THE UNIVERSITY of ADELAIDE

lumen

The University of Adelaide | Alumni Magazine
Winter 2016

A taste for **success**

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The University of Adelaide Alumni Magazine
www.adelaide.edu.au/lumen

The *Lumen* masthead is derived from the University of Adelaide motto "Sub Cruce Lumen" – the light (of learning) under the (Southern) Cross.

Studying at the University of Adelaide means being part of a rich tradition of excellence in education and research, with world-class academics and a vibrant student life.

Seek Light.
The light of new knowledge.

THE UNIVERSITY of ADELAIDE

Message from **the Vice-Chancellor**

The winter issue of *Lumen* celebrates not only the achievement and academic excellence of our alumni but showcases the impact of some of the world-changing and unique insights being delivered by our leading researchers.

Read how scientists at the Institute for Photonics and Advanced Sensing (IPAS) are harnessing the power of light to make the world a safer and healthier place, and discover some of the key areas where the Centre for Automotive Safety Research (CASR) is helping to drive the road safety agenda.

We also put the spotlight on some of our brightest and best students, who with your invaluable support have been given the opportunity to meet their full academic potential through scholarships.

Some of our alumni in this issue have reached their potential through very interesting and non-linear pathways, like Corinna Steeb, who moved from the world of medical science to become CEO of Prancing Pony Brewery and Ezani Farhana Md Monoto who successfully juggles a career in dentistry with her life as a celebrity chef.

And we are proud to feature a family agricultural science dynasty that started here in the 1960s with one of our first female graduates in that field, Mary Thomas.

The common and inspirational theme among these stories is the love of life-long learning that the University instils in its students and the resulting graduate attributes such as critical thinking, problem solving and leadership that facilitate their long term success.

I hope you enjoy reading this issue of *Lumen*.

Professor Warren Bebbington
Vice-Chancellor and President

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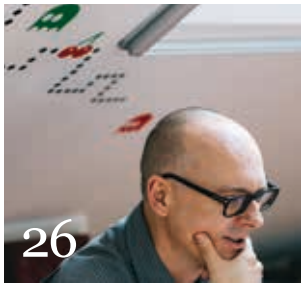

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Circulation:
36,100 in print, 23,870 online subscriptions

The University of Adelaide, SA 5005 Australia, CRICOS Provider Number 00123M

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The University of Adelaide ISSN 1320 0747
Registered by Australia Post
No 56500/00097

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Front cover image:
Dr Ezani Farhana Md Monoto, winner of the first season of MasterChef Malaysia. Read her story on page 25.

WARNING: Aboriginal and Torres Strait Islander readers are warned that this publication may contain images of deceased persons.

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story by **Fiona Solente**

Celebrating our alumni community

Congratulations to our 2016 Alumni Medallists

Our alumni make an impact on the world — their noteworthy accomplishments benefiting both society and our University community.

Each year, the contributions of our alumni are formally recognised by awards, including the Australia Day and Queen's Birthday Honours, and international awards such as the Rhodes Scholarship.

The University also celebrates the outstanding contributions of our alumni through the Distinguished Alumni Awards, the James McWha Award of Excellence, the Postgraduate and Honours Alumni University Medals and Alumni Fellow Awards.

The Honours Alumni University Medal and the Postgraduate Alumni University Medal recognise the outstanding academic merit of the newest graduates of the University. The nominees for the medal are honours and postgraduate students of outstanding academic merit from each faculty.

> "At the University I was able to work closely with world leaders in my field and learn from them in an incredibly supportive environment. It was the best possible start to my academic career."

Cathryn McDonald — Honours Alumni University Medallist

Cathryn completed a First Class Honours Degree of Bachelor of Engineering (Electrical & Electronic) and received high distinctions in every course as well as multiple academic prizes and scholarships.

"I cared a lot about the success of my Honours project, and it's a good feeling that our team achieved something special with it. It's great to join so many outstanding women in STEM fields who have won this award over the years," says Cathryn.

Dr Phiala Shanahan — Postgraduate Alumni University Medallist

In 2012 Phiala was awarded the Honours Alumni University Medal and this year took out the Postgraduate Alumni University Medal.

While undertaking her PhD in just three years, Phiala published 11 journal articles and a further six papers in conference proceedings.

"At the University I was able to work closely with world leaders in my field and learn from them in an incredibly supportive environment. It was the best possible start to my academic career," says Phiala.

Phiala finished her PhD (Physics & Astro) in 2015. She is now a Postdoctoral Research Associate at the Massachusetts Institute of Technology in the US.

Top: Phiala Shanahan was presented her Honours Alumni Medal Certificate by the Vice-Chancellor at the 2012 Alumni Recognition Ceremony

Above: Cathryn McDonald with Deputy Chancellor, Ms Di Davidson AM

Find out more about the many ways the University recognises our alumni for their noteworthy accomplishments: **www.adelaide.edu.au/alumni/recognised/**

story by **Fiona Solente**

Introducing international students to an **Australian way of life**

The University recognises that international students can face isolation and loneliness when moving to a foreign country — leaving family and friends behind, and juggling a new language with its unique lingo.

To help students feel more connected to their new surroundings, the Australian people and culture, the Experience Adelaide program invites alumni, staff, and domestic students to meet with an international student, to make them feel welcome and more at home.

To date, more than 600 new international students have been paired with members of the University community and more volunteers are needed.

"It is not where you go or what you do with the student that matters — it is about enjoying the shared company and our different cultures. We have a great city, country and way of life that we can share with our international students," says Experience Adelaide participant, Gloria Prior (Grad Cert Mgmt 1996).

Involvement does not need to be time consuming — interaction with a student can be as simple as having them over for a meal, meeting them for a coffee or showing them some of the local sights.

In return, you will have the opportunity to learn about another culture and country, and can take great satisfaction in knowing you have helped a new student feel welcome.

"I love the Experience Adelaide program — it provides me with an opportunity to get to know more about the Australian culture," says Xie Xie, a Masters student from China.

"I am paired with a very nice University staff member, who invited me to the cinema as we both love movies. It's good to know that we have the same sense of humour and we have many things to share with each other."

To find out more about Experience Adelaide or to register your interest, contact Annette Wheatley at annette.wheatley@adelaide.edu.au or call +61 8 8313 2284.

