

GRAD *Life*

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Front cover: Sophia Demetriades Toftdahl,
Bachelor of Communication (Journalism), 2006.
Photo by Sally Tsoutas.

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The University wishes to retract the quote
included on page 27 in the GradLife, Volume
9, Issue 2, Summer 2017 magazine, 'Once the
blue-rinse set is gone, that's it.'



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**EMPLOYERS RANK OUR
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MESSAGE FROM VICE-CHANCELLOR AND PRESIDENT, PROFESSOR BARNEY GLOVER

The world today is very different from the one in which our University began. The rapid pace of technological advancement has altered almost everything about the student experience. With this in mind, this issue of *GradLife* focuses on the digital age and its impact, including articles on innovations within our University, alumni working in this space and the exploration of what it means to live in 'smart' cities.

Our University is situated in one of the most future-focused regions in Australia. The Australian and NSW Governments recently announced the Western Sydney City Deal including the Smart Cities plan, which aims to embed the latest technology into the design and architecture of 21st Century Western Sydney. Turn to page 25 for an examination of how Western Sydney University's education and research infrastructure sites are central to achieving the Deal's objectives to boost employment, investment, and economic development.

The University has also launched two of its three new digitally infused vertical campuses in the heart of key Western Sydney city locations. These new campuses offer technology-rich teaching and research spaces, deliver enhanced student learning experiences and provide links to businesses. These centres are also integral to meeting the demands of future industry and further build on the University's consistent strategy of adopting technology to facilitate the best services, such as the digital textbook initiative and Western Sydney University Online course offerings.

Despite the new digital paradigm, we know the contemporary workplace will value human skills of integrity, emotional intelligence and critical thinking, which are at the core of Western Sydney University's student-centred learning offerings. Recently, the University embarked on a historically significant renewal of its campuses, course methodologies and teaching practices to ensure our graduates remain world-class and competitively placed to meet the demands of future employers. We are already starting to see rewards, recently becoming the highest rated university in the Sydney region for overall employer satisfaction – and we have our alumni to thank for such an outstanding result.

We continue to grow in international standing. Currently ranking in the top two per cent of universities worldwide, our focus is to develop the best possible outcomes for students through collaborations with industry. As our alumni, the work you do, your experiences and advice for current students is invaluable and I encourage you to stay in touch.

Enjoy the issue.

Professor Barney Glover FTSE
Vice-Chancellor and President



Bridging the DIGITAL MEDIA gap

WHEN Bachelor of Communication (Journalism) graduate, Sophia Demetriades Toftdahl, first came to Australia, she dreamed of doing something 'different'. Today, thanks to her experience at Western Sydney University, she helps people connect with others and places that exist in both the digital world – and beyond.

A quick glance at Sophia's LinkedIn profile would reveal a CV of job titles such as Coach, Management Consultant, Business Development Manager and Founder of her own company, Dream Internship, which connects interns with companies. Dream Internship's main purpose is to optimise career profiles based on behavioural styles and deliver innovative programs for educational institutions. To date, the company has facilitated internships and ongoing employment for more than 3,000 people.

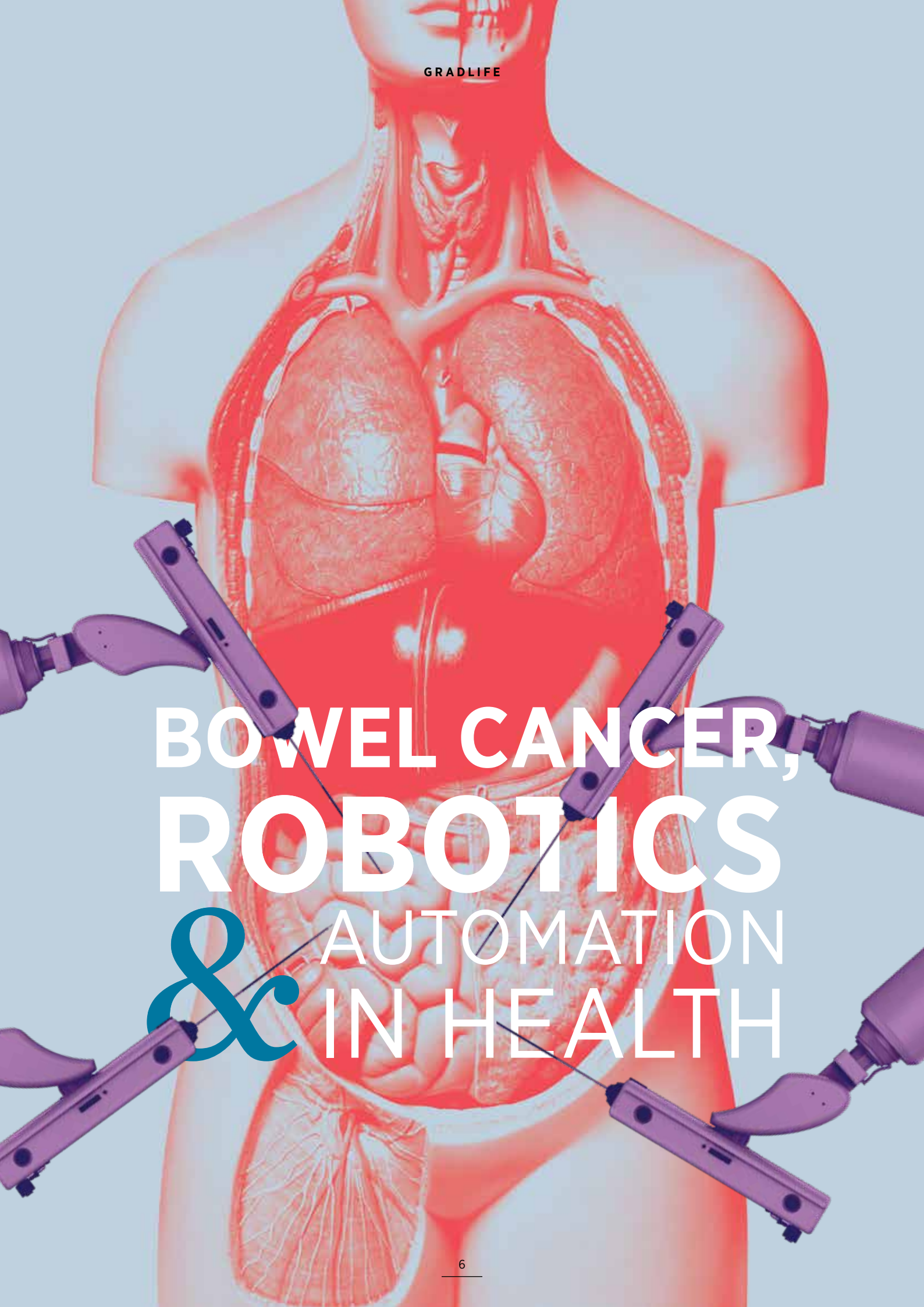
Working closely with employers across the world, Sophia noticed the increase of digital technology in the workplace.

