspective of partner abuse as intimate terrorism when she addressed an audience at the Department of General Practice and Primary Care at the University of Melbourne last month. (Few Australians are as qualified as she is to speak about these issues.)

Earlier last month, Ms Batty had condemned the Government for not investing the same amount of time and resources in family violence as it does for external terrorist threats. The problem of intimate partner terrorism is real and extensive.

But to end an epidemic, where does this funding need to go?

Seeing family violence as akin to terrorism may have eluded the Government so far, but it isn’t a new concept.

Professor Cathy Humphreys, from the University of Melbourne, argues women in abusive relationships suffer the same kind of psychological torture as hostages.

“Much like prisoners or hostages, women with abusive or violent partners experience isolation, sleep deprivation, severe threats, and the rare indulgence,” she says. “Every aspect of their lives is controlled, and they live in terror.”

In August last year, the Abbott Government announced $632 million for counter-terrorism funding over the next four years, in contrast to the $300 million it cut from domestic violence services in last year’s budget.

Professor Humphreys says this year’s Federal Budget must include substantial investments in the services that need to go?

To stop violence against women in its tracks, we need funding and a clear focus,” she says.

Many professionals working in the field believe programs designed to help shift men’s attitudes toward violence are a necessary part of the solution.

The inaugural Fed Up Lunch, an event aimed at raising funds for Victorian women and their children escaping family violence, was thought up by a group of young men who wanted to make “counter messages” that stood up to violence-supportive attitudes. Earlier this year it raised over $30,000.

But changing men’s attitudes and ideas around violence only broaches the tip of the iceberg. To end family violence, we need to tackle the sources of the problem.

One of which, Professor Humphreys says, is sex.

“We need funding for programs that help to change the way men see women and sex,” she says.

“Sexist and misogynistic attitudes contribute to the domestic violence perpetrated throughout the country, and helping men see themselves as equal partners in respectful relationships is the key to ending the epidemic.”

It’s an unfortunate truth she says that many young men gain part of their sexual education through pornography.

In Linda Williams’ seminal book on pornography, Hard Core, she says that “women’s bodies are quite simply fetishised… the sight of the female body is displayed for the gaze and enjoyment of men”.

This is true of most mainstream pornography today, with the exception of the small rise in alternative and queer pornography.

Earlier this month during a segment on young men and pornography on ABC’s 7.30, sex educator Maree Crabbe said: “Learning about pornography is one of the core ways violent and misogynist attitudes to women are normalised in some of society.

“Without adequate sexual education that focuses on equal and respectful partnerships, porn becomes the central source of information about sex for young men, and more often than not it showcases forms of masculinity that are not based on equality with women but on inequality and expressions of masculinity based on power over women,” Professor Humphreys says.

By positively shifting men’s attitudes toward women and sex, the prevalent sexism and misogyny that fosters domestic violence in Australia would be expected to drop.

Women around the country are terrorised and killed by abusive and violent partners, and the government needs to recognise that it is as important an issue as other forms of terrorism. Australia needs greater funding for domestic violence support services and programs, and favourably shifting men’s attitudes toward women and sex may be exactly where they need to start.

Matthew Wade is a freelance writer and Master of Journalism student, with a passion for gender equality and gay rights.

@MatthewRWade
New species estimates put beetle count at 1.5 million types

Planet Earth may contain millions fewer species than previously thought and estimates are converging, says research by Griffith University and the University of Melbourne.

In a paper published by the US-based journal Proceedings of the National Academy of Sciences (PNAS), researchers document an entirely new method of species calculation derived from samples of beetles from the comprehensive collection at London’s Natural History Museum.

“It has been said we don’t know to the nearest order of magnitude just how many species with which we share the planet. Some say it could be as low as two million; others suggest up to 100 million,” says researcher Professor Nigel Stork.

“By narrowing down how many species exist within the largest group – insects – and other arthropods – we are now in a position to try to improve estimates for all species, including plants, fungi and vertebrates.

“Understanding how many species there are and how many there might have been is critical to understanding how much humans have impacted biodiversity and whether we are at the start of, or even in the middle of, an extinction crisis.”

About 25 per cent of all species that have been described are beetles. However, when combined with other insects the figure climbs to more than half of all described and named species on Earth.

