

GRAD *Life*

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Front cover: Nicole Wade, Bachelor of Education (Primary), 2005. Photo by Sally Tsoutas.
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*Times Higher Education (THE) World University Rankings 2019-2020.
*QILT Employer Satisfaction Survey 2018.
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MESSAGE FROM VICE-CHANCELLOR AND PRESIDENT, PROFESSOR BARNEY GLOVER AO

As an anchor institution, champion and leading advocate for one of Australia's most dynamic regions, Western Sydney University is committed to shaping and contributing to the future of the Western Sydney region.

In the next decade, the shifting demographics and increasing population of the region, coupled with the realisation of significant infrastructure development, will bring with it substantial social, cultural and economic change. In this, Western continues to play an important role in facilitating and leading open and evidence-based discussions around the opportunities and challenges for the region.

Whether it is the impact of heat load in our region, such as Dr Sebastian Pfautsch's research and work with local government (page 18), or the contributions to transport infrastructure from graduates such as Thy Pham (page 8), the University is committed to changing the narrative of the region and advocating its strengths.

I hope you enjoy reading the latest issue of GradLife, and it inspires different ways of imagining the future of Western Sydney.

Professor Barney Glover AO
Vice-Chancellor and President

THE
FUTURE
lives in
WESTERN
SYDNEY

WORDS BY DAMIEN MURPHY
PHOTO BY SALLY TSOUTAS

WHEN Western Sydney University started 30 years ago, service industries were about to overtake manufacturing as the leading generator of income in Australia.

Decades of government policy had turned Western Sydney into the nation's manufacturing industry centre.

But with end of tariff protections for the manufacturing industry, Western Sydney could have gone the way of similar communities in the rust belts of the British midlands where rampant unemployment still lingers.

It did not happen.

The Director of the Centre for Western Sydney, Professor Phillip O'Neill, says investment in education drove the transformation of the local labour force out of manufacturing.

"Western Sydney is a leading world example of using education as a pathway to re-engineer a labour force," he says.

"In the early 1970s, when Western Sydney was a manufacturing powerhouse, just over 2,000 people had degrees in Parramatta, Blacktown and Fairfield local government areas.

"By 2016 there were 380,000 degree holders in the region, which represents nearly 30 per cent of the degree holders in the entire Sydney metropolitan area.

“Western Sydney is a leading world example of using education as a pathway to re-engineer a labour force.”

PROFESSOR PHILLIP O'NEILL
DIRECTOR, CENTRE FOR WESTERN SYDNEY

"So, Western Sydney on its own is a nationally significant pool of professional services labour.

"The task now is to re-engineer the economy because the absorption of those tertiary education workers from Western Sydney has been via Sydney as a global city to the east."

Perhaps the biggest challenge facing Western Sydney University is the development of the second airport and its adjoining aerotropolis where some 200,000 knowledge jobs are predicted.

Professor O'Neill says the development is the government's most significant acknowledgment of the employment problem facing Western Sydney.

"It's an enormous task government has set itself," he says.

"There's huge generosity from Western Sydney's major institutions in collaborating on that task, including the University as a leader in acknowledging its role as an educational provider in those precincts."

Professor O'Neill says the strong evolution of research activity has added to Western's readiness for the future.

He says that in the early years, researchers had struggled, but this century the University deliberately brought in international scholars to fill institute and research centres.

Professor O'Neill says the University's rise in global research rankings is proof of the efficacy of the recruitment program.

Now and Then Celebrating

WORDS BY DAMIEN MURPHY
PHOTOS BY SALLY TSOUTAS

MORE than 190,000 alumni have graduated since Western Sydney University was formally constituted on 1 January 1989.

With over 48,000 students and some 10 campuses scattered across Western Sydney, the University's pivotal role in the region's remarkable progress and development continues to grow with each passing year.

Many alumni are now returning to their alma mater to help current students through their own knowledge and experience.

Property developer Ammar Khan, and Fundraiser Deborah Carr, are two such graduates.

Ammar has taken time out from his busy schedule this year to mentor current students with the idea of preparing them for the workforce, while Deborah leads the campaign for donor-funded student scholarships as the Executive Director, Advancement.

Ammar Khan was already a property owner when he started his Bachelor of Housing degree at Western.

He remembers choosing the wrong course initially before switching to Housing and says things have changed greatly since those days when entrepreneurship was hardly encouraged.

"There was no concept of going into your own business anytime soon. It was all about finish your education... become a labourer for starters."

But encouraged by his University peers at the time, Ammar believes the increasing industry connections in final years, and the hands-on experience of the associated TAFE courses such as bricklaying and carpentry, showed the way to the future.

"Since that time, more and more degrees have adopted that hands-on approach. There have been more TAFE-like subjects coming into university courses and Western has been a leader in making connections with industry to play a larger role in the educational process."

Mount Druitt-raised, Ammar graduated in 2008, worked as a surveyor and then a construction manager. In 2010 he started his own construction company and now runs a business turning over \$6 million revenue a year.

In 2019 Ammar started mentoring students at Western to help them avoid the pitfalls.

Ammar Khan • Bachelor of Housing, 2008

30 years

"Once established, I saw where I had struggled and where students could do with a lot of help. I decided to formulate the experience into a short course. Now I present it to students and the unemployed to teach them how to get started.

"The skill is there in their own hands and that's what I like to teach; they have the skills; they have the knowledge. All they have to do is put it into an action plan to get themselves started."

Deborah leads Western's Office of Advancement, driving the University's fundraising team. She returned to campus in late 2013 after a career in the corporate world, private enterprise and not-for-profit organisations. Philanthropic gifts back then totalled approximately \$2 million. Last year, philanthropic support topped \$21.5 million.

Deborah completed her Bachelor of Communications in 1991, amongst one of the first graduating years from the newly constituted University, what was then known as UWS Nepean. She freely admits she never envisaged working for a university, let alone in philanthropy.

But Deborah's story of a close friend who started the Communications course with her in 1989 demonstrates one of the roles of philanthropy in tertiary education.

"One of my friends came from country Victoria and had to rent accommodation and work lots of jobs to make ends meet. We all had to work to get by of course, but most of us were locals and we went home to our families each night," she says.

"When I think of my friend from Victoria – who went on to great success, by the way – it struck me just how much easier it would have been for her if a scholarship had been available. It would have absolutely transformed her student experience... not just the money, but the confidence that comes from knowing someone is willing to back her."

Deborah says the University's rebrand in 2015 saw a significant increase in interest from philanthropists who became more aware of the University's leadership role in the Western Sydney dynamic. "Everyone I talk to, graduates, staff and the wider community, have so much pride and respect for the impact the University has had over the last 30 years."

