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# uniken

A blind  
eye to love



**UNSW**  
THE UNIVERSITY OF NEW SOUTH WALES

Sequined secrets of drag • Too late for nuclear? • Questioning nature's laws

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**Special thanks to:** the Strachan family.

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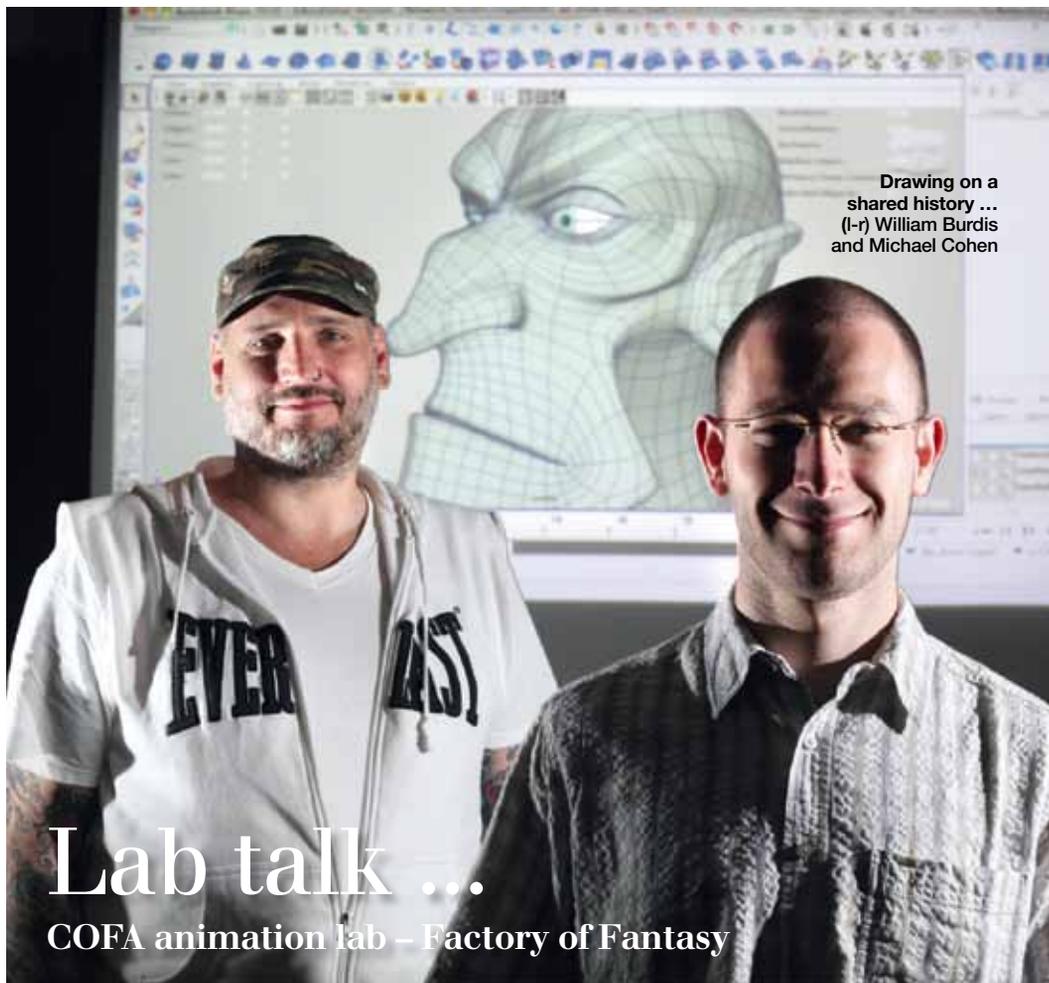
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Drawing on a shared history ... (l-r) William Burdis and Michael Cohen

Photo: Grant Turner, Mediakoo

**T**he animation blockbuster *Happy Feet* brought William Burdis to Australia five years ago. For the past three years, the British-born animator who has been in the industry for over 12 years has been juggling his own work with teaching COFA students the art of making computer-generated images. In both areas, Burdis relies heavily on the expertise of technical staff, such as COFA IT support member Michael Cohen.

#### William Burdis:

The wonderful thing about animation is that you can have a group of tremendously talented people and it's useless without these technicians. We absolutely rely on them. They understand what a creative person needs and can interpret that. They are integral to the creative process. They might come up with an effect that we wouldn't have thought of, or they might come up with a better way of doing something – sometimes by accident.

At COFA, it is about keeping the machines running with the latest software. That software is changing constantly. No sooner than they have everything running smoothly something changes. I don't know how they keep on top of that. The other tier is the technicians, who keep the hardware running. The staff are often under immediate pressure and they need to inform the students, who are often working to deadline.

There's this outdated idea of "those who can, do; those who can't, teach". But right now, the animation industry needs more teachers. You are with the students for three years and being part of their learning is a complete privilege.

#### Michael Cohen:

When it comes to the creative industries, you are always pushing the boundaries of where the technology can take you. You are at the bleeding edge. You get the opportunity to work with technologies that you wouldn't normally have a chance to work with – that gives us a creative outlet too. I also find problem-solving a really creative process.

There is a good relationship between the technical and academic staff. I have been working with Will to test new releases of 3D animation and modelling software to be deployed to our labs and also to ensure COFA's render farm [computer cluster built to render computer-generated imagery] is operating at peak efficiency. I really enjoy watching the students' animation projects during the COFA annual exhibition. They are very high quality and always entertaining. I am happy to be involved in creating the lab environment which helps facilitate these works.

*William and Michael spoke with Susi Hamilton.*

To nominate a researcher and technician for "Lab Talk" please email uniken@unsw.edu.au.

## A field of tall poppies

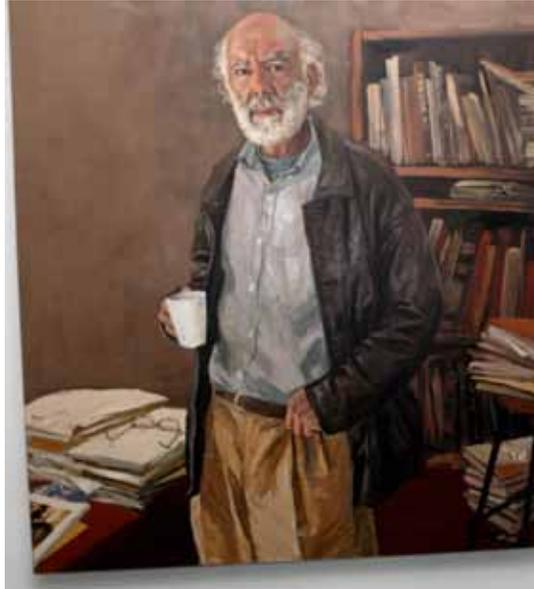
Outstanding researchers from UNSW have won five of this year's ten NSW Young Tall Poppy Awards, with experimental psychologist **Michelle Moulds** named as the NSW Young Tall Poppy of the Year.

The awards recognise young scientists who excel at research, leadership and communication.

Associate Professor Moulds' NSW Young Tall Poppy of the Year award recognises her outstanding contribution to the scientific understanding of depression. Her research program examines cognitive and memory processes in psychological disorders, in particular the role of rumination in the maintenance of depression-related memory disturbances.

The other UNSW winners are **Dr Michael Kasumovic**, an ARC Postdoctoral Research Fellow in the School of Biological, Earth and Environmental Sciences for his work on the mating habits of redback spiders; National Drug and Alcohol Research Centre Senior Research Fellow **Dr Frances Kay-Lambkin** for an intervention that helps those suffering co-occurring depression and substance use problems; ARC Future Fellow, **Dr Vanessa Venturi**, from the Centre for Vascular Research for her research using computational biology approaches to understand the complexities of the recognition and control of infectious diseases by the immune system; and **Dr Claire Wakefield**, from the School of Women's and Children's Health who was honoured for her work in the field of "psycho-oncology", and the investigation of the mental health issues faced by cancer patients and their families.

Photo: Les Bedford, fairfaxphotos.com



A tribute ... (l-r) Dr Gene Sherman and Nick Waterlow's partner Juliet Darling with a portrait of the late curator



## Sherman's gift

Sydney philanthropists and arts patrons **Dr Gene Sherman** and **Brian Sherman** will gift \$2 million towards the new College of Fine Arts gallery destined for Sydney's Oxford Street.

The building, due for completion in early 2013, will give the city its third major public art gallery. It is a key feature of the Gateway@COFA project, a multi-million dollar redevelopment of the COFA campus in Paddington.

The new facility will include two purpose-built rooms within the gallery to be known as the Sherman Gallery and the Waterlow Gallery. The latter is in memory of Nick Waterlow, former curator of COFA's Ivan Dougherty Gallery, who died last year.

"Nick was a close friend and colleague and a great mentor to me and many other people," Dr Sherman said. "For over 50 years he played a leading role in shaping the visual arts scene in Sydney, nurturing generations of art students and mentoring curators, arts administrators and countless other arts professionals through his teaching. It is wonderful that we can remember him in this way."

The Vice-Chancellor Professor Fred Hilmer said: "Dr Gene Sherman and Brian Sherman are significant benefactors to the visual arts and we are very pleased to welcome them into the UNSW/COFA community."

The College's School of Art History and Art Education is also to be renamed the Sherman School of Art History and Art Education. Dr. Gene Sherman will be awarded the title of Adjunct Professor at COFA.

Further support is being sought to fund the gallery.

## The eyes have it: one year on

**The Centre for Eye Health (CFEH)** has hit the ground running in its first year, receiving over 2,500 referrals from optometrists and ophthalmologists.

"More than half of all optometrists in NSW and the ACT have already registered with the Centre and are now able to refer patients here for state-of-the-art eye imaging and diagnostic services," says director Michael Kalloniatis.

"Through CFEH we now have access to clinical expertise and results from diagnostic equipment we cannot afford in private clinical practice," says Kyriacos Mavrolefteros, a UNSW graduate and optometrist who has already referred more than 50 patients to the Centre.

More than 70 per cent of referrals come from outside the Sydney central metropolitan area, showing that patients are willing to travel if it means accessing the most sophisticated technology available.

CFEH is a joint initiative of Guide Dogs NSW/ACT and UNSW with a mandate to reduce preventable blindness and complement existing services provided by eye-care professionals. Located in the Rupert Myers building on the UNSW Kensington campus, the service is provided at no cost to either the client or the referring practitioner.

