Never Stand Still

The Magazine for Alumni and Friends

June 2012 • Issue 16

GENERATION next

Saving lives
Sustainable energy technologies
Overcoming social disadvantage
Digital innovators

UNSW
The University of New South Wales
Welcome from the Vice-Chancellor

Welcome to the latest issue of UNSWorld, the magazine for alumni and friends. In this edition we celebrate the achievements of students across the University at all levels. Through their extraordinary endeavours, they are contributing as leaders in the community and, ultimately, in their chosen disciplines. We are delighted their efforts are helping to make UNSW a globally recognised centre of learning and research that is renowned for the quality of its students and graduates.

On the following pages, you will meet some outstanding students, who have used the learning from their formal education – along with their talents, unique insights and vitality – to make the world a better place across fields as diverse as evolutionary biology, new energy technologies, social justice, computer science, medicine, business and the law.

Significantly, the students in this issue were photographed on top of the new Tyree Energy Technologies Building on the Kensington campus. The building is named after leading businessman and alumnus Sir William Tyree who has generously contributed funds and taken a passionate interest in the development of this pioneering facility. As he explains in our feature, Watch This Space! on page 10, this six-star energy efficient building brings together UNSW centres, schools and research groups focused on sustainable technologies. Energy researchers with expertise in petroleum, electrical, photovoltaic, chemical and mechanical engineering now are using its state-of-the-art equipment while working, liaising and collaborating under one roof.

Finally, many who are actively engaged with UNSW will be aware that Jennifer Bott will leave us later in the year. I wish her well and thank her sincerely for the leadership she has brought to the role of Chief Executive of the UNSW Foundation. Her fundraising efforts and development of partnerships have enabled a host of new scholarships, programs, equipment and facilities University-wide.

I hope you enjoy this special issue of UNSWorld, and that the news of the exciting activity at the University inspires you to stay in touch.

Frederick G Hilmer AO
President and Vice-Chancellor
Alumni political leaders

Building on his record as NSW’s longest serving Premier, Bob Carr was designated by Prime Minister Julia Gillard as Australia’s Foreign Minister. He was elected to the Australian Senate to fill a casual vacancy and sworn into the Senate and Cabinet on March 13. Senator Carr, who joined the Australian Labor Party at the age of 15, graduated from UNSW’s Bachelor of Arts program with Honours in History in 1969. A member of the UNSW Council from 1984 to 1988, he received the UNSW Alumni Award in 1999. After retiring from state politics, the University recognised his “eminent public service” with an Honorary Doctorate of Letters in 2006.

Federal Minister for Defence Materiel Jason Clare’s parliamentary responsibilities substantially increased in December 2011 when he was also appointed Minister for Home Affairs and Minister for Justice. Clare, who graduated with a Bachelor of Arts (Honours) and a Bachelor of Laws from UNSW in 1998, formerly served as a senior advisor to then Premier Bob Carr and as a Top 100 company executive, prior to becoming the Federal Member for Blaxland in 2007.

Campbell Newman became the Premier of Queensland and Member for Ashgrove in a landslide Liberal-National Party victory in the late March state elections. Newman graduated with Honours from UNSW’s Bachelor of Engineering degree program in 1985 and went on to a 13-year career as an Australian Army engineer before becoming a management consultant and later head of agricultural storage company, Grainco.

Powering up a lunar colony

“Generating sustainable power efficiently will be one of the largest technological hurdles to future exploration and colonisation of the moon,” insists Aaron Bonanno, an undergraduate from UNSW’s School of Photovoltaics and Renewable Energy Engineering.

Bonanno recently presented research into powering a future moon base in California at the American Society for Civil Engineers’ Earth and Space 2012 Conference: Engineering for Extreme Environments.

Technologies being explored to power activity on the moon include photovoltaic cells, nuclear energy and fuel cells, but these would require transporting heavy materials, which is prohibitively expensive, Bonanno points out. “Our research is focussed on using resources that are readily available in the lunar environment,” he says.

Solar energy is an attractive option, but there’s a challenge in ensuring a constant power supply, due to the moon’s 336-hour long night. Bonanno’s solution involves storing solar thermal energy – heat collected from the sun that can be converted into electricity – in concrete blocks made from lunar soil, known as regolith.

His search for an earthly material to mimic the chemical and physical properties of “moondust” ended on Sydney’s outskirts at a quarry, where fine basaltic dust, created when rocks are crushed to make concrete aggregates, is usually discarded. “This is the closest thing on Earth to moon soil – and it’s free!” says Associate Professor Leonhard Bernold from the School of Civil and Environmental Engineering.

By “baking” the powdery grey simulant at 1,100 degrees Celsius, Bonanno created solid blocks with exceptional properties for storing thermal energy. He showed that a reflective cover could insulate the blocks, allowing them to retain energy through the long lunar night. The sintered rock dust could be used to build a future moon base, including landing pads strong enough to withstand meteorite impacts, and the heat and gas from rocket-propelled vehicles.

Bonanno’s interdisciplinary research can also be applied to the development of renewable energy systems on Earth.

– Myles Gough

A new higher education social media index has ranked UNSW as the national leader in attracting Facebook fans. The Australian Universities Facebook Index shows UNSW has the most Facebook fans in the nation – 75,000 at last count. Tim Winkler, who created the index, declared UNSW “the undisputed national champion”.

UNSW Marketing Director, Sue-Anne Chew, says: “We’ve recognised the importance of Facebook in making connections with students, and we’ve been responsive to what students are looking for in the social media space.”

The University’s YouTube channel, UNSWTV, also has been ranked as the nation’s most popular university channel. It has been viewed over two million times, more than double its nearest competitor.
Industry supports top scholars

More than 150 leading Australian companies have signed up as sponsors for the prestigious UNSW Co-op Scholarship Program taking funding for the program collectively to $6 million a year.

Co-op program partnerships now span 24 areas in business, engineering, science and the built environment and offer scholarships that incorporate industry experience, leadership and professional development, networking and mentoring opportunities. The scholarships are valued at $16,750 annually for each year of a degree.

In 2012, six new sponsors joined the program: Johnson & Johnson Medical Pty Ltd, Silanna, City of Sydney, Facilities Management UNSW, Veolia Environmental Services (Australia) Pty Ltd and Reckitt Benckiser.

The program is the oldest, largest and most prestigious scholarship of its kind in Australia, says Co-op Program Manager Kay Carey. “At the simplest level, Co-op delivers a stream of highly talented, motivated young scholars, who bring fresh perspectives, ideas and challenges into a sponsor’s company. At a deeper level, the scholarship program is part of the graduate recruitment and professional development strategies of our sponsor companies, who want early access to the best and brightest of our students and an opportunity to raise their profile with high-achieving graduates across the University.”

UNSW Co-op scholar Jade Fennell, who is in her final year studying photovoltaics and renewable energy, believes that the Co-op experience has been invaluable in shaping her career direction.

“The sponsors on each of my industrial placements gave me a huge range of opportunities to experience the many facets of working in the photovoltaics industry; everything from R&D, designing and distributing solar systems, building measurement tools and even working on the world’s largest solar cell production line,” says Fennell, who has completed work placements in Norway and China.

Student visas fast-tracked

International students applying to study at UNSW will now have their visa applications streamlined, thanks to a partnership agreement with the Federal Government.

The Streamlined Visa Process introduced in late March simplifies the documentation required and fast-tracks applications for international students enrolled in Bachelor, Masters or Doctoral degree programs.

Under the new arrangements for universities, qualifying students, irrespective of their country of origin, are classified as a low migration risk, meaning a less onerous process for these applicants. UNSW is working closely with education partners onshore and overseas to implement the new system.

Multi-million dollar boost for bionic vision

Patent tests of a functional bionic eye are planned for next year with the fabrication of implantable electronics already underway at UNSW.

A new $2.5 million facility opened in late April is giving bionic vision researchers on campus the capability to produce their own medical implants to the highest quality and safety standard.

“Our primary aim is to complete the first prototypes of the bionic eye so they can be tested in human recipients in 2013,” says Professor Gregg Suaning from the Graduate School of Biomedical Engineering.

Suaning leads development of Bionic Vision Australia’s wide-view device, the first of two prototypes aimed at restoring vision in people with degenerative retinal conditions. The key feature of the device is an implant with 98 electrodes, made of biocompatible materials, which will stimulate surviving nerve cells in the retina – a layer of tissue at the back of the eye that converts light into electrical impulses necessary for sight.