Below: Alumni family, Sue and Richard Temple (Dip Ed 1978, Grad Dip Comp Sc 1983) with their paired student Indu Kirihene

Get involved: **www. international.adelaide.edu.au/life/experience-adelaide/staff-students-alumni/**

story by **Ian Williams**

Spotlight on **IPAS**

Light is all around us and most of us take it for granted. But scientists at the Institute for Photonics and Advanced Sensing (IPAS) view it differently.

For them it's a powerful tool and they are harnessing that power to make the world a safer, healthier and wealthier place.

Researchers from numerous disciplines are working with industry and government to build unique, ultra-sensitive sensors to provide practical solutions across multiple fields. Here are some of their projects.

www.adelaide.edu.au/ipas/

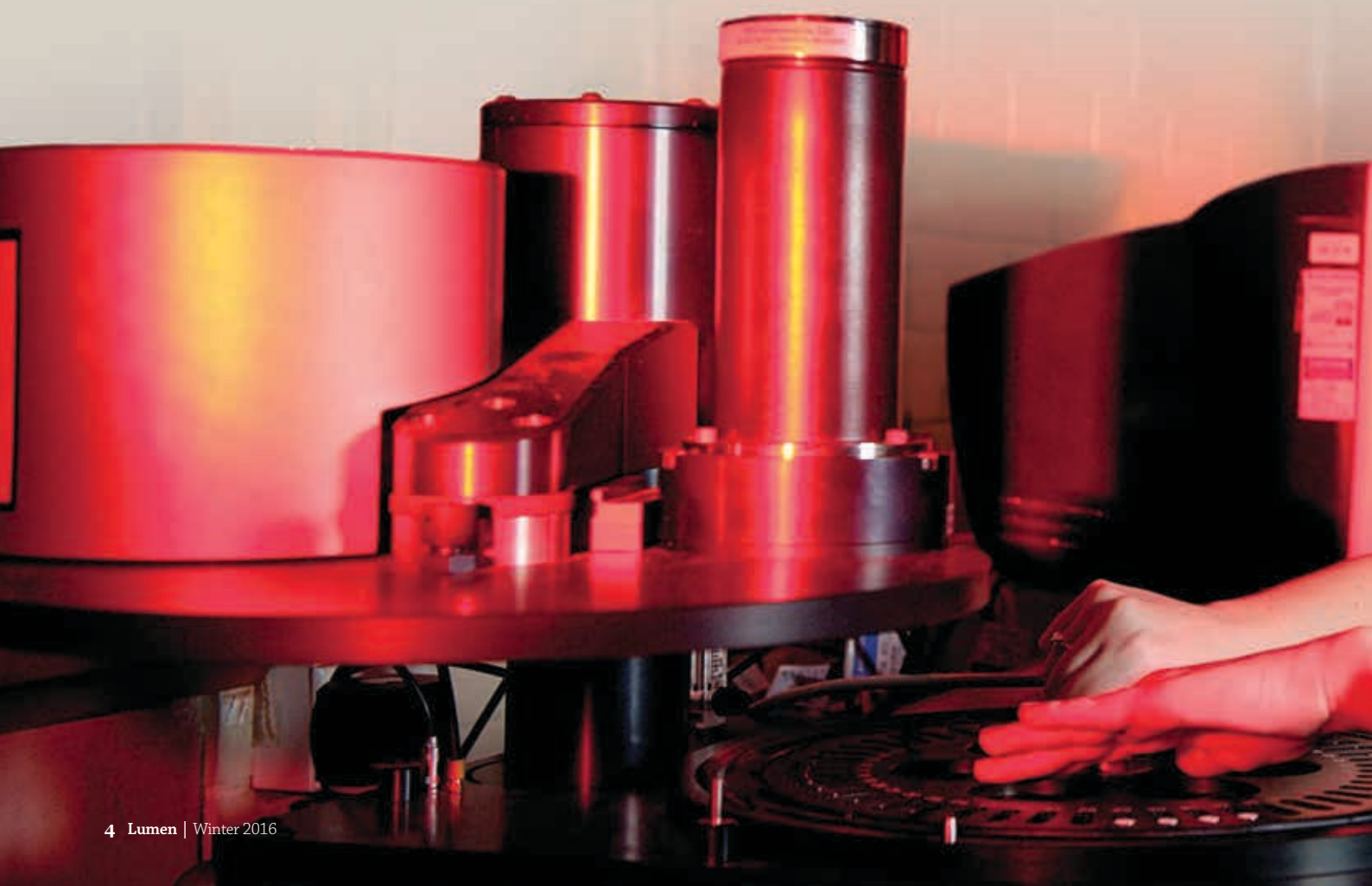
Surgery probe cuts cancer trauma

An optical fibre probe being developed by IPAS should improve the accuracy of breast cancer surgery and reduce the trauma for patients.

Currently there is no reliable technique for assessing if tissue is healthy or cancerous during surgery, with many patients forced to endure a follow-up operation to remove tumour tissue that was missed.

"We're working on an optical fibre probe that can be used by the surgeon during the initial surgery for an instant assessment of whether the tissue is cancerous or not," said Postdoctoral Research Fellow Dr Erik Schartner. "The tip of the probe simply has to be placed against an unknown area to receive a reading."

"We're hoping this will find broad use by surgeons and reduce the worry and trauma to patients who may have to face additional surgeries due to the limitations of existing medical devices."



Shining light on ancient events

An IPAS research team is shedding new light on the modern and ancient worlds through its advances in luminescence dating.

The process is being used to provide exciting new insights into areas of great interest such as the dating of earlier climate change events and the human colonisation of Australia.

"Our research is also helping investigations into a third controversial topic – the timing and cause of the mass extinction of Australian megafauna," said Adjunct Professor Nigel Spooner.

Luminesence dating measures radiation and energy absorption in samples to provide the age of events from a few months to hundreds of millennia. It's become a critical tool in areas such as palaeontology, archaeology and the earth sciences.

"The work of our lab is helping to better understand the physics of luminescence to provide even greater accuracy and extend its use in other novel applications," Nigel said.

Below: Jillian Moffatt using a luminescence reader for environmental radiation dosimetry using glass

Support for the food and beverage sector

Technology developed to identify bacteria in hospitals has been adapted by IPAS and the Adelaide Proteomics Centre to assist the local brewing industry in improving quality control practices.