## Lifesaver wins world acclaim

A lifesaving design with far-reaching potential has won industrial design graduate **Sam Adeloju** one of the world's highest-profile prizes for young designers.

Sam, who graduated from the Faculty of Built Environment last year, has won the James Dyson Award for his Longreach Buoyancy Deployment System. Longreach is a hand-held launcher powered by oxygen and butane, capable of firing a self-inflating flotation device over long distances to people at risk of drowning.

The prize, announced in London, has secured a \$15,000 prize and a visit to the UK Dyson factory for Sam, plus a further \$15,000 for FBE.

# Your time starts now ...

*A UNSW student has won accolades for his research, which was presented in the national Three Minute Thesis competition.*



On promiscuity ...  
Alex Jordan in the competition.

Photo: Jayne Ioni, B-Side Design

FOR THE RECORD

**“It’s a very deliberate pace that’s being kept here. Neither side wants to be used by the other, but both want to advance the relationship.”** Professor Carl Thayer, UNSW@ADFA on warming relations between the US and Vietnam, *New York Times*.

**“When you convert that to the sex ratio at birth, that’s around 128 boys to 100 girls – that’s quite significant.”** PhD student Jishan Dean from the Faculty of Medicine on UNSW research which shows that IVF influences the baby’s sex, *Herald Sun*.

**“I don’t think this is a totally negative impact on the economy. I mean, there are going to be major improvements in the river system which will flow through to tourism and things like fishing down at the bottom of the lower lakes.”** Professor Richard Kingsford welcoming the Murray–Darling rescue plan, ABC Radio’s *PM* program.

**“The legislation is basically setting up a surveillance system by instalments, without anyone really knowing what else might be in the package.”** Professor Graham Greenleaf, director of the Cyberspace Law and Policy Centre on plans to introduce shared e-health records, *Sydney Morning Herald*.

**“The debate must explore four key issues: why we are there, the nature of the conflict, whether we can succeed and the human cost.”** Dr Alan Stephens, visiting fellow at ADFA on the parliamentary debate on the war in Afghanistan, *Canberra Times*.

**“For people who are older and have these conditions [diabetes and high blood pressure] there are significant risks.”** Professor of clinical pharmacology Ric Day on research which links painkillers Voltaren and Nurofen with strokes, *Sydney Morning Herald*.

**“By international standards, our governments, of both persuasions, fund our universities pathetically.”** Professor of International Finance Law, Ross Buckley on Australia’s aversion to entering into national debt to better fund infrastructure and education, *Canberra Times*.

**T**he clock starts, the audience chatter subsides.

“Why isn’t the world a more promiscuous place?” asks a confident Alex Jordan at the inaugural *Australia and New Zealand Three Minute Thesis* competition.

“Natural selection, which is the process that drives evolution, is effectively a measure of how many offspring you leave behind in subsequent generations.”

And so the theory goes that a promiscuous male has better evolutionary prospects.

The 29-year-old Science PhD student warms to his topic, using humour to sell a three-minute pitch on his research on the sexual behaviour of male tropical fish.

“Over the course of their lives, I kept males either with a single female – which I called the ‘married’ treatment, or with a series of unfamiliar females that I replaced every two weeks – which I called the ‘Tiger Woods’ treatment.”

The audience laughs.

Alex says his work shows that promiscuous males will forgo essential life tasks in favour of sexual effort, but warns there is a trade-off.

“They ended up hungry, skinny and dead,” he deadpans. “Perhaps it’s nature’s way of telling males to be more faithful to their sexual partners.”

Alex’s polished performance won him the People’s Choice category at the national competition. He’d made it to the national stage by taking out an earlier UNSW-based competition, beating 22 other research students from across all faculties.

In that competition, Alex Pui from the Faculty of Engineering was the runner-up, for his pitch on flood risk in a warming world.

The UNSW People’s Choice winner was Paul Lee from the Faculty of Medicine, who spoke about “brown fat”, as a possible key to weight loss.

“Brown fat, unlike ordinary ‘white’ fat, functions like generators, releasing energy as heat by burning fat,” says Paul, who studied close to 3,000 people and found brown fat to be common in those who are leaner.

“The growth and activity of brown fat can be turned on,” he says. “Brown fat has an important metabolic role in adult humans and is a potential treatment target for obesity.”

The preliminary UNSW event was hosted by the Graduate Research School and was judged by Professor Cheryl Kernot from the Centre for Social Impact, Professor Fred Watson, the Astronomer-in-Charge of the Anglo-Australian Observatory and ABC Science communicator Dr Paul Willis. •

*By Susi Hamilton*

# A climate for exchange

*A new initiative is rethinking the way environmental issues are taught throughout the University.*  
 By Yasmin Ghahremani.

**W**hen it comes to getting information about climate change today, quantity is not the problem. The onslaught of media messages about the subject reflects its complexity and seriousness. In preparing students to become leaders in their fields, the University is providing knowledge about climate change from practitioners' and researchers' points of view. But how do you make sure law students know about the latest greenhouse science, and biology students are current on relevant social issues surrounding climate change? "There's a great deal of concern in research and teaching areas regarding how we can approach climate change from an interdisciplinary perspective," says Associate Professor Paul Brown, head of the School of History and Philosophy in the Faculty of Arts and Social Sciences.

That's why Brown is heading an initiative called the Leadership Network for Climate Change. It's an interdisciplinary group of academics and students working together to improve the way climate change is taught and information is distributed at UNSW. The idea came from a successful University of Tasmania pilot project using similar concepts. The Australian Learning & Teaching Council then provided a grant to keep things going at the University of Tasmania, UNSW, as well as at the University of Wollongong and Murdoch University.

The Network's program development rests with the Institute of Environmental

Studies and a set of early-career teachers and researchers concerned with climate change education. Student leadership is an important element. Postgraduates as well as representatives of the 300-student Environmental Collective are involved. Together they've come up with a number of projects to meet their goals.

The most basic is analysing the state of climate change teaching on campus. Starting in November, the group plans to eventually survey all teachers and students on what is being taught and what else they would like to see in their courses about climate change. "As a group we realised that no one was fully aware of what anyone else was doing and we're trying to resolve that," says Sarah Terkes, Network Coordinator.

Even as that research is going on, plans are underway to create new interdisciplinary fieldwork courses and boost the multi-dimensional aspects of existing courses dealing with climate change. For example, Brown helps teach a class involving fieldwork in Botany Bay. Incorporating climate change into it adds another dimension, since the shoreline will be strongly affected by sea level rise. Residential, industrial and recreational land use will be affected, as will the internationally recognised wetland system at Towra Point. Adapting to the problem will require many disciplinary inputs. The Network is initiating linkages across the scientific, technical, social, economic,

**Climate change leaders ... (l-r) PhD students Alicia Bergonia and Tani Faletau with A/Professor Paul Brown, Sarah Terkes from the Institute of Environmental Studies and PhD student Paul Twomey from the Australian School of Business.**

political, legal and ethical dimensions of climate change as it affects places such as Botany Bay.

Besides coursework, the Network is spearheading a video project designed to provide teaching materials on climate change. Network members are researching and writing the scripts for three animated short films to be produced by media and performing arts students in November. Eventually the films will be published on UNSWTV.

Finally, the Network is discussing a number of public round tables, forums and other major events that will bring in outside experts to discuss climate change.

Brown is driven by a belief that the University is not separate from the real world, and students therefore should learn by doing. That requires getting out of academic silos. "What we're doing is training students to the point where they can take their place as citizens able to make and implement decisions in what is really the most complicated of all environmental issues, and an issue with implications for everything from our economic and social systems to our technologies, particularly our energy systems," says Brown. •

First Indigenous surgeon ...  
UNSW alumnus Dr Kelvin Kong

Photo: Britta Campion



## Light touch leaves lasting imprint

*A former bureaucrat and an academic find there is much to learn from a new approach to working in Aboriginal communities. By Susi Hamilton.*

## Closing the gap

**W**hen Kelvin Kong started medicine at UNSW in the early 1990's he was the only Indigenous medical student.

Today it's a very different story.

UNSW Medicine is a national leader in the training of Aboriginal and Torres Strait Islander doctors. This year the faculty has welcomed 11 Indigenous students to first-year medicine, the highest number ever enrolled in a single intake.

In total, 27 Indigenous students are now studying medicine at UNSW, compared to an average of around eight for other universities that offer a medical degree.

UNSW Medicine's record enrolment has been further boosted with the announcement of five new Indigenous scholarships funded by the Balnaves Foundation.

The scholarships – one a year for the next five years – are valued at \$750,000, and bring to nine the number of scholarships funded by the Foundation set up by businessman and philanthropist Mr Neil Balnaves and family.

The support is among the most generous in Australia, giving students \$25,000 a year for the full six-year medical degree.

The success was celebrated recently at an Indigenous Australians Exhibition at the Australian Museum.

NSW Governor Professor Marie Bashir joined UNSW Chancellor David Gonski, Dr Kong, and around 100 staff, alumni and current and

prospective students to celebrate the impressive record and achievements in Indigenous medicine.

"When the current group of UNSW Indigenous medical students has graduated, UNSW alone will have increased the number of Indigenous doctors in Australia by 20 per cent," UNSW Medicine Dean, Professor Peter Smith, told the gathering.

UNSW, through Nura Gili Indigenous Programs, offers campus-wide support to Aboriginal students, including academic resource centres. It also runs one of Australia's largest Winter Schools and uni preparatory courses.

"Financial support, such as the Balnaves Foundation Indigenous scholarships and the Shalom Gamarada residential scholarship program, is essential to ensure Indigenous students graduate as doctors," Professor Smith said.

Dr Kelvin Kong is now an ear, nose and throat surgeon at Newcastle's John Hunter Hospital.

"I think there's difficult moments for anyone going to university. For an Indigenous person there's certain aspects that make it more difficult in relation to finances, leaving the family, big family units, and the cost of living," he told the ABC's *AM* current affairs program at the celebration.

"Having more Indigenous practitioners involved in the health arena will actually bring a new way of thinking to the table."

*By Steve Offner*

**W**hile the intervention in the Northern Territory garnered massive public attention when it was introduced in 2007, around the same time another initiative aimed at Aboriginal communities quietly ended.

Known as the Murdi Paaki Council of Australian Governments (COAG) trial, the initiative in outback NSW was a success according to those involved in the decision-making process, including employees from all levels of government and Indigenous community members.

Towns in the area of Murdi Paaki including Bourke and Brewarrina saw significant improvements in problems that had long been intractable, such as illiteracy and alcohol-related crime.

