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uniken



Generation Next



UNSW
THE UNIVERSITY OF NEW SOUTH WALES

A Eureka record • On the set of *Balibo* • Oceania's shame

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Celebrating **60** YEARS of extraordinary achievement

WHY IS IT SO?



Illustration: Kairina Charmatz/Getty

Why do we blush?

– *Scientia Professor Joe Forgas, School of Psychology*

Blushing is one of those fascinating involuntary non-verbal social signals that have an evolutionary origin. Blushing typically communicates embarrassment, shame or love, but can also signal anger, depending on the circumstances. Blushing is caused by an automatic increase in blood flow in the skin of the face, which is more richly endowed with blood vessels than other areas of the body. Blushing is typically a symptom of arousal produced by a release of adrenaline in response to an involuntary reaction by the sympathetic nervous system.

It is an important communicative signal as it is hard to control – blushing “gives away” our arousal for everyone to see and it is universal in all human cultures. What are the social functions of blushing? Some research suggests that blushing has adaptive value in maintaining social norms. By blushing, we let others know that we realise we have violated a social code. Blushing may also function as an appeasement signal, reducing aggression and indicating empathy and apology after a transgression. However, a similarly intensive reddening of the face in an adversarial encounter can signal exactly the opposite: anger and incipient aggression. In other words, the social meaning of a red face is highly dependent on the situation in which it occurs.

Blushing can also be a significant psychological problem for some people, and personality types characterised by social anxiety and self-consciousness blush a lot more than others. At the extreme, erythrophobia is the pathological fear of blushing that may result in some people avoiding social encounters. Erythrophobia can be treated by psychotherapy, but in extreme cases surgery can be used to cut the spinal nerves responsible for blushing. Blushing can give rise to a vicious circle of escalating embarrassment – blushing itself is a source of further embarrassment. Although blushing is usually unpleasant, recognising its useful social functions can be helpful in learning to cope with it. •

FOR THE RECORD

“Eight years after 9/11 – and with no terrorism attack having occurred on Australian soil – it is time for a comprehensive overhaul of the legislative arrangements introduced during the Howard years.”

Christopher Michaelson,
Co-Director of the International Law and Policy Group, Faculty of Law – Canberra Times

“Our inability to reconcile or mediate these two opposing views reduces debate in Indigenous affairs to a scramble for the moral high ground, leaving the majority of the population confused and disengaged.”

Professor Patrick Dodson, director of the Indigenous Policy and Dialogue Unit, on nation building in Australia – Sydney Morning Herald

“These people had very good control of fire, and I'm almost certain they must have had language to carry out that sort of behaviour.”

Dr Andy Herries, Research Fellow, School of Medical Sciences, on his team's discovery of the oldest evidence of humans harnessing fire to forge stone tools, uncovered in South Africa – Sydney Morning Herald

“The wealthier you are, and the richer the house you buy, the bigger the concession you get per dollar invested.”

Professor Julian Disney, Director of the Social Justice Project, Faculty of Law, on capital gains tax levied on family homes – The Weekend Australian

“Often drivers swerve to miss animals only to hit roadside obstacles, such as trees or poles or oncoming vehicles.”

Dr Daniel Ramp, of the UNSW School of Biological, Earth and Environmental Sciences, on his research which shows kangaroos and wallabies are the biggest killers on NSW roads when it comes to animal-related car crashes – Illawarra Mercury

Actor, director, doctor ...

Photo: Bradley Patrick, SugarLove Pictures.



Picture perfect ... (l-r) Chancellor David Gonski, Cate Blanchett and Vice-Chancellor Fred Hilmer.

Cate Blanchett, internationally renowned actor and a graduate of the National Institute of Dramatic Art, has been awarded an Honorary Doctorate of Letters *honoris causa* at UNSW.

The award – the University’s highest honour – recognises Ms Blanchett’s eminent services to the arts, philanthropy and the community. Ms Blanchett is Co-Artistic Director and CEO with Andrew Upton at the Sydney Theatre Company.

The STC recently announced a collaboration with UNSW for its *Greening of the Wharf* project, which is creating the first green arts precinct in the world.

Solar cell technology developed by UNSW and Suntech Power will be used for Australia’s largest-capacity rooftop solar panel array, to be installed at the STC’s historic Walsh Bay building.

The array will comprise 2,000 high-efficiency Pluto solar photovoltaic panels and will supply up to 70 per cent of the STC’s power requirements, cutting its carbon emissions by about 555 tonnes a year – the equivalent of taking 158 cars off the road.

Suntech CEO and UNSW alumnus Dr Zhengrong Shi and his wife, Vivienne, made an extraordinary \$2 million donation from their family charitable foundation to fund the installation.

Winning over Wharton

In a major coup, UNSW’s Australian School of Business (ASB) has struck an exclusive agreement with the prestigious US business school Wharton, to become a partner in the global Knowledge@Wharton network.

An online portal for capturing and disseminating business knowledge, Knowledge@Wharton has a global audience of more than 1.5 million subscribers. ASB will be the only Australian business school to have its own business journal on the portal, which will be launched early next year.

Knowledge@Australian School of Business will analyse breaking business news, economic trends, business research and government policy in Australia, regionally and globally, with articles, video interviews and podcasts.

ASB Dean Professor Alec Cameron said the partnership was an exciting development. “Knowledge@Wharton reaches business leaders around the world,” Professor Cameron said. “Being part of this network will significantly increase the reach and exposure of our academics and their research, and give us a powerful avenue for building global connections with business.”

A moment in the sun

UNSW solar cell researchers have played a key role in achieving the highest efficiency for solar power, setting a new world record of 43 percent of sunlight converted into electricity.

The UNSW team, led by Scientia Professor Martin Green, Research Director of the UNSW ARC Photovoltaics Centre of Excellence, combined with two US groups to demonstrate a multi-cell combination that has set the new benchmark for converting sunlight into electricity by any possible approach.

“Because sunlight is made up of many colours of different energy, ranging from the high energy ultraviolet to the low energy infrared, a combination of solar cells of different materials can convert sunlight more efficiently than any single cell,” Professor Green said.

Professor Green, with colleague Dr Anita Ho-Baillie, led the team that developed a silicon cell optimised to capture light at the red and near-infrared end of the spectrum. That cell was able to convert up to 46 percent of light into electricity. When combined with four other cells, each optimised for different parts of the solar spectrum, the five-cell combination converted 43 percent of the sunlight into electricity, bettering the previous world record by 0.5 percent.

Leading the way

The new Centre for Eye Health on lower campus will start piloting its services to the public this month.

The Centre, a joint initiative of Guide Dogs NSW/ACT and the University, is not due to be officially opened until early November but already 10 percent of the state’s optometrists have been through as part of a series of open days for industry professionals.

The Centre, based in the School of Optometry and Vision Science, will provide specialist eye testing services to the general community at no charge. Through the earlier detection of eye diseases such as macular degeneration, glaucoma and diabetic retinopathy, it aims to address the increasing incidence of vision impairment in Australia and will also be a hub for cutting-edge research.

“Our Centre has a partnership approach,” says Director Professor Michael Kalloniatis. “We work together with health professionals, such as GPs, optometrists and ophthalmologists, to get the best outcome for people who may become visually impaired.”

Guide Dogs NSW/ACT will contribute \$40 million to the Centre’s establishment and operation over the next decade.

The Centre will be officially opened on 4 November. It will be the subject of a special feature in the November–December issue of *Uniken*.

Economic transformation putting Asia's health at risk

UNSW and the Vietnamese government will co-host Asia's first major conference on health and human rights in Hanoi next month (26-29 October).

Chair of the Initiative on Health and Human Rights, Professor Daniel Tarantola, says Asia's economic transformation is putting the region's health at risk.

Despite extraordinary progress that has lifted 600 million people out of poverty since 1990, the basic right to health in Asia is under threat and the future looks more uncertain, Professor Tarantola says.