And the future? As alumni start to peak in their careers in increasing numbers, Deborah predicts their support will increasingly put Western on the same philanthropic footing as other older, more established universities.

Deborah Carr • Bachelor of Communications, 1991



WRAN'S VOW: WEST WILL GET THAT UNIV

THE western suburbs will get its university - despite a Federal newspaper article, WRAN'S VOW, APRIL 15, 1966. PERRY COLLECTION

SIR IAN TURBOTT (CENTRE) INDICATES AS FOUNDATION CHANCELLOR. PROFESSOR BRIAN SMITH (LEFT) AS FOUNDATION VICE CHANCELLOR AND DEPUTY CHANCELLOR. MR ALEXOIS (RIGHT).



1995

New Parramatta campus announced, to occupy site of former Rydalmere Psychiatric Hospital.



University of Western Sydney Amendment Act 2000 abolishes "university members"

2000



Dear Mr Whitlam,
In accordance with section 64(2) of the Constitution I have previously told me that you would never resign or advise a dissolution of the House of Representatives at a double dissolution and that the only way in which such a dissolution could be obtained would be by my dismissal of you and your ministerial colleagues. As it appeared likely that you would today persist in this attitude I decided that, if you did, I would determine your commission and state my reasons for doing so. You have persisted in your attitude and I have accordingly acted as indicated. I attach a statement of my reasons which I intend to publish immediately.
It is with a great deal of regret that I have taken this step both in respect of yourself and your colleagues.
I propose to send for the Leader of the Opposition and to commission him to form a new caretaker Government until an election can be held.
Yours sincerely,
John Howard

LEFT, THE ORIGINAL DISMISSAL LETTER

Gough Whitlam materials gifted to establish the Whitlam Institute within the University. The Whitlam Government saw education as the fundamental ingredient for equity and opportunity in society. The original Dismissal Letter was gifted to the Institute in 2005, to mark the 30th anniversary of the Dismissal.

2003

36,000 STUDENTS
9,000 GRADUATES
2,600 STAFF
6 CAMPUSES

2004

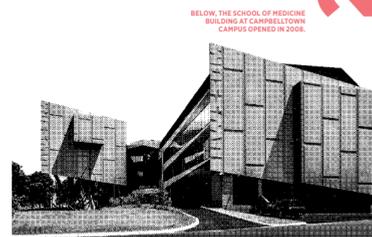
The College was established to provide pathways into higher education for the people of Western Sydney



First intake of medical students to the University's School of Medicine

2007

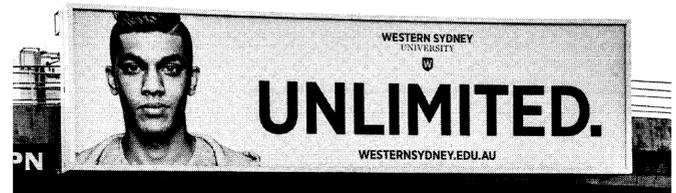
ABOVE, PRIME MINISTER JULIA BILCHIE OFFICIALLY OPENED THE BLACKTOWN/MT DRUITT CLINICAL SCHOOL BUILDING LOCATED AT BLACKTOWN HOSPITAL IN 2007.



BELOW, THE SCHOOL OF MEDICINE BUILDING AT CAMPBELLTOWN CAMPUS OPENED IN 2008.

2015

The University launches a new brand and identity that puts Western Sydney first



2017

The Parramatta City campus (Peter Shergold Building) is officially opened - the University's first ever vertical campus as part of the Western Growth program.



PARRAMATTA CITY CAMPUS WAS OFFICIALLY OPENED BY THE NOW PREMIER, GLADYS BESEKLIAN, ON MAY 17, 2017.

2018

A second vertical campus opens - Liverpool City campus (Ngara Ngara Building) - and plans for two more campuses are announced (a Multiversity at the heart of the Western Sydney Aerotropolis and the Engineering Innovation Hub in the Parramatta CBD)



LIVERPOOL CITY CAMPUS (NGARA NGARA BUILDING)

2019

48,000 STUDENTS
190,000 GRADUATES
3,500 STAFF
10 CAMPUSES

85% OF WESTERN SYDNEY UNIVERSITY'S RESEARCH IS "WORLD STANDARD OR ABOVE" IN THE EXCELLENCE IN RESEARCH FOR AUSTRALIA EVALUATION



TOP 2% OF UNIVERSITIES WORLDWIDE*

#1 IN THE WORLD FOR GENDER EQUALITY**

30 YEARS WESTERN SYDNEY UNIVERSITY

1989 ~ 2019

The University of Western Sydney (UWS) is officially established

1989

Antecedent institutions date back as far as 1829 with the establishment of the Hawkesbury Agricultural College.

The University recognises that its campuses occupy the traditional lands of the Darug, Tharawal (also historically referred to as Dharawal), Gandangara and Wiradjuri peoples and thanks them for their support of work in their lands.



UWS Macarthur becomes the third member of the University, joining UWS Hawkesbury and UWS Nepean

11,500 STUDENTS
1,100 STAFF
5 CAMPUSES



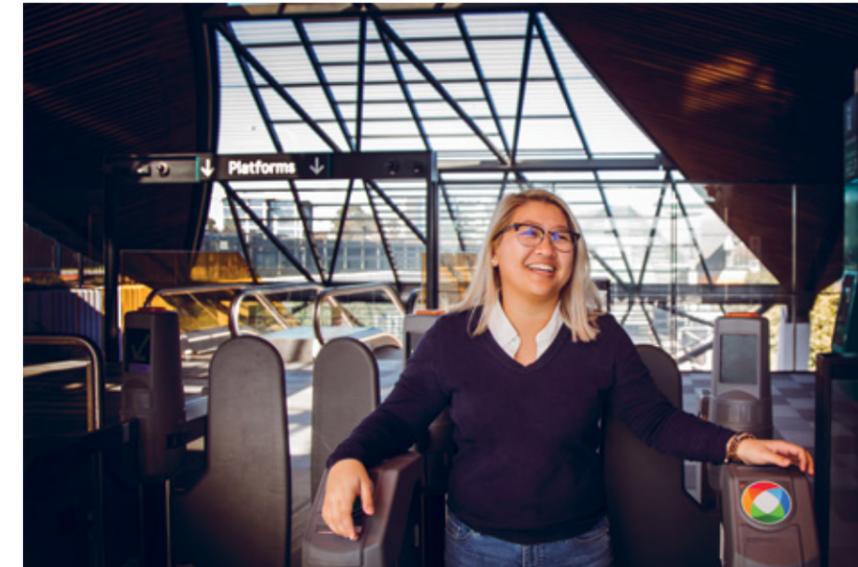
ABOVE, HAWKESBURY AGRICULTURAL COLLEGE



PRESENTATION OF UWS RIBES BY UNIVERSITY OF SYDNEY ON AUGUST 21, 1992



HONOURABLE E.G. WHITLAM, Q.C., M.P.