Dr Wendy Jarvie was a senior federal government public servant when COAG decided to run the five-year trial of a whole-of-government approach. She played a key part in getting the Murdi Paaki trial going, while seven other trial sites were set up across the country.

"There was a general agreement that the huge investment made by governments had not delivered outcomes," says Jarvie, who is now researching the fallout of the program at UNSW@ADFA. "COAG agreed in 2002 to trial a new way of doing business."

That new way of doing business involved flexibility, with Commonwealth and state governments responding to priorities identified by the communities. In Murdi Paaki this meant working with 16 community working parties, one for each town.

"The public servants changed and adapted their approach so as to respond to what was emerging from the communities – and that's unusual," says Jenny Stewart, Professor of Public Policy at UNSW@ADFA.

"This intricate way of working was not just top-down, which is what normally happens," she observes. "It was top-down, bottom-up and middle-out. There was such a complexity in the way that people worked."

Stewart, an expert on governance, was intrigued by this "light touch" policy design. She contacted Jarvie, who had then left the public service, and an unlikely partnership developed.

"I believe there is too much distance between academics and bureaucracy," says Jarvie, who welcomed the chance to reflect on the trial. "Academic work is too far away from the 'real world' and senior bureaucrats are far too busy and the culture is not to engage [with academia]."

It was not long until the pair set off for extensive fieldwork in western NSW.



A detailed approach ... (l-r) Dr Wendy Jarvie and Professor Jenny Stewart

Jarvie was warmly welcomed back by Indigenous community members on the road trip in November last year.

“It was wonderful going out there again,” says Jarvie. “The community leaders were so pleased that a former bureaucrat had come back and that we wanted to tell their story. They were strong supporters of our project.”

One of those who was pleased to see them was Phil Sullivan, who is the Chair of the Working Party in Bourke.

“The trial gave us a plan, which we still work off. It gives us a direction,” he says.

“It’s not a five or ten year plan – it’s forever. It’s a living document. Everything that happens with government agencies, we still focus on the plan,” says Sullivan, who is also an employee of the Department of Environment, Climate Change and Water.

The Indigenous community members also told the researchers the most important thing they got from the trial was confidence in dealing with government. The finding was particularly strong for women.

“For me it was a wonderful experience,” reflects Stewart. “I knew very little about these towns and the Indigenous people. I started to get a real appreciation for both.”

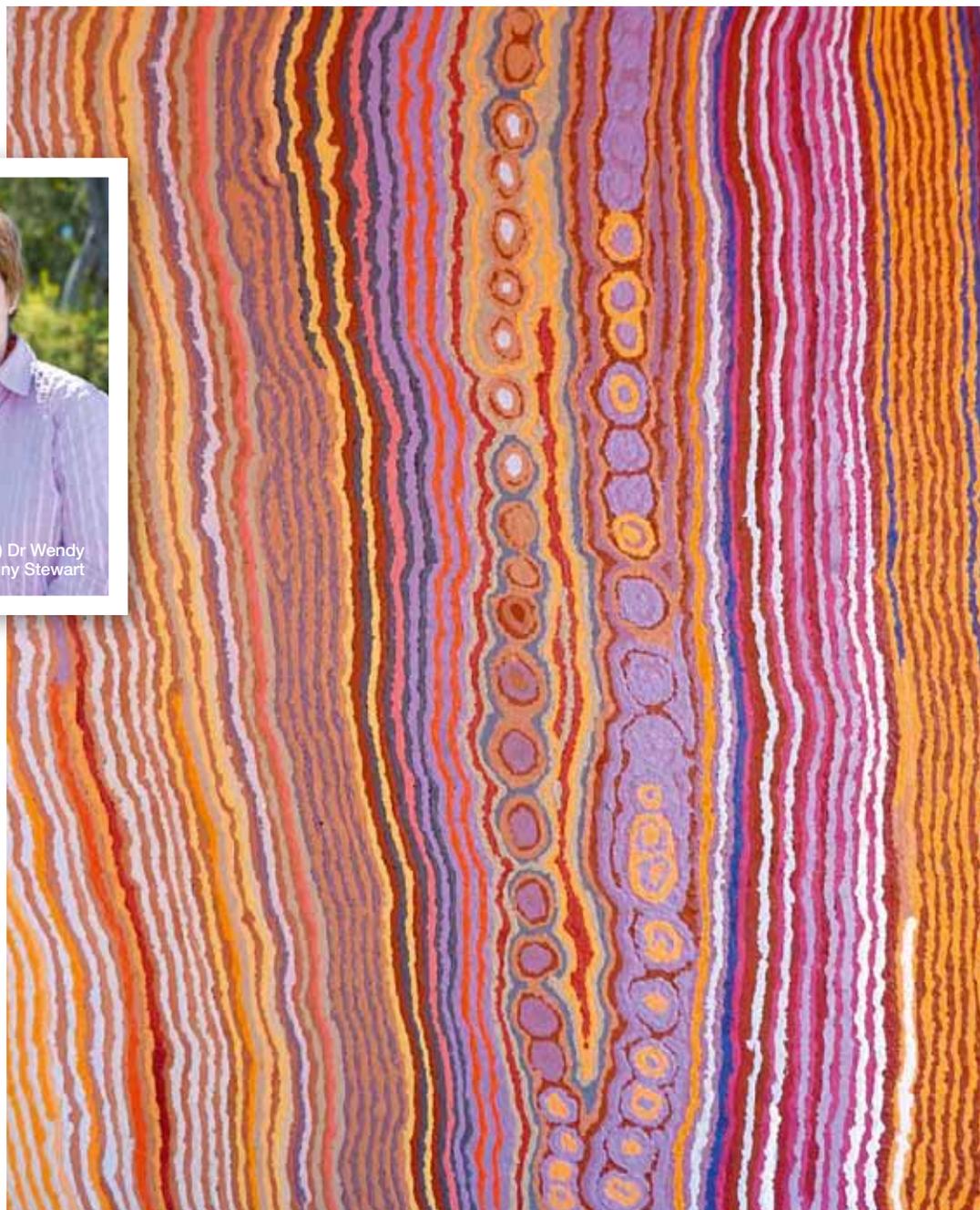
While the Howard Government did not extend the trial after its conclusion in 2007 – and the Rudd Government did not re-introduce it either – there are some ongoing legacies.

The Indigenous communities in most of the 16 townships kept the working parties going.

“The young leaders programs are also still going,” says Stewart. “They were started to develop their capacity and self-confidence. It was about succession planning and bringing in the next generation of leaders. They were very inspiring.”

The health initiatives, such as the drug and alcohol network, are also continuing.

Nonetheless, there’s a sense of frustration that the trial was not allowed to develop and the momentum has dropped away. Despite improved outcomes, governments were unable to sustain the flexible ways of working



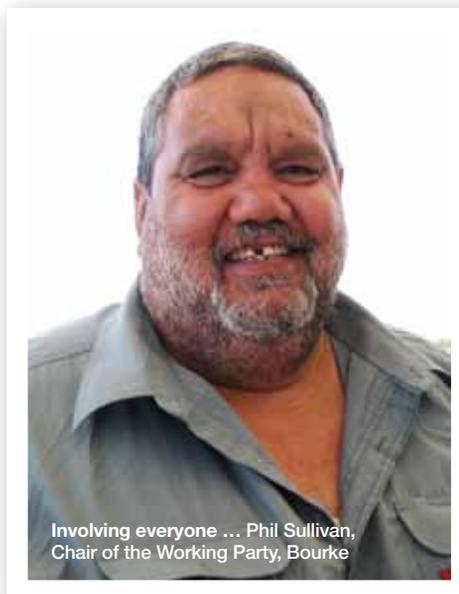
Beautiful synergies ... local communities and governments came up with improved services in western NSW. Courtesy of UNSW’s Shalom Gamarada Exhibition <http://www.shalomgamarada.org/> and the artist Mary Anne Michaels from Yuendumu, NT.

and reverted to more traditional modes when the trial ended.

“From the perspective of the towns, I am disappointed,” admits Jarvie. “The chopping and changing of Australian government policy is an indictment. Policy needs to be bipartisan and it needs to be held over a much longer period.”

The pair is hopeful of influencing public servants and politicians by giving seminars and publishing their paper, due out early next year.

While they are the first to admit they had differing perspectives, they agree that the reason for the good results in Murdi Paaki was that government policy worked *with*, rather than *against* complexity. It may take time and money – and it may not work in every community – but they say this “light touch” by governments is the best chance many areas have to solve longstanding problems like drug and alcohol abuse, poor educational outcomes and domestic violence. •



Involving everyone ... Phil Sullivan, Chair of the Working Party, Bourke

# Questioning nature's laws

*The laws of physics might not be constant after all, following a new finding involving UNSW researchers. By Bob Beale.*

**I**t's known variously in physics as "the magic number", the fine-structure constant, or just plain and simple "alpha".

Whatever name it goes by, this little-known and dimensionless number characterises the strength of electromagnetic interaction. It is measured to be roughly one divided by 137: if this mysterious constant was much smaller or larger than that, electrons would not bind with atoms as they do; chemistry would change and, if that change was large enough, there might be no carbon or oxygen. The consequences for the evolution of life would be immense.

Like the strength of gravity and the speed of light, it is supposed to be the same wherever you go and however far back in time you go, throughout the universe.

Yet a team of Australian and British astrophysicists, led by Professor John Webb of the UNSW School of Physics, has caused a real stir by suggesting that the fine-structure constant may not be constant after all – that the laws of physics are different in different parts of the universe.

The blogosphere in particular has been abuzz with discussion about what has been dubbed the "physics story of the year".

The team from UNSW, Swinburne University of Technology and the University of Cambridge kicked off an animated international discussion when they filed a preliminary online version of their findings (also submitted for publication in the journal *Physical Review Letters*) from a study looking for variations in the fine-structure constant by studying light from extremely bright but far distant quasars.

"After measuring alpha in around 300 distant galaxies, a consistency emerged: this magic number, which tells us the strength of electromagnetism, is not the same everywhere as it is here on Earth, and seems to vary continuously along a preferred axis through the universe," says Professor Webb.

"The implications for our current understanding of science are profound. If the laws of physics turn out to be merely 'local by-laws', it might be that while our observable part of the universe favours

the existence of life and human beings, other far more distant regions may exist where different laws preclude the formation of life, at least as we know it.

"If our results are correct, clearly we shall need new physical theories to satisfactorily describe them."