In the 1980s, there were just two methods of estimating species. In the case of beetles, these gave a mean of 17.5 million species and a range of 4.9–40.7 million. For all terrestrial arthropods, the mean was 36.8 million and a range of 7–80 million.

Two professors awarded ARC Laureate Fellowships

Professor Anne Orford and Professor Learn Tilley have been awarded 2015 Australian Laureate Fellowships by the Australian Research Council. The Fellowships recognise world-class research and are the most prestigious and awarded annually by the ARC.

In addition, Professor Orford was awarded the Kathleen Fitzpatrick Australian Laureate Fellowship, and Professor Tilley the Georgie Sweat Australian Laureate Fellowship. With these special female Laureate Fellowships, Professor Orford and Professor Tilley will undertake ambassadorial roles for the ARC.

“Mentoring early-career researchers is a core part of the scheme,” says Professor Orford.

“This will enable me to build a collaborative world-wide team of scholars with the skills to evaluate the role and function of law in times of rapid social transformation: to address urgent global problems. Professor Orford, from the Melbourne Law School, will research legal issues involved in intervention by external actors in civil wars, drawing on recent examples in Iraq, Syria and Ukraine.

Professor Tilley, from the Faculty of head of a new cross-disciplinary program to measure, model and increase the number of Indigenous students to engineering.

Shaping an Indigenous future in engineering

Annie Rahilly reports on a summit that explored the barriers to Indigenous participation in the field of engineering, and strategies aiming to address the issue.

Almost two years ago a group of like-minded Australians got together to discuss why there were so few Indigenous Australians in the field of engineering.

The first National Indigenous Engineering Summit brought together the engineering industry, professional bodies, educational providers and policy leaders to exchange ideas and develop strategies to create and support pathways into the engineering profession for Indigenous Australians.

A headcount showed there are practising Indigenous engineers in Australia, but in low numbers.

Summit organiser gave an undertaking to identify the key obstacles to Indigenous Australians joining the profession and to formulate a strategy for achieving demographic parity by 2030.

Stakeholders have been aware of the reasons for low levels of interest in the field, and while this is not confined to Indigenous students, it is reflective of a general societal issue that what engineers actually do. Arguably this situation also needs attention.

One way to focus on change was through the Engineers for Pathways, a national initiative led by the University of Melbourne through a Commonwealth grant of $700,000.

The project aims to create scholarships and devise strategies to promote pathways into engineering and remove barriers to entry for Indigenous and other students who do not have the STEM pre-requisites.

University of Melbourne alumni and former Sinclair Knight Merz CEO Paul Douglas leads The Partners for Pathways program, aiming to vastly improve opportunities for Indigenous engineering students and increase the number of Indigenous engineers working in Australia.

“Indigenous engineers are part of the conversation and providing input about the building of the pathways. They are engineers and have gone through the journey into engineering,” Professor Douglas says.

“These engineers can now be mentors to current students coming through the ranks and are able to provide advice on what barriers and experiences they had to help build a tangible pipeline into the profession.

“The Indigenous community has until now been underrepresented in the engineering profession, a situation that has had major negative consequences.”

Most of the major Australian university engineering schools were represented at the summit.

The stakeholders examined the blockages preventing indigenous students from pursing studies in engineering, with a view to devising ways of working around these barriers.

One of the key barriers was a lack of take-up of maths and science subjects among Indigenous school students. There are low levels of attainment in maths by the end of Year 12. Studying engineering at university without good results in advanced maths at secondary school is not ideal, and is arguably a set up for failure.

Ian Anderson, Pro-Vice Chancellor (Engagement), says the University of Melbourne has a commitment to population parity as a key feature of the 2015 Reconciliation Action Plan (RAP).

“Building on that commitment and taking greater steps towards setting hard targets to achieve population parity, the University will look towards the recruitment and retention of Aboriginal and Torres Strait Islander students,” Professor Anderson says.

“This will certainly assist with young Aboriginal children seeing real life role models of Indigenous engineers and how that is possible.

There was also a life-changing event involving industry, not for profits, and education providers providing recommendations to help steer this pathway.

We have a consultative approach that places current Aboriginal and Torres Strait Islander engineers at the centre of this strategy.

Understanding the high level of connectedness between the First Australians and the land itself is perhaps a key to better representation in engineering pathways.