ON THE RIGHT TRACK

WORDS BY EMMA MULHOLLAND
PHOTOS BY SALLY TSOUTAS

For civil engineer Thy Pham, going slow at uni has meant success in the world beyond.

Australia's biggest public transport project, the Sydney Metro, has been a boon for commuters in Western Sydney – but no-one is quite as excited as rail buff Thy Pham. On a recent visit to Bella Vista station, she admits she was “in awe of how beautiful it looked”. That’s because Thy, a civil engineer, helped oversee construction of the Northwest line – not a bad gig for a grad in her first year out of Western Sydney University.

“I actually went on the Metro a couple of weeks ago and it was like I’d never been on one before,” she laughs. “I was like a little kid, standing outside, hanging onto the poles and saying to my partner, ‘You see that track? I built it!’”

As a Junior Engineer for CPB Contractors, Thy would be on-site from 5am, conducting quality inspections, tracking costs and ensuring the track team hit its targets. She finished work on the line earlier this year (on time and under budget) and is now a site engineer on the Parramatta Light Rail team.

Asked how her studies at Western prepared her for these demanding roles, Thy admits that failing subjects actually set her up for life beyond uni. “I struggled to get over it for a long time while I was studying,” she says. “But in my last year, I realised that it didn’t matter how long it took me to get through, that I was only competing with myself.” That attitude, she says, has helped her climb the ranks in a male-dominated field.

As for taking on the guys, she says that’s been a surprise, too. “I don’t think there are any disadvantages or advantages to being female: at CPB you get treated the same,” she says. “If you’re a good engineer and you perform well, that’s how you succeed. I just wish there were more females because it’s a great industry to work in.”

Her advice to everyone – male or female – is to get out there and network before you finish your course. Thy was part of Western’s Women in Science and Engineering (WISE) program and keeps in touch with her thesis supervisor, Associate Professor Olivia Mirza. “Your friends at uni become your friends for life,” she says. “Cast your net as wide as you can because in 10 years’ time, they could be the ones who help you get another job or to broaden your network.”

Thy Pham • Bachelor of Engineering, 2017



See this story
come to life

“ I had a moral sense of right and wrong as a young person. I thought the law was about right and wrong and could help people who were underprivileged or fallen on hard times. ”

IMAD ABDUL-KARIM
BACHELOR OF LAWS, 1998

Journey to the bench

WORDS BY DAMIEN MURPHY
PHOTO BY SALLY TSOUTAS

Magistrate Imad Abdul-Karim reflects on the struggles he faced before tackling a career in law.

Western Sydney University's first graduate judicial appointee, Magistrate Imad Abdul-Karim, carries in his mobile phone photographs that sadden and inspire.

One captures him with his younger brother and sisters nonchalantly sitting on an unexploded bomb as big as a hatchback. Another has them standing in front of an abandoned tank.

The family fled their war-torn village in Lebanon in 1985. They emigrated to Sydney. He was 15.

War and resettlement burned deep. "I had a moral sense of right and wrong as a young person," Mr. Abdul-Karim, now 49, says. "I thought the law was about right and wrong and could help people who were underprivileged or fallen on hard times."

His journey to the bench began at an annex to Beverly Hills Girls High School where he learned English. Completing the HSC at Endeavour High School in 1988 saw him accepted to the University of Wollongong to study science.

After graduation, he worked bars and drove cabs until he heard that Western Sydney University was establishing a law school.

Attracted by the thought of being in the first intake, and the emphasis on practical training, he enrolled in 1995. University was something of a family affair then; his mother, Salwa, who'd taught him at the village school, was upgrading teaching qualifications at the University.

Mr. Abdul-Karim recalls the "positive energy" surrounding the first intake as articulated by the Campbelltown Foundation Dean of the School of Law, Professor Robin Woellner, while delivering the opening lecture.

"He made a comment that still resonates in my mind. 'In a few years' time,' he said, 'you will be the leaders in our society. Some of you will be judges and you will be leaders in our legal profession. And what we would hope to do as part of your education is to make sure you have a good foundation in law and that you have the ethics and the legal ability to progress to be the best lawyers in Australia and to be leaders in our society.'"

Mr. Abdul-Karim completed his Bachelor of Law in 1998 and joined the NSW Crown Solicitor's Office before heading to the Commonwealth Director of Public Prosecutions in 1999. His first case, involved an alleged sexual assault that occurred on an aircraft en route flying from San Francisco to Sydney, requiring him to research the issue of Australian jurisdiction.

The subject became his area of expertise. When terrorism arrived in Australia, Mr. Abdul-Karim was the DPP's leading prosecutor.

He led the case against Zaky Mallah, the first terrorism prosecution in Australia, and oversaw high-profile terrorism cases, including Operation Pendennis which uncovered jihadist cells in Sydney and Melbourne.

In 2007, he went to the United States, Canada and the United Kingdom on a Churchill Fellowship to research the prosecution of terrorists such as the IRA.

He was also invited as an expert to speak at workshops conducted by the United Nations Office on Drugs and Crime to help South Asian countries effectively prosecute terrorists in accordance with the rule of law.

In 2017, Mr. Abdul-Karim was appointed a magistrate of the Local Court of NSW.

"My experience at Western really was the foundation of everything I've achieved. Our lecturers went beyond the call of duty to ensure we became good lawyers.

"I know when I studied law at the University, the people who graduated were of equal calibre to those who graduated from more established sandstone universities."

In retrospect, he wishes he'd spent more time focused on enjoying the process of learning rather than marks.

"The best lessons you learn in life are from making mistakes and failure."



▶ See this story
come to life

Seeds of Change

WORDS BY STUART RIDLEY

Visual artist and Fulbright Scholar Kaleigh Rusgrove is illustrating environmental issues during her exchange from the University of Connecticut.

American student Kaleigh Rusgrove muses that it's a rare opportunity for an artist to have the luxury of making art while not having to juggle a job. Thanks to a Fulbright Scholarship undertaken here in Australia at Western Sydney University, Kaleigh has plenty of time to focus on the visual stories she wants to share about our changing environment and possible futures.