The device will enable people as a minimum to better differentiate between light and dark, and to navigate around their surroundings more independently, says Suaning. In the international race to develop a functional bionic eye, the new facility with the capacity not only to design and test, but also to fabricate novel and intricate bionic implants offers enormous promise for future biomedical research and clinical outcomes, he says.

The upgraded facility includes a clean room and state-of-the-art equipment for building complex microscopic components and testing the performance of microelectronics, says Professor Nigel Lovell, joint leader of UNSW’s bionic vision research effort. “The facility also allows the integration of implantable bionics with wearable sensors for telehealth monitoring, underpinning our future research in personal health systems for managing a wide range of chronic diseases.”
Mind matters

A unique program that equips teachers to better assist young people with mental health issues will be rolled out to secondary schools across Australia.

A $500,000 grant from nib foundation, a not-for-profit organisation run by nib health fund, will enable the Black Dog Institute to train 1,500 high school teachers in the groundbreaking HeadStrong program over the next three years. The program will reach out to 90,000 students, with a particular focus on rural and remote locations.

HeadStrong is a teaching resource that uses a series of engaging cartoon images to convey complicated subjects to students and is supported by classroom activities and teacher development notes. The program provides a creative way of thinking, talking and teaching about mood disorders, says UNSW Professor Helen Christensen, Executive Director of the Black Dog Institute.

“One in five Australians will experience a mood disorder in their lifetime and up to 75 percent of mental health issues emerge during the turbulent adolescent years. This resource is designed to target the needs of young people, with the visual format of the materials making it accessible to students of all intellectual abilities, as well as those from a low literacy or non-English speaking background.”

The rollout will begin in NSW secondary schools in the first half of this year, before expanding to Queensland later in 2012. National implementation will be completed by 2014.

Unlocking the secrets of Indonesia’s natural remedies

“Supercritical fluid” technologies developed by UNSW chemical engineers will play a vital role in extracting medicinal compounds from a range of native Indonesian herbs and enable new methods of drug delivery.

A memorandum of understanding between UNSW and PT SOHO Global Health of Indonesia, a leading Jakarta-based pharmaceutical company, underpins new research to find evidence for the potential use of traditional herbal remedies.

“It’s an exciting new project with an important end-goal given the large market and popularity of herbal remedies in countries such as Indonesia,” says Professor Neil Foster from UNSW’s School of Chemical Engineering. “The technologies we have developed have the potential to uncover the true medicinal value of many plants that have not yet been explored,” he says. “And in the long term, it is planned to use the technologies to re-engineer pharmaceuticals to improve bioavailability and develop less invasive methods of delivery, such as by inhalation.”

Supercritical fluids, which are essentially compressed gases such as carbon dioxide, have already been used to extract flavonoids from hops in the production of beer and to decaffeinate coffee.

The first plant under inspection in the new partnership is Curcuma Xanthorrhiza. Known popularly as “Temulawak” and belonging to the ginger family, the herb originated in Indonesia and has been used for centuries in the treatment of arthritis and gastrointestinal complaints.

– Myles Gough

Artist’s gamble pays off

COFA graduate Nigel Milsom won the 2012 Sulman Prize for his painting depicting the social isolation of gambling. The oil on linen work, titled Judo House pt 4 (Golden Mud), explores gambling in everyday life, “whether it be with one’s life, money, career or simply in the day-to-day decisions we all make,” Milsom explains. He was inspired to paint the image after meeting a widowed man at a bus stop, whose only form of social interaction was a weekly trip to the leagues club, where he would bet on the horses.

Milsom, who has a Bachelor of Fine Arts and a Master of Fine Arts from COFA, says he aimed to capture feelings of “social loneliness” and mystery in his winning work.

The $30,000 Sir John Sulman Prize is awarded by the Art Gallery of NSW annually for the best subject/genre painting and/or mural project by an Australian artist.
Across the generations

In a first for the UNSW School of Mining Engineering, a father and daughter have tossed their caps together as part of the same graduating class. Kara Newbury is wrapping up a bachelor’s degree in Mining Engineering while her father Rick has completed a graduate diploma in Mine Ventilation.

“When I started this degree I had no idea he would be doing his course, and he didn’t either. It’s a unique situation and we’re both pretty excited about it,” says Kara, who now works as a graduate engineer at the Mandalong coal mine on the NSW Central Coast. Her interest in mining was further spawned by growing up near the coal-mining region of Mudgee, NSW.

Rick, who is currently working as a contract undermanager in Narrabri in northwest NSW, worked in the mining industry for more than 30 years before completing the graduate diploma at UNSW. Kara’s mother and sister also work in the industry, as an operator and a mechanic respectively.

Over the last decade, females have comprised approximately 15% of total undergraduate enrolments in UNSW’s School of Mining Engineering.

Kara plans to continue following her dad. Her workplace is currently sponsoring her through a diploma of management, and she hopes to enrol in the same mine ventilation course that Rick has just finished.

– Myles Gough
Caught in the act

Rhodes Scholarship recipient Eleanor Bath’s scientific perspective on the mating habits of insects looks set to launch her career as a world-class researcher, writes Helen Hawkes.

Immersing Neriid flies in nitrogen while they are mating, to study their genitalia, isn’t on every 23-year-old’s to-do list. But then not many young Australians win the NSW Rhodes Scholarship or plan to be responsible for a paradigm shift in biology.

Eleanor Bath is a UNSW science student with a fascination for evolutionary biology. She grew up in Hong Kong and attended Sydney Girls High School before coming to UNSW where she has nearly completed a combined degree of Bachelor of Science (Advanced)/Arts, specialising in Biology, Politics, International Relations and History.

An Honours candidate in the Evolutionary Biology Lab Science working with Principal Investigator Dr Russell Bonduriansky, a Senior Lecturer and Australian Research Fellow, Eleanor is currently studying two species of the Neriid flies, from Queensland and NSW. “We are looking to see if the two varieties of flies recognise each other as potential mates,” she says. “To the outside observer these flies look much the same. But we have discovered that the males have different shaped genitalia.”

To make her discovery, Eleanor found a way to freeze the flies mid-coitus in nitrogen. “I put them in my mating cage of death – a modified sink strainer – and while they were distracted by moldy food, picked up the cage and put it in liquid nitrogen, freezing them in position,” she explains. Eleanor was then able to examine and dissect them.

The results of this research, which will be submitted for publication in a high-profile science journal, will contribute to theories about why genitalia in insects is so diverse.

In September this year, Eleanor will head to Oxford University to undertake a PhD in the field of sexual selection involving various theories of evolution of ornaments in male and female species, particularly birds and lizards.

Dr Bonduriansky says the Rhodes scholarship, which has made this possible, will give Eleanor the opportunity to pursue her studies in one of the world’s leading universities. (Previous Australian Rhodes scholars include Malcolm Turnbull, Geoffrey Robertson, Kim Beazley and Bob Hawke).

To win the scholarship, Eleanor had to excel in four selection criteria. The first was academic achievement – Eleanor needed at least first class honours. The second was sport – she plays hockey and cricket at first grade level for UNSW and was a champion swimmer and water polo player at high school, receiving the ‘Pierre de Coubertin’ award from NSW Olympic Committee in 2006 for sportsmanship and outstanding achievement.

Community work was the third criteria. “I do a lot of umpiring and coaching for both the University and for hockey clubs,” says Eleanor, who was chosen as NSW Junior Female Umpire of the Year in 2010. Finally, there was leadership. In 2009, Eleanor was president of the UNSW United Nations society, during which time the society established a Speaker’s Forum and Diplomacy Program, extended the Internal Model UN program and sent three successful delegations to external MUN conferences.

With both her parents in Law – her mother, Professor Vivienne Bath, teaches at Sydney University and her father, Professor Andrew Byrnes, teaches at UNSW, Eleanor was determined to chose another field of study. “I loved animals and that led naturally to biology,” she says.

Her ambition is to be one of the best researchers in the world. “I want to develop a new theory, to challenge the traditional assumptions of evolutionary biology and ask difficult questions.”
A generational leader

From undergraduate to a prestigious role as head of Emeriti at UNSW, Emeritus Professor Ross Griffith has embraced change throughout his career.