When it comes to understanding the impact of digital technology in the architectural industry, Sophia says there is now an expectation for marketers, engineers and especially architects to learn and use complex software in order to do their job. For graduates entering the industry it would be a natural evolution, but for industry professionals it has meant a steep learning curve to combine traditional expertise with new expectations.

'If you're very strong in some programs, you can add a lot to a business – but some people who are more established are not as comfortable with using technology,' she says. 'This is why a young person with technical skills can become a huge asset to any architectural business.'

Sophia's top tip for any person starting out with an interest in digital media is to learn how to use digital media platforms for work, and not just for fun. Building personal and professional blogs, and taking more responsibility for starting initiatives, is a positive foundation that can serve you well in an ever-changing workforce, where people will be jumping between roles more than ever before.

'Now there are so many different platforms and so much happening, with the fast-paced evolution of digital media there is a widening communication gap between the generations,' says Sophia. 'By communicating with all of the different people in your life – from your grandmother to your 11-year-old tech-savvy niece – you can gain some positive insights into the digital media comprehension of a diverse range of people, and learn how to bridge that communication gap between staff, clients and audiences to further your brand.'

An anatomical illustration of a human torso, showing the internal organs including the heart, lungs, and digestive system. The illustration is rendered in a semi-transparent, reddish-orange color. Four robotic surgical arms, colored in a light purple or lavender, are positioned around the abdominal area, with their long, thin instruments extending towards the center. The background is a solid light blue color.

BOWEL CANCER, ROBOTICS & AUTOMATION IN HEALTH

PROFESSOR Les Bokey, Foundation Professor of Surgery and Clinical Dean, Western Sydney University, is an expert in the management of bowel cancer. He is based at Liverpool Hospital and has an international reputation. He is also the Director of Research, Director of Surgery and Clinical Director for the South Western Sydney Local Health District (SWSLHD), and newly appointed Director of the Ingham Institute for Applied Medical Research. His dedication to research interests include screening and early diagnosis of bowel cancer, outcomes after surgery for bowel cancer, inflammatory bowel disease, robotics and automation in health.



Despite the regular marketing of prevention campaigns for many high-profile types of cancers, including breast cancer, skin cancer and prostate cancer, the reality facing too many Australians is that bowel cancer is still one of the most common malignancies amongst both men and women.

In fact, according to statistics from the Australian Cancer Research Foundation, there will be an estimated 17,000 new cases of bowel cancer diagnosed in Australia in 2018, with the five-year survival rate sitting at around 69 per cent. The good news is that this cancer can be effectively treated and potentially cured if diagnosed early, and new surgical techniques pioneered by Professor Bokey and many others have seen a significant improvement in survival.

Professor Bokey and his team were also instrumental in the early introduction of laparoscopic or 'keyhole' surgery for bowel cancer. This has resulted in smaller scars, early recovery and a return to normal activity after surgery.

'Robotic surgery is a relatively new technique,' says Professor Bokey. 'To date, very few public hospitals have had access to the robot. Furthermore, in Australia there is no formal training program for surgical trainees in robotic surgery. There is also lack of clarity about the appropriateness of robotic surgery, its advantages and cost benefit.'

With the help of The Perich Group, The Eggtober Foundation and SWSLHD, a simulation robot has been installed at Liverpool hospital to simulate processes for surgical trainees, and a clinical robot was also installed to offer public patients access to robotic surgery and research unanswered questions.

The difference between robotic surgery and conventional keyhole surgery is that robotic surgery offers the operator 3D vision, and the operating arms (although only 10mm in diameter) have 360-degree movement – very much like human hands.

'You can reach the narrowest areas of the human body with the benefit of 3D vision,' says Professor Bokey. 'Something that is particularly useful in the pelvis, which is very narrow.'

The tsunami of digital disruption is going to continue to change the way that health is delivered, and Professor Bokey and the local health district are exploring and investigating how to introduce automation in the day-to-day activities of the health sector.

'These measures are likely to see a significant change in the way health is delivered to our community.'

“ You can reach the narrowest areas of the human body with the benefit of 3D vision. ”

Professor Bokey's work began more than 30 years ago at Sydney's Concord Hospital. Together with surgical colleagues at that hospital, a large prospective and computerised database was established which allowed researchers to follow up patients over many years and map their response to different modalities of treatment.

In 2003, Professor Bokey and his surgical colleagues described a new approach to the surgical management of bowel cancer. This involved precise anatomical dissection of the colon and rectum, along bloodless anatomical planes. This technique, known as Total Anatomic Dissection (TAD), was shown to significantly improve survival and reduce local recurrence. The technique, in several variant forms, has now been described and adopted globally.



The MARCS Institute for Brain, Behaviour and Development at Western Sydney University is world-renowned for its dynamic and innovative approaches to basic and applied research.