Project of impacts of decisions made by engineers in both the design and specification processes is profound and often irreversible, especially when these decisions become contractual requirements.

The collective Indigenous cultural ignorance of non-Indigenous engineers needs consideration.

Indigenous engineers can have a real influence over what is being planned and is a worthwhile aspiration.

There are many projects, especially in the resources sector in remote locations that are of significant cultural importance to the traditional owners.

These projects often hold real, local employment opportunities for traditional owners but such roles are usually taken by FIFO (Fly-in Fly-out) staff at the higher technical levels.

Several major resource companies are showing the way in providing employment opportunities to locals, especially at lower skill and knowledge levels, with some outstanding examples of Indigenous engineers in key roles.

Until recently, there was little or no consideration of the environmental impact of what we were designing and specifying in terms of engineering the land.

Environmental awareness arose and changed that forever and no engineer now does anything without a comprehensive evaluation of environmental impact and any remediation required.

Perhaps in a decade or two, the community will benefit from having a similarly deeper understanding of, and commitment to, the impact of our actions on our First Australians and our shared land.

For that to happen we need to get more Indigenous students into engineering studies.
Why genetic testing is doubly important for twins

Lynnette Walker explains that genetic testing of twins to determine if they are identical or not can be important for both their health and wellbeing.

“Are you identical or not?” is a question constantly faced by twins throughout their lives and can cause considerable angst, a new study shows.

While it may seem a benign question to non-twins, for twins who are not sure if they are identical or not, or have been misled — and surprisingly there are many — it can have considerable significance for their physical and mental wellbeing.

Such knowledge can have implications for the bonding of twins, tissue compatibility in organ transplantation, assessing disease risk, the personal right to know your identity, legal and educational reasons, estimating the likelihood of the mother or close relatives giving birth to further sets of twins and to avoid embarrassment when asked by family, friends and strangers.

A joint study by the Australian Twin Registry, based at the University of Melbourne and the Murdoch Childrens Research Institute found 32 percent of parents of identical junior twins were unsure or incorrect about their twins’ genetic identity or zygosity (DNA comparison). When it came to non-identical pairs, 29 percent of parents were incorrect or unsure. When combining adult twin responses with junior twins, 27 percent of all twins in the study were incorrect or unsure of their zygosity.

“We found a substantial proportion of parents and twins had been misinformed by their own parents or medical professionals,” says Associate Professor Jeff Craig of the Australian Twin Registry and Senior Research Fellow, Early Life Epigenetics Research Group, at the Murdoch Childrens Research Institute.

The study investigated the accuracy of genetic identity of junior and adult twins, and whether knowing zygosity was important to twins.

The study has provided such strong evidence that knowing their true genetic identity gave twins peace of mind and positive emotions, Associate Professor Craig has suggested medical professionals universally recommend genetic testing of same-sex twins as early in life as possible. He also believes medical professionals, twins and their families should receive increased education about zygosity issues.

Sue Sukkel, the mother of eighty-year-old twins, participated in the study and has first-hand experience of the impact of twin identity confusion.

She had always believed her twins, Lilly and Abbie, were non-identical after being told so at their birth by the doctor and midwife — although a lingering doubt persisted because the girls looked so similar. It wasn’t until she attended a twins’ festival many years later where free genetic testing was on offer that she realised that the girls were non-identical after being told so at their birth.

“Confused and pleased the girls will grow up with their genetic heritage and how that can affect you.”

When the results arrived in the mail advising they were identical, I was so overwhelmed that I burst into tears,” Sue says. “I was so pleased to have my real ‘inner gut’ feelings confirmed and pleased the girls will grow up with this knowledge. As an adopted child myself, I knew what it is like to be unsure about your genetic heritage and how that can affect you.”

Associate Professor Craig said the confusion often arose due to wrong assumptions that identical twins always share a placenta in the womb and always look and behave identically. But nearly one-third of identical twins (as in the case of the Sukkel twins) and all same-sex non-identical twins have separate placentas.

To add to the confusion, twins with separate placentas can be implanted so closely together in the womb that the placentas appear to “fuse.” To the naked eye they appear to be a single placenta.