Emeritus Professor Ross Griffith’s connections to UNSW span 55 years: from his undergraduate days – when as a scholarship recipient in The Bachelor of Science degree program he was drawn by the new discipline of Textile Technology in 1957 – to his role today as Honorary Dean of Emeriti. His career has encompassed a period of profound change.

On graduation, Griffith worked in industry only to be lured back to the University at 24 in 1964. “I returned to establish a specific course in knitting … It was the era of Crimplene dresses for women – knitted fabrics were becoming a popular alternative to woven.” And it was an era of nation-building. UNSW was established as the country began to expand its capabilities, Griffith points out, and the manufacturing industry was being built to make Australia more self-sufficient.

At UNSW, Griffith enjoyed a distinguished career rising to the role of professor and being appointed as head of the newly formed School of Fibre Science and Technology in 1989, a role he held for a decade. At the same time, the professor used his expertise in the not-for-profit sector, spending 47 years and a renowned Australian artist, to upgrade her art teacher into fabrics for heat and sound insulation.

On the personal front, Griffith encouraged Pamela, now his wife of 47 years and a renowned Australian artist, to upgrade her art teacher qualifications, and in 1982 she completed her degree at what is now UNSW’s College of Fine Arts. Subsequently, he introduced their talented children, Selena and Saul, to the possibilities of a UNSW education.

Since leaving academia, Ross Griffith has maintained close ties with the University serving on the Board of Governors of the Alumni Association, which had already recognised his significant contribution to the community with an Alumni Award in 1994. Currently he serves as Mace Bearer at graduation ceremonies and, in his role as Dean of Emeriti, brings together many of the 200 UNSW Emeritus Professors – an esteemed group who have made important contributions both in and outside of their academic careers – for events three times a year. He is also a Director of the NSW branch of the National Trust of Australia.

My childhood was … loving and safe. I had freedom to play in a secure environment, to wander freely in my neighbourhood, to make things, to just kick a ball around.

My parents always said … “honesty is the best policy”. I know now that meant also making an honest assessment of self, with respect to ability, ambition, relationships.

At school, I … learned to love learning.

My most significant memory of university is … girls and culture. I came from a selective boys high school with a technical orientation. Despite the fact that my first degree was in Applied Science, the obligatory “General Studies” opened up whole new vistas for me in Drama, Philosophy, Contemporary English Literature, History, Sociology.

And there were girls in the classes.

My greatest experience while at UNSW … establishing a proper balance between study (work) and play.

My worst experience while at UNSW … having to front the bursar for kicking a football on a “keep off the grass” area.

My most valuable lesson at UNSW was … in 1957, a lecture on the morning that the world first learned that the Sputnik space vehicle had been launched. Our engineering professor put aside his lecture notes and explained the physics and mathematics of overcoming earth’s gravitational pull. His excitement was palpable – an lesson in the power of knowledge.

I made my career choice by … accepting a scholarship. It was in an exciting new discipline at UNSW – Textile Technology – in a faculty preparing graduates for important roles in the development of new industries in Australia.

If I had known then what I know now, I would have … become a better networker, both within my own discipline and across disciplinary boundaries.

I remember … being part of a team building a valuable educational resource, which gained international recognition, and provided the fledgling textile and clothing industries of Australia with outstanding graduates. I also remember being part of the team that dismantled that facility as Australia responded to the pressures of globalisation, and abandoned its commitment to manufacturing industry.

The greatest lesson in my career has been … that nothing stands still. The productivity of an industrial weaving machine increased about 12-fold over my 30 year career. I have lived through an era of change greater than the industrial revolution. The future is even more exciting.

My most exhilarating experience so far … being alive.

If I could do it again I … would do it all the same again, but sooner.

My greatest achievement … building a house as a machine for living, and helping rear two children who are making a significant contribution to the world.

Others say I … look good for my age. I put that down to being wonderfully cared for in a loving family environment. My wife insists that we share at least three good laughs every day.

I most admire … creativity, thinking outside the envelope, quality of concept and execution.

I wish I’d never … smoked. I loved my pipes, but it compromised my health (and golf handicap and bank account).

The best piece of advice I have ever been given is … there is nothing to be gained in belittling other people.

When I’m not at home, I … feel slightly disoriented. It is my castle and refuge.

I am happiest when … I am in agreeable company. Good music can set the mood – a glass of red wine will help.

My greatest unrealised wish is to … since childhood, I’ve wanted to build a Cadillac that runs effectively with a Morris (Mini) Minor engine.

One last thing … my life has been enriched hugely through community and voluntary involvement. The not-for-profit sector has attracted me, as has a continuing relationship with UNSW – it did, in reality, provide the foundation for a very satisfactory life.
s a child, inventor Saul Griffith was encouraged to take things apart to figure out how they worked – a practice he continued into adulthood, often improving on the discoveries he made.

Today Griffith, 38, is the founder or co-founder of seven companies including Otherlab, an entrepreneurial venture that operates from a former pipe organ factory in San Francisco. As chief scientist at Otherlab, Griffith and colleagues pursue a range of projects encompassing computational manufacturing tools, inflatable structures for power generation, safety equipment, automotive, home insulation, robotics and prostheses, among others.

Many of Griffith’s inventions aim to solve some of the developing world’s biggest problems, such as delivering better vision with a patented lens molding technology that can produce a prescription lens in just a few minutes (winner of a Harvard Business Plan award) or generating low-cost power through a pull-cord device that creates electricity for portable gadgets (winner of a Breakthrough Award). He’s also created a “smart” rope that senses its load. And, building on his “love of cycling and sailing in all its unconventional forms”, he’s set up Onya Cycles, a company that tackles his – and others – urban transport challenges. Another venture has launched high-altitude kites that harness wind power.

Griffith also likes to share. A proponent of open-source information, among his longer-standing projects is Instructables, an open website that demonstrates how to make an array of objects, and Howtoons, comic books that show kids how to build things.

Griffith attributes the nurturing of his early curiosity to his parents. His father Emeritus Professor Ross Griffith, formerly head of the School of Fibre Science and Technology is now the Honorary Dean of Emeriti at UNSW (see opposite page); mother Pamela is a highly regarded artist and sister Selena is a senior lecturer in Design Studies at COFA – all are UNSW alumni.

Saul won a scholarship to study Material Science at UNSW and graduated in 1997 with a Bachelor of Metallurgical Engineering degree before moving on to Sydney University to complete his Master of Engineering degree. He won a scholarship to MIT Media Lab to study towards a PhD that he completed in 2004 with a thesis on self-replicating machines. His particular fascination is with materials that assemble themselves and finding ways to use this property “to make things quickly and cheaply”.

In April, with his acceptance of the 2012 Advance Global Australian Award for Advanced Manufacturing, Saul Griffith explained the lure of being an inventor is in the adventure: “The class of problems I work on in energy, the environment and education make you feel good. It’s hard not to be passionate about them ... It’s inherently optimistic.”

UNSW alumnus Saul Griffith has created a new form of skateboarding and is helping to solve some of the world’s biggest problems, and it seems the irrepressible inventor has only just begun ...
Marvelling at the new home of energy research at the University of New South Wales, Sir William Tyree remarks that the state-of-the-art building is a far cry from his days as a young engineer in the 1940s when he built electrical transformers in somewhat rudimentary factories.

“I feel it is probably the best and nicest-looking building I have seen at a university in quite a long while,” says Sir William, a UNSW alumnus and renowned innovator and businessman who for decades has been a major philanthropic supporter of Australian engineering and education.

Six-star energy-efficiency ... 15,000 square metres of space ... world-class research and teaching laboratories – the Tyree Energy Technologies Building (TETB) showcases UNSW’s groundbreaking research and education in sustainable energy technologies, including photovoltaics and carbon capture and storage. Located on the Kensington campus, it incorporates administrative and teaching spaces, engineering workshops, a café and research areas, including laboratories.

With construction costing about $130 million, the TETB has received Australian Government funding of $75 million as part of its Education Investment Fund. The building has been named after Sir William, who has donated $1 million towards the project and pledged a further bequest of $10 million. Sir William has no doubt that it’s money well spent.

TETB’s laboratories will support the work of UNSW researchers in further developing their world record-breaking solar photovoltaic technologies, sustainable clean fuels, smart grids and energy storage.