The researchers' conclusions are based on new measurements taken with the Very Large Telescope (VLT) in Chile, along with their previous measurements from the world's largest optical telescopes at the Keck Observatory, in Hawaii.

Co-author Julian King, a UNSW doctoral student, says that after combining the two sets of measurements, the new result "struck" them: "The Keck telescopes and the VLT are in different hemispheres; they look in different directions through the universe. Looking to the north with Keck we see, on average, a smaller alpha in distant galaxies, but when looking south with the VLT we see a larger alpha.

"It varies by only a tiny amount – about one part in 100,000 – over most of the observable universe, but it's possible that much larger variations could occur beyond our observable horizon."

Other researchers involved in the research are Professor Victor Flambaum and doctoral student Matthew Bainbridge, from UNSW, and Professor Bob Carswell at the University of Cambridge.

Co-author Dr Michael Murphy, of Swinburne University of Technology, says the discovery will force scientists to rethink their understanding of nature's laws.

"The fine-structure constant, and other fundamental constants, are absolutely central to our current theory of physics. If they really do vary, we'll need a better, deeper theory," Dr Murphy says. "What we're finding is extraordinary, no doubt about that. It's one of the biggest questions of modern science – are the laws of physics the same everywhere in the universe and throughout its entire history?"

The team is now working on a much larger sample of new data and is in discussion with colleagues elsewhere to gather different kinds of astronomical observations to provide a new and independent check on its astonishing findings. •

# Quantum leap

*The world of computing was turned upside down at a weekend barbecue in Sydney.*  
By Peter Trute.

**O**n a Saturday morning in December 2008, Dr Andrea Morello stopped in at his lab on the way to a barbecue, to check on an experiment he'd let run overnight.

What he found was a wonderful result and the long-awaited reward for 10 years of hard work: during the night a nano-scale device, so small that thousands of them would fit on the head of a pin, had registered and recorded the spin, or magnetic orientation, of a single electron.

The result was a breakthrough: for the first time anywhere in the world, Morello and his co-researcher Professor Andrew Dzurak, both from the School of Electrical Engineering and Telecommunications, had reliably measured the spin of a single electron in a block of silicon.

What it meant was that they had created a "single electron reader": a key part of the fundamental hardware of a new generation of computer, the quantum computer. The fact they had used silicon meant the reader could be made using a widely available and well-understood material – an important precursor for future mass production.

Elated, Morello printed the results and drove on to the barbecue where he knew he would see his co-researcher and could present the happy news.

"He came in and said 'Look at this, your Christmas present!'," Dzurak says.

With a quick check of the printouts, Dzurak could see the result was what they'd been working towards for so long.

"We just jumped up and down and hugged each other – that breakthrough was a very special moment."

Quantum computers have existed as an idea for nearly 20 years and it will be many more years before a large-scale, functional example exists. But with contemporary computers approaching the stage where further big increases in processing speed will be curbed by the physical limitations of silicon chip technology, there is a very real, very expensive



A barbecue stopper ...  
(l-r) Jarryd Pla, Andrew Dzurak, Andrea Morello and Floris Zwanenburg

**"We just jumped up and down and hugged each other – that breakthrough was a very special moment."**

race to develop a quantum machine going on worldwide, with Australia, and UNSW in particular, among the frontrunners.

The excitement about quantum computers comes from the enormous increases they promise in processing speeds for specific types of high-complexity calculations.

"Quantum computers won't speed up all day-to-day computing, but there are three areas where we know they will be much faster: cracking most modern forms of encryption; searching databases; and modelling atomic systems such as biological molecules and drugs," says Dzurak.

The quantum processors being developed at UNSW achieve these increases in speed by using the spin of electrons to represent data in their calculations. Whereas contemporary computers use bits, in the form of zeroes and ones, to represent information, the qubits in silicon quantum computers do it with electron spin. The counterintuitive nature of quantum mechanics allows an electron spin to effectively be in two states at once, so a computer operation on a single qubit can give results for both of the states, or values, at the same time. This doubled processing power increases exponentially to the number of qubits used.

To employ electron spin, the quantum

computer needs both a way of changing the spin state – its "write" function – and of measuring that change – its "read" function.

From that breakthrough in 2008, it took almost another year of labouring in the lab, with PhD student Jarryd Pla and research fellow Dr Floris Zwanenburg, to conclusively prove the technique.

"Our device detects, or 'reads' the spin state of a single electron in a single phosphorus atom implanted in a block of silicon," Morello says.

"To do this we created a system where the spin state of just one electron controls the flow of billions of electrons in a nearby circuit."

The resulting paper was published in the prestigious journal *Nature* and generated international attention in the scientific community.

Now the team has created the reader, they are focused on the next stage – a single electron writer – and combining the two.

"I think this will happen much quicker than the first step – we're already working on it," says Morello.

*The research team is part of the Australian Research Council (ARC) Centre of Excellence for Quantum Computer Technology, which is headquartered at UNSW. The paper's co-authors included Professor David Jamieson, from the University of Melbourne; Dr Bob Clark, Australia's Chief Defence Scientist; and 10 other researchers from UNSW, the University of Melbourne and Finland's Aalto University.*

Additional reporting by Stephen Pincock.



# A BLIND EYE TO LOVE

*Lack of interest in holding a mother's gaze may be an early indicator of problems to come, writes **Bob Beale**.*

**A**sked to picture a psychopath, you might conjure up a horror movie character: someone prone to violence, serial murder even, coldly scrutinising you with unblinking eyes.

In fact, only a tiny proportion of psychopaths are killers: most psychopaths are involved in far more mundane criminality or callous exploitation of other people for their own ends, notes Professor Mark Dadds, of the UNSW School of Psychology.

Psychopaths are antisocial and emotionally cold, and new evidence indicates that a core feature is that they lack a natural propensity to focus on the eyes of other people.

Our natural interest in the eyes of other people holds important clues to understanding the workings of both healthy and unhealthy minds, Dadds notes.

Eye contact is vital to normal human relations: from a parent's stern look to lovers gazing at each other, the eyes convey a vast range of emotional cues that help us get along with, and understand, each other.

"Our inherent interest in the eyes of other people lies at the origin of empathy, connectedness and attachment, and some of the earliest evolved parts of our brains are dedicated to driving our attention to the eyes of other people," says Dadds.

Recent research led by Dadds suggests that impairments in human eye contact may be reliable signs of psychological problems detectable in even very young children.

It has long been recognised, for example, that children with autism have poor eye contact even with people who are very close to them. People with high levels of social anxiety have their attention involuntarily captured by other people's eyes in a way that can be threatening and unpleasant.

A team led by Dadds is interested in children with significant behavioural or conduct disorders, commonly diagnosed as having Oppositional Defiant Disorder (ODD) or Conduct Disorder, characterised by repetitive patterns of aggressive, hostile and antisocial behaviour. These children represent the most common mental health problem in children and although some overcome their problems, they are at increased risk for a multitude of outcomes including criminality, all forms of adult mental illness, drug and alcohol abuse, and social disadvantage.

Dadds says this group seems to divide into children who are emotionally "hot", who make up the majority of such children, and those who are emotionally "cold". Children in the second group make poor eye contact with their mothers and don't display or respond much to affection. The research suggests that while they are not psychopaths, it is as if they literally do not see the love in their mother's eyes.

With John Brennan from the UNSW School of Psychiatry, David Hawes from the University of Sydney, and colleagues from the Institute of Psychiatry at King's College, London, Dadds has conducted pioneering laboratory experiments using eye-tracking devices and video cameras to record how much eye contact such children make with their parents during free and emotional talk interactions, and when the mothers are consciously trying to express their love for them.

The studies involved more than 100 children aged between four and 16 years of age who have been diagnosed with ODD.

They were screened to exclude other significant mental, medical or developmental issues and their mothers had no significant psychiatric or addiction problems.

They were compared with control groups of children with no mental health or behavioural problems. All the children were from the same regions of rural NSW, Sydney and South London and from mixed socioeconomic backgrounds. The experiments were conducted "blind", meaning that observers were not told to which group each child belonged.

Parents and children were discreetly observed by camera and two-way mirrors as they played and talked freely for about 30 minutes in a room equipped with toys and furniture. The mothers were then instructed by telephone to look into their child's eyes and express their love in whatever way felt most natural for them.

Mothers' levels of affection and eye contact did not differ between those with healthy or children with behaviour problems. Thus it is unlikely that differences in warmth and engagement from mothers could explain differences in the children.

Children with ODD showed lower levels of returned affection than those in the control group. But some of them – those ranked

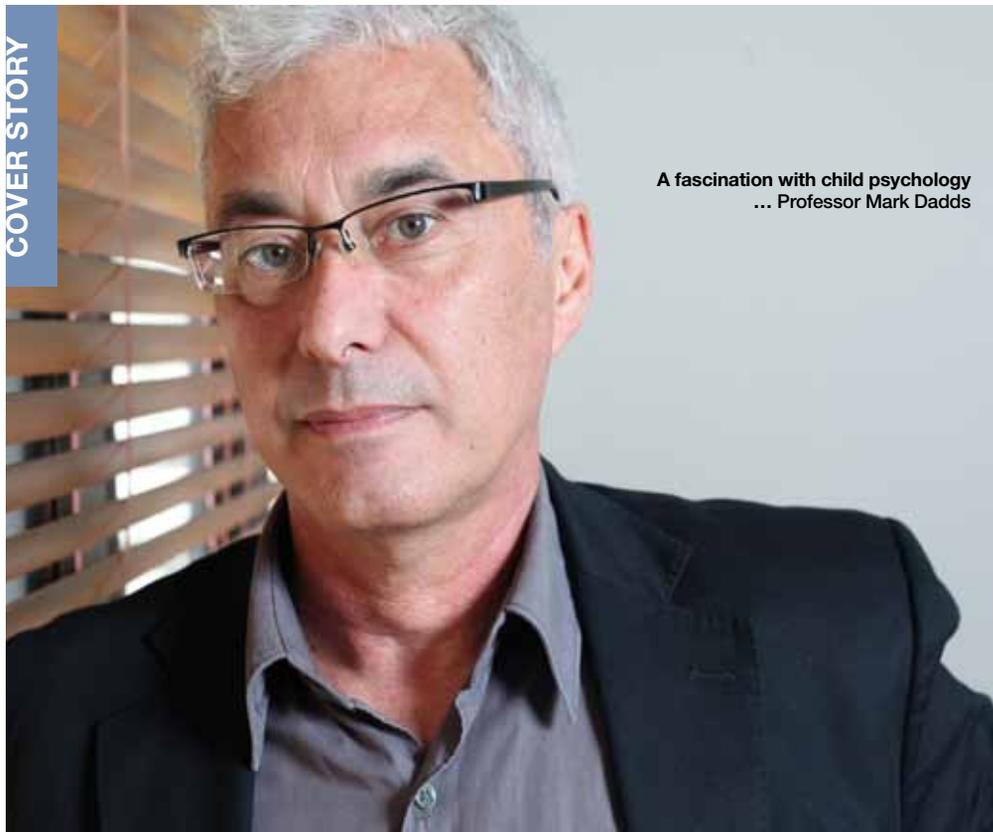
**"A healthy brain is drawn to biologically relevant cues and the eyes of other people provide so many of those."**

highly for having what are known as "callous unemotional" or cold traits – showed uniquely low levels of gazing at the eye region of parents. During the love task, the children with the cold traits showed little interest in sharing gazes with their mothers. All other children showed the natural propensity to "lock gaze" with loved ones.