UNDER the leadership of Professor André van Schaik, the Institute's Biomedical Engineering and Neuroscience (BENS) Program has reached new heights, elevating in status to be recognised as the global leader in the field of Neuromorphic Engineering.

TECHNOLOGY *ins* BIOLOG



A NEW HORIZON OF TECHNOLOGICAL CAPABILITIES

REVERSE ENGINEERING THE HUMAN BRAIN

THE HUMAN BRAIN

It is a complex system of hardwired neural connections, nerve endings and evolving capabilities. It is the greatest computer that exists, but it wasn't built.

This type of engineering aims to design biologically inspired computer chips that can mimic the neuro-biological architectures present in the human nervous system. Also known as neuromorphic computing, this method of engineering uses very-large-scale integration (VLSI) systems that contain electronic analogue circuits to simulate brain activity.

The brain is the greatest computer that exists, but it wasn't built.

Professor van Schaik says, 'simply put, neuromorphic engineering seeks to solve problems that current computers cannot.'

'Through human evolution, nature has developed brains to become increasingly good at solving problems. The human brain is efficient, adaptive and low-powered. It is and has always been the most powerful computer there is.

'By modelling brain computation, we believe we can mine untapped technological potential and advance technological capabilities far beyond our current reach, and that is the ultimate goal of neuromorphic engineering.

'It is my ambition to create a distinct Neuromorphic Engineering entity here at Western with a clear purpose: to become the leading academic Neuromorphic Engineering research concentration in the world, to solve real-world problems.'

PROFESSOR ANDRÉ VAN SCHAIK

In 2006 Professor André van Schaik was named the **WORLD LEADER** in neuromorphic engineering research by the independent Institute of Electrical and Electronics Engineers (IEEE) largest circulation journal, Spectrum.

In 2014, he was elevated to IEEE Fellow for his contributions to neuromorphic circuits and systems over the last 20 years.

pired by
GY

THE NEW AGE OF BIONIC MEDICINE REVOLUTIONISING THE HEALTH INDUSTRY



IMAGINE A DAY WITHOUT YOUR VOICE. HOW ABOUT A LIFETIME?

This is the reality for many people who have lost their larynx through either congenital disability, or surgical removal resulting from cancer.

Dr Farzaneh Ahmadi, together with her team of globally pioneering researchers at the MARCS Institute, is developing the Bionic Voice to solve this problem.

Dr Ahmadi says the Bionic Voice works much like a prosthetic limb, generating voice using the body's own bio-signals.

'The existing standard of care is to surgically place a plastic valve between the windpipe and the food pipe. This is a robust solution, but it is primitive and inherently incapable of generating a natural sounding voice,' she says.

'This device has also proved to be problematic and poses a serious choking hazard if accidentally swallowed. The other alternative has been the manually controlled electrolarynx with a robotic sound quality. This technology hasn't improved much over the last 50 years.'

Dr Ahmadi says that despite major progress in many fields of bionics, when it comes to restoring speech, little progress had been made... until now!

'For more than 10 years, my research has been focused on changing the existing gold standard approach and to discover how we can restore speech in patients who have lost or damaged their larynx.'

'That's what led me to investigate respiration as a potential solution. Voice control is an extremely complicated process and voice generation is one of the fastest movements of the human body.'

'When you speak, a signal from the brain travels to the larynx and puts your vocal folds in place. Next, the air from the lungs flows through the vocal folds to create sound.'

This is the process we have redeveloped using bionic technology.'

Dr Ahmadi says she has already achieved 98.4 per cent accuracy and success during her first phase human trials.

'This means our patients can now control their bionic voices automatically, in real-time and at any speech rate successfully', she says.

'The next step is to discover how to make this Bionic Voice sound as natural as possible.'

Follow the progress at: bit.ly/Bionic_Voice

‘ We’ve discovered a method to create and control sound using respiration. ’

DR FARZANEH AHMADI



SPACE CLUTTER... IT'S A REAL PROBLEM!

HOW BIOLOGY AND NEUROSCIENCE HAVE TEAMED UP TO DETECT AND MONITOR SPACE JUNK



OVER THE LAST 60 YEARS HUMANS HAVE TURNED THE EARTH'S EXOSPHERE INTO A LARGE DUMPING GROUND OF METAL JUNK.

At any one moment we have tens of thousands of man-made objects orbiting around us. This means the risk of collision between debris, satellites and spacecraft has become a serious and growing concern for national and international defence agencies.

While statistics put the possibility of actually being hit by a piece of space junk at a million times smaller than winning the lottery, Dr Greg Cohen from the MARCS Institute says the real issue is one of security.

'Knowing where objects are in space is a matter of national and international importance because it lets us predict (and hopefully avoid) collisions,' he says.

'Let's not forget the retired 8.5 tonne Chinese satellite, Tiangong-1, that hurtled back towards Earth at speeds of 27,000 kilometres per hour, before breaking apart upon re-entry and crashing down into the South Pacific Ocean.'

Dr Cohen is working with the Australian and United States defence forces to develop biologically-inspired event-based cameras to detect space junk. Using a small custom designed camera that can fit into the palm of your hand, and an innovative space imaging technique developed right here at Western, Dr Cohen believes this little piece of technology, inspired by nature, is the key to making space a safer place.

'The benefits of using technology inspired by biology means that we are using more dynamic systems that run faster, compute more efficiently, use far less power and produce less data,' he says.

'The camera we use works much like the human eye, meaning we're only seeing what we need to see.'

'When we first put these cameras on a telescope, we found we could easily track satellites – not just at night but during the day, and in real time. This was unheard of using conventional astronomy cameras.

Since then we've discovered a range of exciting possibilities, and now we can literally aim for the stars!'

Agro-hacking: FOOD with a CONSCIENCE

The pressure of studying a medical degree can seem overwhelming to many people. For Amit Tewari though, his busy life as a third-year medical student seemed like an ideal time to launch a business and open his first restaurant. Now, as a self-confessed agro-hacker, Amit has plans to open 50 restaurants across the country and change the relationship Australians have with plant-based food.