Beer contaminated by spoilage microorganisms can cost brewers thousands of dollars for expensive recalls and cause immeasurable damage to brand reputation.

Dr Florian Weiland said IPAS was using mass spectrometry profiling as a rapid and cost-effective way of identifying spoilage yeast and bacteria during routine testing at various stages of beer production.

"While beer-spoilage microorganisms are harmless to human health, they produce off-flavours in the beer. This technology allows smaller breweries to conduct more extensive testing of their products that would otherwise be cost-prohibitive," he said.

IPAS has been working with Coopers Brewery to further develop the technology and is also involved in a separate initiative with Mismatch Brewing Co, The Hills Cider Company, Ashton Valley Fresh and Adelaide Hills Distillery.

Other microbrewers and small-batch beverage companies can also have samples tested using a fee-for-service program.

"Eventually we want to expand the technology for the broader SA food industry, particularly dairy and smallgoods producers," said Florian.

"Our research is also helping investigations into a third controversial topic – the timing and cause of the mass extinction of Australian megafauna."

Sniffing out disease

A super-sensitive laser system dubbed an optical dog's nose is being developed by IPAS scientists to 'sniff out' disease in a person's breath.

The optical frequency comb analyses breath molecules to detect evidence of disease before any external symptoms are showing.

"Breath analysis is a relatively new field with studies around the world demonstrating that diseases such as lung and oesophageal cancer, asthma and diabetes can be detected in this way," said IPAS Director Professor Andre Luiten.

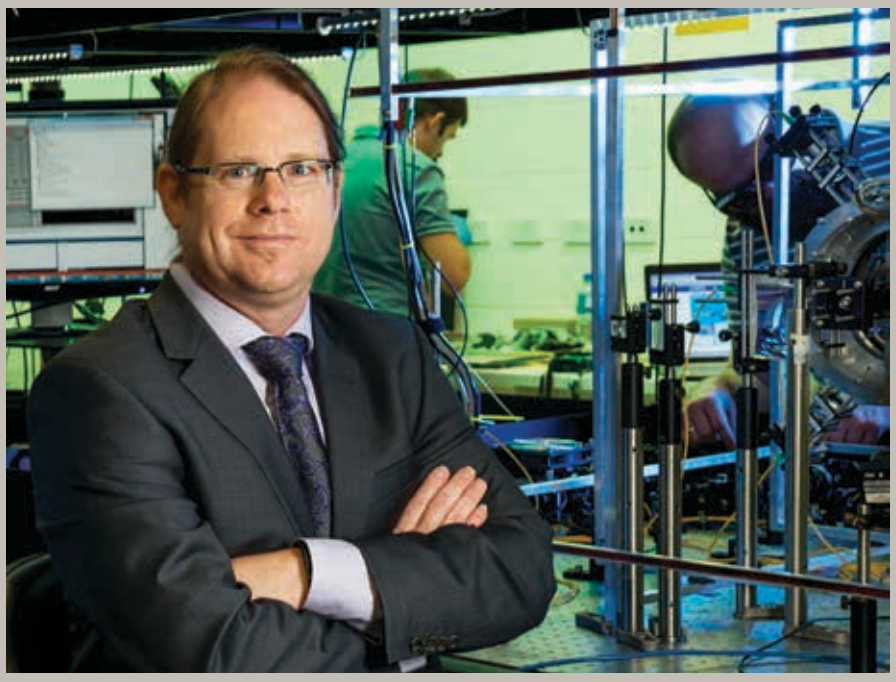
The technology being developed by IPAS sends up to a million different light frequencies through each molecule to reveal its unique molecular fingerprint.

"The system could lead to broadscale health screening because it can test for a range of molecules at once and offers almost instant results," said Andre.

The team hopes to have a working prototype within two years and a commercial product by 2020.

Andre thanked the SA Government for supporting the project through the Premier's Research and Industry Fund.

Below: IPAS Director Professor Andre Luiten in the Precision Measurement Laboratories, The Braggs Building



Helping prove Einstein right

Scientists at IPAS have played a key role in proving the existence of gravitational waves, ripples in the fabric of space-time first predicted by Albert Einstein a century ago.

The technological triumph earlier this year is sweet success for Associate Professor Peter Veitch, the University's Head of Physics, who has spent most of his working life trying to detect these elusive waves.

Peter was part of an IPAS team that provided support for the international LIGO Scientific Collaboration. IPAS researchers developed ultra-high precision optical sensors to correct the distortion of laser beams within the Advanced LIGO detectors.

This enabled the high sensitivity needed to detect minute signals produced by the cataclysmic merger of two black holes more than one billion years ago.

"I've spent nearly 40 years working towards this detection which could lead to dramatic changes in our understanding of the universe and its evolution," said Peter.

Scientists strike gold

Portable gold detection equipment 100 times more sensitive than existing technology has been developed by an IPAS research team.

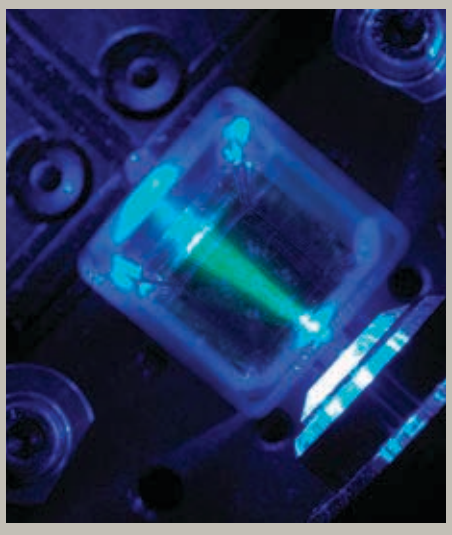
Using light in two different processes – fluorescence and light absorption – researchers have shown they can detect minute traces of gold in water at less than 100 parts per billion.

The technology will allow exploration companies to test for gold on-site at the drilling rig with much greater accuracy and speed.

"The presence of gold deep underground is estimated by analysis of rock particles from exploration drill holes but when it's in very low concentrations that's extremely challenging," said post-doctoral researcher Dr Agnieszka Zuber.