"The gap between the rich and poor is growing. The poor are getting sicker in crowded, polluted slums as Asia rapidly urbanises, while the diseases of affluence like cardiovascular disease, cancer and depression are hitting the new rich," he says.

Issues to be discussed will include access to basic health services, public health challenges and looming health emergencies, such as pandemics, and how they can be best addressed through human rights-based approaches.

Defeating terrorism

One of the world's leading counter-insurgency experts, Dr David Kilcullen, has delivered the annual Wallace Wurth Memorial Lecture.

Dr Kilcullen, a two-time alumnus of UNSW, outlined the challenges of defeating a resurgent Taliban in Afghanistan and NATO's new strategy to win the hearts and minds of the Afghan people.

Recently appointed as senior adviser to General Stanley McChrystal, the commander of US and NATO forces in Afghanistan, Dr Kilcullen has served as special adviser for counter-insurgency to former US Secretary of State Condoleezza Rice and General David Petraeus in Iraq.

Speaking to a packed Leighton Hall, Dr Kilcullen said the Allies' tactics in Afghanistan had failed, creating a crisis of legitimacy that was playing directly into Taliban hands. "The Taliban has side-stepped our top-down approach and has been able to out-govern the Karzai government at the local level."

Dr Kilcullen said counter-insurgency efforts had been captured by an elite – the same warlords that the Taliban overthrew in 1996.

"The election result has just underlined that fact, and made visible to the international community something that Afghans have known all along," he said.

"I don't think the war is lost ... we can still turn this around, but we have to act now and we have to focus on governance, anti-corruption and protecting the Afghan people at the local level."

Dr Kilcullen's lecture was also the keynote address for the symposium *Catalysing the Rule of Law in Afghanistan: Challenges and Opportunities*, hosted by the Faculty of Law.

For the video and podcast go to www.unsw.edu.au/uniken/wallacewurth.



Dr David Kilcullen ... the Allies face a crisis of legitimacy in Afghanistan



Orchestral manoeuvres in the spotlight

The UNSW Orchestra is celebrating its 20th anniversary. Close to 1,000 staff and students have played over the years. Emery Schubert was one of the three students to establish the orchestra in 1989 – and he's still playing the French horn with it now. "The standard, while snaking up and down, has improved – particularly the strings," says Dr Schubert, who is now a staff member with the School of English, Media and Performing Arts. "Also some courses have been introduced which allow students to obtain credit for playing in the orchestra." He is photographed with 20-year-old Casie Osora, a mechatronic engineering student, who has been with the orchestra for two years.

Key dates for the diary

17 Sept – Former Special Representative of the UN Secretary-General on the situation of human rights defenders, **Hina Jilani**, delivers the 2009 Hal Wootten Public Lecture "Human Rights and International Peace and Security".

18 Sept – Treasurer **Wayne Swan** will launch the Australian Institute for Population Ageing Research at the Australian School of Business.

16-18 Oct – Events to mark the 60th anniversary of UNSW held in Beijing, China – global lecture series, graduation celebration, gala alumni dinner and cultural events.

26 Oct – *The Re-trial of Galileo*. Former Premier **Bob Carr**, **Julian Burnside QC** and **ABC presenters including Robyn Williams and Geraldine Doogue** will be amongst those involved in a role-play, as part of the 400th anniversary of Galileo turning a telescope to the sky. The event is open to the public and will also be broadcast by the ABC.

28 Oct – Meet the CEO with **Dr Ken Henry AC**, Treasury Secretary, (see profile, page 9).

7 Nov – Back to Bacchus Ball at the Roundhouse, marking UNSW's 60th anniversary.

See the UNSW homepage at www.unsw.edu.au for more details.



Former Prime Minister Bob Hawke... made his 83rd trip to China recently.

The rising dragon

Former Prime Minister Bob Hawke was amongst the dignitaries at the launch of the UNSW Confucius Institute. Louise Williams reports.

The glitzy, high-rise, high-tech Pudong district of Shanghai was little more than a muddy track of farmland when Bob Hawke first visited China in 1978.

"I was sitting in a shed and our host had all his charts on the wall and was pointing out what was going to be built on the site – and I was wondering could this be possible in such a short time?," Mr Hawke recalled recently.

Nowadays, Pudong is home to Shanghai's ultra-modern financial district, two of China's tallest structures, a high-speed urban transit system and the iconic French-designed Shanghai Oriental Art Centre, built to resemble a butterfly orchid blooming in a large glass bowl.

"So, of course it was possible, and possible in ways that have been replicated all over China," said Mr Hawke of the rapid economic growth which has pulled 400 million Chinese out of poverty since Beijing began opening up the economy more than three decades ago.

Mr Hawke was speaking on campus at the official opening of the UNSW Confucius Institute, which brings UNSW together with one of China's oldest and most influential tertiary institutions, Shanghai Jiao Tong University (SJTU). The partnership reflects compatible strengths and international reputation, particularly in science and engineering.

Mr Hawke told the audience in a packed Leighton Hall that he had recently clocked up

his 83rd trip to China and remained convinced that "no relationship is more important to the future of Australia than that with China", now Australia's largest trading partner.

"It is profoundly in our interests that we in this country should understand in an informed and unprejudiced way as much as we possibly can about China: its people, their culture and their incredible economic transformation," the former Prime Minister said.

However, Mr Hawke also acknowledged China's steady economic rise and its impact on existing global power structure had provoked scepticism and, at times, "thinly disguised antagonism" around the world, including in Australia.

The former Prime Minister said nothing, then, could be more conducive to achieving a "harmonious relationship" than the deepening and strengthening of academic, cultural and business links through initiatives such as the UNSW Confucius Institute. He went on to praise UNSW's "pre-eminence" in Chinese studies and academic and research engagement with China.

Other speakers at the gala opening included NSW Premier Nathan Rees, Vice-Chancellor Professor Fred Hilmer, Chinese Consul General Hu Shan and SJTU Deputy President Professor Su Ming.

A growing global network of Confucius Institutes is linking leading Chinese universities to foreign partner universities

to expand China-related studies, Chinese-language training and collaborative teaching and research.

The UNSW Confucius Institute will facilitate expanded language and China-related studies and research at UNSW, through degree programs and short courses available to businesses and the public. The partnership will also open up unprecedented opportunities for collaborative research and student exchanges across a wide range of fields, from the arts and humanities to medicine, science and engineering.

The Chinese-government backed Confucius Institute program dates back to 2004, and is part of a global strategy to promote Chinese studies, similar to France's Alliance Francaise or Germany's Goethe-Institut. Over 500 Confucius Institutes have been opened or announced around the world at prominent universities including the London School of Economics, the University of California (UCLA), the University of Paris and the Nanyang Technological University in Singapore.

The UNSW Confucius Institute is one of nine announced for Australia, each of which will develop a distinct profile. UNSW will produce multimedia teaching materials and target professional translators and interpreters, building on the University's recent success in securing industry accreditation for its master of arts in Chinese-English translation and interpreting. •

Oceania's shame: the worst extinction record on Earth

Species are dying out and habitats being destroyed across the Australia-Pacific region through government failure to act, a landmark study has found.

Published in the international journal *Conservation Biology*, the report is the first comprehensive review of more than 24,000 scientific publications related to conservation in the Oceanic region.

Compiled by a team of 14 scientists, it reveals a sorry and worsening picture of habitat destruction and species loss. It also describes the deficiencies of and opportunities for governmental action to lessen this mounting regional and global problem.

"Earth is experiencing its sixth great extinction event and the new report reveals that this threat is advancing on six major fronts," says the report's lead author, UNSW's Professor Richard Kingsford.

"Our region has the notorious distinction of having possibly the worst extinction record on Earth," says Kingsford, from the School of Biological, Earth and Environmental Sciences.