Identical twins can also look and behave differently, particularly as they age. The only way to know whether same-sex twins are identical or fraternal is to have a DNA comparison test done. Genetic testing is done by providing cheek swabs, which are then returned by mail. The ATR provides this service at a special discounted rate of $120 per twin pair.

“It is interesting how that initial wrong advice played out in our lives,” Sue Sukkel says. “I used to tell my family and friends, ‘You are crazy to think the girls are identical’, as I was so convinced they weren’t. The girls were teased and embarrassed at school because they would argue they weren’t identical and their classmates didn’t believe them.

“In the end, I think it is important to know the truth and to have certainty for the girls and our family. As they say, knowledge is power.”

www.twins.org.au
www.mdhs.unimelb.edu.au

Sue Sukkel with her eighty-year-old twins Lilly and Abbie. The study provided such strong evidence that knowing their true genetic identity gave twins peace of mind and positive emotions, Associate Professor Craig has suggested medical professionals universally recommend genetic testing of same-sex twins as early in life as possible. He also believes medical professionals, twins and their families should receive increased education about zygosity issues.

Partnership reaps the reward

Jason Leigh says a key partnership is helping create the next generation of environmental professionals.

Biology students from the University of Melbourne are learning from internationally renowned conservation researchers as they work alongside them, as part of the Australian Research Council Centre of Excellence for Environmental Decisions (CEED).

CEED is the world’s leading research centre for solving environmental management problems. It’s a partnership between Australian and international universities and other research institutes — including the University of Queensland and the University of Western Australia.

Associate Professor Brendan Wintle plays a key role in the Centre through his conservation ecology research, his work teaching under-graduate Applied Ecology at the University of Melbourne and his role as a research theme leader with CEED.

“As well as delivering research and funding benefits for the University, CEED is helping us create the next generation of professionals who will be making difficult environmental policy decisions,” says Dr Wintle.

“Our Masters and PhD students are building networks with the people at the cutting-edge of their field and have a very high employment rate as a result — around 90 per cent will eventually work in conservation research, for large NGOs or government agencies doing practical conservation work.”

The University of Melbourne is playing a key role in CEED, so far having invested more than $660,000.

“We’re working with government agencies and NGOs to deal with complexity and uncertainty when investing in environmental outcomes. These difficult funding decisions require a mix of ecology, maths, economics and common sense,” says Dr Wintle.

“Resources are limited and we need to figure out how to get the best bang for our buck and conserve the most we can.

“We might have to weigh up making nest boxes for the endangered leadbeater’s possum against controlling cats and foxes in the urban fringe to conserve southern grown bandedicots. You need to know the costs, benefits and likelihood of success for each option – also the consequences if no action is taken.”

“CEED is providing us with a critical mass of world-leading researchers who are informing the way we make these complex decisions. Our work makes it easier to show the benefits of improving the way ecosystems function, the status of threatened species, and the benefits to agriculture and people.”

This approach is already supporting environmental decision-making at the federal level and recently proved useful in Perth, where CEED researchers worked with the WA Government to adapt their infrastructure planning to minimise habitat loss and impacts on endangered species.

“Developers can use our work to estimate potential impacts on biodiversity, and work with government to reduce negative effects. Better informed decisions can lead to significant gains in habitat conservation,” says Dr Wintle.

University of Melbourne Professor Mick McCarthy is Deputy Director of CEED, and says it is delivering some good research outcomes, including his own work in species management and conservation planning – more recently focusing on helping management agencies to better detect threatened species as well as identifying pests.

“CEED is becoming recognised internationally through its high-quality research. These Centres of Excellence are some of the most prestigious programs funded by the Federal Government’s Australian Research Council,” says Professor McCarthy.

“The University of Melbourne is certainly strong in the research component, particularly with regard to publishing journals, and CEED is helping us expand the breadth and amount of research in this area.

“Our research is being well cited and has direct application for the students and research- ers, as well as feeding directly into government and non-government conservation policies.

“CEED also supports more than 30 Honours, Masters and PhD students through funding and research opportunities. It provides all sorts of benefits including a rich network of researchers, research for the students to get involved in and career prospects.