"Current portable methods for detection are not sensitive enough and the more sophisticated laboratory systems can take weeks to produce results."

The easy-to-use IPAS sensor aims to deliver a result within an hour at much lower cost. The research is funded by the Deep Exploration Technologies Cooperative Research Centre and the technology is currently being tested on rock samples with promising results.



THE UNIVERSITY of ADELAIDE

ADELAIDE UNIVERSITY SPORT

NELSON TEAMWEAR

INTERSPORT JOGGERSWORLD

story by **Ian Williams**

Go The Blacks

Sport has been an integral part of the University of Adelaide since the very early days.

Our proud sporting tradition began in 1881 when the Adelaide University Boat Club was launched and was soon followed by tennis and lacrosse clubs. Then in 1896 the three clubs jointly established the Adelaide University Sports Association.

Today Adelaide University Sport – otherwise known as The Blacks – has nearly 40 sporting clubs involved in everything from fencing, gridiron and gliding to kendo, motorsport and scuba diving. *Lumen* caught up with three of our most active sports enthusiasts.

www.adelaide.edu.au/sports

Keeping it in the family

Playing sport for the University of Adelaide can become a real family affair.

Intensive care specialist and Adelaide University Blue winner Dr Peter Sharley notched up 88 games with the University Football Club – the 'Mighty Blacks' – and has now been overtaken by his son Simon with 120 games.

Such father-son combinations are not unusual in the 110-year history of the club and now that two women's football teams have joined the seven senior men's teams, neither are father-daughter pairings.

The Blacks celebrated this unique connection in May with a photo shoot of 20 father-son and daughter duos currently active at the club. They included University graduates John Parker and his son Sam who have each played more than 200 games.

"It really is quite amazing and highlights the great and rich history of the club," said Peter. "And it's more than just family connections. The Blacks have an enormous past player network with membership emails going around the world which can be very useful for career contacts."

Peter specialised in both anaesthesia and intensive care medicine after graduating in medicine at the University in 1985, and was Director of the Royal Adelaide Hospital critical care retrieval service and Deputy Director of intensive care for many years.

In 2003 he was awarded an OAM for his medical support to victims of the Bali bombings and has recently held the position of President of the Australian Medical Association in SA.

Peter played football at the open state amateur level and was awarded the University's premier sport award, a Blue, in 1983. Today Peter is still involved as the football club's Senior Vice President and club doctor. He's been a member of the Blues and Sports Scholarships Committee for nearly 30 years.

Peter continues to be a big promoter of the importance of sport to balance study and also work.

Below left: Fathers, sons and daughters of current Adelaide Uni Football Club (AUFC) players 2016

Below right: Simon and Peter Sharley

Sport the perfect balance for study

Mad-keen cyclist Natalie Redmond recently travelled to Europe to cycle in mud and snow for six weeks.

It's all part of the fun of cyclo-cross and Natalie was there to compete in the World Cup and World Championships.

The engineer and law graduate is passionate about her sport and when she found there was no cycling club at the University of Adelaide she linked with a couple of friends and started one.

That was in 2009 and after 18 months the club was officially affiliated with Adelaide University Sport where she was awarded a coveted Blue.

Natalie was vice-president of the club during her time at the University and has seen its membership grow to between 30 and 40 members today.

"I really felt that I was contributing something through my involvement in the club as well as gaining all the benefits," said Natalie.

"When you're at university I think you've got to have something almost of equal importance to your study, whether it's sport or some other interest, otherwise you can lose perspective. You get what you give.

"Of course there's also the social benefit of being involved in a club."

Natalie is now an acoustic and mechanical engineer at AECOM in Adelaide and still finds time to cycle about 10 hours a week on trails and roads.

She competes nationally in Australia in road racing and also cross country cyclo-cross which is becoming more popular here. "We do it in Australia but it's nowhere near as muddy as Europe," said Natalie.

Choosing between golf and medicine

Pain management specialist David Cherry has the rare distinction of representing South Australia at golf, football and bridge.

It's an unusual, if not unique, combination that demonstrates his ability and determination to succeed at the highest level in all of his many interests.

The Associate Professor was awarded an AM in this year's Australia Day Honours for his service in two of these pursuits – as an academic and researcher in pain management and his executive roles in golf.

As a young man David found himself having to choose between the two – professional golf or medicine.

"All the people I played against turned pro but I decided to finish medicine and that was the best decision I ever made," he said. "I did think about becoming a professional golfer at one stage but never really seriously – medicine is a much more reliable source of income."

David graduated with a medical degree from the University of Adelaide in 1971 and went on to specialise in anaesthesia. He was director of the pain management unit at the Flinders Medical Centre for 27 years and then convenor of Medical Panels SA until 2015.

His sporting prowess is just as impressive. He was competitive at a high level in both football and cricket but really shone at golf, a sport in which he is still very active as a player and an international administrator.

When *Lumen* spoke to David he had just returned from Augusta after refereeing at the US Masters, a role he's held for the past five years. He is currently Chairman of the Asia Pacific Golf Confederation responsible for helping to organise major golf tournaments throughout the region.

story by **Kelly Brown**

Balancing study, professional sport and the unexpected

Studying psychology and joining the University of Adelaide Boat Club proved the perfect combination for Olympian Amber Halliday in her pursuit of sporting success at the elite level.

Amber's initial interest in psychology was triggered by a fascination with people and what motivates them – but she also wanted to better understand her own thought processes to help her become a better rower.

She took up rowing in year seven at Pembroke School and by year 12 was training with the South Australian Sports Institute (SASI). It was a good grounding because opportunities to compete at a higher level did not come easy.

"I really struggled – but in hindsight that was the best thing that could have happened," says Amber.

> "It was like jumping in the deep end of a pool. You would either sink or learn to swim and luckily I learned to swim."

It was in 1998, during her second year of her social sciences degree majoring in psychology, that she joined the Adelaide University Boat Club. This was the move that provided the transition she was desperately seeking into elite rowing.

"It was the perfect transition – the Adelaide University Boat Club and the University Games were exactly the level that I needed to compete at for a few years, and I was lucky enough to go to the World University Games in 1998, representing Australia and also the Adelaide University Boat Club," says Amber.

In 1999, Amber made her first Australian team – the under 23's – but it was only in 2002 when she was in a winning boat at the Senior World Championships that the Olympics seemed a possibility.