"Many people are just beginning to understand the full extent of these problems," he says. "Climate change is by no means the only threat to biodiversity. The biggest problem is that policy challenges are just not being taken up by governments. Conservation policies are just seen as a problem for the economy."

For each of the major threats, the scientific team has proposed between three and five specific policy recommendations.

They suggest setting targets for protected areas such as national parks of at least 10 percent of terrestrial areas and up to 50 percent of marine areas.

The authors are particularly concerned about the impacts of destructive fisheries and the effects of by-catch from long-line fishing, bottom trawling, cyanide and explosives use in some Pacific nations. *

By Dan Gaffney



Under threat ... nearly 450 mammals like the Tasmanian devil are endangered.

A Eureka record

UNSW researchers stood out at Australian Science's night of nights, winning two of the sought-after prizes. As Susi Hamilton reports, there were four other UNSW finalists vying for top honours.

“Well I have to say I'm totally blown away by this, I've never been here before and

I just think it's amazing," said UNSW's Professor Justin Gooding of the event dubbed the "Oscars of Australian Science" – the Australian Museum Eureka Prizes.

"I think it's really important to show everybody else that we might seem a bit strange sometimes but we're actually pretty normal people and I think at the same time it's wonderful validation for scientists – that people do appreciate what they're doing," said Professor Gooding, who walked away with one of the top awards, the *UNSW Eureka Prize for Scientific Research*.

Professor Brett Neilan carried off the *Land and Water Australia Professor Peter Cullen Eureka Prize for Water Research and Innovation* for his world-class research identifying the biochemical pathways responsible for the production of lethal toxins. This is Professor Neilan's third Eureka Prize, making him the most awarded scientist in the 20-year history of the awards.

Three other individual UNSW researchers and a research team were finalists on the night: Professors Levon Khachigian and Stuart Wenham for the Leadership in Science prize, Associate Professor Greg Leslie alongside Professor Neilan in the Water Research and Innovation category, and the iCinema Centre for Interactive Cinema Research for Excellence in Research by an Interdisciplinary Team.

Professor Gooding, from the School of Chemistry, might have been a red carpet rookie, but his dedication in the lab has paid dividends. He has pioneered the development of hand-held devices, which will make blood tests speedier and more efficient. Results can be given on the spot – eliminating the need for patients to have to wait – sometimes nervously – ensuring effective follow-up can be arranged without delay.

Photo: Steve Lunam © Australian Museum



In the spotlight: UNSW individual finalists at the awards (l-r) Professors Levon Khachigian, Justin Gooding, Brett Neilan, Associate Professor Greg Leslie and Professor Stuart Wenham. Not pictured: the team from the iCinema Centre.

The kits can even be used by non-specialist staff with huge savings – estimated at up to 20 percent – for the health budget.

The Director of the Australian Museum, Frank Howarth, sees further applications for the technology: "The benefits of Professor Gooding's sensors are not restricted to blood testing. They also include sensors that minimise side effects from drugs and assist with pesticide detection in drinking water."

Gooding's research will enable the development of diagnostic devices to detect bioactive compounds, and predict how people will respond to them. This means customising dosage and types of drugs for individual patients, minimising side effects, and again saving costs.



He was presented the prize by UNSW's Deputy Vice-Chancellor (Research) Professor Les Field.

Professor Neilan, Federation Fellow in the School of Biotechnology and Biomolecular Sciences, is helping to ensure our water supply is safe.

Toxins produced in blue-green algae – otherwise known as cyanobacteria – are capable of causing organ damage and cancer. Blooms of the algae are often found in the water supplies of cities. In general, only half of the water-based bacteria produces poison and Neilan's work helps us understand which is which.

In a measure of the significance and impact of his research, many international groups, including the World Health Organization,

Neilan is the most awarded scientist in the 20-year history of the awards.

have already adopted Professor Neilan's techniques for the rapid and accurate detection of blue-green algae in drinking water supplies, and these patented tests are now the standard means of assessing environmental health. Recently Neilan also discovered a link between the high salinity of the Murray-Darling River system and the growth of the algae.

"It is fantastic that the broader community recognises the efforts of scientists and, in particular, the great research of my postgraduate students at UNSW over the past

12 years," said Professor Neilan.

"Plus, I think there is enough evidence now to conclude that I am not photogenic!" he joked.

Buoyed by the mood of the evening and armed with a Eureka award each, Professors Neilan and Gooding took the opportunity to chat with actor Cate Blanchett, who was there to present the People's Choice award.

"It's not every day that you get a chance to meet Cate Blanchett," said Gooding. "Now I'm hooked on Cate," grinned Neilan, proving that even the stars of the night get star-struck themselves.

Other special guests included the Governor-General Quentin Bryce, the NSW Premier Nathan Rees and the great-great-grandson of Charles Darwin, Chris Darwin. *



Making a mark

Renowned Indigenous artists in the Papunya community are being supported by a unique partnership with COFA. As Fran Strachan reports, an academic has catalogued their work and is helping to nurture the next generation of talent.

The Indigenous artists of the Central Desert town of Papunya might be on the world stage, but the community is still one of the poorest in Australia.

Its famous rock group export, the Warumpi Band, say the town west of Alice Springs is without the basics – it has a “big name and no blankets”.

The Papunya Tula artists are founders of the Western and Central Desert Art Movement, the most successful Indigenous cultural enterprise in Australian history.

Professor Vivien Johnson drove into the community in 1980 as a young university lecturer with her first pay cheque in her back pocket, determined to bring Indigenous art out of the backrooms and into contemporary galleries.

“No-one was buying Indigenous art at the time, it didn’t have the popularity it has now. My initial focus was just to make people aware that there was this extraordinary artistic phenomenon occurring in Central Australia, but my involvement rapidly extended beyond that,” she says.

Johnson’s first trip marked the beginning of almost 30 years of visits to the Central Desert camping out on the ground and occasionally the floors, of artists’ homes and Papunya Tula’s Kintore and Kiwirrkura studios while she meticulously compiled her recently published book, *Lives of the Papunya Tula Artists*.

The book profiles the 250 male and female

artists that put Papunya on the art world’s map, including Clifford Possum Tjapaltjarri, Kaapa Mbitjana Tjampitjinpa and Billy Stockman Tjapaltjarri. It is the first comprehensive documentation of Papunya Tula’s history and genealogy and has become a point of communal pride.

“I visited Papunya recently and the book I donated a year ago was just a swirl of pages at the bottom of a cardboard box, it’s certainly been well-loved,” says Johnson.

Now a UNSW Global Professor, Johnson, with COFA’s active involvement, has ensured that Papunya’s story doesn’t end on the last page of a book.

COFA and Johnson have spent the last four years nurturing the local artists through printing workshops run by Michael Kempson at COFA’s Cicada Press and helping to raise funds towards the provision of an arts centre, Papunya Tjupi, managed by two COFA graduates, Kasumi Ejiri and Simon Taylor, who have left Sydney to provide ongoing assistance and support to the artists.

“Teaching the young people arts education and industry practice was always the motivation behind an arts centre, as well as the deeply held belief that the younger generation needed to learn the stories and painting skills from their elders,” says Johnson.

Federal Government funding and two sell-out exhibitions of Papunya paintings at COFA’s Ivan Dougherty Gallery have funded the arts

centre’s move from its original premises in an old Department of Education house to a disused general store in the community centre.

The most recent exhibition, *Building Papunya Tjupi*, raised \$80,000, with half going to the artists and the other \$40,000 towards building a small sales gallery, a separate painting space for the men and hanging systems so that canvases can be displayed for potential buyers.

Johnson says the Papunya/COFA partnership is an example of how mainstream art schools can successfully engage with Aboriginal art and artists on a practical level.

“Art schools can’t just run a course with a whole lot of slides about Aboriginal art and expect students to really get a sense of what it’s like and the conditions it’s produced under,” says Johnson. “They need to really engage with Indigenous artists, not just stand around talking about it.”