Professor Stuart Wenham, a pioneering solar cell inventor, heads the ARC Photovoltaics Centre of Excellence at the University’s Faculty of Engineering. The Centre is transferring to the Tyree building. “We’ve been looking forward to these new facilities,” he says.

Since the mid-1970s, solar cell research at UNSW has been conducted in crowded classrooms that were never really meant to be converted into laboratory space. “We had very severe limitations in terms of how we could set up our labs,” Professor Wenham says.

He is confident the TETB will be a boon for senior researchers and undergraduates as they build on UNSW’s international reputation for solar research. “With the new facilities, now we’ve got no excuses,” Professor Wenham quips. “It’s not just our core research that is going to benefit, but our ability to run educational programs and research topics (for undergraduate and postgraduate students). We are now in a much better position to run these types of projects in the TETB than we could have in our old facilities.”

FROM DISCOVERY TO COMMERCIALISATION

Professor Wenham says that commercialisation of solar cell technologies will be greatly enhanced as researchers operate out of one site. Noting significant funding for the project, he believes government and other investors deserve praise for backing the project, emphasising: “Without that level of support we’d never have got these new facilities.”

The scope of the TETB is clear from the range of schools and research groups that will occupy the building: the Australian
He believes four dimensions combine to distinguish the building from others. First, the multidisciplinary nature of the building means energy researchers from all backgrounds are working, liaising and socialising under one roof, comprising fields such as petroleum, electrical, photovoltaic, chemical and mechanical engineering.

Second, the six-star energy efficiency rating of the TETB means it uses the latest environmentally friendly technology to deliver energy savings while at the same time showcasing UNSW research breakthroughs. “We walk the talk,” Professor Agelidis says.

Third, a design featuring a central atrium space creates not only a “wow factor”, but also a visual and physical interconnection that lifts the mood and encourages communication between researchers.

Fourth, Professor Agelidis says the fact that the building features world leading technologies from UNSW researchers is significant. For instance, the roof of the building incorporates photovoltaic cells for testing of research while also contributing to the building’s energy input. This gives researchers a reward for “the endless nights they spend in front of their computers or in their labs” and provides budding researchers with a sense of hope that one day their technologies will make a difference on the campus and for society at large. “That’s why it is such a unique facility,” Professor Agelidis says.

ENTREPRENEURSHIP AND GLOBAL EDGE

With researchers progressively moving into the TETB over the course of this year, Sir William says he feels justified for “thumping the table” in recent years to get the building approved, financed and erected. He expects UNSW’s leading role in areas such as solar technology and other renewable energy sources to be complemented by new research and breakthroughs in areas such as nuclear and hydrogen power.

Most of all, he hopes the facility will encourage the sort of entrepreneurship that will keep Australia competitive globally while also encouraging other philanthropists to support such worthy causes “because if we don’t have education we’re dead in the water”.

Sir William says he has always given away a percentage of his businesses’ profits over the years and will upon his death leave the majority of his assets to funding education-related projects. “I think it’s only right to return a lot of the profits back into building a better mousetrap.” •

For further information about the Tyree Energy Technologies Building, please contact Stephen Wooldridge, Development Manager, Engineering Faculty on s.wooldridge@unsw.edu.au.

Making solar cost effective

Phd student Brett Hallam is one of a band of elite young researchers who are set to benefit from the Tyree Energy Technologies Building.

Part of a team of UNSW researchers that’s pursuing further breakthroughs to develop more efficient solar cells, he is confident the new facility will act as an educational hub for undergraduate and postgraduate students who are committed to shaping our energy future.

“It’s certainly a beautiful building and I think it will be very helpful for all our research,” Hallam says.

The winner of the UNSW medal for photovoltaics and solar engineering in 2009, Hallam has a double degree: Science, majoring in physics and physical oceanography meteorology; and Engineering, majoring in photovoltaics and solar energy. He and his colleagues are using laser-doping technology, patented by UNSW professors Martin Green and Stuart Wenham, in an attempt to break records for the efficiency of crystalline silicon solar cells. Patents are also pending for new approaches developed in Hallam’s work.

“We’re getting some promising results,” he says. “We had a couple of world records last year.”

The Tyree building features an ultra-clean laboratory that is crucial for research and development into more efficient solar cells, which in turn can create more efficient solar panels. “So the more electricity you can get out of each wafer the cheaper effectively that the wafers become,” Hallam says.

The significance of the UNSW research is that it will reduce the cost of solar technology and expand the global market in homes, businesses and large-scale solar farms. “It’s about creating substantial cost reductions,” Hallam says. “The gains in efficiency can reduce the cost of the solar systems, so it should mean that we can produce electricity from the solar panels that’s cheaper than (energy from) coal. Basically then our target market will be most countries around the world.” •

Energy Research Institute; the School of Photovoltaic and Renewable Energy Engineering; the Centre for Energy and Environmental Markets; the School of Petroleum Engineering; the Particles and Catalysis Research Group; the Centre for Functional Nanomaterials; and the ARC Photovoltaics Centre of Excellence. Professor Vassilios G. Agelidis, a professor in power engineering at the School of Electrical Engineering and Telecommunications and a director at the Australian Energy Research Institute, says the new facility will create a “one-stop shop” for energy research in Australia.
LEADING THE WAY

At 23, Tanvir Uddin, a UNSW double degree Arts/Law student, already has an impressive CV, with an ideal mix of academic distinction and an inspirational life off campus.

The former comes from the dedication of a Scientia Scholar, whose Australian Tertiary Admission Rank was 99.90, his role in the Goldman Sachs Global Leadership program and as a Harvard Travel Scholarship recipient.

The latter stems from his migrant background and a desire to inspire young people to make a difference. “As a Muslim migrant from Bangladesh, I feel so fortunate that I came to a country like Australia with so many opportunities and I would really love to create opportunities for others to go on and do things,” explains Tanvir on the phone from Harvard.

At just 15, his strong social conscience dictated his path. He volunteered for Muslim Aid throughout his Sydney Boys High School years and instigated a fundraiser for crises regions, such as Somalia and Iraq. In 2009, he campaigned with Oxfam UNSW for students to donate $50 to Oxfam from a federal government student grant. In 2011, he became a field volunteer for Muslim Aid in Pakistan, Sri Lanka and Bangladesh, overseeing emergency and other poverty alleviation projects.

“With Sri Lanka, the country had just transitioned from a 35-year civil war to peace but there were massive problems with refugees and displaced people,” he says. “We looked at housing and education and observed how Muslims were working in the community and partnering with religious organisations to develop a unified approach.”

Tanvir says nothing he has experienced compares with his participation in the 2010 One Youth World Global Leaders Summit in London, where he was in the same room as three Nobel Peace prize winners: former United Nations Secretary-General Kofi Annan, the human-rights activist and former Archbishop of Cape Town, Desmond Tutu, and Grameen Bank founder, Professor Muhammad Yunus.

Last year he co-founded the Australian chapter of Muslims Without Borders, undertaking fundraising to help alleviate the famine crisis in the Horn of Africa.

This desire to make a difference determined his choice of degree. “University for me was never just about the courses or a vocation,” says Tanvir, who has lived in the Sydney suburb of Bankstown since 1995. “It was to learn about how people interact with the greater world. If you want to make a difference, you have to understand legal, political and economic dimensions so I approached my university education seeking a degree that offered many different aspects.”

At Harvard, where there is a focus on social poverty and international development, Tanvir says his perspective has been broadened by a mix of leading industry speakers and visiting professors. “What we get out of classes is not just the content but a perspective from someone leading their field, hearing about how they interact with industry, advise governments and work with other inspiring practitioners.”

Ultimately, he hopes to become a development fund manager to create projects that bring together different sectors of society, and mentor young people to change the world.

TAKING ACTION FOR JUSTICE

Rafaela Felthun, 21, feels like she gains more than she gives when volunteering. What began as a way to occupy herself during a gap year between her North Shore Sydney schooling and UNSW has expanded into a lifelong ambition to help people in need.

“I didn’t start volunteering to change the world, but it is an amazing way to travel,” the third-year Science/Law student says. “You learn so much about other cultures living with people rather than touring where you see a superficial side to communities.”

www.alumni.unsw.edu.au
along the sealed roads of countries … I am always looking for ways to incorporate my studies to really benefit others and help people in need rather than use what I gain from my degree to earn money and pursue the highest bounds of employment.”