Kaleigh credits her grandfathers on both sides for motivating her to make art with a camera. They were prolific nature photographers – migratory birds and beach sunsets mostly – who encouraged her to enjoy the adventure of capturing a moment in time as much as the final print.



▶ See this story come to life



KALEIGH RUSGROVE

2019 recipient of Western Sydney University Award in the Arts, Environment and Public Health: Fulbright Postgraduate Scholarship

Master of Fine Arts from University of Connecticut

Specialising in Visual Arts/ Photography – portfolio at kaleighrusgrove.com

Imagined Futures – her Fulbright Scholarship work – is being documented at imaginedfuturesblog.com

ABOUT THE IMAGINED FUTURES PROJECT

"Imagined Futures is a project in collaboration with the Australian PlantBank of the Royal Botanic Gardens and Domain Trust in Sydney, Australia. This project will document the facility's seed bank and research efforts as well as narrative photographs depicting how these seeds could be used in the future. The images will reflect the importance of assessing current environmental practices and personal ethics for the future."



Background: Australian PlantBank, image by Kaleigh Rusgrove. Above: Kaleigh Rusgrove, photo by Sally Tsoutas.

“ I think light is everything. It’s what makes us feel something when we look at a photograph, it gives a certain mood or sense of time and place. ”

KALEIGH RUSGROVE
VISITING FULBRIGHT SCHOLAR



“I started as a child with disposable cameras left over from parties,” she reminisces. “I’d set up little photoshoots with my sister and friends, hanging up a bed sheet as a makeshift background... then my family had a point-and-shoot with a sliding cover I was allowed to use and I slowly learned Photoshop on the family computer.”

Although she learned the craft of making prints from film during high school, Kaleigh says she’s always much happier making a beautifully crafted image in-camera, rather than putting hours into development and image manipulation.

“I think light is everything,” she says. “It’s what makes us feel something when we look at a photograph, it gives a certain mood or sense of time and place. We can bring a viewer to have the same experience, or even tap into subconscious memories.”

It’s a rare opportunity for an artist, she muses, to have the luxury of not having to juggle earning a living while making art. Thanks to a Fulbright Scholarship, Kaleigh has plenty of time to focus on the visual stories she wants to tell about our changing environment and possible futures.

“I started with climate change as a topic for my work and I felt overwhelmed because it’s such a broad issue,” she notes. “So, I’m focusing on

seeds after learning about the Svalbard Global Seed Vault, which was reported in the media as a Doomsday bank. Every time I go out to the Australian PlantBank (a seed bank in the Australian Botanic Gardens, Mount Annan) I find out more about climate change from the scientists’ experiments and research.”

She’s discovered many of the seeds stored in the PlantBank, like any seed we might have at home, are only potential lifeforms. A surprising number simply won’t germinate, despite our efforts. Given the PlantBank represents some of our finest efforts at conserving native plant species, there’s a lot more work to be done on finding the best ways to nurture seeds for revegetation if we want to repair the Earth.

“There are mysteries of seeds and plants that aren’t figured out yet,” she explains. “It’s not a done deal that we can just plant more. We all need to be doing everything we can if we want the future to be hospitable for generations to come.”

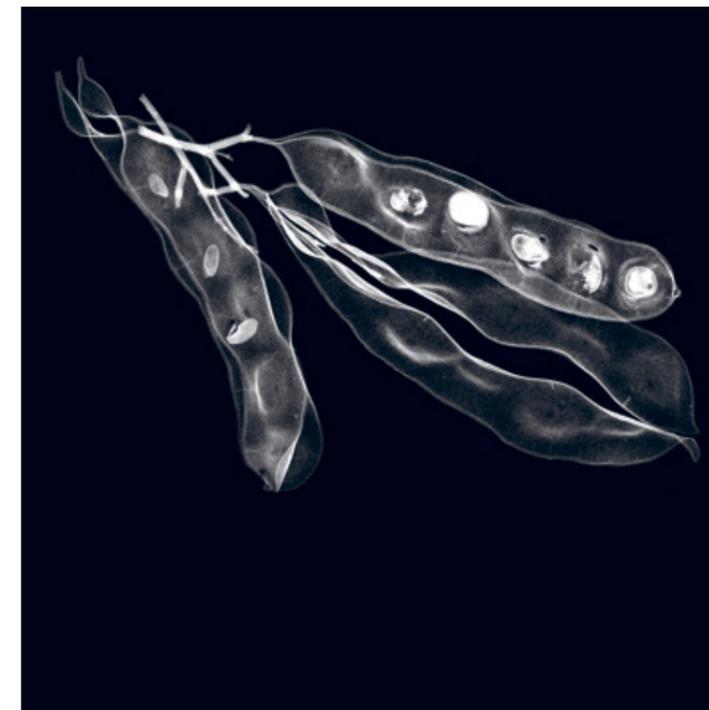
Kaleigh enjoys sharing her new-found knowledge about the fragility of nature with everyone who sees her art or hears her talk at a public event, hoping that they will choose to live a life that’s better for the environment.

As well as regularly visiting the PlantBank, Kaleigh is exploring other life-improving research, such as experiments with EEG



(electroencephalogram) devices at Western’s Campbelltown campus aiming to discover more about the causes and potential new treatments of dementia. And she’s particularly grateful for the guidance of her mentor Dr Michelle Catanzaro, Senior Lecturer in Design at Western’s Parramatta campus, who has introduced her to incredible research programs across the University community.

“Everyone at Western is very welcoming, allowing me to come out to meet them, taking some time out of their day to show me around,” she says. “Each opportunity leads to another one, helping me with my work directly or giving me access to their space or their research. I’ve learned there’s a lot of trial and error in areas such as science – and in a lot of ways that makes me feel like my own practice is okay too. We’re all trying things and hoping for the best.”



Images:

1. Kaleigh Rusgrove, photo by Sally Tsoutas.
2. Australian PlantBank, photo by Kaleigh Rusgrove.
3. Hawkesbury Institute for the Environment, photo by Kaleigh Rusgrove.
4. Australian PlantBank, image by Kaleigh Rusgrove.
5. Australian Botanic Garden, Mount Annan, photo by Kaleigh Rusgrove.



Running *her own* race

WORDS BY DAMIEN MURPHY
PHOTO BY SALLY TSOUTAS

School principal and Western alumna, Nicole Wade, is perfectly placed to set the right example.

One of Nicole Wade's family stories concerns her barefooted grandmother, a proud Nyoongah woman from the West Australian wheat belt, beating the champion athlete Shirley Strickland during their school days.