“This art centre has provided a lot of hope to the community and a way for them to carry on the tradition that the Papunya Tula artists started. For the people who’ve heard of Papunya but wonder what happened to the art ... well, here it is.”

Watch the audio slideshow at:
www.unsw.edu.au/uniken/papunya

Above: Papunya’s old general store has been transformed into a communal studio.

Below: Bringing hope to Papunya ... local artists at work in the new facility and Vivien Johnson (centre).



Regarding Henry

Australia's most senior economic bureaucrat has been given an honorary doctorate by UNSW. As Louise Williams reports, Ken Henry knows both the value of money and the power of the environment.



"I haven't been as outspoken on environmental issues as my conscience would like" ... Ken Henry holding an orphaned wombat

When Ken Henry looks back on his career path he sees one particularly memorable tree.

It was the early 1970s and a young Henry was living with his family on his father's meagre timber-getting wages on the NSW mid north-coast; the family's share dairy farm lost to drought.

Now as Federal Treasury Secretary, Dr Henry has never forgotten when his father bundled him and his young brothers into the car to show them the biggest log he'd ever felled, a single tree so huge its timber was sufficient for the frames of four houses.

"I had never before seen anything so massive, and I haven't since. I started to ask questions. How old was it? Then, how much had my dad had been paid for cutting it down?" he recalls.

It turned out timber workers earned only a couple of dollars for each tree they felled. Of the thousands of dollars the ancient tree was probably worth, another couple of dollars went in state government royalties, but the lion's share went in profits. With a growing sense of unease, he realised the forest was being exploited for a song.

Dr Henry made no secret of his dismay that such an extraordinary natural asset could have been sold for a few dollars, with so little regard for current and future generations -- and the hundreds of years it would take for the forest to regrow.

"I couldn't have possibly understood it at the time ... but a lot of economics is about who has access to what and how much they should pay for it," he says.

That tree, and the many more questions a "remarkably poor" childhood raised, steered Dr Henry towards studying economics at UNSW and into a life of public service.

"My social conscience was shaped when I was young. It quite possibly explains why I do the work I do," he says of his commitment to the public sector, despite the various, more lucrative, offers he's had along the way.

"My social conscience was shaped when I was young. It explains the work I do."

Today Dr Henry is an extremely busy man with a global financial crisis unfolding and a major tax review on his plate. Every policy lever available has to be calibrated to minimise the impact of the downturn.

But Dr Henry sees a new opportunity to rebalance some of the excesses which distorted markets in the first place.

Dr Henry believes post-crisis shareholders will put more pressure on businesses to enhance "corporate responsibility" and give something back.

Australian corporates, he says, have the capacity, "in spades", to transfer knowledge,

training and skills to areas such as Indigenous housing and service delivery.

Dr Henry doesn't expect businesses to step in where governments fail. However, he says, corporate social responsibility is still "quite immature" in Australia.

His personal passion is native animal welfare, which caught him in the harsh glare of the media spotlight last year. He was dumbfounded.

"I possibly haven't been as outspoken on social and environmental issues as my conscience would like," he says.

But, when he and his wife, Naomi, spent last July in Queensland's Epping Forest helping look after the last 115 or so hairy nosed wombats left on the planet, the media snidely asked who would be running the economy. Ironically, it wasn't long after the media roasted the Rudd government for working Treasury officials extraordinarily long hours.

"Until I saw the front page story it hadn't even occurred to me that anyone would think this was a peculiar thing for someone in my position to do.

"This was just an opportunity for me to spend my leave doing something I was and am very interested in." •

Dr Henry will be on campus in October for Meet the CEO, hosted by the Australian School of Business.





Action ... a snapshot of the University's rising stars

Photo: Prudence Upton. Shot on location at to Myers Studio One.

As any successful actor will tell you, there is no such thing as “overnight success”. These doctoral students might come from different disciplines, cultures and walks of life – but they have one thing in common. They all know the hard work and rewards associated with acquiring that coveted honorific “Dr”.

“To be part of a breakthrough, to commit yourself to solving a problem through postgraduate research can be really satisfying,” says UNSW’s Pro-Vice-Chancellor (Research Strategy) and Dean of Graduate Research, Professor Margaret Harding.

There are currently 2,850 doctoral candidates studying at UNSW. Numbers are strong across all disciplines, with the bulk of students enrolled in engineering, science and medicine. Collectively, their work makes a major contribution to the University’s research standing.

“Most of the big current issues, both nationally and internationally, such as solar cell technology, climate change, HIV/AIDS, social justice and public policy, are multidisciplinary. Solutions to these problems are addressed by teams of researchers, and PhD students are an integral part of that mix,” she says.

For future research leaders, working with post-doctoral fellows and staff in research centres, in schools, across faculties, often with international collaborators, is a really good training ground, Professor Harding says.

UNSW’s strong links with industry, its high-quality supervisors, and access to resources and infrastructure directly benefits postgraduate research students.

“Someone who has done a PhD at a university whose brand and reputation is so well regarded will always be attractive to employers,” she says.

Of course not all research students end up working in industry in a field directly related to their thesis. What employers look for are graduates who can problem solve, who can look at a big picture problem and use the skills and research training from a PhD to apply in the workplace.

“Our students have more coalface experience in general with applied research so they understand intellectual property, they’ve had some exposure to commercialisation, they know about the issues involved in taking something they do in the lab to the marketplace. These are the skills highly sought after by industry.”

Uniken caught up with a selection of the next generation of research stars.

1. Lucy Groenhart, 26

Faculty of Built Environment: public housing
“I have always been fascinated by cities, and have worked as an urban planner and economist in Sydney and Melbourne. A lot of planning focuses on making bits of the city that are already nice a little bit nicer. My passion is how we can improve the ‘difficult’ areas of the city – public housing estates on the urban fringe, areas with poor public transport, few jobs, or a decaying housing stock.

(continues page 12)

Generation next

They're the engine room of our research effort. UNSW PhD students are making their mark – attracting the attention of both industry and academia here and overseas. By Denise Knight.

“A lot of planning focuses on making bits of the city that are already nice a little bit nicer.”

There is a growing emphasis on redeveloping public housing estates in Australia and my thesis establishes a framework for monitoring the impact of these policy interventions. The research is being supported by Housing NSW, so it responds to a ‘real world’ problem – that appealed to me. I want to continue to develop an academic career in urban policy research and teaching.”

Lucy is based in the City Futures Research Centre. Her PhD research aims to develop new ways to measure the social and economic benefits of government investment in social housing.

2. Steven Thomson, 38

Faculty of Law: criminal law

“Working with the prosecution for about eight years now I’ve been vaguely aware of inconsistencies in sentencing practice, but studying the area in a formal sense has really brought it into focus.

I’m analysing more than 1,100 Crown appeals – where the prosecution has argued for tougher sentencing – from their introduction in 1925 to the modern day. Often these appeals are for serious crimes such as murder, manslaughter or sexual assault, which sometimes attract media and political attention.

It’s an area that has not received much academic attention. The legal theories involved need critical review to ensure they will be relevant for the future, otherwise parliament will continue to legislate in a prescriptive way and reduce the level of discretion open to the courts, which could well lead to injustices. Equally, there needs to be a principled body of law or the parliament may have good cause to tighten sentencing discretion further.”

Steven is a solicitor with the NSW Director of Public Prosecutions. His investigation of Crown appeals against sentence started as a Masters by Research before he upgraded to a PhD. He is studying part-time.



3. Celine Steinfeld, 24

Faculty of Science: wetlands management

“I’m interested in how past and current systems of governance maintain or erode the sustainability of wetlands. I use a theoretical approach which focuses on humans as a part of nature, not apart from nature.

Wetlands are precious, vitally important ecosystems, under significant pressure from human impact. I hope that my work will help to improve the ecological integrity of wetland systems, and at the same time help rural flood-plain communities become resilient especially to cope with climate change and drought.”