It was the same year that she returned to the University to commence a second degree, a Bachelor in Media.

While for some, taking on a media degree at the same time as trying to make an Olympic team would seem unmanageable, Amber was accustomed to setting big workloads and this became a trademark of her success.

"Looking back on it the key was to do something really hard and difficult and use that as your reference point, so that you can always refer back and say, 'oh look, I did year 12 and I was training every morning down at West Lakes and I still got to school on time every morning, so surely I can do XYZ now because I've done this really hard thing in the past and been successful'," she says.

Amber became a regular on the Australian team, representing her country at the 2004 Athens Olympics – the same year she completed her media degree – and also Beijing in 2008 before retiring.

It was after the bitter disappointment of not winning a medal at Beijing that she decided to set aside her rowing oars and took up another sport – cycling.

"We always did cycling as cross training as rowers, and rowing makes you strong for pretty much anything, so it just wasn't that hard for 'my rowing engine' to transfer to cycling," she says. "The hardest thing was picking up the skills and the tactical knowledge."

Amber enjoyed quick success. In 2009 she won the Tour of New Zealand followed by an Australian National Championship in the time trial event. Then in January 2011 her professional cycling career was cut short when she came off her bike in a life-changing accident in a support race at the Tour Down Under.

Amber has no memory of the race. She was told that she rubbed wheels with someone, fell awkwardly and landed on her temple, just below where the helmet protected her head. The impact resulted in a severe traumatic brain injury which put her in hospital for two months followed by six months of out-patient rehabilitation.

It took some time for Amber to come to the realisation that going back to sport at an elite level would not be possible. She likens this period to waking up in heavy fog where you don't have much perspective on how things really are.

While recovering in hospital Amber was brought back to her interest in human psychology. She spoke to Carmen Rayner in the University's School of Psychology, and found out about the Graduate Diploma Psychological Science. Amber was also keen to get into Honours; however the first test would be whether her brain could handle the Graduate Diploma.

"When you do a Graduate Diploma Psychological Sciences you basically do a three-year undergraduate degree in one year, a heavy load for anyone never mind someone who is in recovery from a severe traumatic brain injury," she says.

"It was like jumping in the deep end of a pool. You would either sink or learn to swim and luckily I learned to swim. I worked incredibly hard that year and made Honours – and that was a new point of reference for me."

The research component of her Honours whet her appetite for research, and Amber is now completing a PhD in Psychology under the Supervision of Professor Deborah Turnbull in the University's School of Psychology.

"Yes, it was a bit funny actually. I just like exceeding expectations – you know pretty average school rowers aren't ever meant to get to the Olympic Games and similarly people with brain injuries aren't meant to do a PhD, so of course that's what I wanted to do," Amber says.

In her PhD she is investigating how positive education can be done better so that it is more accessible for young people. Positive education is a scientifically-based way of teaching the skills of psychological health, resiliency and adaptive functioning to young people, and it shows promise as a way to counter mental illness.

Amber has also had a baby, adding another major role to her responsibilities. But with lots of experience in balancing big workloads, combined with great support from the people around her, including the University, she continues to succeed.

Top left: Amber in action before the accident

Top right: Amber Halliday (R) and Sally Newmarch (L) compete at the 2004 Athens Olympics

Safety first as researchers **cut the road toll**

Last year in South Australia 102 people died on our roads and a further 753 were seriously injured.

While these figures are too high, one thing is certain – they would have been far worse without the unique insights delivered by researchers at the University of Adelaide's Centre for Automotive Safety Research (CASR).

For more than 40 years the centre has been conducting world-class research into all aspects of road safety and its findings have had a major influence on car designs, road layouts and government policy.

This in turn has helped to significantly reduce the preventable loss and suffering occurring on our roads. Since 2004 in South Australia fatalities have decreased by 26 per cent and serious injuries by 43 per cent.

Lumen has taken a look at some of the key areas where CASR is helping to drive the road safety agenda.

Test laboratory a life saver for pedestrians

When adult pedestrians are hit by a car they are run under, not run over. This may sound like semantics, but it's a critical piece of information for vehicle designers.

CASR researchers made the revelation after an in-depth accident study which showed that the shape of a vehicle strongly influences the resulting injuries.

Their research program is supported by Australia's only purpose-built vehicle safety laboratory which specialises in pedestrian impacts.

The laboratory is the official testing facility for the pedestrian component of the Australasian New Car Assessment Program (ANCAP).

"Our Kent Town laboratory was initially developed to study the cause of brain injuries in road crashes but is now primarily used for research into the relationship between vehicle design and pedestrian protection," said Associate Professor Jeremy Woolley.

"Results from the research are proving crucial in helping manufacturers produce vehicles that are more pedestrian friendly."

Jeremy has been a senior road safety researcher at CASR since 2003 and took over as director at the end of last year.

He said the laboratory's work on pedestrian protection uses computer modelling to assess the motion of pedestrians during a collision and reconstructs head and leg impacts.

"CASR engineers designed testing machines that shoot dummy heads and legs fitted with sensors at the front of a stationary vehicle to measure the extent of injuries," he said. "They can be fired at speeds up to 80 kilometres per hour to simulate the forces in a real-world collision."

Crash investigations throw up surprises

CASR researchers are often among the first at a crash scene.

Their in-depth crash investigations are unique in the world for their level of detail – and the results are saving countless lives.

It was through such research that they discovered that even the smallest increase in travel speed is important.

"Our evidence helped convince transport regulators to lower country and city speed limits and the results have been immediate and significant," said Jeremy.

story by **Ian Williams**

> We showed that in city areas every 5 km speed increase above the 60 km per hour limit doubles the risk of being involved in an injury crash.

"Once the state lowered the default speed limit from 60 km to 50 km in built up areas the annual number of injury crashes dropped by more than 200 and pedestrian crashes fell by over 30 per cent. You can't get better proof than that."

The results are just as significant on rural roads where reductions from 110 km to 100 km per hour were found to reduce injury crashes by almost a third.

CASR's crash-scene investigations have also prompted engineers to rethink the way roadsides are designed.

Rather than clearing trees from the sides of roads – which often triggers community anger – CASR has shown that safety outcomes can be better with new barrier technology.