Strickland went on to win medals at three Olympics, but "Nan" Joan Eggington was precluded from representing Australia; her people were denied citizenship until the 1967 referendum.

Her granddaughter clearly inherited the fleetness of foot.

Nicole remembers being chased by the principal when she fled home after children at Villawood Public School called her ugly because of her dark skin; "Running from the principal was the family joke because of Nan."

The sense of not belonging bit deep. By 16 she was pregnant, but her son's arrival somehow sharpened her focus and she enrolled at Dover Heights Distance Education Centre.

At 19, just five days after her second child's birth, a daughter, Nicole sat the HSC biology examination. She achieved a UAI of 94.5 and was dux.

Among many opportunities available to her, Nicole opted for a Bachelor of Education (Primary) at Western Sydney University.

“Every child at our school, regardless of background, should know Australia's true history and be taught Aboriginal history... they wanted Aboriginal voices included in every decision that's made within the school community.”

NICOLE WADE

BACHELOR OF EDUCATION (PRIMARY), 2005

"I felt that I could have chosen many different universities and many different pathways but Western Sydney was the really obvious choice. It was part of my local community growing up in Villawood", she says.

She blossomed, winning the Neil and Betty Hunt prize for outstanding academic practice and teaching performance. In her final year she was awarded a University Medal.

Now 38, Nicole is a community leader in ensuring Indigenous voices are heard in determining their own solutions rather than, as she says, "having things done to us" by mainstream Australia.

She is principal of Campbellfield Public School in Minto, where the school population (including 43 Indigenous children) has doubled in her five years in the job.

The school has a diverse enrolment but Nicole's success, both as a role model and in championing diversity, has prompted out-of-area applications from Aboriginal and Torres Strait Islander parents seeking recognition of their children's custodial and cultural education.

"Our Student Representative Council came up with its own Statement of the Heart - every child at our school, regardless of background, should know Australia's true history and be taught Aboriginal history... they wanted Aboriginal voices included in every decision that's made within the school community," she says.

"And if 10 to 12-year-olds can get the idea...this positions our future to be in better hands in terms of listening to Aboriginal voices and having that perspective in decision making."

Nicole acknowledges Associate Professor Geoff Munns and former Senior Lecturer Terry Mason as pivotal mentors.

Terry, she says, being Aboriginal, made her realise she could use her culture, heritage and history in the classroom.

"They were something like a weapon in that they provided great drive, a great knowledge base, a great understanding of the system," she says. "Being part of a marginalised community, you actually have a deep understanding of some of the complexities that children face coming to school."

Nicole reconnected with Associate Professor Munns five years after graduation when, as an assistant principal at Busby Public School, she participated in the University's Fair Go Project to develop a student engagement pedagogy for teachers in low socio-economic status schools. "I still use those research skills (learned in the project) every day," she says.



▶ See this story
come to life

Heatwaves and eye-watering power bills are a fact of life in Western Sydney. But Dr Sebastian Pfautsch says simple tweaks around the home can help us all keep our cool.

CAN'T STAND THE HEAT? PLANT A TREE.

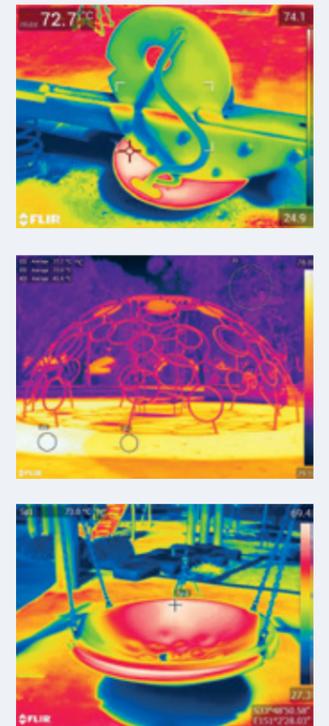
WORDS BY EMMA MULHOLLAND
PHOTO BY SALLY TSOUTAS

It's not your imagination: Summers in Western Sydney are getting hotter. And climate change is only part of the problem, according to urban heat expert Dr Sebastian Pfautsch, a Senior Research Fellow at Western.

"Urbanisation itself increases the temperature in cities," he says. "When you replace paddocks and bushland with roads and buildings, you lose those open, pervious surfaces that take up rainwater, evaporate it and generate a cooling effect."

In his most recent research, Dr Pfautsch has been measuring microclimates throughout the region, installing 360 heat sensors in Parramatta, Cumberland and Campbelltown. And he's been surprised by the results. "During a heatwave, temperatures across Parramatta can vary by 8°C to 10°C."

Dr Pfautsch hopes government bodies will use this information to combat hot-spots and better allocate emergency services. But, he warns, there's only so much those in charge can do. "Private citizens need to help improve the heat



resilience of their suburbs; about 80 per cent of the land is privately owned and that's where we can get massive change."

Where to start? Plant a tree – and water it regularly.

"Evapotranspiration from trees is actually the best air conditioning system we have for urban spaces; you just have to provide sufficient water to make it work." Also consider a water feature and, when renovating, be meticulous about the materials and colours you choose (fake lawns and black roofing is asking for trouble).

Earlier this year, Dr Pfautsch's research made headlines when he revealed common playground surfaces, including AstroTurf and soft-fall rubber, can heat up to more than 100°C on a summer's day. "The injuries from these materials are horrific," he says. "We have reports of toddlers with second-degree burns on their feet."

While industry change has been slow, the work generated interest from the NSW Department of Planning, Industry and Environment, which has challenged Dr Pfautsch to turn a typical high school in Parramatta, built in the 1970s, into a "cool school".

His plans range from the simple (planting trees and installing awnings) to the elaborate (replacing a bitumen roof with a school garden). "In two years, when the work has been done, we can assess what effect it's had on air temperature and quality," he says. "Then we can grow that into state-wide – maybe even national – design guidelines."

Dr Sebastian Pfautsch • Senior Research Fellow (Environmental Sustainability)

Heatmap images © S. Pfautsch.
On this page: Hot surface temperatures in playgrounds are common. The thermal image depicts red rubber surface at 70°C. Opposite page, top: The footrest of this seesaw can become a burning hazard when used with bare feet. Middle: Light-coloured softfall rubber surface at nearly 80°C on a very hot afternoon. In contrast, surface temperature of dark leaves is only 40 °C, demonstrating the effect of transpirative cooling. Bottom: A brand new swing made from black plastic. On a 34°C summer day the surface of the bowl was 73°C. Also note the high temperatures of the rubber surface under the swing.