Celine is the inaugural recipient of the \$60,000 Peter Cullen postgraduate scholarship for her PhD study, which examines water resource development and human activity in two rivers of the Murray–Darling Basin. She is using high-resolution satellite imagery and historic aerial photography to track the past 50 years of environmental changes.

4. Jacqueline Thomas, 26

Faculty of Engineering: water quality

“My PhD is looking at the ability of bacterial pathogens and amoebae to grow in recycled and drinking water.

As water scarcity becomes an increasingly global problem more research is required to assist policy makers decide on the best solutions. Concerns about any health risks associated with recycled water make it a very topical research area to pursue.

I want to help secure safe drinking water for present and future generations. After I finish my doctorate I hope to work in regional and remote areas in Australia and then apply my skills to developing countries in the Asia–Pacific.”

Jacqueline’s work is part of a collaboration between the UNSW Water Research Centre, Sydney Water and researchers at the United States Environmental Protection Agency, where she will soon be based, courtesy of an American Australian Association Fellowship.

5. Rochelle Haley, 28

College of Fine Arts: visual art

“My studio-based research is about the relationship between the body, the land and its representation. Specifically, my interest is in transcribing the experience of moving through the environment into various mediums including incised white paper, etched mirror and line drawings.

I have fortunately been commissioned a few times to create large-scale artworks based on the work resulting from my research. I have always been deeply impressed by the beauty and quality of the Australian landscape, so I guess my biggest inspiration is the land itself.”

Rochelle’s solo exhibition, Land Incorporated,



Inspired by the Australian landscape: Rochelle Haley, art work Blue Mountains, mirror, 2006.

held at COFA’s Ivan Dougherty Gallery earlier this year, was part of her PhD examination. She also took part in an international workshop run by the Imaging the Land International Research Institute at Fowlers Gap. Rochelle is currently an artist in residence in Kuala Lumpur working towards an exhibition next March.

6. Denni Arli, 35

Australian School of Business: corporate social responsibility

“Coming from Indonesia, I saw so many unsolved social issues faced by ordinary people. I asked myself, maybe there is something we can do to address this issue?”

In 2005 I read a book by C.K. Prahalad, a professor at the University of Michigan Business School. He wrote ‘if we stop thinking of the poor as victims or as a burden and start recognising them as resilient and creative entrepreneurs and value-conscious consumers, a whole new world of opportunity will open up’. This book inspires me to study more on what a company can do to alleviate poverty.”

Denni’s research is looking at the drivers, measures and consequences of corporate social responsibility programs on recipients. He’s hopeful his results will lead to more effective strategies to address social issues, with benefits to both business and the community. He works as an associate lecturer in the School of Marketing and earlier this year received a Society for Business Ethics Founders’ Award.

7. Mat Wall-Smith, 34

Faculty of Arts and Social Sciences: new media

“We all know the web is great for accessing information and providing new ways of distributing media. I’m interested in the potential of contemporary technologies to show us those things, people and relationships we didn’t know we were looking for. For this reason my research has explored the way the body is moved to think, and how thought is expressed.

I hope that my work challenges the pervasive models of thought and of technology. The implications might stretch as far as challenging the premise search engines

Double act: PhD student Nicole Kuepper and supervisor Professor Stuart Wenham

operate on, the way we approach the design of learning management systems, or the way we discover new music.”

Among Mat's extensive media experiences are roles as a film sound designer and musician. His PhD is investigating the role media and technologies play in structuring the relationship between the body and the world. He also works as a lecturer in the School of English, Media and Performing Arts.

8. Michelle Pisani, 24

ADFA: drug development

“There is a lot of interest in developing cancer drugs that have fewer side effects than those currently prescribed. I am using different carrier molecules to further reduce side effects and target the drug to cancer cells specifically.

My investigation is at a very early stage. It's rewarding to think that even though my work may not change the world, something that I have done may help someone else to make such a discovery.

I really love research – no day is ever the same. I hope to continue in medical research and plan to move into post-doctoral positions overseas once my PhD is complete.”

Michelle's research focuses on the development of a ruthenium-based drug that has shown promise as a cancer treatment. She is based in the School of Physical, Environmental and Mathematical Sciences at ADFA, where she's also teaching.

“HIV is such a big problem in Uganda. People close to me have died.”

9. Dr Helen Byakwaga, 30

Faculty of Medicine: HIV treatment

“HIV is such a big problem in Uganda. People close to me have died; access to treatment is poor. Ten percent of the world's population lives in sub-Saharan Africa yet the region is home to two-thirds of all those infected with HIV. When resources are limited research is even more important in providing information about effective treatments. Hopefully, I can make a contribution to improving the lives of HIV-infected people in the region and help fight the epidemic.”

It was the world-renowned experts at the National Centre in HIV Epidemiology and Clinical Research that brought this Ugandan doctor to Australia. For her PhD, Helen is working on a national study investigating why some infected individuals respond poorly to treatment compared to others. •

For video interviews with Generation

Next go to: www.unsw.edu.au/uniken/generationnext



Leaders of the pack

“It's very important that you choose someone who's as passionate about your topic as you are,” says Nicole Kuepper, 24, on the importance of finding the right PhD supervisor.

For Nicole, from the Photovoltaics Centre of Excellence in the Faculty of Engineering, that “amazing and inspiring” supervisor is Centre director Scientia Professor Stuart Wenham.

“I met Professor Wenham at a UNSW Open Day when I was in Year 12. I saw a sign for solar energy and ended up talking to him for more than an hour about his research. I was sold and haven't looked back since.”

Wind back the clock 30 years and it was Stuart Wenham, then an aspiring PhD student, who was looking for a research mentor. Like Nicole, he felt it was a critical decision to get right.

“I was very particular about my choice of PhD supervisor,” Wenham says, “and I hunted around for the world's best and that was UNSW's Martin Green. He helped me enormously.”

UNSW is a world leader in photovoltaic research – the Centre has held the world record in solar cell efficiency for two decades – and that is a major drawcard for doctoral candidates, says Wenham.

“We attract the very highest quality students here. The rest of the world is just so impressed with the graduates we produce and they get snapped up by companies, earn very high salaries and rapidly get promoted to senior management positions.”

One of the Centre's most high-profile graduates is Dr Zhengrong Shi, whose doctoral

research was also supervised by Green, a Scientia professor and the Centre's research director. In 2001 Dr Shi established Suntech, which commercialised UNSW solar cell technology in China. Suntech has become one of the world's largest producers of solar cells and Dr Shi is now one of China's richest men.

“We're so lucky to have access to such incredible brains like Professors Wenham and Green,” says Nicole, who is three years into her PhD. “They really feel strongly about helping you with your research and engaging with your sometimes wacky ideas.”

Wacky or not, Nicole's work is attracting lots of attention. She's already won two Eureka prizes, Australia's most prestigious science awards, for her PhD research looking at new low-cost solar cell technology made from silicon.

The novel solution – using inkjet printing, aluminium spray and a low temperature pizza oven – created the metal contacts necessary for a solar cell to generate electricity.

“We're working to simplify how the cells are manufactured so they can be produced in developing countries. We're up to the really exciting stage of creating prototypes,” Nicole explains.

If successful, the breakthrough could bring electricity to two billion of the world's poorest people.

As for the future: “I'm so excited by research in solar energy. I just want to stay in this field and see it become a world energy resource,” she says. •

Behind the scenes on *Balibo*

While critics acclaim the new Australian film Balibo, some question its validity. ADFA's Dr Clinton Fernandes worked on the film for two years.

The question of accuracy often comes up in discussions about *Balibo*, a film to which I contributed as Consulting Historian. *Balibo* is about several journalists who were killed in East Timor in 1975, that runs for less than two hours but deals with real events lasting two months. The competing demands of accuracy, concision and aesthetics mean that one has to decide in advance what to leave out, what to leave in, and how to re-enact certain events.