“These elements of research, teaching and engagement all working together have been critical to CEED’s success and epitomise Melbourne University’s Triple Helix Model,” says Professor McCarthy.
**Postmodernism: What is it good for?**

Literary theorist Professor Brian McHale muses on the origins and trajectory of postmodernism, describes its role in our cultural expression, and speculates on its demise. Presented by Lynne Haultain.

Brian McHale is Distinguished Professor of English at Ohio State University.

**Superstar firms in the global economy: Towards a new understanding of international markets**

Economist Professor Peter Neary talks about new research into international trading firms that reveal some uncomfortable truths for policy-makers and governments hoping to pick export winners. Presented by Elizabeth Lopez.

Peter Neary is Professor of Economics at Oxford University and a Professorial Fellow of Merton College.

Greater than the parts: the creative benefits of interdisciplinary research

Neuroscientist and science communicator Dr Daniel Glaser discusses the synergistic dividends that arise from research efforts that cross traditional research domains. Presented by Dr Andi Horvath.

Dr Daniel Glaser is a neuroscientist who has worked for many years promoting public engagement with science. He is Director of Science Gallery at King's College London.

**Making ethnographic history: Encounters in the Greg Dening Archive**

By Dr Michael Davis (University of Saskatchewan), Veterinary and Agricultural Sciences Lecture.

**Prospecting with Light: The Search for Super-Massive Black Holes in Galaxies by Professor Meg Urry (Yale University)**

**Wildlife Health**

**MELANCOLY MADNESS**

**Wildlife Health in the 21st Century**

**MAKING PEACE AND KEEPING IT**

**WHERE ARE THE BLACK HOLES?**

**FRIDAY 17 JULY 6:30PM**

**Wildlife Health in the 21st Century**

**THURSDAY 13 AUGUST 5PM**

**What are the Black Holes?**

**Prospecting with Light: The Search for Super-Massive Black Holes in Galaxies**

**THURSDAY 16 JULY 5:30PM**

**Challenges of Risk Governance: Coping with Climate Change**

**TUESDAY 14 JULY 5:30PM**

**Judges in Conversation with the Hon. Justice Christopher Jessup (Federal Court of Australia)**

**TUESDAY 21 JULY 6PM**

**The Emergent Rhythms of Health and Disease: Where mathematics, biology and medicine meet**

**THURSDAY 16 JULY 5:30PM**

**The Energetic Rhythms of Health and Disease**

**MONDAY 20 JULY 6:30PM**

**The Great awakening of World War II**

**TUESDAY 28 JULY 6PM**

**The First World War and China**

**TUESDAY 28 JULY 6:30PM**

**For University maps and locations visit:**

unimelb.edu.au/campuses/maps.html
Hedda, Sam given captains armbands

Two university stars have been chosen to lead the University of Melbourne sports teams this year. By Rod Warnecke

Two of the University's best and brightest student-athletes will lead the University of Melbourne and its sporting teams into battle in 2015. Rower Hedda Cooper and tennis player Sam Thompson have been selected as women's and men's sports captains. Both have represented the University and Australia with distinction on a number of occasions.

Cooper is in her final year of studies towards a Bachelor of Science. She is the Melbourne University Boat Club captain and has represented the University at several Australian University Games/Championships, winning a number of national championships. She has also been a crew-member of two winning women's eights in the Australian Boat Race. She has two Full Blues for rowing and was an Australian representative at the 2013 Junior World Championships in the coxless four.

Having recently graduated with a Bachelor of Science, Thompson is now undertaking a Master of Science in Mathematics and Statistics. Earlier this year he won through to the main draw of the Australian Open with mixed doubles partner Masa Jovanovic, where the eventual champions, Martina Hingis and Leander Paes, bundled them out in the first round.

Sam has also represented Australia at two World University Games, in Kazan, Russia (2013) and Shenzhen, China (2011). He is a Full Blue for tennis (2011, 2012 and 2013).

Both students were excited to be chosen from more than 750 of their peers, who will represent Winged Victory across more than 70 national university championships in 2015.

“It's an unbelievable honour to have been chosen as a captain,” says Cooper. “And I'm looking forward to supporting our teams over the next couple of months as we prepare for the Uni Games on the Gold Coast and for my rowing championship event in Adelaide.

“The Gold Coast is a great location for a Uni Games,” says Thompson. “The facilities are great. The weather is perfect. And it's great all of our 450-strong team stays together in the one accommodation property.”