▶ See this story come to life



CULTIVATING A FRESHER FUTURE

WORDS BY DAMIEN MURPHY
PHOTOS BY SALLY TSOUTAS

Alice Warner • Bachelor of Natural Science (Sustainable Agriculture and Food Security), 2016

How Alice Warner made the switch to becoming a local organic farming identity, and how Western made that possible.

At 33, Alice Warner was raising a family and had been teaching in public schools for a decade. But job satisfaction had long faded.

She'd heard Western Sydney University was offering a new course, the Bachelor of Natural Science (Sustainable Agriculture Food Security) at the Hawkesbury campus.

She wondered about farming, wistfully recalling school holidays tending her grandfather's vegetable garden, and her deep pride in now growing organic food for her own family in her Springwood backyard.

She took the plunge and enrolled. Six years later, after graduating from the course, she now runs Five Serves Produce on the Hawkesbury

River flood plain at Richmond, growing some 40 vegetables, depending on the season, to sell to locals.

"The course was the best I could find," Ms Warner says. "This kind of farming, organic, small-scale regenerative is quite new. Community-supported agriculture is also quite new in Australia... (so) Sustainable Agriculture and Food Security was the closest to society's emerging concerns about the need to change the food system and food security issues."

During second year studies, a Hawkesbury lecturer alerted her to a farmhand job and she started working the 1.6-hectare block (approximately 16,000m²) that was to become her own. The farmer was growing edible organic

garnish for high-end Sydney CBD restaurants. Alice took over in 2017 and grew vegetables.

She says the course was pivotal to her business, especially the emphasis on soil science, plant nutrients, the practical experience in growing crops on campus and discussions about the survival of the Sydney Food Bowl.

Today she has a staff of five, three working in the fields and two drivers. She takes her new baby daughter to work. She also mentors Western students.

"We deliver to Parramatta, up to Blackheath and across to Kurrajong, and over to Penrith, but I don't want to go any further. There's a big

population in the West that deserves good organic food and it's much easier for the people in the city to get access to it than it is for us," she says.

"Picked today, get it today or tomorrow. That's our promise, less than 24 hours later. That's what makes us different to buying off the supermarket shelf. And you can taste that. You can also see that."

Visit fiveservesproduce.com.au to find out more about the vegetables at Five Serves Produce cultivated by Alice and her team. The farm aims to be a welcoming place where the local community can meet their farmer and learn more about how their food is grown.

Discover more about Western's work in environment and sustainability at westernsydney.edu.au/dvcresearch/dvc_research/research_themes/environment_and_sustainability



▶ See this story come to life

WESTERN

TELLING THE STORY OF WESTERN

Western Sydney's time has come, and now is the time to speak up, says Dr Andy Marks.

WORDS BY DAMIEN MURPHY
PHOTO BY SALLY TSOUTAS

Western Sydney University has constantly evolved in the 30 years since it was established but the future promises greater change with more accessible campuses and bolder partnerships with other universities, according to the Assistant Vice-Chancellor, Dr Andy Marks.

Western started as a series of campuses. New ones were later opened in Parramatta and Liverpool CBDs. A third CBD campus, Bankstown, is slated for 2022.

That in itself is a radical transformation. The University is not walking away from the traditional, "rolling hills campuses". However, there are plans to position Western right in the

heart of where people do business, developing larger partnerships with industry for more on-the-job student experience while studying.

"It's unique, and it's only happening here in Western Sydney."

Dr Marks grew up in Pendle Hill, and says that, in his current role, telling the University story in 14 Federal electorates and convincing politicians of the merit of Western Sydney University is a "natural fit".

"I'm from the region so I know how to stand up and fight for it. And sometimes you have to fight for Western Sydney because we don't feature as much as we should," he says.

With 65 per cent of students the first in their family to attend university, Western is one of Australia's bigger tertiary education agents of social change. When someone has access to education, there is a ripple effect within their family, and even their community, as they lead an inspirational path and prove that a different future is indeed possible.

"The battles we fight here are not just about a fair go but to make sure government is aware that when they make big promises about employment and 'livability', the surest ticket to both is education," Dr Marks says.

Caps on enrolments and the imposition of efficiencies has made telling the Western

Sydney University story more difficult according to Dr Marks. "Tertiary education, is Australia's greatest services export and could be the bulwark against the coming international downturn."

"There's an attitude in some sectors of government that Western Sydney will just cop it. We're not asking for more, we never have, but the fundamental pitch is to use the evidence to make sure that Western Sydney at the very least gets its fair share."

Dr Andy Marks • Assistant Vice-Chancellor



GROWING WITH THE REGION

WESTERN GROWTH is an exciting initiative of the University, that will bring the highest quality educational opportunities and world-class research expertise to Australia's fastest growing region.

Over the next 20 years, the region's population is expected to increase by **ANOTHER MILLION PEOPLE**, contributing more than half of Sydney's overall expected population growth.

Western Sydney University is aligning with Western Sydney's growth by embedding campuses in the CBDs of the regional city centres of **BANKSTOWN, LIVERPOOL, PARRAMATTA, PENRITH, AND WESTMEAD.**

The new **ENGINEERING INNOVATION HUB IN PARRAMATTA CBD** – a joint venture between Western Sydney University and the University of NSW – and the new Bankstown CBD campus will assist industry to develop smarter ways of working.

Western Sydney University's **LAUNCH PAD** is providing support and mentoring for the next generation of entrepreneurs, connecting them to research, facilities and equipment across the University.

At the planned **AEROTROPOLIS** at the new Western Sydney Airport, the University will be at the forefront of new research to power the future of Western Sydney's industries and people.

Western's LEAD conference is designed to help students prepare for careers in a changing world – and perhaps even become change makers themselves. Themes explored during the program include finding your authentic voice, leading through change and confidently navigating networking.

John Refalo, Bachelor of Business (Accounting) graduate, spoke on an alumni panel about future work at a LEAD conference attended by current Psychology student Kiara Osborne. Here they reflect on their respective journeys to finding what matters in life.

MENTOR: JOHN REFALO
INSOLVENCY ACCOUNTANT

"If it wasn't for Western I wouldn't be where I am today. I really benefited from having lecturers and tutors who had actually worked in the real world. Being a part of LEAD meant I could do the same, giving back to my university by sharing real life experiences with current students, to give them the heads up about what it's like at work.

While there was a lot of diversity on the panel, I was the only Business graduate there, so I think I could really resonate with students from Law and Accounting especially. I shared my experiences in working for different firms, dealing with all the management styles, and navigating around that while climbing the ranks. One of the challenging questions during our panel was about dealing with difficult managers. The advice I gave was that you've got to be professional in how you behave, though you need to back yourself. If it's not the right place for you, don't stay – consider your options and start looking at other opportunities, otherwise it will impact your life outside work.