I met film director Robert Connolly by pure chance. I had tried any number of excuses to avoid attending a BBQ in Melbourne, but my partner insisted that I go. I capitulated, and found myself standing beside a friendly, scruffy bloke who said he was a filmmaker. I assumed he uploaded videos to YouTube or something similar, but he mentioned he was making a film about the events of 1975. I explained that I lectured at UNSW, knew the subject well, and could help him make his film accurate. We began working together from the middle of 2007. I advised him during the scriptwriting stage, while he was on set in Darwin and Timor, and during the editing stage. I learnt a lot from Robert.

I came to learn that the nature of screen drama imposes certain constraints on filmmakers. A screenplay is a fragmentary form of storytelling, and a movie is best understood as a collection of fragments.

Since not everything can be told, not even in a multi-volume historical series, filmmakers strive for a cogent story that is dramatically effective and engages the audience rationally as well as emotionally. We made some creative changes in order to get the best out of the unique advantage enjoyed by films – their ability to show you “what it feels like to be there”. There are differences between *Balibo* and the historical events it depicts, largely due to constraints specific to the medium of film. However, they do not compromise the historical claims made by the film – had that been the case, I would have walked. With the help of ADFA's web designer Jeffrey Steinacker, I set up a website which is a historical companion to the film. It contains a scene-by-scene analysis that addresses the question of historical accuracy along with other information, including declassified documents.

The relevant historical background is that in October 1975, the Indonesian military was conducting a terror and destabilisation campaign in the border regions of East Timor. Its aim was to generate atrocities that could be falsely attributed to pro-independence East Timorese forces. It would then be able to invade under the pretext of “restoring order”. Five journalists employed by Australian TV stations went to East Timor to cover the conflict. If the journalists had



Conflicting version of events ... Damon Gameau as Greg Shackleton in *Balibo*

obtained film footage of the military campaign and conveyed it to the outside world, the Indonesian military's cover story would have been blown. The five were killed within days of arriving at the border town of Balibo. A sixth journalist was killed a few weeks later in front of more than 100 witnesses. In 2007, a NSW coronial inquest established that the five journalists were unarmed, dressed in civilian clothes, had surrendered and identified themselves as Australians and as journalists. They were killed deliberately on orders that emanated from the highest levels of the Indonesian military. Their corpses were dressed in uniforms, guns placed beside them, and photographs taken in an attempt to portray them as legitimate targets.

In the film, Colonel Dading Kalbuadi, the overall commander of the Indonesian forces in East Timor, participates in the killing of the Balibo Five. Even though his dress in the film is based on his actual clothing from that time, Kalbuadi was not at Balibo when the journalists were killed – he was in his tactical headquarters approximately 10 kilometres away. He flew in by helicopter immediately after Balibo had been captured. The film



At work ...
(l-r) Clinton Fernandes
and actor/producer
Anthony LaPaglia



shows him participating in the killing in order to highlight an important legal conclusion reached by the Coroner: “There is strong circumstantial evidence that Colonel Dading Kalbuadi gave orders to his field commanders that anyone found in Balibo was to be killed, including the five journalists.”

In real life, ABC journalist Tony Maniaty met the journalists in East Timor and informed them that it was dangerous to travel to Balibo. In the film, actor Simon Stone plays Maniaty, whose speaking part reflects the audience’s questions about the wisdom of travelling to Balibo. The Coroner concluded that the journalists themselves were responsible for being alone in Balibo at the time the Indonesian forces entered. Furthermore, the journalists were staying in the same house as pro-independence East Timorese forces. Should they have placed themselves in danger in this manner? After all, military combatants are legitimate targets and journalists located with military combatants are also liable to incidental killing provided the attacking forces otherwise comply with the laws of armed conflict. These laws include the need to consider the anticipated civilian casualties

in relation to the overall military advantage obtained. Journalists enjoy no greater protection from attack than other civilians.

In response to these questions, it must be noted that the journalists were not mistaken for combatants. They were unarmed and dressed in civilian clothes. They all had their hands raised in the universally-recognised gesture of surrender. The house in which they stayed was not a legitimate military target because there were no pro-independence forces in it when the Indonesian troops entered Balibo. These forces had retreated and – in real life – were a significant distance away from Balibo when the journalists were murdered. The relevant test is whether, at the time of the offence, the Balibo Five were directly taking part in the hostilities. Since the Balibo Five did not constitute an immediate threat of actual harm to the Indonesian forces, they were “protected persons” under article four of the 1949 Fourth Geneva Convention. Their killing was a war crime. War crimes can be prosecuted wherever they occur and regardless of the nationality of the victims or perpetrators. There is no statute of limitations. This means that the alleged killers of the

Balibo Five can be prosecuted in Australia following extradition from Indonesia.

During the 24-year occupation by the Indonesian military, the people of East Timor suffered perhaps the highest death toll relative to total population since the Holocaust. The figures are staggering – 185,000 people were killed out of a population of 640,000. East Timor’s “National Alliance for an International Tribunal” has been joined by Indonesia’s “Justice Coalition for East Timor”, which is composed of numerous civil society groups. Indonesian activists are calling for prosecutions for what their military did in East Timor. They take the view that self-described “supporters” of Indonesia who oppose justice may be more accurately described as supporters of Indonesia’s moral and political decay. I am honoured that my pro bono contribution to the Balibo film contributes in some way to the East Timorese and Indonesian activists’ need for greater international awareness of the need for justice.

For more information about the film go to the website: <http://www.unsw.adfa.edu.au/hass/Timor/index.html>

Playing for keeps

Students are acting up in class and lecturers love it. *Caroline Savransky and Susi Hamilton report on a winning online teaching initiative.*



Photo: Comstock/Getty

“We always alert ASIO because the scenarios are so realistic.”

sent all the SMSs to the wrong number. The recipient, an anonymous person in Queensland, contacted the federal authorities who paid a visit to the student on campus.”

Role-playing uses online tools such as discussion forums and emails to create a sense of reality that allows students to learn in an immersive experiential environment.

“It takes the traditional lecture/tutorial structure to a new level that breaks down the barriers of time and space,” says Ms Elizabeth Rosser, the Coordinator of Online Teaching and Learning for UNSW’s Foundation Studies.

For many international students doing Foundation Studies, role-playing helps ease the language barrier by allowing them to learn at their own pace.

“We had one student who was extremely quiet in tutorials. I would have thought he was disengaged from learning, but the anonymity of playing in role emboldened him to participate in a way that he could not do in class,” says Rosser, who is also the National Manager of Project EnRoLE, which encourages Online Role-based Learning.

Role-play is also used to bring students together from different disciplines. Currently postgraduate students in mining engineering and public health are using role-play to consider the environmental and health consequences of a mining operation in Buyat Bay, Indonesia. The role-play is based on a court case which is underway between the government and the mining operator over the alleged dumping of waste and the resulting pollution. The students debate how the operations will affect the environment and the health of residents, so this enhances their understanding of real-life scenarios.

“Crossing barriers between disciplines like this gives our students a deeper understanding of their chosen field and some of the issues which may confront them in the workplace,” says Dr Carol Russell, Learning and Teaching Fellow in the Faculty of Engineering.

“We think it gives our students the edge – it hopefully makes them more thoughtful citizens and more useful employees.” •

**Online role-playing was the subject of a \$250,000 grant from the Carrick Institute for Learning and Teaching in Higher Education, the forerunner of The Australian Learning and Teaching Council.*

More unrest in Iraq has prompted Barack Obama to re-think his planned withdrawal of combat troops by August 2010. He sends an email to his Secretary of State, asking her to head to the troubled region. The media is reporting the administration is “in crisis” and that Obama is “reneging” on a core promise.

This is the sort of scenario facing UNSW political science students in an online role-playing exercise. The students take on key roles in world politics – from Barack Obama and Hillary Clinton, right through to members of the media and the secret service.