Sport co-ordinator and University Team Manager Tom Lutwyche, says Cooper and Thompson were standout choices.

“Hedda and Sam have represented the University on multiple occasions with great individual and team success. Hedda has also been a valuable member of the Boat Club, while both students have supported many of the outreach programs associated with our Elite Athlete Program,” says Lutwyche.

While the Australian University Games and the Australian University Rowing Championships are still some months away (in late September), Cooper and Thompson have been keeping busy training for another big event.

At the time of writing, both were gearing up to represent Australia at the 2015 World University Games in Gwangju, Korea, on 3-14 July.

Cooper will row in the women's pair with fellow University of Melbourne student-athlete Claudia Zuchelli. Thompson will compete in the men's singles.

The University will also be represented by rower Alice Arch, badminton player Luke Chung, swimmer Raymond Mak (representing Hong Kong), track and field athlete Deluca Lawson-Matthew, fencers Amy Reynolds and Lucas Webber and water polo player Madeleine Steer.

Find out how these student-athletes fare at the Games by visiting www.sport.unimelb.edu.au.

Hedda and Sam will lead from the front this year.
Events and Courses at the University of Melbourne

CONCERTS
- Monday Lunch Concerts at Melba Hall
  Free lunch hour concerts from 1.10pm–2.00pm at Melba Hall, Royal Parade, Parkville.
  Monday 27 July
  Josephine Vains cello, John O’Donnell organ
  A rare concert for cello and organ, featuring Arvo Pärt’s minimalist triumph Spiegel im Spiegel, Sofia Gubaidulina’s powerful In Croce and other beautiful works by Saint-Saëns and Percy Grainger.
  Monday 3 August
  Three: Global perspectives, Australian context
  Joel Brennan trumpet, Don Irmiel trombone, Ken Murray guitar
  There is an innovative new chamber ensemble, exploring new textures and sonorities by combining trumpet, trombone and guitar with live electronics and soundscapes. This concert features new music by Fay Wang, Andrew Ford and Julian Yu
  Monday 10 August
  Caroline Jannotti piano
  A solo piano recital, which will include works by Elisabeth Jacquet De La Guerre, Lily Boulanger, Franz Liszt, Alexander Scriabin.

THEATRE
- Flight: A Festival of New Writing
  30 Jul – 23 Aug
  Performances of new Australian works that have been developed by writers who have completed the Master in Writing for Performance course led by playwright and dramaturg, Raimondo Cortese of Ranters Performance course led by playwright and Theatre.
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EXHIBITIONS
- Ian Potter Museum of Art - The University of Melbourne
  Swanston Street, Parkville
  Gallery hours: Tuesday to Friday 10am–5pm, Saturday and Sunday 12–5pm – Closed Monday.
  Free admission
  Enquiries: 03 8344 0327
  www.art-museum.unimelb.edu.au
- Nite Art: The City Comes Alive
  Art and Music @ the Potter
  Thursday 23 July
  Join Nite Art at the Potter. From 6pm, Melbourne opens up for a night artwalk event, where you “curate your own night”, connecting with art, artists and the city.
  Art experiences activated with mini-events, off-site exhibitions, artist talks and installations.
  Finish off at the Potter with music by The Orbweavers from 10pm.
- Julie Rrap: Remaking the World
  21 July
  Julie Rrap’s involvement with body art and performance in the mid-1970s in Australia continued to influence her practice as it expanded into photography, painting, sculpture and video in an ongoing project concerned with representations of the self and the body. Remaking the World, presented as part of the Vizard Foundation Contemporary Artist Project series, continues Rrap’s exploration of this aspect of representation while also investigating the creative process and the stereotypical image of the artist as creative genius.
- More love hours
  From 21 July
  More love hours brings together selected works by thirteen contemporary Australian artists who use craft media, techniques or processes in their practice. The works reflect significant stylistic and thematic diversity, the exhibition demonstrates how artists use traditional forms of creativity – ceramics, embroidery, weaving, paper-craft – to express contemporary values and complex ideologies.
- Weird melancholy: The Australian gothic
  To 9 August
  The University’s collection of early landscape painting shows that our most celebrated artists were not free of anxieties about the natural environment and the ghosts that haunt it, indeed many could not escape them.
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