TOWARDS A GREENER FUTURE

Agro-hacking is about finding different ways to approach agriculture, and in Amit's case, that new focus is about exploring alternatives to killing animals for their meat. 'I saw a video of animals in a slaughterhouse. Their eyes looked like the eyes of my patients in the emergency department and I knew I wanted to do something to make a difference,' says Amit.

Transitioning his burger restaurant, *Soul Burger*, from a 'flexitarian' menu offering to a completely vegan menu was an important step. Now, Amit wants to take this even further and use his medical research background to lead a trend where people can have a choice between cultured meat or plant-based meat products to 'reboot demand and bypass the animals'.

BUILDING A VALUE-DRIVEN BUSINESS

'There is no point having a business if you don't follow your own values,' Amit says.

The way he sees it, food and medicine are linked, and the idea of a hospitality industry entrepreneur with a background as a medical graduate is not that unusual when you consider his studies in biology and molecular biology.

'I don't look at myself as a food and beverage operator,' says Amit. 'Medicine is about empathy – thinking about how someone feels. My background as a medical graduate gives me the opportunity to have an impact on a problem.'

As Amit continues to research the evolution towards integrated proteins that he believes is the future of environmentally-aware eating habits, he knows that this is the best time in his life to take the risks that his entrepreneurial life demands.

'I'd always wanted to start my own company,' says Amit. 'Balancing study with a start-up was challenging, but as a student without children or a mortgage, I figured it was a good time to take a chance (and go bankrupt if things didn't work out).'

Fortunately, the chance paid off.

Dr Amit Tewari • Bachelor of Medicine/Bachelor of Surgery, 2014. Photo by Monica Pronk.



Kim Miranda reflects on how the skills learned at Western Sydney University motivated him to create the company 'Based Buddha' and develop an Android app with a focus on good old-fashioned fun.

Slime Invasion

HELP! There's an invasion of thousands of slimes attacking our villages, and only you can save us!

This is the premise of *Slime Invasion*, a light-hearted, comedic action-style game, in which the fun is inspired by snappy dialogue and references to various memes. And the action component? That would be the diverse range of weapons at your disposal to aid you in the fight against the slime invasion that threatens your very existence... and entices you to play again – and again.

For game developer and Bachelor of Science graduate, Kim Miranda, creating and refining the game has been a huge part of his life over the past few years. He estimates the time taken to develop the game was around 300 hours and describes it as a hands-on way to implement the skills he learned at Western.

With a view to seeking employment in the ever-changing software development industry,

Kim says his time at Western helped him to grow up and become more mature, while his studies helped to develop a career goal and seek opportunity from something he had previously seen as an enjoyable hobby.

According to Kim, developing a game from concept to completion challenged and pushed him to hone his skills because he was forced to iron out issues that cropped up along the way in order to see *Slime Invasion* become an app that was both rewarding and fun. 'Developing an app isn't easy and you have to work through a lot of details. [It takes] hours of focus,' he says. 'But in the end it all adds up and you have something you can be proud of.'

In his current role as an IT technician at IBM, and with his own small IT business in the background, Kim enjoys exploring the world of possibilities his industry has to offer. He looks towards a future that hopes to be as diverse and exciting as *Slime Invasion*, while his technological skills continue to evolve and improve.

GRADLIFE



**WILSON
HIBIS**
Flower Co

One graduate's journey into a wildly successful global business isn't exactly the career path he planned after completing his Bachelor of Applied Science (Environmental Management and Tourism) – but life has never been more flourishing.



WILD HIBISCUS

Blossoms

LEE Etherington was running a tour company focused on Australia's native flavours when the tourists started showing a growing interest in the native food, and even wanting to purchase some to take home. This was the spark that began Lee's internationally successful brand, the *Wild Hibiscus Flower Co.*

What began as a dessert garnish, turned into the flagship product and the company's namesake – 'Wild Hibiscus Flowers in syrup'. Years later, to meet the increasing demand from restaurants, cocktail bars, and other retailers, Lee was forced to think in new ways. Over time, he devised proven techniques in farming and production, as well as a natural preservative – a mix of spring water and Australian cane sugar – to ensure the decadently delicious flowers remain perfectly candied and ready to eat for over 36 months. 'I was more passionate about the food, so I shut the tour company and switched my focus,' says Lee.

With a commitment to an 'all natural' production processes, Lee is proud that *Wild Hibiscus Flower Co.* is focused on chemical-free, pesticide-free goodies, with no artificial colours, flavours or preservatives. But sustainable farming means more than just being

environmentally aware. 'I believe that farmers are the basis of our entire society,' Lee says. 'They take water, sun and soil, and turn it into something they can sell. The most important part of the chain is getting products in to consumers' hands, a relationship to be treated with care.'

Expanding his business, Lee says, is like building a house. It includes looking after his suppliers, being fair, paying ethical rates and fostering loyalty. 'It has to have a solid foundation,' he says. 'The farmer's families depend on me to provide that work and the retailers depend on me by looking after the farmers that supply the ingredients which our products need.'

Although so much of his business began with face-to-face meetings with key buyers and in-person attendance at international trade shows, in recent times there has been an increased reliance on digital technology. 'So much information can now be given and shared online, and it does help with those international relationships where face-to-face contact is not always possible all the time,' he says.

And with a future that includes the upcoming release of a groundbreaking new blue flower, *Wild Hibiscus Flower Co.* is sure to blossom even bigger than ever.

Lee Etherington •
Bachelor of Applied Science
(Environmental Management
and Tourism), 1999

DIGITAL FUTURES

The evolution of the student experience at Western.

AS technology continues to evolve, the way students access the knowledge they need to excel in their chosen industry has adapted. With a commitment to supporting technology-enabled learning activities to guide today's students towards a brighter tomorrow, Western Sydney University is leading the way towards a bold digital future.