“The students get utterly engaged. They can spend up to eight hours a day in the role-play,” says Dr John Shepherd, from the School of Computer Science and Engineering. “We assume that it helps them learn more about politics. Certainly their lecturer has said that there is a clear improvement in their essays before and after the role-play.”

Dr Shepherd pioneered role-playing online with Dr Andrew Vincent, a colleague

Strategic moves ... students are using online role-play to learn negotiation skills

in political science, at the University of Melbourne back in 1990. Since then, it has taken off at universities around Australia and overseas.

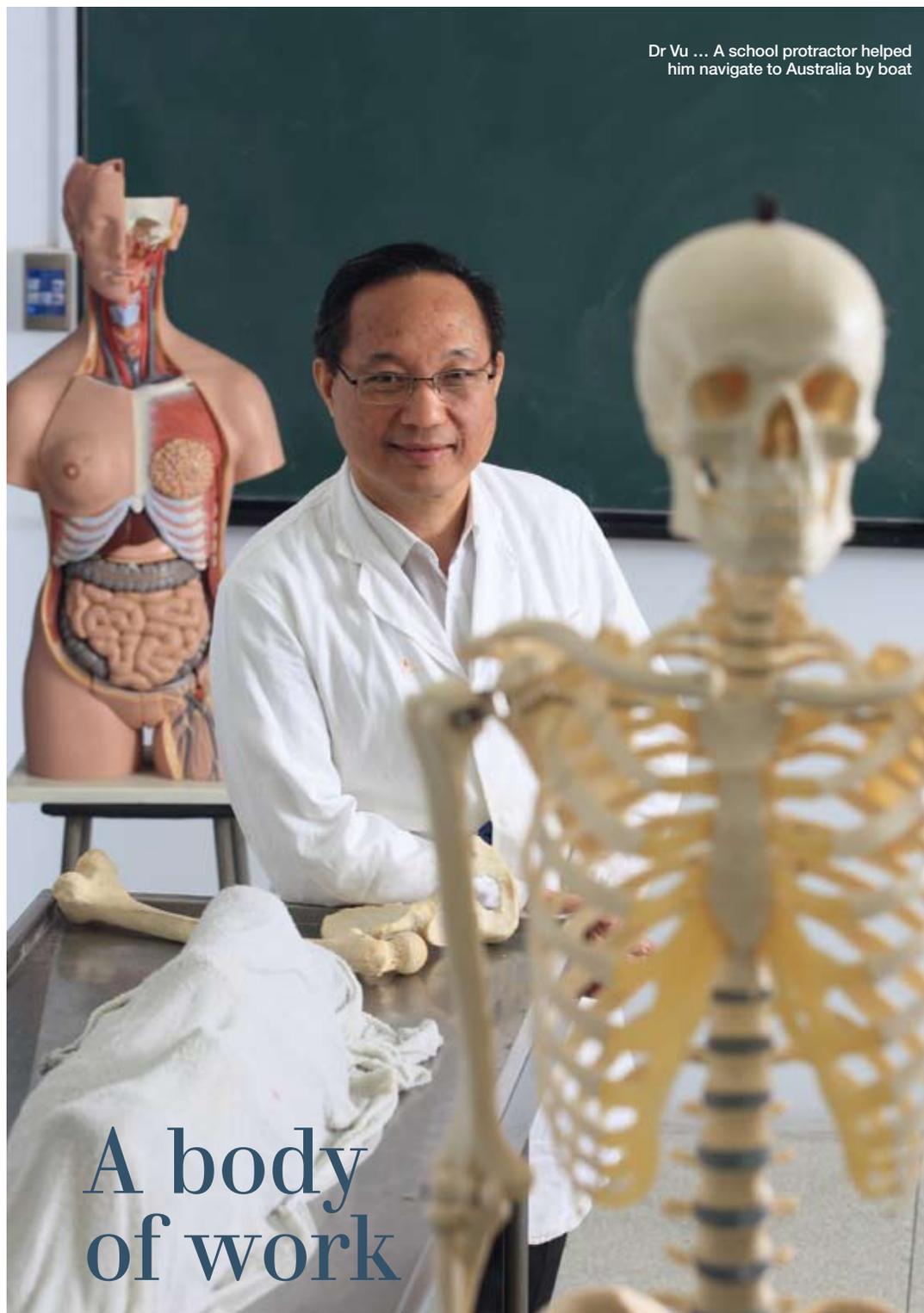
He is such a devotee that he has been involved for the past 19 years – even though it’s not used in his own field.

“I’ve been supporting people in other disciplines. It’s such a great approach to learning,” he says. “It’s particularly effective for certain subjects, particularly when complex human interactions, such as negotiations, are the main focus.”

While the students have given overwhelmingly positive feedback to the role-play – it has sometimes become almost dangerously lifelike.

“We always alert ASIO because the scenarios are so realistic,” says Shepherd. “In a recent role-play, a student was using SMS to contact a team-mate about tactics and accidentally

Dr Vu ... A school protractor helped him navigate to Australia by boat



A body of work

From Vietnam's jungles and concentration camps to arriving in Australia as a refugee, this UNSW doctor has tackled life's challenges with humour and humility. Fran Strachan reports.

Dr Dzung Vu stands at the frosted doors of the anatomy lab with the enthusiasm of a party host, all broad smiles and enthusiastic gestures despite the confronting contents of the room behind him. "Come in, Come in! What would you like to see? Come and look ..."

A treasure trove of human anatomy specimens and dissecting tables, Vu's workplace isn't for the faint-hearted but after decades of studying and teaching the minutiae of the human body, he inhabits the

cavernous room with ease.

Dr Vu, a senior lecturer in the Faculty of Medicine, often has his title automatically elevated to Professor Vu – even by close friend and neurosurgeon Charlie Teo who describes Vu as "a legend in the medical community".

"People assume that I'm a professor because I've taught surgery and radiology here for 22 years," he laughs. "But I've never applied for a promotion, the most rewarding thing is seeing the quality of the next generation of graduates."

Vu's infectious enthusiasm and passion for his specialty area, anatomy, has been informed by a series of life events that would leave the majority of us shattered.

After graduating in 1975 as an orthopaedic surgeon from the University of Saigon, Vu served as a surgeon in the South Vietnamese army.

"I only lost a patient once, and I'm proud of that record. The soldier was mutilated and riddled with bullets and my colleagues said that I shouldn't operate," he says. "But I knew I had to try and save that man's life and when I completed his death certificate I knew that at least I'd done everything in my power to help him."

Vu spent three years in a concentration camp after serving in the Vietnam war – an experience that has made him a strong advocate for maintaining the role of anatomy and physiology in modern medical training.

"When I was in the labour camp watching fellow prisoners dropping like flies from injury and infection, I realised that technology doesn't help in certain situations, because all you have is your knowledge and clinical skills. A comprehensive understanding of anatomy is crucial," he says.

"Good humour is essential for the learning and practice of medicine."

After escaping Vietnam in a tiny boat with his family, using nothing but the stars, some black thread and a school protractor to navigate the way, Vu was told his qualifications weren't recognised in Australia.

Instead of giving up, Vu decided to enrol in medicine at UNSW, staying on in the faculty as a lecturer and eventually teaching his own daughter who is also a medical graduate.

"It was humbling, but Confucius said that of the three people walking with you there's always one who can be your teacher and I honestly believe you can always learn something new from everyone."

Dr Vu confesses that he can spend a whole night reading about just one ligament and has designed an evening course for radiology registrars and numerous courses for postgraduate doctors and surgeons. His unique teaching style continues to motivate his undergraduate students.

"Good humour is essential for the learning and practice of medicine. If I can see that I'm losing students through lack of concentration or fear then that's a failure on my part to motivate them, so I'll try and bring them back with a joke or a song," says Vu.