While students don’t always have the means to donate to charity, they can donate their time, she says. Rafaella’s first charitable experience was in 2009 when she volunteered for Israel by Choice, working as a teacher’s assistant in preschools for underprivileged children in Jerusalem then as a paramedic’s assistant in Israeli ambulances. “The preschool was in an underprivileged neighbourhood, with kids from all different backgrounds,” she says. “There were refugees from Africa, Arabic children and Jewish children from Russia. The teachers were very dedicated. If someone didn’t turn up and they knew the family had problems, they would go to their house to ensure everything was okay.”

In the summer of 2011, she volunteered for a vMAD Child Welfare Project at Prolit village in Cambodia, helping to occupy young children who had never stepped outside their community. Yet Rafaella witnessed a happiness unlike any other. “They were truly inspirational and made me think about how there were so many other ways to find happiness than the traditional Western model.”

Responding to an advertisement on the UNSW careers web page, Rafaella channelled her passion for social-justice issues into a legal framework via an internship at Justice Action, a non-government organisation advocating the rights of prisoners and mental-health patients. In this environment, Rafaella felt like she was making a difference. “Things were happening while I was there and I felt part of the big picture. For example, Justice Action has been pursuing a case for Saeed Dezfooli, a forensic patient in Long Bay Prison Hospital. While I was there, a decision was made to grant him access to a computer and, potentially, a right to education, something previously denied to forensic patients.”

Through UNSW Law School, Rafaella took up a position as a tutor for two first-year law students under the Nura Gili Indigenous Tutorial Assistance Scheme.

After so much volunteering, Rafaella has firmer ideas about her future. “I think after Justice Action, a career in criminal law appeals or any private field where I can improve access to justice.”

“(The project) made me think about how there were so many other ways to find happiness than the traditional Western model.”

– Rafaella Felthun, Science/Law
Improvising jazz to a heartbeat, exploring the antibiotic properties of traditional medicinal plants and discovering the effect of folate on the development of colorectal cancer … Helen Hawkes meets three extraordinary UNSW students who are intent on improving health outcomes.

**IN A HEARTBEAT**

Pure chance may seem to have played a hand in the fate of final year UNSW medical student Michael Chan.

In October last year, it was accidentally discovered that he had a rare heart tumour, an atrial myxoma, that affects about one in 60,000 people.

Says Michael, 22: “I play saxophone for Musibites, the annual medical student fundraiser. We ran a sponsored jazz night with musicians improvising to heartbeats and organised for echocardiograms (ultrasounds) to be done on stage. Luckily, a sonographer and former cardiothoracic surgeon were in the crowd and, when I volunteered to generate a heartbeat, they picked up the tumour.”

Michael underwent open-heart surgery that ultimately saved his life. (Most people are unaware of myxoma until they have a heart attack or stroke in later life.)

This event was indeed “serendipitous”, as he calls it, and has redefined his career path – he’s now intent on pursuing radiology – he calls it, and has redefined his career path.

Currently the former Normanhurst Boys High student is a Clinical Teaching Unit representative at Prince of Wales Hospital, co-ordinating tutorials with administrators and doctors and mentoring junior students. He’s also the UNSW Medicine Graduation Committee Convenor, the Student Representative within the Dean’s Circle contributing students’ perspective on the medical curriculum and Co-Chair and Co-Founder of the Radiology and Oncology student interest group. In 2011, Michael was the UNSW Medical Society President, and notably instrumental in introducing large-scale integrated clinical exam practice involving senior students teaching junior students.

It’s a demanding schedule for a student about to graduate as a doctor and less than a year out of a life-changing event. Michael says his involvement in medicine came about through volunteer work in childcare and aged care, as well as illness in his own family that exposed him to the medical system.

These days he’s less stressed about major exams than in the past. “Being happy, being involved, that’s what’s important,” he says.

**INDIGENOUS MEDICINE MAN**

Researching plant remedies used by his elders Shane Ingrey to study microbiology and immunology at the Faculty of Science. Shane, who completed a Bachelor of Science degree with honours in 2005, is now a final year PhD student in the School of Biotechnology and Biomolecular Sciences (BABS) at the UNSW. He came into the university through Nura Gili, formally known as the Aboriginal Education Program, which provides pathways to learning opportunities that embrace Indigenous knowledge, culture and histories.

“In 1999 I had the marks I needed to do a Bachelor of Science,” explains Shane, now 31, who had been studying at Matraville High School. “But I wanted to get into biotech because I thought it would be interesting and challenging and, through the program, interviews for admission were set up.”

For his PhD, Shane, a Dharrawal/Dunghutti man, gained permission from his elders to study traditional medicinal plants used by the Dharawal people from the Botany Bay area where he lives. As a child he remembers plant remedies being used for infected sores, fungal infections or sore throats.

He also applied for a licence from the National Parks and Wildlife Service to collect the Melaleuca and Eucalyptus species he needed. “What I am researching is whether these plants have any bacteria or fungi present called endophytes,” he explains. An endophyte is an endosymbiont, often a bacterium or fungus, that lives within a plant for at least part of its life without causing apparent disease.

“I am then using molecular biological techniques to screen the endophytes for gene encoding for the enzyme complexes known to produce antibiotic compounds,” says Shane. “From this I can purify and identify the active compounds from the endophytes.”

Shane hopes to continue research into this area after he graduates and to encourage the next generation of Indigenous students. “To me it’s a good way to combine my traditional teachings with modern science.”

Any commercial gain from his research will be put back into the Dharrawal community.

**A SPEED THESIS ON ONCOLOGY**

Summarising three years of intensive research into a three-minute talk poses quite a challenge. Jenny Liu, a Medicine PhD student, proved so skilful at identifying the key points of her research, she won the UNSW Three Minute Thesis Competition late last year.

Jenny went on to compete in the national finals at the University of Western Australia.

“It was difficult to include everything I wanted to say about my work,” says Jenny, who deferred her undergraduate medical degree to complete a PhD into the relationship between folate and aberrant DNA methylation in colorectal cancer.

“But it was also a good way for me to focus on the most important outcomes.”

DNA methylation is a biochemical process that is important for normal development and cellular differentiation in higher organisms.

During her study, Jenny developed a new method to measure folate in human colon tissues. What she found was that an imbalance of folate species was related to changes in DNA methylation and that this may be important in the development of colorectal cancer.

Jenny’s research has since been published in the journal, Analytical Biochemistry, and also spawned more discoveries. “I found that I could grow human cells from bowel tissue in a Petri dish,” she says. “This was very exciting and initially it was really tempting to pursue this research further, but another PhD student is now going to carry the project instead.”

A former James Ruse Agricultural High School student, Jenny is in the fifth year of her undergraduate medical degree. Although she loved her doctorate, she found herself keen to return to medical school and practise as a doctor specialising in oncology because she enjoys seeing patients.

Jenny is also a Practical Tutor/Demonstrator for UNSW, an associate member of the American Association for Cancer Research and an amateur pole dancer. She took up the sport about a year ago and has since won a number of amateur titles. “I started the hobby in the middle of my PhD when I was working 70-hour weeks. It was a great way to de-stress.”
Undergraduate Jenny Liu completed PhD research that shows a relationship between folate and colorectal cancer.
Reality check

A new incubator space is helping students and alumni with bright ideas to kick-start new ventures, writes Deborah Tarrant.

Inside the new Venture Incubator Space in the School of Computer Science and Engineering at UNSW, three start-ups – founded by past and present UNSW students and external partners – are working hard to kick-start enterprises to rival the best now streaming out of Silicon Valley in the US.

Locating three highly focused teams in one lab offers benefits. “We all help each other out,” says Tyler Evans, a final year Computer Science and Digital Media student, who with three others has set up Vimcore, an incentivised corporate health platform that rewards employees for taking a proactive approach to health.

Plans for Vimcore began in earnest in September 2011, with programming beginning in December. “But most of the work we’ve done has been since we’ve moved into the incubator (in April) – before that we had to meet up in different places around the University,” explains Tyler, 23, who spends around nine hours a day in the incubator. By early May, the Vimcore team was putting the finishing touches to a simple model for prospective clients, employers and big health providers.