To be an educational leader of each new generation, the evolution of universities as dynamic, cutting-edge leaders in the digital age is a pressure for educational institutions.

It's a progression Professor Kevin Bell, Pro Vice-Chancellor (Digital Futures) at Western, has watched with great interest. 'In their formative years, the majority of our students have witnessed a shift, as technology has transitioned from an extrinsic series of infotainment "bolt-ons" to an extensive suite of services that has become an intrinsic part of other daily lives.'

'Our students, and we ourselves, have transitioned from periodic interactions with generally unreliable technology to a situation where technology is ubiquitous – always on, available 24/7, and providing immediate feedback, which equates to gratification. This has resulted in the growth of a set of expectations that have significantly raised the bar for all of the work we do in academic support and content development. Means of delivery, materials production and support systems have been forced to hurry and catch up, given these changed expectations,' Professor Bell says.

TAL URES

Professor Bell's role at Western is to lead the Digital Futures Team as it grows and evolves to support empowering implementations, which in turn ensures that students are supported with emerging blends of new technologies and pedagogies. The aim of this is to inspire students with emerging technologies, while also leading in technical facilitation of human interaction that will optimise engagement and make education akin to 'compulsive viewing'.

Although he admits the thinking behind digital futures assumes the majority of younger students are tech-savvy individuals who interact on their phones and play technical games that seem beyond understanding, Professor Bell believes the reality is actually quite different.

'The millennial demographic (1981-1996) and post-millennials (1997-present) play mobile games much less than Gen Xers (1965-1980) do, or did,' says Professor Bell. 'Post-millennials 'over-index' in sports, health and fitness, music, media, entertainment, lifestyle and shopping. They interact disproportionately, and significantly more, with apps and media that they are intrinsically motivated to engage with.'

This level of engagement typically relates to systems that are intentionally designed to make them hard to not engage with – systems where engagement provides numerous feel-good rewards along with a sense of being part of something bigger, connected, informed, challenged and empowered to create their own narrative with immediate feedback and positive reinforcement.

'This is now where the bar is set for engaging academic materials in a digital context,' says Professor Bell. 'Technology applied to academic experiences, especially technology that feels extrinsic to the learning experience, will not get our students to engage with academic content. If we can employ digital enhancements in a holistic, integrated manner to intrinsically support the instructor and the student within the learning environment, then we have a chance at producing a compelling environment,' he says.

While he is honest enough to acknowledge the strategy will not necessarily pry students from their Snapchat and Instagram stories, it will hopefully hold their attention for that critical amount of time needed to interact with the materials and start to develop subject-matter-specific engagement.

'We have a unique setup at Western in terms of our integration and shared foci. The Digital Futures team works very closely with Information Technology and Digital Services (ITDS) and the Student Experience Office which are frequently on our call list,' says Professor Bell.

With the appointment of two Pro Vice-Chancellors in the academic space, the University is demonstrating the emphasis placed on a holistic approach to technology-enhanced learning and curriculum development.

The launch of a number of new initiatives under the '21st Century Projects' banner, will focus on partner pedagogies, work-integrated learning and the student experience, all with technology and the digital experience intrinsically woven throughout, rather than appended as an afterthought. Similarly, when new, emergent technology opportunities are being developed, the conversations will not be limited to ITDS staff, and will extend to discussions with key academics around what new implementations will mean from a teaching and learning perspective.

It's a team effort across the University. The work that has been progressing with the classroom environment and the vertical campus precincts is producing a perfect storm of cutting-edge opportunity for academic staff and students to collaborate around authentic, tech-enabled learning that is preparing both for the changing and challenging work experiences in their future.

From Professor Bell's perspective, he sees value in being an advocate of what has been termed 'gameful design', a term that is often linked with the more common term, *gamification*. Gameful design is the practice of looking at elements of what makes games, or other forms of engagement, so intriguing. By boiling it down to a fundamental level and applying the principles to educational experiences, engagement with today's generation of tech users takes a pro-active position.

'Technology has reached the stage where it is simple enough, in most cases, to implement elements of gameful design, or to ramp up intrinsic motivators to the extent that we might be able to get some of that engagement and tight feedback loops that we see so effectively implemented in the social media space,' says Professor Bell.

With the benefits of gameful design elements, such as reduced fear of failure, peer support through collaborative challenges and easy 'pick up and play' features applied to academia in a thoughtful, progressive way, the digital future for students at Western Sydney University is looking brighter than ever.



If we can employ digital enhancements in a holistic, integrated manner to intrinsically support the instructor and the student within the learning environment, then we have a chance at producing a compelling environment.

**PROFESSOR KEVIN BELL,
PRO VICE-CHANCELLOR
(DIGITAL FUTURES)**





T O Y S O N T H E

AFTER many adventures travelling the globe, settling into a teaching career came as a surprise for Doctor of Philosophy in Culture and Society graduate, Dr Shanna Robinson.

With an undergraduate degree in communications, and a background in marketing and PR, Dr Robinson's history includes a CV filled with long-term travel experiences, before returning to Australia to study. 'During the years I travelled and worked overseas, I had a lot of time to formulate ideas about what I thought I