"This is a sub-group of kids who are quite different," says Dadds. "They are low on emotion and they don't connect with authority figures. It's not clearly due to problems in the discipline they are receiving. Research from the UNSW team and overseas groups suggests that the style, stability and quality of parenting have relatively little impact on these children. Indeed, the reverse seems to be true – that these kids have a significant impact on their parents."

These findings support a growing awareness among psychologists that children who exhibit aggressive and antisocial behaviour are not a homogenous group and that a "one-size-fits-all" treatment is not appropriate. At present the treatment of choice for ODD is evidence-based, positive-parenting strategies. These findings indicate that differences in emotionality need to be considered in finetuning the specific ways parents are helped to communicate, discipline and lovingly engage with these children.

About one in 10 children has significant behaviour problems like this. The researchers say most of these aggressive and antisocial children fall into what they call the "hot" group – they are impulsive, emotional and given to overly hostile interpretations of the world, but they have normal levels of empathy and are largely



A fascination with child psychology  
... Professor Mark Dadds

Photo: Grant Turner, Mediakoo

## Inside the autistic brain

**T**he ability to read normal social cues is something most of us take for granted. Yet people with some psychiatric disorders often fail to pick up on signs such as facial expressions, body language and tone of voice – sometimes with devastating results.

But new technology means researchers are beginning to better understand what is happening in the “social brain” of people with autism, conduct disorder and schizophrenia and to develop targeted therapies as a result, say UNSW professors of psychiatry, Rhoshel Lenroot and Valsamma Eapen.

“The social interactions that we take for granted are actually dependent on very sophisticated cognitive processes. Using techniques like MRI, we are now able to understand what some of those processes are,” says Lenroot, who holds a Chair of Infant, Child and Adolescent Psychiatry within the School of Psychiatry and is a research fellow at Neuroscience Research Australia.

“We can now differentiate between disorders in terms of what brain systems are involved – which in turn allows us to start developing targeted interventions.”

Identifying children with social deficits and intervening at an early age is essential to reduce the impact in the longer term, the researchers say.

“Social inappropriateness can be particularly devastating for children in the playground,” Lenroot says. “It is a cascade effect: bad social interaction can affect your self-image, which means you may be more likely to have negative interactions with people around you, which in turn affects the way you choose to approach the world. And eventually that will impact on your ability to attract a partner and keep a job.”

While observable in both schizophrenia and autism, these “negative trajectories” are particularly pronounced in autism, says Eapen, Chair of Infant, Child and Adolescent Psychiatry and head of the Academic Unit of Child Psychiatry, South West Sydney, based at Liverpool Hospital.

However, if identified early, the abnormal trajectories can be either arrested or re-directed to reflect more typical development.

Eapen and her colleagues are developing a surveillance and monitoring system to identify and assist children in their second and third year of life who are displaying telltale social deficits, as well as a program of early intervention for preschool children.

“At the moment, when it comes to intervention, the earlier the better,” Eapen says. “If intervention can start in the critical second and third years, studies show there can be remarkable improvements – even resulting in the autism being downgraded to a less severe form.” •

By Steve Offner.

reactive in their aggression. They show normal interest in, and reactions to, eye contact. In fact, high levels of emotion in these children can be associated with eye contact being interpreted as overly intense, at times even threatening and inflammatory of their emotions.

The much smaller “cold group” – one or two children in 100 – is under-emotional and shows problems with empathy. These children are reactive and proactive or even predatory in their aggression. It is thought that many such children go on to become involved in serious crime, violence and drug taking. It is this group where the lack of eye contact seems particularly significant.

Adolescents and adults with psychopathic traits are known to have problems recognising and responding normally to fear and distress in the faces, postures and sounds made by other people. Dadds’ research indicates that these problems may stem from a basic problem with paying attention to the most human parts of the environment, for example, the eyes of other people.

This idea that psychopathy may in part be a problem of what people pay attention to is new and highly controversial but coincides with emerging work with adults. It has long been known that adult psychopaths show diminished, conditioned startle responses, an inflexible and reliable eye blink that reflects fear. Researchers working with psychopathic prisoners in the US, for example, have recently reported that when psychopaths have their attention drawn to critical aspects of fear stimuli, they show normal startle responses.

Dadds’ team showed similar results with

boys with cold traits; under “free-viewing conditions”, these boys have problems recognising fear in other people. This impairment disappears, however, when they are specifically asked to focus on the eye region of faces showing the emotion.

It has long been thought that psychopaths are essentially incapable of feeling normal emotions like love, fear and remorse – at least, not towards other people.

But Dadds notes these recent findings that psychopaths do show startle responses and can recognise fear in others, providing their attention can be drawn to the relevant cues, contradicts this. In short, they may not be incapable of fear – and perhaps other responses to external stimuli – but don’t feel things because they fail to pay attention to stimuli that elicit normal emotional reactions.

“It’s early days yet but we think we may be on the verge of something exciting here,” says Dadds. “A healthy brain is profoundly drawn to biologically relevant cues and the eyes of other people provide so many of those cues. It’s one of the fundamental building blocks of becoming a feeling, decent human being.

“Newborn boys and girls are ‘hard-wired’ to orient towards a face and start to make eye contact. Parents are quick to reciprocate, lock eye gaze, and begin the long journey of learning to concentrate on, interpret and care about what other people feel. But what happens if you have a simple error in that system?”

Could it be, he asks, that such an error leads to a cascade of deficits, a failure to develop that normal “empathy, connectedness and attachment” that makes us so wonderfully human? •

At the DIVAs ...  
(l-r) Claire de Lune  
and Carol Langley



## Sequined secrets of drag

*The lip-synching, lamé-clad lives of drag queens are the subject of a fascinating study. Fran Strachan reports.*

**D**rag's nothing new – the performance art has existed in various forms since Ancient Greek theatre – but academic research on the subject is. PhD student Carol Langley has spent the past 10 years researching the often misunderstood art form and the very real men behind the artifice.

“Drag queens are an integral part of our social scene as well as being active and effective community spokespeople,” she says. “I’ve been lucky enough to study Sydney drag which is internationally recognised as professional, innovative and diverse.”

Langley’s thesis is an analysis of the thousands of drag performances she has attended over the past decade and draws on the theories of feminist philosopher Judith Butler.

She is studying how Sydney drag queens create maleness, femaleness and new sex and gender constructs, providing new insight into

**“Most of us have an inner person that we want to let out – many drag queens are just brave enough to do it in a public forum.”**

how people, generally, create sexes and genders and indicates the artificiality of society’s sex and gender system.

“My research shows how drag queen – created sexes and genders come into being, and that they are just as valid as socially constructed sexes and genders,” says Langley. “Performed genders aren’t necessarily discrete, and they aren’t confined to the stage – the intersection between drag and general society is particularly interesting.”

Langley was exposed to the area she describes as “captivating”, when she was a Bachelor of Science student at the University of Sydney in the 1970s and was introduced to *Patches*, the iconic gay club in Oxford Street.

“I was struck by the colour and boldness of drag queens. For a kid from the northern beaches it was a whole new world.”

Thirteen years immersed in the corporate world of IBM left little time for nightclubs. Then came a career change. Much like a drag queen dons make-up and prosthetics before a performance, Langley also reinvented herself, ditching her corporate persona to establish a marketing services company and work as a freelance business writer.

A birthday was the catalyst for further change. She decided to celebrate at Sydney’s bastion of drag, the Albury Hotel, where the shows that night “rekindled the wonder”.

In 2001 she completed a Master of Arts in Theatre at UNSW having indulged her fascination in drag by writing her research project on popular Sydney drag performer, Claire de Lune. This spawned the publication in 2006 of *Beneath the Sequined Surface*, a glossy coffee table tome documenting the performances of 10 Sydney drag queens which won Langley a Drag Industry Variety Award (DIVA) for Outstanding Achievement in Media.

“Drag can still be a taboo subject so it wasn’t easy finding a publisher but the book sold well locally and internationally and both Harvard and British libraries, for instance, bought it for their research collections,” says Langley.

Langley has presented papers at the University of Copenhagen and Oxford University since the publication of *Beneath the Sequined Surface*.

Responses to drag queens range from disapproval to acclaim but Langley is keen to demystify stereotypes and has spent years building trust with performers in order to understand the motivations of the people she now counts as “dear friends”.

She says that contrary to popular belief, drag performance is not always a subversive act.

“Most of us have an inner person that we want to let out – many drag queens are just brave enough to do it in a public forum,” she says. “Others perform purely to express their creative side, or to indulge their love of theatre. For some it’s just a job.”

The next step for Langley is to turn her intellectual treatise, supervised by John McCallum in the School of English Media and Performing Arts, into a book – another step in removing the mask of drag culture to a general audience.

“It’s a huge task, but I’m looking forward to the challenge,” she says, smiling. •

# Vowing to make a difference

A commitment ... gay and lesbian couples calling for legal recognition of same-sex relationships

*Same-sex couples should be given the right to marry, argues Dr Melanie Gleitzman, from the School of Psychology.*

**T**he issue of marriage wasn't something that I had thought too much about for me personally until my long-time same-sex partner proposed to me last year. Mixed in with my reactions of delight and joy was a sense of sadness that because we are not entitled to be legally wed, I had never imagined this for myself. Now I can imagine it, but unlike heterosexual couples we must wait on the law.