I've found that the better work environments have diversity, especially at the leadership level. When people can really be themselves, they're happier. It's also true in networking; learn to listen to other perspectives and be yourself, be genuine.

Something I also encouraged students in the LEAD program to do is to be more active in university life, because it will really benefit you down the track as you continue to network."

WORDS BY STUART RIDLEY
PHOTOS BY SALLY TSOUTAS

LEADership Lessons

BE TRUE TO YOURSELF

John Refalo • Bachelor of Business (Accounting), 2006

Kiara Osborne • Diploma in Arts/Bachelor of Arts

MENTEE: KIARA OSBORNE
CURRENT STUDENT

"I took a Pathway (course credit) to university because I'd left school quite early and Western really helped me make that transition.

Getting into the LEAD program was empowering for me because it paved the way to new opportunities. I chose the program because I wanted to learn new ways of enhancing my leadership skills and explore different paths where I could learn and grow.

LEAD gave me a lot of opportunities for networking and it was rewarding to hear from people who were accomplishing their goals. Most of their back stories were humbling, which really resonated with me.

I had the opportunity to speak with some of the alumni presenters, and the main take-away was to 'Stop being hard on yourself; you have all the time in the world to pursue your goals. Just give 100% to the things that matter.'

John Refalo was really open about choosing positive workplaces. He talked about how to handle a toxic workplace and I thought what he said was really powerful, especially coming from someone in his field. He said, 'Don't enter a workplace that's toxic, or at least go in there knowing what you're in for'. It's like the saying, 'Your vibe attracts the tribe'.

I think it's really important to talk about those things in the workplace and be open about them so that people don't feel like it's just them. All of the LEAD alumni panel members inspired me with their can-do attitudes. I know how isolating it can be not to have support, so my goal is to have my own clinical practice because I have a passion for empowering people.

My advice for anyone who feels that university might be out of the picture, is to stay true to yourself – and never be scared of asking questions."

Lead, Engage, Aspire, Develop (LEAD) is a free leadership program, which gives aspiring student leaders an opportunity to build leadership capacity and interpersonal communication skills to increase their employability through learning from graduate mentors. Find out more at westernsydney.edu.au/lead

ON A MISSION TO HELP AT-RISK FAMILIES

WORDS BY DAMIEN MURPHY
PHOTOS BY SALLY TSOUTAS

“ We need to be more adaptive, more flexible in the way that we support people who are homeless. If we just work with them a little bit more, this would make everybody’s job a lot easier. ”

DR ELIZABETH CONROY

RESEARCH FELLOW AT THE CENTRE FOR HEALTH RESEARCH,
SCHOOL OF MEDICINE



Dr Elizabeth Conroy is changing the way we think about homelessness.

Homelessness in Australia has become a stark counterpoint to a society hooked on constant improvement in the quality of life.

But curiously, a surprisingly large group of Australians are at risk of becoming homeless, according to Dr Elizabeth Conroy, a Research Fellow at the Centre for Health Research, Western Sydney University School of Medicine.

Dr Conroy led the groundbreaking Mission Australia Centre Kingswood (MAC-K)

family homeless project aimed at determining how some avoided homelessness despite experiencing similar risk to others who ended up on the streets.

“What’s not realised is that the general population is easily at risk of becoming homeless at some point if things don’t go right for them”, Conroy says.

“You only have to have a relationship breakdown, maybe move out, or lose your job while still trying to support children.

“Families make up just over half of all people accessing specialist homelessness services in Australia. The 2016 Census estimated 116,427 were homeless, a 14 per cent increase on the 102,4539 people on the 2011 Census.”

Dr Conroy says the MAC-K project’s most surprising finding was the resiliency of the families who took part in the study.

“Circumstantial problems, often going right back to childhood, set these families up for greater vulnerability,” she says.

“But despite all that, this group should not be seen as a problem. They should be seen as a group that’s highly resilient and we should be tapping into that resilience rather than trying to fix them as problems.”

Citing a young woman in the study who was attempting to leave a violent relationship only to be told by service providers she could lose her baby if homeless, Dr Conroy says that while housing was vital, real support, not barriers, was essential. “We need to provide

that support all the way through, not just when people become homeless”.

She says the stigma of homelessness continues to play out in the blame the victim mantras that pepper public debate on the issue.

“The politicians and leaders need to take some responsibility for this. They use emotive language... like insinuating that people on Newstart or parenting payments are rorting the system.

They need to be more careful in the way they discuss these issues because they contribute to a discourse where people see the homeless as problems and the only way to fix those problems is to become more stringent and more bureaucratic.

“And that is the exact opposite of what we need to be doing. We need to be more adaptive, more flexible in the way that we support people who are homeless. If we just work with them a little bit more, this would make everybody’s job a lot easier.”

JUST WHAT *the* DOCTOR ORDERED

How medical science took Ben Harper
from Western to the world.

WORDS BY STUART RIDLEY
PHOTO BY SALLY TSOUTAS

Dr Ben Harper is determined to improve cancer patients' lives by investigating new treatments with fewer side effects.

He is keen to specialise in oncology (research, diagnosis and treatment of cancer) after he's trained as a physician at John Hunter Hospital in Newcastle.

"There are always research opportunities, even if I'm not in the laboratory," he says. "I'm working with patients and doing clinical research, which is really interesting."

Dr Harper loved chemistry and physics in high school, though didn't get the marks to study medicine straight away. Instead, he chose Medical Science at Western as a base to build on, and has not looked back.

"The best advice shared with me is that if you don't know where you want your career to go, build on your marks to open up your options," he explains. "Western is rated highly and I

believe offers a much better lifestyle compared to city campuses too."

Professor Janice Aldrich-Wright at the Campbelltown campus, whose research into anticancer agents has gained international recognition, encouraged him to make something of his passion for chemistry. And she told him to knuckle down for Honours in Medical Science.

"I guess she saw something in me as a researcher I hadn't seen in myself yet," he says. "She motivated me to embrace research culture; it's exciting science that could make a big contribution to improving society, one medication at a time."

Dr Harper also gained his PhD under Professor Aldrich-Wright's supervision, testing platinum-based anti-cancer drugs that can bind to DNA. One molecule he made added a fluorescent tag to an anti-cancer drug so he could study its movement into cells and he found it was quite effective at killing cancer cells.