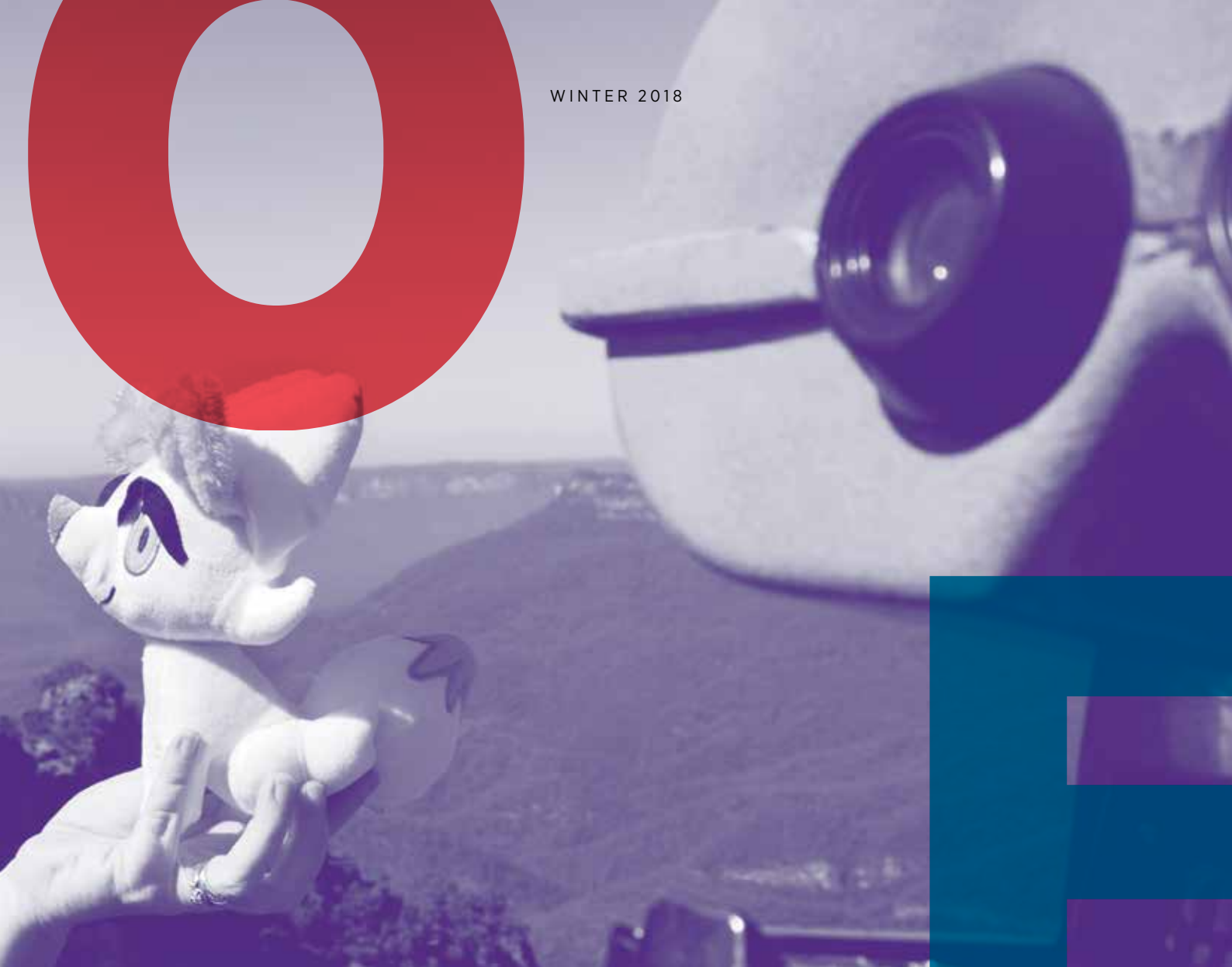
wanted to do with my life – and corporate work didn't make it to the short list,' she says.

That all changed in her second year of study, when one of her academic supervisors told her about a teaching opportunity. Despite this not aligning with the vision in her head at the time, Dr Robinson followed up and accepted the role.

Eight years later and she has completed her PhD, during her tenure as an Academic Teacher in Social Sciences and Arts, with a thesis

focused on the ways that people infuse experimentalism and creativity into travel. Dr Robinson studied behaviours like competitive hitch-hiking, taking photos of toys travelling, using dice to make travel decisions and the myriad of imaginative journeys people undertake.

'They are fun, playful ways to engage in tourism, and I hope to use my research as a way to open up discussions to include a broader understanding of why people don't always follow the scripts



Dr Shanna Robinson • Doctor of Philosophy – Culture and Society, 2017

provided to them by tourist industries, of how tourists still manage to playfully subvert these to craft their own, unique experiences,' she says.

One form of experimental travel Dr Robinson observed was travelling toy mascots. When she started looking into this further and chatting to people, she realised just how broad scale the practice was. Thousands of people in groups around the world congregated on social media to share pictures online of their toys and travel agents for toys emerged in some places as a cultural phenomenon.

'I think one of the most exciting possibilities of the type of touristic encounters that I research is the ways in which a more diverse range of people can experience travel, in a whole range of ways that haven't been thought about academically before. These ways exist beyond, and often in spite of, the conventional tourism industry,' she says.

Having explored travelling toys and the many ways social media has impacted on tourism, Dr Robinson says she'd love to develop a future research project based on some of the areas her studies exposed, particularly around gamification of travel and the culture more broadly, as well as how technology and media intersect and impacts our touristic experiences and our sense of place.

She is grateful for her time as a student at Western Sydney University and describes her valuable postgraduate support as being built around opportunities and flexibility. 'There were a multitude of openings to present my own research, and I took up every single one I could – from postgrad events, to the *Three Minute Thesis Competition*, to a student exchange to a Swedish University through to a variety of international conferences,' Dr Robinson says. 'The valuable skills these shaped were not limited to presentation-based ones, but also

networking and seeking out future collaboration opportunities like publishing.'

Teaching remains the surprise addition to her working life, but one that gives her fresh joy as she influences and educates the next generation at Western. 'I feel very lucky to have fallen into a career that makes me feel so satisfied in a professional sense, and plan to keep teaching for a long time to come. I think that one of the aspects that make teaching so satisfying for me [at Western] is the students I teach here.'

SHARE YOUR TRAVEL STORIES.