Society as we know it in Australia will not crumble and fall if same-sex couples are given the legal right to marry. Yet preventing us from marrying denies us the right to make grown-up choices. From survey studies I have conducted with same-sex attracted individuals, it is clear that like everyone else, lesbians and gay men seek love, stability, commitment and family through intimate relationships. In addition, a growing body of international and local research indicates that sexual orientation makes no difference to the motivations an individual has for getting into a relationship, to the needs a relationship fulfils and the processes couples go through to make the relationship work. These things are universal.

Regardless of how accepting Australian society may seem these days towards anything gay, for same-sex couples validation of our relationships is not a given. Some of us are fortunate to have family and friends who celebrate our relationships; others of us are not so fortunate. What is the psychological consequence of denying same-sex couples the opportunity to legally marry? Most lesbians and gay men have grown up with the struggle of self-acceptance in a hostile and invalidating climate. We have faced

the dilemma of coming out to family and close friends, we have risked ostracism and rejection at work and in our community, and we have suffered through constant attacks from religious and conservative sections of society. Denying access to legal marriage for same-sex couples reinforces internalised homophobia and sends a message that same-sex relationships are second-class, not valid or proper, and not as good as heterosexual relationships. The psychological distress this can inflict on lesbians and gay men is not a trivial matter.

Invariably, when these issues are discussed in my honours seminar class on lesbian and gay issues in psychology, someone will ask, "Why should same-sex couples care if the government endorses their relationships or not?" After all same-sex couples, finally, have much the same rights as opposite-sex couples, and there's nothing to stop same-sex couples engaging in the rituals of a wedding (although not within most religious contexts). My answer is that we care because validation from one's institutions and government sends a strong message, and this can have a profound trickle-down effect. Legalising same-sex marriage is an important step towards normalising same-sex relationships. Australia has lost the chance to be a leader in this respect, but we should not embarrass ourselves further by ending up being the last Western country to take this issue on board.

If same-sex couples are allowed to wed legally will this change our understanding of marriage? Most likely. In the same way that feminist arguments challenged marriage as a tool of patriarchy, legalising same-sex

marriage provides a great opportunity to explore meanings of commitment, equitable ways of relating, and to think beyond gender-stereotyped ways of behaving. But this is not a matter of whether marriage is the best option for couples who wish to take their commitment to the next level. It is about the right to choose, for better or for worse, and all couples should have that right.

The renowned US researcher and gay-rights advocate Gregory Herek points out that the acknowledgement of heterosexuality is not usually noteworthy because everyone is assumed to be heterosexual. By comparison, he argues, lesbians' and gay men's self-disclosures of sexual orientation are perceived as highly intimate. This asymmetry of disclosure can be problematic, particularly since same-sex attracted people can find themselves having to challenge, on a daily basis, presumptions of heterosexuality.

Most of us in same-sex relationships long for the time when we can display affection in public and have it go unnoticed, when we don't have to think twice about whether it is safe to hold hands, and when we can talk about our relationships and our partner without seemingly flaunting our sexuality.

To have the opportunity to talk about my wife – and for her to be able to talk about me in the same terms – would send a very different message to the world.

With my life more than half over, let me marry my sweetheart, before I die.

*Dr Gleitzman's research areas are lesbian and gay issues in psychology, including homophobia, stereotyping and prejudice, and self-disclosure of lesbian and gay identities.*

# Too late for nuclear?

*Australia might be better off putting its resources into solar power, argues Professor Vassilios Agelidis.*

**F**or decades Australians have debated whether the nation needs to adopt nuclear technologies as part of its energy mix. It's a divisive issue that arouses deep feelings, but rather than plunging into further argument, what Australians need to do is ask whether the nuclear option has already passed them by.

In Australia, UNSW researchers have made significant contributions in the field of renewable energy, in particular solar photovoltaic (PV) technologies. These contributions have produced commercially available solar PV technology, even if Australia itself has not benefited from such technologies on the same scale seen in other countries.

This could be seen as lack of vision, but Australia has one of the lowest prices for electricity worldwide, making solar PV installations a real challenge from an economic point of view.

Many countries see nuclear energy as a viable way of reducing CO<sub>2</sub> emissions from the electricity generation sector, and it is mature technology that has been used around the world for decades.

Australia is one of the world's three major miners of uranium but judging from the current political landscape, there is no evidence the nuclear option will be adopted very soon.

This is a situation where we seem to say to the rest of the world that it's okay to use nuclear energy and we are glad to benefit from selling uranium, but we won't use it because we are concerned about safety and implications for nuclear proliferation and waste management.

But is this the real reason the nuclear option has not been embraced in Australia?

There also exists a fundamental conflict between the need to move to a lower carbon economy and an unrealistic expectation that such a transition can be made without paying an economic and social cost.

Australia is a country with an abundance of energy options and fuels: gas, wind, solar, wave, geothermal and significant reserves of uranium. The future energy mix of this

country must be based on scientific analysis and serious public debate.

Unfortunately, the course of events to now means that, even if we opted for nuclear tomorrow, it is just not possible any time soon, and should not be pursued in the longer term because it's simply not our best option.

A nuclear energy industry requires highly

skilled people, the sort of workforce that can't be built in the short term. We would first need to address the need for engineering and science graduates with the required technological skills to support the transition and continued development of a nuclear industry. If we just tried to import all skills and technology, that is likely to be too expensive as well.

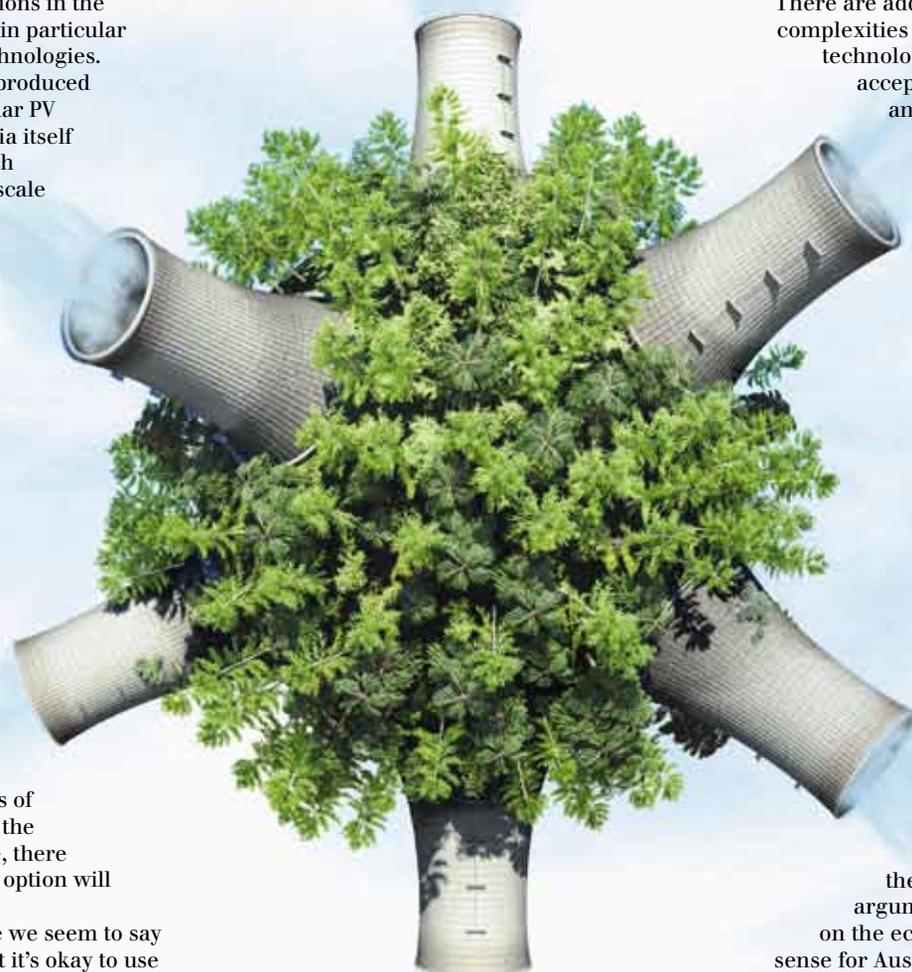
There are additional barriers including the complexities of planning, decision-making, technology availability, community acceptance, waste management and storage, to name just a few.

So instead of looking at energy industries where we have no history, no skills base and no home-grown technology, we need to focus on our strengths. Instead of thinking about industries where we would have to buy every piece of technology, we need to focus on where we have the chance to generate future exports, create wealth and make our own clean energy contribution to the world.

Where we can do this is solar technologies, a field where we are already world leaders. Putting aside the emotional and political arguments and focusing only on the economic, it makes strategic sense for Australia to build on our already strong position in solar technologies; both photovoltaics and solar thermal.

We can survive without a nuclear power industry in Australia but our energy mix in the future will be different from the one we have today. How it looks – funded by expensive, imported technologies or powered by clean solutions we developed ourselves and exported to the world – will be up to us.

*Vassilios Agelidis is director of the Centre for Energy Research and Policy Analysis (CERPA) and Professor of Power Engineering, School of Electrical Engineering and Telecommunications.*



**Focusing on our strengths ...**  
Australia would need to import technology for a nuclear industry

**“We seem to say to the rest of the world it’s okay to use nuclear energy... but we won’t use it.”**

# A battle between the dragon and eagle

*It is only a matter of time before Australia finds itself caught between its alliance with the US and its reliance on Chinese trade, writes Professor Carl Thayer.*

**T**he election of US President Obama has seen the superpower re-engage with South-East Asia after its interest in the region waned during the Bush years. While this has been welcomed by Australia it increases the risk of our national interest very soon being caught between the eagle and the dragon.

As China and the US jockey for primacy in the region, Australia faces the difficult balancing act of supporting an ally without offending a key trading partner. The dilemma for Australia lies in our close links with both countries. Since the end of World War II Australia has relied on its alliance with the US as the

mainstay of its security policy. And over the past 45 years the growth of regionalism in South-East Asia has provided Australia with a layer of insulation from great power rivalries further to the north.

Yet China has overtaken the US to become Australia's largest trading partner. The volume of this trade served to cushion the impact of the global economic crisis on Australia's economy.

Australia's most recent pattern of security cooperation has developed as a consequence of China's economic rise and its growing political influence and military power. China is challenging US military primacy in the western Pacific. It has developed a major naval base on Hainan Island from which it can project power into the South China Sea to assert its sovereignty claims and thus possibly disrupt sea lines of communication on which Australia is dependent.

The difficulty for Australia is that China and the US each seek to shape a different regional order.

China promotes security arrangements that uphold state sovereignty irrespective of the type of domestic political system.