Taylor Luk, 29, lead developer of Shop2, a personalised online shopping catalogue that allows users to follow brands, friends and blogs, agrees on the collaborative and problem-solving benefits of occupying the incubator space. “We’ve already formed a strong support group with the two other companies and plan to hold weekly sessions, identifying issues and bringing in experienced entrepreneurs as mentors,” explains Taylor, whose team includes several computer science students, a UNSW alumnus, and marketer and legal eagle, Lynne Yang, who’s currently completing a Juris Doctor degree at UNSW Law.

The third company in the space is Mijura, which is developing an application to help small teams stay organised, under the leadership of UNSW software graduate Adam Brimo who rose to prominence as an online activist as founder of the Vodafail website for disgruntled Vodafone customers.

“The incubator is primarily intended to give young companies an entry point into the commercial world and act as a stepping stone to the next stage of development,” says Maurice Pagnucco, head of UNSW’s School of Computer Science and Engineering.

To gain entry to the incubator, the start-ups pitched to a panel of eight, that included entrepreneur Alan Noble, Director of Engineering at Google Australia.

The companies have been offered a lease period of 12 months, with a possible six-month extension. It’s rent-free for the first six months, and highly subsidised thereafter. The entrepreneurs also receive free Internet data services from the school and advice from NewSouth Innovations, UNSW’s commercialisation company.

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Lost on Campus

Computer science and digital media student Nick Cellini was often lost on the UNSW Kensington campus, so he created an app to help him find the way. His innovation has given the now 21-year-old far more than geographical direction.

After Nick’s app was loaded for the benefit of all at UNSW in 2010, it was spotted by Andrew Maloney of Student Services Australia, who had been searching the world for a best practice campus map. In short time, Andrew, an Australian School of Business alumnus (1991), hired Nick as his head iOS programmer for the Lost on Campus project, which to date has mapped 27 university campuses across Australia.

“It was a big step up,” admits Nick. “But it has been a great experience.”

No small endeavour, creating Lost on Campus – which not only locates buildings and major facilities, but also pinpoints tutorial rooms, labs, bus stops, carparks, even vending machines and “secret” locations – took 116 campus editors three months to collect the data. Students get directions, distance, walk time, photos and comments.

Not surprisingly, it became the number one free navigation app on the App store within three days of its launch early this year and now has more than 30,000 users.

What’s the next stop for Nick after programming the world’s most comprehensive campus mapping project? There’s the job of continuous updating, and hopes of adding more universities to the mix.

“One day I’d love to work for myself, but it depends on coming up with a good enough idea,” he says. So far, so good.

Nick Cellini

Above: Start-up students Tyler Evans and Kogulan Ledanan of Vimcore.
Below: The Shop2 team (L-R) UNSW students Kai Guo and Lynne Yang, with alumnus Khoa Nguyen and founder Taylor Luk.

Nick Cellini

Above: Start-up students Tyler Evans and Kogulan Ledanan of Vimcore.
Below: The Shop2 team (L-R) UNSW students Kai Guo and Lynne Yang, with alumnus Khoa Nguyen and founder Taylor Luk.

Nick Cellini

Above: Start-up students Tyler Evans and Kogulan Ledanan of Vimcore.
Below: The Shop2 team (L-R) UNSW students Kai Guo and Lynne Yang, with alumnus Khoa Nguyen and founder Taylor Luk.

Nick Cellini
History may not repeat itself, “but it certainly rhymes”, says Adam Findlay. Understanding some of the rhymes in military history is the subject of Brigadier Findlay’s PhD at UNSW Canberra’s Australian Centre for the Study of Armed Conflicts in Society (ACSACS), with a specific focus on the war in Afghanistan.

When Brigadier Findlay was deployed in Afghanistan as Divisional Operations Manager with the Australian Defence Force in the southern region around the city of Kandahar in 2009, he immediately noticed some strong similarities to the British campaigns of 1839–1842. Findlay is exploring those resonances in his PhD thesis at ACSACS, studies he’s pursuing in addition to his fulltime role managing operations for the Chief of the Defence Force. “I was aware from the research I’d done before I went to Afghanistan that it was known as the graveyard of empires, with the British and the Russians always cited as examples,” says Brigadier Findlay. “But the more I read, the more I understood that while the British campaign in Kabul in 1842 was a disaster, with the loss of the garrison of around 16,000 (British and Indian) troops, the southern campaign around Kandahar was a surprising success … (But) no-one has ever heard about it, it has been airbrushed from history.”

As part of his research before deployment, Brigadier Findlay read a book by the British Major General Sir William Nott, garrison commander in Kandahar from 1839 to 1842. “I was struck that he suffered the same daily problems, in the same places and involving the same tribes, as I was. More than 160 years later, the social dynamic hadn’t really changed that much,” he says. “The geography was the same and some of the tribal issues he was discussing were the same, and you can’t help but be in Afghanistan and be taken by the history of the place. My colleagues in the Afghan National Army had a fierce pride in themselves as a warrior nation which goes back to these earlier conflicts.”

Under Nott, the British moved from a strategy of counterterrorism – one of seeking out and destroying the enemy – to one of protecting the local population, a strategy known today as counterinsurgency, which the international forces adopted in 2009 when Brigadier Findlay was deployed. “I knew from looking at 1842 that a strategy based on killing the enemy in Kabul didn’t work, but a strategy of counterinsurgency in Kandahar did, so that was the resonance of history being played out on the battlefield,” he says.

After his active service in Afghanistan, Brigadier Findlay continued his research in the UK, firstly at the Royal College of Defence Studies in London and then at Oxford University where he was able to read primary sources on the 1839-42 conflict. At ACSACS he will complete those studies as a PhD thesis.

“There are also negative lessons we can learn from the British exit strategy after their defeat in Kabul,” says Brigadier Findlay. “I went through the correspondence and saw how the two principal generals in Afghanistan, Major General Pollock and Major General Nott, convinced the Governor General in India that the exit strategy of the Army of Retribution would ensure decades of peace. While morally reprehensible and a shameful episode for the British, the strategy did actually work, but it is not something anyone would recommend today.

“Today we are working with the Afghans to ensure an enduring peace. “We have to understand that while you might always win tactically, if you have the wrong strategy you will lose in the end - that is the enduring lesson from military history.”
Finding ways to overcome social disadvantage is a key focus for students in a range of degree courses and research programs across the University. Four highly motivated individuals tell their stories to Carolyn Boyd.

“I’m very passionate about Indigenous social justice and reducing the over-representation of Aboriginal young people in the justice system.”

Sam Alderton-Johnson
BREAKING THE CYCLE

Sam Alderton-Johnson knows disadvantage firsthand. “I left home at 15 because there was a lot of family breakdown and so I was living in supported accommodation through Barnardo’s, one of the large support services for young people,” he explains.

“It wasn’t actually until my final year of high school that I really looked at myself and realised that I wanted something more from life. I knew that I wasn’t stupid and I had a lot of capability, but it just took some self-realisation of what I needed to do to put my head down.”

Alderton-Johnson has come a long way since he was a young boy growing up in Glebe, a suburb on the doorstep of Sydney’s CBD that has high levels of disadvantage.

At 24, he has already worked in a management role, overseeing the Glebe Police Citizens Youth Club, where he spearheaded education and sports programs to help young women with family histories of criminal activity, incarceration or significant disadvantage to break the cycle.

Alderton-Johnson worked part-time at the youth club while completing his Bachelor of Social Science (Criminology) at UNSW and has recently returned to the University to write his Honours thesis, evaluating whether mentoring can help men leaving prison.

He’s combining his studies with a new role at the Australian Red Cross managing a pilot program using volunteer mentors to support men as they exit prison. “In the last five years, mentoring has become quite a prominent form of intervention and support, and it’s only now that we are realising that it might be really effective,” he explains.

In between his studies and Red Cross work, Alderton-Johnson also works for Juvenile Justice NSW, visiting young people in prison.

“I’m very passionate about Indigenous social justice and reducing the over-representation of Aboriginal young people in the justice system,” says Alderton-Johnson, who is Indigenous, and was shocked to see that at the sole detention centre for young women in NSW, the proportion of inmates who are Aboriginal or Torres Strait Islander is as high as 60 percent at times.

REFUGEE ADVOCATES

Sofia Yiannikas and Rachael Chadwick are both passionate about helping refugees.

Yiannikas is a refugee caseworker at Amnesty International, while Chadwick works for the Department of Immigration as a country adviser and liaison officer at the Independent Protection Assessor’s Office.