We'd love to hear your travel stories and pictures. Share your story at westernsydney.edu.au/alumni/alumni_success_stories

NEW TECHNOLOGY THAT'S OUT OF THIS WORLD

THE CHALLENGES FOR SPACE LAW

2017 marked the 50th anniversary of the *Outer Space Treaty*, a milestone celebrated by Western Sydney University's Professor Steven Freeland with insightful commentary on the legal framework for the conduct of space activities. Discussing his vision of the Treaty moving forward, he believes it should be moulded in order to keep pace with the technology of the future. Space, writes Professor Freeland, is vital 'in terms of world economy, strategic thinking, geopolitics, human rights, commercial enterprise, technological innovation, and, frankly, the future of humankind'.

In order to highlight the potential issues facing our society regarding

the intersection between technology and space law, Professor Freeland points to rapid technological advancement and how it had taken us all by surprise in the past. 'Think back to the technology happening in last five years, let alone the last fifty. We are doing things way beyond the contemplation of anyone who was around when the Treaty was first put together,' he says. 'The Treaty has some incredibly important fundamental rules about space and how we inhabit it, however, it does not cover the specifics that stem from a plethora of new technology.'

Professor Freeland's description of the clear parallels between the two

regimes of outer space and cyber space further highlights the need for an update to space law. Not only in considerations impacting the law-making side, but also due to the seemingly endless development of technology that causes the activities of these two realms to become ever more interdependent.

Beginning with the legal responsibility for the litter and space debris that surrounds our planet, and moving onto things like space mining, Professor Freeland says that there are numerous and obvious gaps in legislation, specifically with things like space tourism. 'In another fifty years, we could fly great distances in just a

couple of hours by utilising a craft that flies through air space and outer space,' he says. 'With the treaty as it stands now, there would be some difficult legal issues.'

Born in a momentous year – 1957 when Sputnik 1, the first artificial Earth satellite, was launched – Professor Freeland found he has great interest in space, crediting his interest to his generational status as a 'Sputnik baby'. In order to fuse his passion for space with his profession of Law, and to offer advice regarding the legal ramifications of our pursuit of space-related opportunities, Professor Freeland was appointed as a member of an Expert Reference Group

While the idea of space travel inspires most people to marvel at the technology required to make it all possible, as Dean of the School of Law at Western Sydney University, Professor Steven Freeland's mind turns to the finer details.



Professor Steven Freeland
• Dean, School of Law

which was tasked with making recommendations and developing a space industry capability strategy for Australia over the next 10–20 years. The Expert Reference Group was established following the recent announcement that there will be an operational Australian Space Agency from 1 July 2018, and submitted its report to Government at the end of March.

Back in the 1960s, when the foundation of space law was built and the Outer Space Treaty was ratified, space activities were based around individual countries and were relatively limited. Today, space exploration and commercialisation are not

limited to sci-fi shows. We have come a long way since Sputnik 1 was launched and Professor Freeland addressed some of the legal ramifications as part of his role in the Expert Reference Group. Noting a distinct shift and 'evolution' to the way we see and develop space activities, from exploration to commercialisation, which by its very definition focuses on making money for individual shareholders, he is concerned that this is just one aspect currently incompatible with the way we currently classify space and space law.

With Stephen Hawking's predictions that humanity must become an inter-planetary species

to escape a myriad of disasters, Professor Freeland has identified yet another potential legal bind: the legal issues governing 'space communities'. The current rules governing people living on the International Space Station are reliant on the laws of individual countries involved (United States, Russia, various European countries, Japan, and Canada) with country-specific laws covering space station occupants only while they are in the section of the space station officially registered by that particular country. When the technology is advanced enough that we are able to develop entire space communities, this broken zone law will not cut it.

Apart from commercialisation, zoning, money making, exploration and travel, Professor Freeland says the most serious fear relates to the potential for space to be used by international super powers as a theatre of war.

While the Treaty will continue to be very significant in the future regulation of space, Professor Freeland believes it is incumbent on us all to take a holistic view of how space intersects with every aspect of life and what this means in terms of constructing the most appropriate legal and regulatory frameworks for the future – an issue that he believes needs to be placed centre stage as we head boldly towards the unknown.



A

SMARTER BUILT WORLD

THE FUTURE OF CONSTRUCTION

How do you imagine the future of the Australian construction industry? According to the Centre for Smart Modern Construction's Industry Engagement Lead, Adjunct Professor at Western, David Chandler OAM, it should be a space where better industry and academic collaboration leads to the creation of smart buildings.



Associate Professor Mary Hardie FAIB • Director of Academic Programs (Undergraduate Construction Management and Building Design), Doctor of Philosophy, 2012



Adjunct Professor David Chandler OAM • Adjunct Fellow

AT a recent conference, *'Construction Opportunities in Western Sydney – Modernise or Die'*, some serious realities were addressed that need to be navigated by the construction industry worldwide. 'Some found these challenges deeply confronting,' Adjunct Professor David Chandler OAM says. 'Our intent [at Western] is to invest in new industry-relevant research to help inform our academics and graduates about what will be important to their "future fitness" – our central purpose is to prepare future-ready graduates.'

'As researchers, we will look to evidence-based examples of organisations who have started the 'smart modern built future' journey to unpack why they are different and how this may be translated across the industry. We are seeking to engage more than 100 Western Sydney construction enterprises and stakeholders to invest in a collaborative effort, where the potential benefits to the industry and themselves is greater than any could achieve on their own. That is, industry and academic engagement with a strategic local focus.'

As Sydney's axis continues to shift to Greater Western Sydney, and to the Norwest precinct – an area the same size as the current Sydney CBD – the Centre for Smart Modern Construction (c4SMC) belief is that the Western Sydney construction future is bright and should be embraced as an exciting and positive 'sunrise-industry'. This will merge the conversations around 'what is a Smart Building and how they fit into a Smart City' at the intersection between technology and architecture.

Associate Professor Mary Hardie FAIB, Director of Academic Programs for undergraduate Construction Management and Building Design at Western, believes that in the quest to build smart cities, the barriers between professions are blurring. This transformation affects the whole construction ecosystem, including designers, constructors, manufacturers and tech companies.