Support from Western allowed him to present those findings in Sweden, including to biochemist Professor Roger Yonchien Tsien who won a Nobel Prize for his development of green fluorescent protein. The University's network also opened doors for a career in medicine.

"After my PhD I was offered a research job in Israel through collaborative work of my professor, working on platinum-based anticancer drug design. I was able to bring the research I had worked on at Western to an international platform and it also enabled me to get into the medical degree" he says.

"There's a lot of interest in many of these 'biological drugs' which don't have quite the toxic profile of the classical chemotherapy drugs. If we can make drugs with fewer side effects and improve the survival of patients, that will be a great achievement."

Dr Benjamin Harper •
Bachelor of Medical Science, 2008
Bachelor of Medical Science (Honours), 2009
Doctor of Philosophy – Science, 2013

KICKING GOALS



WHEN Abraham Majok arrived in Blacktown from a Kenyan refugee camp at age seven, he spoke little English and says he was lousy at football. Today, he plays winger/striker for the Central Coast Mariners and has two-thirds of a Bachelor of Business Administration at Western Sydney University under his belt. Here, Abraham tells us how he fits it all in at just 20 years of age.

WORDS BY EMMA MULHOLLAND
PHOTO BY SALLY TSOUTAS

WHAT DOES YOUR CURRENT TRAINING SCHEDULE LOOK LIKE?

Pre-season is a busy time. We do two sessions a day, Monday to Friday – so that’s up to four-and-a-half hours a day.

AND WHEN DID YOU START PLAYING FOOTBALL?

My mum signed me up when we came to Australia – she thought it would be a good way to integrate. But I had no idea what I was doing; we got absolutely smashed in my first game and I didn’t want to play again.

CLEARLY THAT CHANGED. DID YOU ALWAYS PLAN TO GO TO UNI?

Not really. But Mum was always telling me, “You’ve got to have a plan B.” I came to realise that football isn’t everything – and it’s not a long-term career.

WHY DID YOU CHOOSE TO STUDY BUSINESS AT WESTERN?

Business was the only subject I ever enjoyed at school, so it was a natural choice for me.

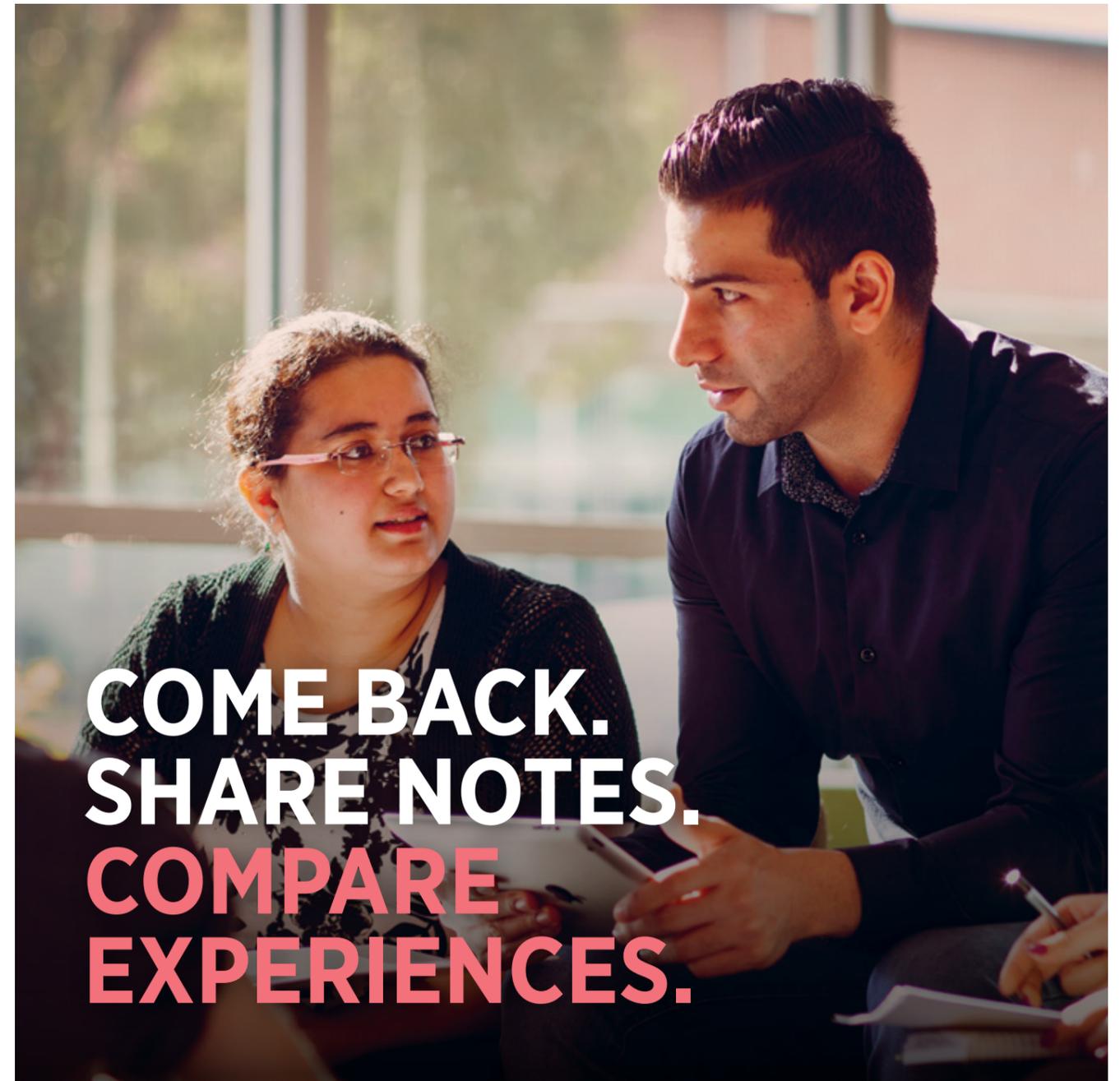
AND HOW DO YOU BALANCE WORK AND STUDY?

I have a rule: whatever I do in football, I put the same energy and focus into studying. I try to get my assessments done early; if I’m travelling with the team, I’ll work on the plane or when I’m at the hotel.

WHEN YOU SIGNED YOUR FIRST PROFESSIONAL CONTRACT – THEN WITH THE WESTERN SYDNEY WANDERERS – DID YOU FEEL LIKE YOU’D FINALLY MADE IT?

No, but it was a starting point: it gave me a platform and a chance to push myself. I still feel like I have a lot of work to do to get to where I want to be in life.

Abraham (Manyiel Riel) Majok • Bachelor of Business and Commerce



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