Thirty years after escaping his homeland, Vu is well respected in the Australian medical community and is in high demand as a speaker in Canada and the US – and he has no plans to slow down.

"My family get upset when I say I want to work until I'm 85. But, as long as I still have the capacity and I'm with it, I'll be here."

Looking at the spry 62 year old, it's not hard to believe it. •

Greening our buildings

After nearly two years with a United Nations agency in Paris, Dr Peter Graham has returned to the Faculty of the Built Environment. He told Peter Trute that we can avert a climate emergency by making smarter buildings and being more clever about how we use them.

The construction sector is responsible for about 30 to 40 percent of our global greenhouse gas emissions each year. Buildings themselves consume up to 30 percent of all energy each year in the world, 25 percent of all water and 40 percent of all materials. The magnitude of the impact of the industry on climate change is the most significant in terms of all industrial sectors. You could say that the problem is immense and we're essentially facing a global emergency.

Countries like China and India are adding the equivalent of our total building stock in Australia each year. So, the emissions signature from cities globally is going to increase rapidly. At the same time the Intergovernmental Panel on Climate Change (IPCC) is telling us we have to reduce our emissions by perhaps as much as 85 percent in the next 15 years. The only way countries are going to be able to achieve that is to radically reduce the energy consumption and improve the energy efficiency of buildings, and by extension the energy efficiency of cities.

Most emissions from the building sector come from the operation of buildings. Most buildings have been designed and constructed in a way which is not energy efficient. We can save more energy than we can generate with new power stations if we invest in retrofitting our existing buildings so that they are more energy efficient.

We can reduce our emissions by at least 50 percent by investing in energy efficiency – with potentially no additional costs to an economy and perhaps at even a cost benefit to an economy because in addition to saving money, we can create jobs.

The work I was doing with the United Nations was part of an international



Dr Peter Graham ... retrofitting existing buildings can save more energy than building new power stations

partnership between global companies, governments, NGOs and research organisations. The Sustainable Buildings and Climate Initiative provides a common platform for reaching consensus on important issues that will help “mainstream” sustainable buildings and help the industry to rapidly reduce its greenhouse gas emissions. We also wanted to provide the industry with a voice in the climate change negotiations which will, we hope, conclude in a new agreement on greenhouse gas emissions in Copenhagen in December.

The building industry isn't like the car industry or the ship-building industry. The products are very diverse in the building industry and there are many people involved in actually designing, constructing, operating and owning buildings. So it's not clear that if an investor puts some money on the table to create a building project, at the end of the day they will achieve a cost benefit for the environmental improvements to the building.

Similarly, if someone invests in environmental improvements in a building, the people who are actually in the building may operate it in a way which negates the environmental performance aspects. So there's what's called a split incentive: there's not a clear winner even though overall we can see that there are clear benefits.

Australia is a bit of a patchwork quilt at the moment. We've got some of the world's best green buildings being produced here. Our industry is also one of the most highly skilled industries in the world when it comes to being able to respond to new performance expectations. However, we do lack a consistent framework for policy that sets regulatory targets for the industry, such as zero carbon or zero energy buildings, that could help us avoid the worst-case scenarios of climate change. •



An interview with Peter Graham can be seen in the Engineering and Design collection on UNSWTV at www.tv.unsw.edu.au

Fishing for a fresh start

The Indian Ocean tsunami wiped out lives and the livelihoods of those left behind. Dr Jes Sammut is helping the people of Aceh build their future.

Four months after the tsunami struck in December 2004, Jes Sammut was sent to Aceh to run workshops for those in the aquaculture industry.

“I remember naïvely asking them to write down their home address on a participants list. They all burst into laughter. I asked them what was funny. One of them waved a mobile phone in the air and with a big smile said, ‘Sir, for most of us, a mobile phone number is our only address,’” recalls Dr Sammut, an expert in aquaculture from the School of Biological, Earth and Environmental Sciences.

At the time, Sammut had already been working on aquaculture in developing countries for around a decade – but nothing could prepare him for the scale of the problems in the province.

“Most of my team who lost their families have remarried and we often celebrate the birth of babies.”

More than 200,000 people had been employed in shrimp and fish farming, which had been a major coastal industry since the 1970s. After the disaster, the industry lost two-thirds of its workers and thousands of hectares of land were destroyed. Among the death toll were many fisheries researchers, leaving a gap in the research effort which is so vital in reconstruction.

Even worse, most survivors had no alternative source of income.

“I still remember flying into Aceh. I had a window seat and scanned the landscape below. I was stunned by the devastation. I was further shocked when I was driven into Banda Aceh. Villages and urban areas were flattened and debris was strewn across the coastal plain. It was hard to believe that the devastated landscape was populated by people – the homes, schools, mosques, shops and farms were obliterated or severely damaged. In some areas the only evidence of a once bustling community was the remnants of foundations and roads.”

Shortly afterwards, Sammut flew 26 Acehese to Batam – an island that still had sufficient facilities for the training. The work was funded by the Australian Government.

“Every one of them had amazing stories of survival and loss to tell. The

research workshop was fairly intensive, but during breaks and meals, the participants shared their experiences,” he says. “Despite their losses and the challenge of rebuilding their own lives, the participants were eager to develop new skills and work with us to rebuild research support for the aquaculture industry.

“It is remarkable that a group of people who lost almost everything has achieved so much since the tsunami. Most of my team members who lost their families have now remarried and we often celebrate the birth of babies. It’s been a privilege to be part of their personal and professional development.”

Four years on, many of the participants from the first workshop are now part

of a research and extension team that supports the reconstruction. Some of them now train other fisheries officers throughout Aceh. Their infrastructure has been rebuilt too – laboratories have been constructed at the main fisheries centre, with the facilities being officially opened by Prime Minister Kevin Rudd last year.

“My project has focused on training the analytical and field staff,” says Sammut. “It’s rewarding to see that they are now providing research support and technical advice to thousands of farmers.”

Sammut’s work has been successful in other parts of Indonesia too. An independent reviewer has determined that the productivity of shrimp farms using his techniques have increased almost three-fold.

“Our work has big implications for income security and food security,” observes Sammut. “It helps to create social harmony and reduce conflict between land users. It also creates opportunities for better health and education.” •

Increasing productivity ... (top to bottom) checking shrimp nets in Aceh; a successful catch; Jes Sammut with farm group leader Mr Akib; and reconstructing ponds in Aceh.
All photographs courtesy of Jes Sammut.





Name: Professor Jill Bennett
 Director of the UNSW Centre for Contemporary Art and Politics; College of Fine Arts.

Research: “The way that the media shapes, generates, intensifies and manipulates emotion in times of crisis has become much more evident since the terrorist attacks of September 11. We seem to have lived through a succession of emergencies – real or imagined – be it the global financial crisis or the swine flu. Everything is a kind of epidemic or emergency before it’s even happened. And this has opened up a whole new disciplinary focus for contemporary experimental artists who want to explore the ramifications of emotional manipulation by the media. Using a new visual language, artists can deconstruct the clichés, models and rhetoric of the mainstream media, to help stimulate questioning about whether seeing really is believing.”

Inspiration: “There are all sorts of ways in which a crisis can be exaggerated and perpetuated by the media through the management of emotions. The subject has now provided inspiration for an exhibition, called *REAL Emergency*, which graphically reconfigures some of the real-life catastrophes of recent years. The show reveals a range of experimental work by national and international artists who question the capacity of the media to reveal the truth of events in the wake of hurricane Katrina, the war in Bosnia and the human cost of coal mining in China. By encouraging a better understanding of what we’re seeing, I hope that we might develop a greater critical awareness of media operations, and that’s a very good outcome. It might even lead to change.”

*Professor Jill Bennett spoke with Anabel Dean
REAL Emergency, curated by Jill Bennett and Anna Munster,
 is at the Ivan Dougherty Gallery until September 19.