Both young women are studying Master of Social Development, specialising in refugees and forced migration.

For Yiannikas, five long years studying and working in corporate law made her realise she had sidetracked from her initial yearning for a global role. In an effort to move away from intellectual property, she took up a Master of International Law.

“I haven’t looked back since,” she says. The degree took Yiannikas to Cambodia, where she worked at the Khmer Rouge Tribunal. “It was an incredible and moving experience but … felt quite removed from working with communities, which is what I most enjoy,” she says.

A month of volunteering at Australia’s Christmas Island immigration detention centre made Yiannikas realise she wanted to advocate for asylum seekers. “But I wasn’t sure where to start, which is when I came across Amnesty International,” she says.

After already studying three degrees, the choice for Yiannikas was onerous. “I felt it was a big decision to go back yet again but … it has changed my life,” she insists.

Yiannikas has found her calling at Amnesty International. “The work is very emotionally charged but that’s what I love about it,” she says. “It can be difficult to accept that essentially you don’t have the power to change the bigger picture but by doing this work, you realise just how much the little things … can mean for people and how it can help them along their journey. It’s sort of nice to find victory in the small things.”

Both Yiannikas and Chadwick are reathing the opportunity to gain international experience. Last year, Chadwick flew to Geneva with seven other interns from the UNSW Centre for Refugee Research. “We attended the UNHCR’s (The United Nation’s Refugee Agency) Standing Committee and Annual Non-Government Organisation consultation,” says the 27-year-old, who has a Bachelor of Arts majoring in International Law. •

“Much of the data will come back to governments of PNG and Bougainville,” says Chadwick, who has an honours degree in Asian studies. “We attended the UNHCR’s (The United Nation’s Refugee Agency) Standing Committee and Annual Non-Government Organisation consultation,” says the 27-year-old, who has a Bachelor of Arts majoring in international relations and Asian studies and an honours degree in Asian studies.

“It was a pretty incredible experience but by doing this work, you realise just how much the little things … can mean for people and how it can help them along their journey. It’s sort of nice to find victory in the small things.”

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Chadwick’s journey into working with refugees began with a job with the Royal Australian and New Zealand College of Psychiatrists in Melbourne, helping overseas professionals to settle in Australia.

The role gave her migration experience, and helped her to win a job with the Federal Government’s Migration and Refugee Review Tribunal. That position has been a springboard for Chadwick to move into several government jobs in the refugee field.

Over the longer term, Chadwick sees herself working overseas, and is considering taking a Master in International Law.
Change agents

From managing financial crises to ramping up roles for women, change is definitely the only certainty in business. Two high-flying Australian School of Business students discuss their contributions to the ever-shifting landscape with Lachlan Colquhoun.

RESPONSES TO BANK RUNS

When Chung Wain Yuen was working at the Department of the Treasury during the global financial crisis of 2006–2008, he watched with interest the manifestations of panic from investors, and also the responses from regulators. Of particular curiosity for Chung was the repeat of the historical phenomenon of bank runs, with depositors queuing outside branches of British building society Northern Rock to withdraw their money. Among sophisticated investors, there was also a rush to redeem funds invested in hedge funds.

Chung’s fascination in the bank run phenomenon has now become the subject of his PhD research at the Australian School of Business, where he has also been awarded the Ryoichi Sasakawa Young Leaders Fund scholarship. The scholarship is awarded to ASB PhD students with future leadership potential in international affairs, public life and private endeavours.

Chung, who spent five years working on economic forecasting and financial systems policy at Federal Treasury, says his PhD will explore the idea that regulators and governments are becoming better at coping during times of financial panic, through tools such as the deposit guarantee. “With the deposit guarantee, people knew that even if the banks were under stress, then governments were standing behind the banks and the system,” he says. “In the PhD I’ll be testing the idea that governments have improved regulatory tools, and that banks have become more mature. I think there’s definitely been some evolution in the regulatory framework.”

The financial system, however, has become more complex with the advent of hedge funds, which are used by more sophisticated investors. Chung wonders if these institutions need the deposit guarantee, which protects the savings of the vast majority of the population. “[Hedge funds] are sophisticated investors, and there is an argument for moral hazard and that they need some kind of moral discipline in their investments,” he says. “Should they be protected, or is it up to hedge funds to ensure they have good risk management practices in place?” he asks.

CREATING FUTURE WOMEN BUSINESS LEADERS

Jessye Lin began her finance/law degree at UNSW in 2008 and in her first semester at the University joined the newly formed Capital W women’s business club, which is dedicated to developing and motivating talented young women to become tomorrow’s business leaders. Accordingly, Jessye who is set to graduate this year, already has secured a role with a Big Four accounting firm. She leaves Capital W as its co-president and has been a key part of building the club to its current membership of around 1,500. “It has gone beyond a normal student society or club, it’s more like a sisterhood. Our focus is on investing in the people who take part, and it’s been a big part of building my networks, my self development and helping my leadership skills,” outlines Jessye.

From its start-up five years ago Capital W now has 13 industry sponsors, comprising a number of the top domestic and international firms in the finance, accounting and the consulting industries. Around 400 new students sign up to the club each year, and strong links are maintained with alumni who continue as mentors and participate through events such as the club’s annual dinner. “The former alumni almost always come back and remain involved, and I’ll be definitely looking to maintain my links,” says Jessye, who was Treasurer and Vice-President of the club before taking the Co-President’s role this year. “Capital W is about building and maintaining professional connections, and once I am out there in the industry I plan to continue helping younger members who are coming through.”

There’s a widely acknowledged “disconnect” between the number of female business graduates and women in the industry, particularly women in leadership roles, but Jessye believes that over time Capital W’s focus on women in the finance industry will have a significant impact. “With the club growing constantly, and with alumni building their careers and maintaining their links, I think we can play a big part.”
In 2001, CSIRO’s future looked shaky. The Australian government had announced a big increase in public funding for science, but had left out the premier national research agency when distributing the cash. Facing the threat of funding cuts and loss of reputation, CSIRO set about reinventing itself through what became known as its National Flagship Initiative.

To achieve the changes that were necessary for its survival, CSIRO had to wrestle with almost every aspect of its identity and culture. A new way of doing science was in the making, one designed to bring together the nation’s best minds to tackle some of its biggest challenges – including water, energy and the future of food. Icon in Crisis is an insider’s account of corporate change, of conflict, doubt and transformation at CSIRO by two of the people who led its groundbreaking flagship program – Ron Sandland, a UNSW alumnus and former Deputy Chief Executive of the CSIRO who led the initiative, and Graham Thompson, who was General Manager of the Flagship implementation office and designed its systems and processes.

The program led by Sandland and Thompson paid off. The agency received extra funding and won the highest accolade at the 2008 Prime Minister’s Awards for Excellence in Public Sector Management. The program has been so successful that other organisations are emulating it.

Unflinching about the internal conflict and soul-searching that gripped the organisation as it struggled to find its way in a changing political and financial environment, Icon in Crisis details CSIRO’s successful transformation and offers a guide to other organisations going through corporate change, to leaders and managers, teachers and students of management, innovation, technology or research management.

Being a woman, raising children, succeeding in a leadership role and living a full life is a tall order in modern Australia. Certainly, being a woman on a board, running an ASX top-listed company or heading a government department remains an exception rather than the norm.

Despite progress towards more diverse and fairer workplaces, in the discussion about the lack of women in senior leadership roles and the pay gap between men and women, tired excuses are constantly recycled.

In 7 Myths About Women and Work, author Catherine Fox identifies some of the misunderstandings that have developed, including the lack of ambition myth (that women don’t want the top jobs); the motherhood myth (kids and broken careers that hold women back); the gender pay gap myth (it’s vastly exaggerated); and the bitch myth (women are their own worst enemies).

UNSW alumnus Fox, who is the Deputy Editor of the Australian Financial Review magazine and previously held roles in financial marketing and consulting, takes these myths down systematically and shows how much business and society have to gain from the true participation of women in corporate and public life.

NewSouth Books distribute books that create debate and tackle social and intellectual issues. By arrangement with the Alumni office, readers of UNSWorld can order these books at special discounted prices through these links.