"CASR researchers attend about 50 road crashes every year and over the past decades we've developed an impressive database," said Jeremy.

CASR showed that over half of all fatal crashes and 90 per cent of injury crashes are the result of mistakes, inattention or lapses in judgement – not extreme behaviour.

The finding has been instrumental in helping to shape South Australia's current policy Road Safety Strategy 2020: Towards Zero Together.

Testing driverless cars

Driverless vehicles are the next big thing in automobile development – and CASR is already playing an important behind-the-scenes role.

The centre's breakthrough research into autonomous vehicle safety systems is proving a key advantage in the State's push to attract driverless vehicle technology manufacturers.

"Our state is the first in Australia to pass legislation allowing manufacturers to test autonomous vehicles on our roads and CASR will be closely involved," said Jeremy.

In the past vehicle safety has been focused largely on protecting occupants in a collision while technologies of the future are all about avoiding the collision in the first place. Research by CASR is helping to test the effectiveness of many of these systems.

Its recent research into autonomous emergency braking – a system that uses forward facing sensors to automatically trigger the brakes to avoid a collision – showed it could prevent 25 to 35 per cent of crashes.

Another world-first study of wirelessly connected vehicles found that half of all injury crashes could be avoided along with a third of fatal accidents.

CASR has also demonstrated the value of automatic crash notification technology by using its crash scene database to highlight how many lives could have been saved.

www.casr.adelaide.edu.au

Left: Giulio Ponte, Andrew van den Berg and Marleen Sommariva completing a headform test on a windscreen to evaluate the pedestrian safety of a vehicle

Below: The at-scene in-depth crash investigation team. Standing from left: Dr James Thompson, Dr Jamie Mackenzie, Dr Chris Stokes and Sam Doecke Kneeling from left: Giulio Ponte, Simon Raftery and Dr Jeff Dutschke

Photos by Jo-Anna Robinson

story by **Ian Williams**

World-first egg research leads to **new fertility treatment**

Observing the creation of life for the first time proved a career defining moment for medical researcher Dr Hannah Brown.

Hannah was in the third year of her Bachelor of Science studies at the University of Adelaide with little idea of what her postgraduate future might look like.

Then she did a small-group learning research project on ovulation.

"I was just so excited at what I was seeing for the first time – watching that spark of life, a process that I never imagined I would see," said Hannah.

"It was because I'd been exposed to this research project through small-group learning that I suddenly knew what I wanted to do. Straight after that I did my Honours in Obstetrics and Gynaecology and loved it."

Today Hannah, 33, is an award-winning scientist at the University's internationally acclaimed Robinson Research Institute (RRI) where she's a postdoctoral researcher pioneering new advances in fertility treatment.

Her work is attracting international recognition. Earlier this year she was invited to attend the Global Young Scientists Summit in Singapore – GYSS@one-north – where she mixed with 300 of the world's leading scientific minds, including Nobel Laureates and Turing Award winners.

She also met Prime Minister Malcolm Turnbull at the annual Science meets Parliament event in Canberra in March for a two-day program of professional development and networking.

Hannah's research into the importance of haemoglobin in oocytes, a woman's eggs, earned her the SA Young Investigator of the Year Award last year.

She was overseas when her mentor, RRI's Associate Professor Jeremy Thompson made the initial discovery that oocytes contain haemoglobin. He was fascinated about the role it played and invited Hannah back to Adelaide to look into the significance of the finding.

"I'd spent four years at universities in France and the US doing post doc research which was critical for my development as it exposed me to different ways of doing science," said Hannah.

"But I was ready to return home and jumped at the opportunity because it was a great fit with my previous research in ovarian biology and I realised there was much more to discover."

The role of haemoglobin in transporting oxygen and carbon dioxide in red blood cells had been extensively researched but very little was known about its importance in reproduction.

Scientists at RRI believe its key function is to deliver oxygen to the oocyte and have discovered the protein is critical for egg quality. Haemoglobin levels increase dramatically leading up to ovulation and if this doesn't happen it can impact fertilisation.

In an important breakthrough in laboratory tests, Hannah successfully added haemoglobin to mouse oocytes and succeeded in mending broken eggs.

Estimates indicate that about one in six couples will experience some form of clinical infertility so this world-first discovery could lead to treatments benefiting thousands of couples struggling to start a family.

"The observation was very exciting," said Hannah. "We made a small but significant improvement to the oocytes and resulting embryos."

Treating immature eggs is cutting-edge technology known as in vitro maturation (IVM) and differs from conventional in vitro fertilisation (IVF) when mature eggs are collected.

"IVM technology is exciting for IVF clinics because we can finish growing an egg in the laboratory which isn't quite ready for fertilisation," said Hannah. "IVM may provide another option for women and also girls who are impacted by childhood cancer for example.

"It means we can remove their oocytes and freeze them before they begin cancer treatments. I believe over the next five years there will be significant technological improvements and we'll be able to see what's happening inside the fallopian tubes.

"We are incredibly lucky to be part of the Australian Research Council-funded Centre of Excellence for Nanoscale Biophotonics, which is allowing us to create new windows into the body, to see these things happen in real time."

Hannah won an SA Young Tall Poppy science award two years ago for her other main research focus – understanding the origins of diabetes and how embryos respond to high levels of glucose during the earliest stages of pregnancy.

She's shown that the embryo is able to sense high glucose exposure while in the fallopian tube and uterus and can alter its behaviour – a metabolic profile that becomes permanently imprinted.

"We know that there are lots of changes occurring because of diabetes during pregnancy and that this is a very hostile environment for the egg and embryo to grow in.

"There's something happening in those first few days of life because a diabetic mother is far more likely to have a child with diabetes. There are about 30,000 Australian babies born with type 2 diabetes every year so it's all about breaking that cycle."

Hannah is trying to improve education around how women can improve lifestyle factors to keep their eggs in the best shape – behaviours that should start well before they think about starting a family.

Studies have shown that smoking is terrible for sperm and eggs, drinking alcohol is damaging and obese women are more likely to have overweight children.

"Fertility is also ageist. Women are born with all the eggs they will ever have and once they reach 37 egg quality is really on a rapid decline," said Hannah.