'The way that we build our cities is evolving from a trade-based traditional skillset to a

digitally-conceived, designed, elaborated and delivered model. Smart building is delivered by teams where architects are often part of the team – but not the presumptive leaders as was often the case in the past. The technology uptake is often led by manufacturers and by entrepreneurs,' says Associate Professor Hardie. These changes are what we need to prepare future construction professionals to enable them to lead smart modern enterprises.

When it comes to the way these technological changes are impacting the construction industry, she says that the move to digital design, documentation and record keeping, as well as the increased percentage of off-site or pre-build components and the globalisation of the market, are having the biggest impact – an evolution that any would-be student of architectural design and construction must learn to embrace.

See the Centre for Smart Modern Construction website for more information: westernsydney.edu.au/c4SMC

YOUR SUCCESS *is* OUR BUSINESS

Whether you need support securing your first graduate role or you're a seasoned professional looking to explore a broader range of opportunities, the Office of Employability and Graduate Success is a valuable resource you can continue to access.

Connect with our team to activate your career, including:

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Enjoy continued access to over 4,000 job opportunities each year, directly targeting students and graduates using your WSU CareerHub account.

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Take advantage of our free Resume Review service to ensure you are maximising your employment potential, simply visit our website and follow the prompts.

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Unsure about where you are going and how to get there? Take the online Career Launch quiz and work through a series of customised career development activities.

To access all of these services and more, visit the WSU Careers website today at westernsydney.edu.au/careers or call us on (02) 4736 0424.



'As a proud alumnus of this University and passionate advocate of Western Sydney graduates, I'm excited to be heading up the newly formed Office of Employability of Graduate Success. Our graduates are rated the best in Sydney by employers and we continue to partner with our students and graduates to showcase their knowledge and talent to industry. We are invested in your success and committed to ensuring you receive the necessary tools to build and sustain an impactful career.'

CHRIS YOUNESS, DIRECTOR OF EMPLOYABILITY AND GRADUATE SUCCESS

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Update your details, join chapters and stay connected online at westernsydney.edu.au/stayconnected

GRADLIFE MEMBERSHIP

Join the GradLife Membership program to gain access to benefits exclusive to our alumni.

To find out more, visit westernsydney.edu.au/gradlife

EMPLOYERS RANK OUR GRADUATES AHEAD OF OTHER SYDNEY UNIVERSITIES

WESTERN Sydney University graduates are highly sought after by today's employers, according to the latest data from the Federal Government's Quality Indicators for Learning and Teaching (QILT) Employer Satisfaction Survey released earlier this year.

Our alumni were rated 10th across all Australian universities for overall satisfaction, named as the highest-rated university in the Sydney region, and the second highest-rated graduates of universities surveyed in all of NSW.

With an 85.6 per cent satisfaction rating from employers, Professor Denise Kirkpatrick,

Deputy Vice-Chancellor and Vice-President (Academic), says the survey results affirm the quality of Western's degrees and reinforce how highly valued our graduates are in the workplace.

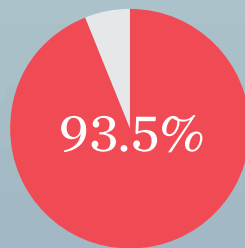
'This is an excellent outcome which recognises the strength of our programs and the quality and relevance of our teaching,' says Professor Kirkpatrick.

'We are proud to be a university that prepares career-ready graduates who are adaptable and think creatively for today's modern workplace. We help them to extend

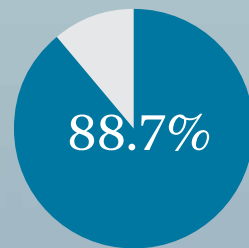
their professional skills so they are equipped to meet the challenges of a complex, globalised world.'

The national Employer Satisfaction Survey is the largest survey of its kind, evaluating the feedback of more than 4,000 employers, inviting their views on the skills, attributes and work readiness of recent graduates from higher education institutions.

Full results of the Employment Satisfaction Survey can be viewed on the Quality Indicators for Learning and Teaching (QILT) webpage at qilt.edu.au/about-this-site/employer-satisfaction



SATISFACTION IN FOUNDATION SKILLS



SATISFACTION IN COLLABORATIVE SKILLS

RECENT GRADUATE

'I joined Envirotech because I wanted to be involved with hands-on site engineering. My experience has been invaluable and I am now also involved in other aspects of work, including recruitment.'

JACOB MADDEN
BACHELOR OF ENGINEERING,
2017

EMPLOYER

'The quality of graduates who join our firm from Western have been outstanding. I appreciate their maturity and willingness to engage with all parts of the diverse work that we undertake.'

DANIEL MATTHEW
MANAGING DIRECTOR,
ENVIROTECH



2018 WESTERN SYDNEY UNIVERSITY ALUMNI AWARDS

**THANK YOU TO EVERYONE WHO SUBMITTED A
NOMINATION FOR THIS YEAR'S ALUMNI AWARDS.**

With more than 90 submissions, we have been overwhelmed with stories of alumni success, passion and achievements! Our alumni are doing amazing things.

The majority of the awards will be presented at the University's Town & Gown Gala Dinner, with winners to be announced from a selection of finalists in attendance on the night.

Keep an eye out on the Alumni Awards webpage to 'meet our finalists' once announced:

westernsydney.edu.au/alumniawards

Good luck to the nominees and we look forward to seeing you at Town & Gown.

**& TOWN
GOWN
2018**

**SATURDAY 20 OCTOBER 2018 FROM 6PM
AT THE GRAND PAVILION, ROSEHILL GARDENS**

Hosted by Ray Martin AM, the black-tie event will feature an amazing line-up of live entertainment, including Alfie Arcurie, as well as a showcase of some of our outstanding graduates with the presentation of the University's prestigious Alumni Awards.

Support the University by securing a table for 10 people for \$10,000, which includes a donation of \$8,500 to the University's nation-leading health and medical research.

Register online at:

westernsydney.edu.au/townandgown