Shortly after his professorial appointment at UNSW, biochemistry became a separate faculty in 1968. Despite growing responsibilities, including heading the faculty and serving as a member of the Australian Research Grants Committee, Thompson was renowned for always maintaining close connections to the lab bench. When it became possible to isolate genes and sequence their DNA in the early 1980s, trailblazing Thompson was quick to use these techniques. For his research at UNSW, he was awarded a Doctor of Science degree by Cambridge University.

After his retirement in 1986, Thompson served as a director of the International House Company, 1991-2006 and its chairman, 1995–2001; Mace Bearer from 1994-2007; Honorary Trustee Director of UNSW Professional Superannuation Fund, 1994-2004; Honorary Vice-Dean of Emeriti, 1994-95; and Honorary Dean of Emeriti, 1995-97. He was elected a member of the University Council, and was active for many years in the Alumni Association as Director and Governor, and was awarded the degree of Doctor of the University (honoris causa) in 2007.

Thompson is survived by his wife, Dr Adrienne Thompson, and their children Lynn, Sandra and Owen. His family members have 12 UNSW degrees between them.

Emeritus Professor Edward Owen Paul “Ted” Thompson was a pioneer of molecular biology and in his distinguished academic career did much to further teaching and research in biological science.

As a Professor of Biochemistry (1966-90) and Dean of the Faculty of Biological Sciences (1980-86), Thompson was a major influence in building a strong School of Biochemistry at UNSW. His areas of research involved the covariant structure of proteins and recombinant DNA technology. For his research at UNSW, he was awarded a Doctor of Science degree by Cambridge University.

Prior to joining UNSW, Thompson completed a PhD at Cambridge University; and worked at the CSIRO Division of Wool Research in Melbourne. At Cambridge, he was involved in determining the sequencing of insulin – the first protein for which the amino acid sequence was known. The work predated publication of the double helix structure of DNA. In the wake of these discoveries, molecular biology was created as a discipline with its ramifications profoundly influencing medicine today.

Emeritus Professors – In Memoriam

John S Ratcliffe  •  Ronald W Woodhead  •  Tanya Cizova  •  Stephen J Angyal  •  Malcolm Chaikin  •  Athol W Lykke
Frederick W Rost  •  Bruce H Bennett  •  Barry Milborrow  •  www.unsw.edu.au/about-us/emeriti

www.alumni.unsw.edu.au
It is always a real pleasure to personally meet alumni and hear interesting and entertaining recollections at the alumni events. To our international alumni, many thanks for making us feel so welcome when we travel to the overseas destinations that you call home.

We are encouraged by the high volume of registrations received for our online alumni community, and for the regular updates to graduate contact details. This is the easiest way to stay connected and ensuring you are kept informed of our activities and events. Currently we can contact at least 72 percent of our graduate community of close to 235,000 alumni. So please be sure to keep your details up to date and help us reach as many members of the alumni community as possible!

On behalf of the Vice-Chancellor, I would like to express our appreciation to the graduates who have assisted UNSW to provide 50 scholarships to students from disadvantaged backgrounds as a result of the Annual Telephone Appeal. The alumni community has raised more than $1 million in gifts and pledges in the three years since the appeals began in 2009. This year our target is to raise at least $450,000 to offer at least 10 new scholarships in 2013.

I am excited to report that we are close to meeting that goal. If you wish to participate in the Annual Appeal for Scholarships for students in need, please complete the enclosed donation form. Your support at all levels makes a difference. If you prefer to donate online, please go to www.giving.unsw.edu.au.

As we reported in the last issue, 2012 marks the 60th year of international students at UNSW. Connecting with our original Colombo Plan Scholars from 1952–1960 has not been easy so we are asking for your help. If you were a Colombo Plan student or are in touch with Colombo Plan alumni, do let us know by following the instructions below.

Later this year we will be travelling to Taipei, Seoul and Shanghai with the President and Vice-Chancellor, Professor Fred Hilmer. The regional Graduation celebration will be held in Shanghai on 3 November at the Shangri-La Hotel together with the Gala Alumni and friends reception. We hope to see as many alumni from across Asia at this event. Registration is essential, so please email us on alumni@unsw.edu.au.

Wishing you all the best for the remaining half of 2012 and enjoy this issue of UNSWorld.

Stergitsa Zamagias-Hill

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Message from The Director Alumni Relations

Chancellor, David Gonski AC thanks Judge Sang-Hyun Song, President of the International Criminal Court in The Hague after he presented the Wallace Wurth Lecture on 14 February. His speech was entitled: From punishment to prevention: reflections on the future of international criminal justice. Hear Judge Song’s speech: http://alumni.unsw.edu.au

Our BrainFood lectures on UNSW Campus continue to be popular. Two have been held so far this year: Generation Bulletproof: Are we losing our young people to alcohol and drugs? and It Won’t Happen to Me: Cybercrime Myths and Misconceptions.

Our very popular Young Alumni Network Drinks in Sydney’s CBD continue to draw good crowds to hear young alumni share their success stories. Many recent graduates have come along and really enjoyed the opportunity to network with the under 35’s. Sebastien Eckersley-Maslin Co-Founder of Blue Chilli was guest speaker in April.

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Help us locate UNSW Colombo Plan Alumni

We are seeking current contact details for UNSW Colombo Plan Alumni. Go to http://alumni.unsw.edu.au/Colombo for instructions on how to enter the draw to win the new iPad. Or contact Stergitsa on szamagias@unsw.edu.au.

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Alumni Events

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Singapore Reception 15 May
The UNSW Singapore Alumni Executive Committee together with Mr Neil Norris, Vice-President University Services, and Ms Jennie Lang, Pro-Vice Chancellor International, hosted our reception for 80 alumni at the Regent Hotel. Dr Jimmy Koh (BE'64, HonDUniv'02) and Emeritus Professor John Niland AC (BCom’63 MCom’67) shared their recollections of their college days.

Mr Neil Norris also updated alumni on the redevelopment of the Kensington colleges which will offer an increased number of UNSW students the opportunity to enjoy the benefits of living in a supportive college environment. While the colleges are being modernised, they will retain the history and traditions of Basser, Baxter and Goldstein. Two additional colleges will be added, one being a self-catered Seniors Hall and a yet-to-be-named fourth college. Limited architectural images can be found on our website at www.kensingtoncolleges.unsw.edu.au/tkc_redevelopment/index.html

For further information about the redevelopment of the Kensington colleges and how to be part of the exciting redevelopment plans, contact Chris Lewis, Development Manager University Services on chris.lewis@unsw.edu.au

Hong Kong Reception 17 May
UNSW alumni Mr Paul Tighe, Australia’s Consul General to Hong Kong and Macau, was our guest speaker at the UNSW Hong Kong Reception at the Foreign Correspondents’ Club. Mr Tighe, who has a Bachelor of Science with first class honours, shared with alumni and friends his recollections as a student back in the 70’s and also expressed how proud he was to meet so many successful Australian-educated graduates in Hong Kong.

We look forward to welcoming the Consul General back to UNSW in 2013 to visit the dramatically changed campus. Mr Tim Olsen, UNSW alumnus (BEdArt’82) and UNSW Foundation Director hosted the evening that coincided with many Australian artists and gallery owners viewing the Hong Kong International Art Fair 2012.

www.alumni.unsw.edu.au

July 12
UNSW Medicine Dean’s Lecture: “Stem cells in medicine: opportunities and challenges”. The Clancy Auditorium, UNSW Kensington Campus.
Speakers: Dr Bernadette Tobin and Professor Alan Tournson. 6:30pm
Venue details to be confirmed
E: s.zamagias@unsw.edu.au

Aug 20
Hong Kong: AGSM Knowledge Session: “Lean Six Sigma – The global shift from manufacturing to services”. Speaker: Dr Paul Walsh. Venue: The Perrin Club New York, NY. 6:30pm – 8:30pm
E: alumni@unsw.edu.au

Aug 21
10 Year Law Alumni Reunion, Law Building, UNSW Kensington Campus.
6:30pm
Cost: $25
www.law.unsw.edu.au

Aug 29
Electrical Engineering and Telecommunications Alumni Connect Night (for all years)
Venue: The Arthouse Hotel, 275 Pitt St, Sydney CBD.
6:00pm
Registration essential.
www.eet.unsw.edu.au/alumni/EETConnectNight

Aug 31
Visit UNSW on Open Day, UNSW Kensington Campus.
E: so.what@unsw.edu.au