Right: Dr Hannah Brown
Inset: Hannah in the lab

> “I was just so excited at what I was seeing for the first time – watching that spark of life, a process that I never imagined I would see.”

Robinson Research Institute - healthy children for life

The health and wellbeing of every child is determined by a complex interaction of genes, environmental factors and experiences during development, starting from the moment of conception. Each of us comes into the world with unique potential, which is laid down before birth and sets the course of health over the life trajectory.

Understanding how lifestyle factors, environment and genes interact to influence reproduction, pregnancy and birth is vital for ensuring our children have the best prospects for optimal growth, effective learning and a healthy life, and are protected from chronic conditions.

The Robinson Research Institute is a collective of almost 400 internationally renowned researchers and students advancing knowledge and improving practise in human reproduction, pregnancy and child health.

Institute members focus on the early stages of life to promote health and well-being in children and families over the life course and across generations, in Australia and around the world. The research strives to enable a healthy start through pre-conception planning, nurturing the baby during pregnancy and birth, strengthening the brain and body in early life, and advancing child and adolescent health to treat and prevent disease.

If you would like to support the Robinson Research Institute to help progress our research please contact Sarah.Eley@adelaide.edu.au
www.adelaide.edu.au/robinson-research-institute/

Augustus Short Scholarships

Helping our brightest students pursue their passions

“My dad told me that he didn’t have anything to give me but my education, and that’s helped me to push hard throughout my school years to really achieve what I wanted.”

story by **Kelly Brown**

The gift of higher education through a scholarship, award or grant can change the lives of outstanding students and inspire them to make a difference in the world.

It's a gift that University of Adelaide pioneer Dr Augustus Short believed should be accessible to all students of high academic merit, regardless of birth or wealth.

Dr Short was appointed during the University's founding year in 1874 and has been remembered through scholarships offered in his name and funded through philanthropic support.

They are awarded to Year 12 students of high academic merit from rural and remote areas, including those facing financial hardship or disability which may impede their academic pursuits.

Thanks to the generous support of our donors, 11 Augustus Short Scholarships have been awarded in 2016. *Lumen* spoke to three of them: Maithili Mishra, Kenneth Jacks and Kylie Do.

Double scholarship winner

Maithili Mishra is in her first year of a double degree in Law and Health Sciences after winning two scholarships.

In addition to an Augustus Short Scholarship she was also awarded a Dunstan Foundation Len King Scholarship which is offered to worthy candidates wanting to pursue a career in law.

"I have an interest in social justice issues and human rights, and at the same time I've always loved biology at school and lots of other sciences," says Maithili. "That's why I chose to study both law and health sciences, it was the perfect way to intertwine the two."

Maithili lives with her mother and sister and, as a family on a single income, says the scholarships will be a big help financially.

Outside of study Maithili enjoys volunteering and believes we all have a responsibility to help others if we are able. "It is unfortunate that we cannot all enjoy basic rights such as food, water and good health," she says.

In addition to volunteering, Maithili has two casual jobs: tutoring students and working in an office. "I'm still going to keep those jobs, but I can now prioritise my study because I have the financial support I need," she says.

Ambition in astrophysics

Kenneth Jacks' passion for science and a strong work ethic saw him excel in his studies at Salisbury East High School. In addition to achieving an ATAR of 98.25, he was dux of the school in specialist mathematics, physics and maths studies and also won its science, technology, engineering and mathematics award.

His academic achievements were recognised with both an Augustus Short Scholarship and also a University Principal's Scholarship, awarded for high academic achievement and contribution to the school and community.

"With two other brothers to support, winning these scholarships means a very welcome reduced financial burden on my parents," he says. "Education is expensive so this takes the pressure off me needing to work at the expense of my studies."

Kenneth is in the first year of a Bachelor of Science (Advanced), majoring in physics. He plans to pursue his interest in astronomy and one day hopes to be an astrophysicist.

Putting in that extra effort

Kylie Do has a love of science which she wants to pass on to others – which is why she chose to complete a double Bachelor of Teaching and Science degree.

It was Kylie's parents who encouraged her to study hard and pursue a career she will really enjoy, not just a job that pays the bills.

She excelled at science in her final year at Mary MacKillop College where she was dux in chemistry, biology and physics and overall dux of the school. She also won a school leadership award.

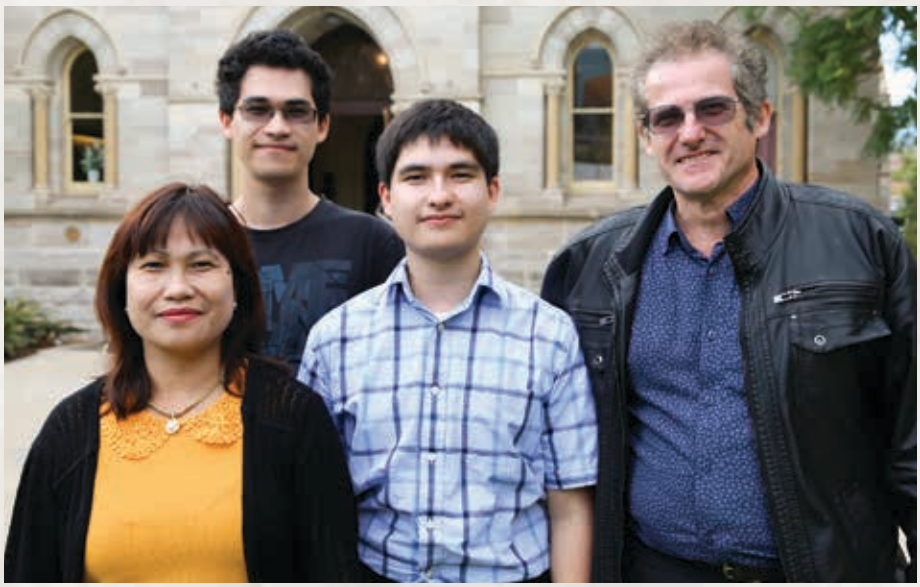
The Augustus Short Scholarship will help ease the financial pressure so that Kylie can concentrate on her studies.

"Financially, it's a huge relief. My dad told me that he didn't have anything to give me but my education, and that's helped me to push hard throughout my school years to really achieve what I wanted."