It does this in order to balance if not constrain the power and influence of the United States. China's approach emphasises nominal equality among members of regional institutions, but China remains first among equals. In sum, China's pattern of security cooperation is particularly focused on binding

ASEAN to an exclusive East Asian regionalism that omits the US. Recent history shows China has not been afraid to use its diplomatic muscle to achieve this aim.

After years of neglect during the Bush administration, the US has re-engaged in the region with Secretary of State Hillary Clinton making her presence felt on the ground. The US strategy is to create an Asia-Pacific-wide security order under US leadership founded on rules-based multilateral institutions that promote universal values such as democracy and human rights. Critical in achieving this goal is the support of allies and strategic partners, such as Australia.

South-East Asian states have responded by asserting their centrality in regional security affairs. New life is being breathed into regional security architecture with the expansion of two multilateral institutions. The first is the 16-member East Asia Summit (EAS) established in 2005. The EAS comprises the 10 ASEAN members plus China, Japan, South Korea, India, Australia and New Zealand. The US and the Russian Federation will join the EAS at ASEAN's invitation in 2011.

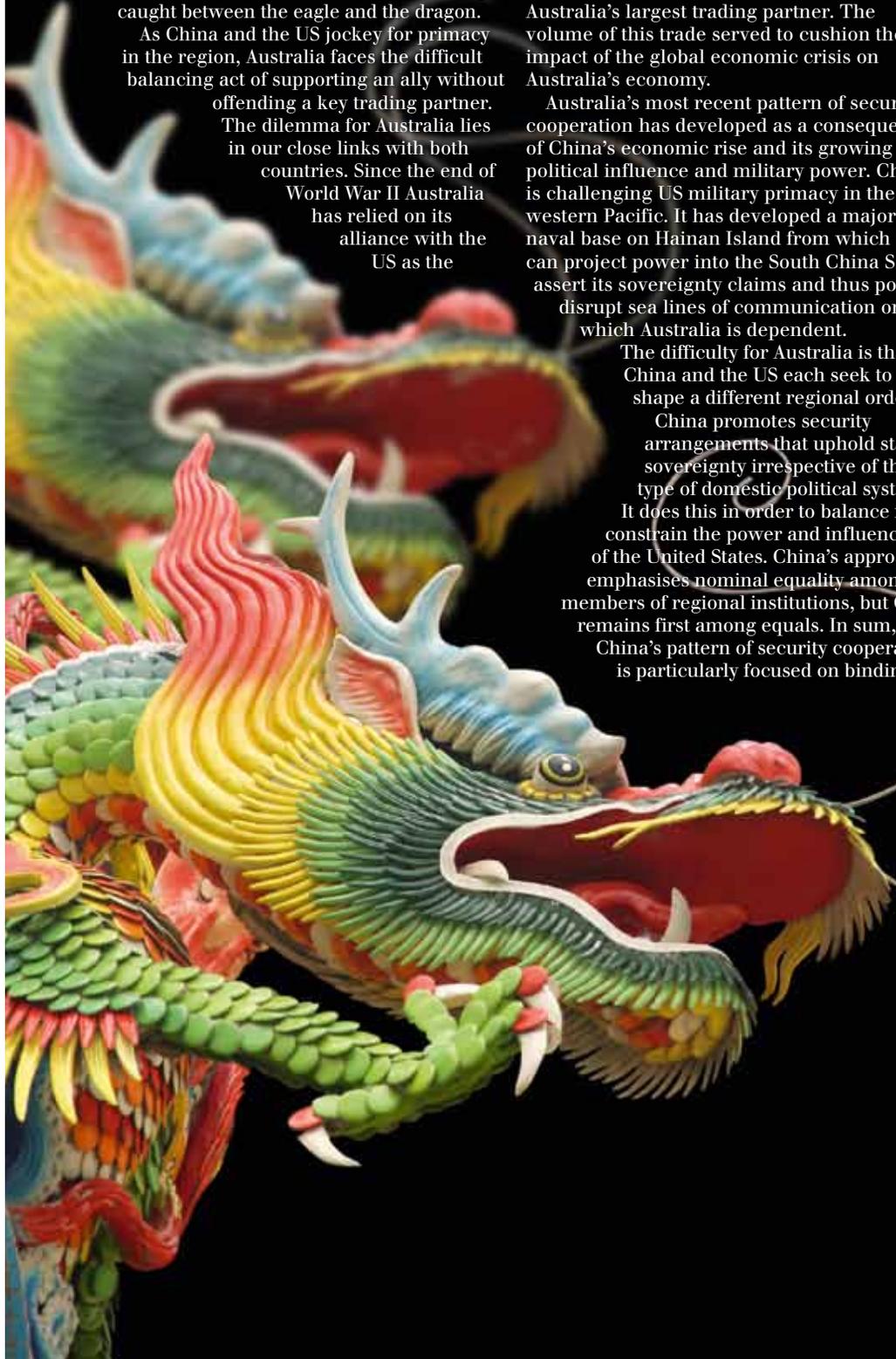
ASEAN has also initiated a new process that involves a meeting between its 10 defence ministers and eight of their dialogue partners (Australia, China, India, Japan, New Zealand, Russia, South Korea, and the US). These two new multilateral mechanisms are at a nascent stage and provide a window of opportunity to enlist China and the US in security cooperation and hopefully mitigate their strategic competition.

While supporting these structural developments, Australia should also strengthen regional multilateral arrangements and develop close defence ties with key states so they can support Australia in pursuit of common interests.

We should also encourage the US to continue its engagement with the region, and use Australian influence to convince regional states that the US presence is necessary. We need to engage with China on the basis of reciprocity but prevent China from driving a wedge at our alliance relations with the US.

Australia will face a more complex security environment over the next half decade as current patterns of security cooperation evolve and pull Australian strategic policy in different and possibly contradictory directions. Our government needs to begin considering now how it will meet that challenge. •

*Professor Carl Thayer, School of Humanities and Social Sciences, UNSW@ADFA, is author of South-East Asia: Patterns of Security Cooperation (Canberra: Australian Strategic Policy Institute, 2010).*



Getting on her bike ...  
Karen Fisher on her  
research trip to Shanghai



## Change agent

*The status quo doesn't sit well with Karen Fisher, whose work focuses on ensuring the voices of the under-represented are heard. By Fran Strachan.*

**T**alking to Karen Fisher is an exercise in light and shade – the conversation is serious and forthright yet punctuated by warm laughter.

This mixture of assertiveness, humour and empathy has seen the social activist through the challenges of her research area – disability policy – one of the most chronically under-funded and ignored areas of social policy.

Based at the Social Policy Research Centre (SPRC) for over a decade, Associate Professor Fisher says her belief in social equity was triggered at an early age by her lawyer father, and her mother, a high-school teacher and feminist.

“I was taught that social change was good, that it was possible to make the world a better place – I still believe that,” Fisher says. “One of the benefits of growing up in New Zealand was that it was a very outward looking country, it provided a nurturing environment to learn about equity and social justice, which were considered basic community values.”

She admits her interest in disability policy evolved organically rather than as part of a clear career goal.

“When I was doing my Arts/Law degree at Auckland University I worked as a disability support worker, which was a really meaningful job for me,” she says. “I worked closely with a woman with an intellectual disability who had been institutionalised most of her life and had never spoken a word. During my time working with her she started

to talk, it was my first experience of the value of individually based support.”

Facilitating individual participation for people with disabilities is the focus of Fisher's research, which stretches from Australia to China, where she's involved in three ARC-funded research projects examining disability and mental health policy, particularly focused on children.

“I've stayed in Beijing and Shanghai on six-month fellowships with my partner and son, which have been incredible experiences for

**“I worked as a disability support worker, which was a really meaningful job for me.”**

all of us,” she says. “The fellowships involve complete cultural and academic immersion. It's important in my field to stay in touch with what's happening and not be sitting in an office all day,” she says.

This hands-on approach goes beyond her work at the University. She is an Official Visitor for NSW Mental Health, visiting acute inpatients to safeguard their standards of care. She was also a Disability Community Visitor, a position that involved visiting service providers to protect the interests of residents with disabilities.

Fisher's focus has always been on the rights and participation of the individual.

Prior to UNSW she was at Families At Work for eight years, helping to design work and family policies that facilitate a work-life balance. It's an issue she hopes to promote through her involvement with UNSW's Women in Research Network which provides support and advice to female researchers on career advancement and promoting their research ideas.

“I've always worked part-time, as do half the staff at the SPRC. But there are a lot of people around the University who don't have the benefit of such supportive work units. We have to stop valuing working seven days a week to get our jobs done. I've always been vocal about that.”

Until then, she will continue to drive changes in disability policy, with a take-no-prisoners attitude and plenty of humour.

“I used to come to the SPRC conferences in the early '90s which was when I made a very conscious decision to get a job here. Four years later I had, and 13 years later I'm still here,” she laughs. •

*The Women in Research Network invites female staff to their final event for 2010, “Achieving research success” on 3 December. The senior female interview panel will include Professor Wai Fong Chua, Pro-Vice-Chancellor (Enterprise) and Professor Laura Poole-Warren, Dean, Graduate Studies. For more information on the Network please contact Marce Magafas m.magafas@unsw.edu.au or 9385 4277.*

# New books by UNSW staff

*A selection of titles that are hitting the bookshelves.*



**Editor: Professor Christine Alexander,** Faculty of Arts and Social Sciences

**Title:** *The Brontës: Tales of Glass Town, Angria, and Gondal – Selected Early Writings*

In their collaborative early writings the Brontës created and peopled the most extraordinary fantasy worlds, whose geography and history they elaborated in numerous stories, poems and plays. The writings of Glass Town, Angria and Gondal are youthful experiments in imitation and parody, wild romance and realistic recording; they demonstrate the playful literary world that provided a “myth kitty” for their early – and later – work.

**Publisher:** Oxford University Press

**Author: Dr Rob Brander,** Faculty of Science

**Title:** *Dr Rip’s Essential Beach Book: Everything you need to know about surf, sand and rips*

Many of us live near the beach, and many more visit the beach on holidays. But just how much do we understand about the beach and its potential hazards? This book is a simple, entertaining and useful guide to beach safety, with a solid scientific basis. Dr Brander (aka Dr Rip) explains how beaches form, what drives waves and how rips develop, and offers practical advice to show you how to get the most out of your day at the beach – without risking your life.

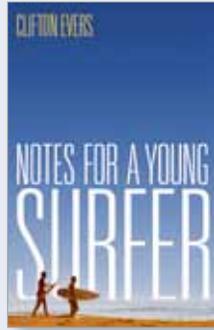
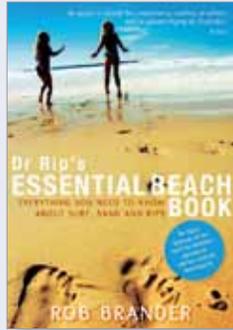
**Publisher:** UNSW Press

**Author: Dr Clifton Evers,** conjoint at the Journalism and Media Research Centre, Faculty of Arts and Social Sciences

**Title:** *Notes for a Young Surfer*

The beach has long been a privileged site in Australian culture, and surfers have become its icons. For many surfers, young and old, surfing isn’t simply a hobby or a sport but a treasured way of life.

*Notes for a Young Surfer* taps into the beauty of surfing and also tells the truth about the dark side of surf culture where young men come into contact with violence, misogyny, sex, racism, turf wars and homophobia. This book reveals the unwritten codes and rituals that impact on a young man’s life in the surf culture, from body image and notions of national identity, to politics and mateship.



*Notes for a Young Surfer* uses real stories from the surfing world. It provides surfing tips and is also full of funny, reassuring and practical advice about how to handle the challenges and decisions that young men face.

**Publisher:** Melbourne University Press

**Author: Visiting Professor Vivien Johnson,** College of Fine Arts

**Title:** *Once Upon a Time in Papunya*

Astronomical auction prices in the late 1990s drew many people’s attention to the phenomenon of the early Papunya boards, the thousand small painted panels created at the remote Northern Territory Aboriginal settlement of Papunya in 1971–72.

Western Desert art expert Vivien Johnson looks at the controversies that surrounded the paintings at the time of their creation – and what they mean now to the artists’ descendants; the role of teacher Geoffrey Bardon; the depiction of sacred imagery, and the distant worlds of art auctions and international exhibitions. A gripping narrative work, this book is an important part of Australian art history.

**Publisher:** NewSouth Books

**Co-editor: Dr David Leary,** Faculty of Law (with Balakrishna Pisupati)

**Title:** *The Future of International Environmental Law*

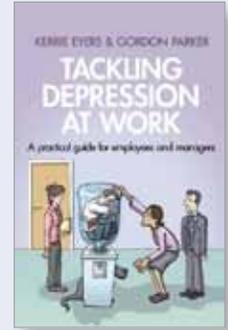
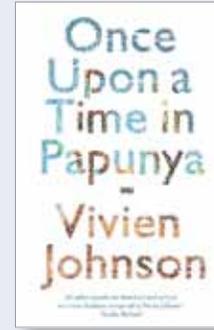
Through a collection of essays by leading scholars from around the world, this book explores the future of international environmental law in a world of ever-worsening environmental crises. It examines the success stories and the failures and argues that future responses to global crises will be more about good environmental governance rather than just more treaties and laws.

**Publisher:** United Nations University Press

**Co-author: Scientia Professor Gordon Parker** (with Kerrie Eyers)

**Title:** *Tackling Depression at Work: A practical guide for employees and managers*

You can’t park your depression at a Mood Care Centre when you go off to work. More than 10 per cent of people in the workforce struggle



with depression, from the mild and temporary through to the severe and disabling forms. If you have depression, do you soldier on or do you risk telling your manager? If you’re a manager, what can you do to support your employee and also ensure that the job is done?

Employees with depression, and their managers, are looking for the same outcome: return to best performance. *Tackling Depression at Work* explains the key issues that arise and offers proven strategies. It covers sensitive issues of disclosure and privacy, and shows how organisations can support workers to seek professional help to stay well.

**Publisher:** Allen & Unwin •

Suggestions for new books to include in the next issue of *Uniken* should be sent to [uniken@unsw.edu.au](mailto:uniken@unsw.edu.au).

## Diary

- 17 Nov** *Beyond Ireland: Cultures of Encounter and Exchange*  
Professor Rónán McDonald in FASS’s So, What? Lecture series. RSVP to 9585 8512 or [so.what@unsw.edu.au](mailto:so.what@unsw.edu.au). The lecture will be part of the official launch of the John Hume Institute in Global Irish Studies.
- 28 Nov** *Collegium Musicum Choir Concert 3*  
UNSW’s annual Christmas Concert, with the Collegium Musicum Choir, Burgundian Consort, Handbell Ensemble and guest artists Sydney Brass. Sir John Clancy Auditorium.
- Tue 30 Nov to Fri 5 Dec**  
Film and History Association of Australia and New Zealand Conference  
RSVP to 9585 8512.
- Wed 15 Dec to Fri 17 Dec**  
The 25rd Australasian Finance & Banking Conference  
RSVP to 9585 7774.
- Fri 17 Dec to Sat 18 Dec**  
Torts in Commercial Law Conference 2010  
RSVP to 9585 1805.

For more information about these and other events at UNSW, go to [www.unsw.edu.au/events](http://www.unsw.edu.au/events).

**S**ome jobs are guaranteed to land you in hot water. As a member of the New York Bar, Bassina Farbenblum made a career out of taking on and beating the US government over its treatment of immigrants, refugees and detainees.

“Using the courts to challenge governments doesn’t make you very popular,” the UNSW senior lecturer admits. “I basically spent six years in the United States litigating against the Bush Administration. I don’t think I was their favourite immigrant.”

Among her most high-profile cases were a freedom of information litigation that helped expose senior US officials’ authorisation of torture of detainees in Iraq and Afghanistan, and a lawsuit against the head of the US Department of Homeland Security and other senior officials for enabling widespread midnight raids of immigrants’ homes.

“Before we began litigating, the unconstitutional Gestapo-like raids were terrifying immigrant families across the country, and almost nobody was talking about them. The immigrants themselves were often unaware that they had any rights.”

Back in Australia, Bassina is director of UNSW’s Migrant and Refugee Rights Project. It’s a homecoming for the UNSW law graduate, who is using her new role to continue her litigation and advocacy work, but this time with a focus on Australia and Asia.

The granddaughter of Holocaust survivors who immigrated to Australia shortly after the war, it’s not surprising that Bassina gravitated towards a career in human rights.

“From a very young age I was aware of my grandparents’ history and their experiences in the concentration camps – and their ‘otherness’ as immigrants in Australia,” she says.

“I always knew I wanted to do human rights litigation. But it wasn’t until I’d been doing it for a few years that I looked back and realised that almost everything I’d done related to refugees and immigrants.”

As part of her UNSW work, Bassina has set up a human rights clinic giving students practical experience as legal advisors and advocates on cutting-edge human rights issues. She views the clinic as training the next generation of globally focused Australian human rights lawyers.

“There really isn’t anything else like it in Australia. Students come into the clinic and work on internationally focused system-changing litigation and advocacy for two days a week.”

The students have worked on two cases in Malaysia, and are now collecting information on Australia’s policies and role in the interception and detention of asylum seekers in South-East Asia.

Despite vast sums of taxpayer money involved – \$1.25 billion in the last Budget – the measures have attracted little public scrutiny or oversight. The clinic plans to publish the information on a transparency and accountability wiki, a move bound to provoke more government attention.

“At the very least, the students and I are hoping to spark an informed public conversation about whether this is consistent with Australia’s



## 5:00 minutes with ...

*Bassina Farbenblum, senior lecturer in the Faculty of Law and Director of the Migrant and Refugee Rights Project*

**human rights obligations and is something Australia should be funding, or whether there are more appropriate uses for taxpayer dollars. But I wouldn’t rule out legal challenges further down the road either,”** she says.

**Earliest memory ...** Being taught a Yiddish rhyme about 33 red bridges by my grandfather.

**Proudest moment/achievement ...** Winning my first US Federal Court argument against the Bush Administration on the definition of “danger to national security”.

**If I could live anywhere I’d live ...** In my house in Bronte, with long northern summers in New York and Granada.

**The book/film that changed my life...** My early teen idolisation of Atticus Finch in *To Kill a Mockingbird* made me want to be a human rights lawyer.

**Guiltiest pleasure ...** Completely unnecessary clever gadgets.

**I’m very bad at ...** Accepting that substantial social entrepreneurial projects take time to gestate.

**I’m always being asked about ...** Where my name comes from (my parents made it up).

**Most treasured possession ...** As a shameless hoarder, my husband would probably say everything I’ve ever owned since childhood.

**Most humiliating moment ...** In the past few years they’ve generally involved the dreaded “reply all” button.

**The hardest thing I’ve ever done ...** Deciding to leave New York and its daily adrenaline fix.

**When I was a small child I wanted to be ...** An inventor. ◦

*Bassina spoke with Steve Offner.*

**Name:** Dr Imriyas Kamardeen  
**Position:** Senior Lecturer  
**Faculty:** Construction Management Program, Faculty of Built Environment

**“If you lose money it’s just dollars but if you lose lives, that’s just something I could not accept.”**

Dr Imriyas Kamardeen has a notable professional history: at 35 he has about 10 years of university teaching experience in three different countries; he worked for the World Bank in war zones in his home country of Sri Lanka and studied on scholarship in Singapore before coming to Australia in 2007. His personal story is also remarkable: he is a survivor of the 2004 Indian Ocean tsunami, which claimed the lives of his grandfather, aunt and cousin; and he was the first in his family to attend university.

**Research:** My research is on producing Information and Communications Technology (ICT) tools for improving occupational health and safety (OHS) in the construction industry.

Workplace accidents cost \$57.5 billion for all industries in Australia each year and the construction industry makes up about 22 per cent of that. Compared to other countries, Australia is quite safe but in construction we still have accidents almost every day due to the peculiar challenges the construction industry faces, including complexity in the work scope, multilayered subcontracting and skill shortages.

I’m interested in bridging the gap between ICT and OHS and have written two books on this topic.

For example, I have developed a web-based OHS management tool for contractors to use throughout a project. It allows contractors to develop effective OHS plans, implement and monitor improved safety practices on site, provide OHS training to workers and create a virtual OHS learning community for professionals.

**Inspiration:** This field is actually a deviation for me: in Sri Lanka, I started studying ICT for cost management on projects. I worked there for the World Bank too, assessing the scale of rebuilding needed for schools damaged in the north of the country during fighting between government and rebel forces. I went to Singapore to further my studies but then I realised there’s a pressing need to develop tools for construction safety. If you lose money it’s just dollars but if you lose lives, that’s just something I could not accept. The social cost of accidents is huge.

*Imriyas spoke with Peter Trute.*