Left: Kylie Do (left) and Maithili Mishra (right)
Below: Kenneth Jacks and his family

Photo by Jo-Anna Robinson

To find out more about supporting students through scholarships at the University of Adelaide visit **www.adelaide.edu.au/give/support/** or contact External Relations on +61 8 8313 5800 or development@adelaide.edu.au



story by **Genevieve Sanchez**

A legacy of support for **women and music**

Since 1992, one generous bequest has supported more than 20 female students and ensured a long life for the much-treasured Elder Conservatorium lunchtime concert series.

> “If I could pass on a message of appreciation to Doris, I would tell her that her generosity has had a profound impact on helping me to achieve the things I want from life.”

Doris West's lifelong interest in education and a close connection to the University of Adelaide led her to remember the University in her will. At the time of her death in 1990, her uncle, the late mathematician Professor Ren Potts, said that her intentions hadn't been known by the family and the sizeable bequest came as a surprise.

What her relatives did know was that she would have been proud to continue supporting other women in reaching their full potential through education – something which she valued highly throughout her life.

Through the establishment of the Doris West postgraduate scholarships, her legacy has given opportunities to high-achieving female students across all disciplines.

The 2012 recipient, Caitlin Eyre, is currently in Berlin where she is pursuing her passion for the arts and has just landed a role as an editorial intern at *Berlin Art Link* — an online magazine focusing on artists and exhibitions in Berlin. An emerging art curator and writer, Caitlin was enchanted by museums and galleries as a child, leading her to pursue a career in the arts.

Graduating from the University with a Bachelor of Arts in 2010 and a Graduate Diploma in Art History in 2011, Caitlin was able to continue her studies with the support of the scholarship, going on to gain a Master of Arts (Art History) in 2012 and a Master of Arts (Curatorial and Museum Studies) in 2013.

"The scholarship helped me to move towards achieving my career goals by allowing me to lay strong practical foundations in the industry during my postgraduate student years," says Caitlin.

"Being relieved of financial burden as a student meant that I was able to undertake two invaluable internships during the course of my studies – experiences that I believe have shaped me as a curator."

Undertaking a month-long curatorial internship at the National Gallery of Australia in Canberra, Caitlin was able to build on the experience she gained as a volunteer at the Art Gallery of South Australia.

Even though this internship fulfilled Caitlin's Masters obligations, she was still hungry for more experience. The scholarship enabled her to undertake a second internship at JamFactory Contemporary Craft and Design in Adelaide during the second year of her Masters studies and led to employment as an assistant curator at the centre.

Caitlin says that she wishes she could thank the generous benefactor whose support has given her the freedom to wholeheartedly pursue her passion for art.

"If I could pass on a message of appreciation to Doris, I would tell her that her generosity has had a profound impact on helping me to achieve the things I want from life," she says.

"I have always valued education and I really appreciate that Doris' generous contribution has allowed me to pursue my education without the burden of financial barriers."

Relatives say that as a child, Dorrie — as she was known — always had her nose in a book and it was this love of learning that led her to pursue a university education. She graduated with a Bachelor of Arts in 1921, going on to teach at Adelaide High School and later devoting her life to volunteering for various women's associations. She had been proud of obtaining her degree, telling family how difficult it had been for her, as a woman, to complete her studies.

She was an active member of the YWCA and chaired the building committee responsible for the construction of the Pennington Terrace headquarters, and also served at various times as acting president of the board and as a regional committee member. She was made a life member of the Adelaide Lyceum Club, holding the president's post from 1957-59.

During the 1940s Dorrie was elected president of what today is known as the Australian Federation of University Women and remained an active member of the organisation until ill health forced her resignation in the late 1970s.

As a keen music lover and regular attendee at the Elder Conservatorium's concerts, Dorrie's gift to the University has also helped to support the popular lunch-time concert series – treasured weekly by many thousands across the years.

Her generous legacy will ensure the continued accessibility of these concerts and enable more women like Caitlin to take advantage of the educational opportunities Dorrie valued so highly.

Inspired by her educational and career experiences, Caitlin is intent on undertaking a PhD in Art History and is excited by the prospect of continuing her education in the field.

"I continue to be awed and eternally thankful that one person's generosity of spirit can have such a profound impact on the lives of the people their generosity touches."

For further information about bequests or to arrange a confidential discussion visit **www.adelaide.edu.au/give/how/bequests/** or contact Sue Fox on +61 8 8313 3234 or email development@adelaide.edu.au

Left: Caitlin Eyre
Inset: Doris West with husband Arnold

Elder Conservatorium lunchtime concerts

The Elder Conservatorium has been the heart of musical culture in Adelaide for over 130 years. The conservatorium's lunchtime concert series has been supported in part by an annual contribution from the Doris West bequest.

This support helps keep admission prices for the concerts to a minimum and maintains the extraordinary quality of artists and concerts. The popularity and prestige of this series plays a vital role in representing the University of Adelaide to the wider community.

Throughout each year, visiting Australian and international artists perform as part of the series and some provide masterclasses and workshops for students. In previous years there have been dedicated performances for the Come Out Youth Arts Festival in May which has seen over 1000 school children attend orchestral performances in Elder Hall.

Find out more **www.music.adelaide.edu.au/concerts/lunchtime/**

story by **Genevieve Sanchez**

City farmer cultivates communities

A community garden in the Bronx, New York is about as far away as you can get from the practice rooms of the University's Elder Conservatorium. It's there among the plots of sprouting spring vegetables that you'll find Will Littleton, musician-turned-garden manager.

Having studied a Bachelor of Music at the University of Adelaide and playing double bass professionally for many years, Will's music career came to a halt because of recurring back problems.

Developing an interest in sustainability and the environment, he undertook a Diploma of Conservation and Land Management.

Over the next 10 years he worked in urban and rural settings in Australia, the UK and New Zealand in water conservation, bush regeneration, arboriculture and agriculture, broadening his understanding of global environmental issues and seeing the need to change land management practices to remedy the damage already done.

Will also travelled through South-East Asia, India, and Samoa, volunteering as an English teacher and on farms in rural communities, working alongside people who were struggling to feed themselves and their families.

"This made me think about our food system and the huge inequalities that it produces, not only between countries but within communities," he says.

Returning to Australia, Will enrolled in a Bachelor of Development Studies where he built upon his already diverse skill set.

"I thoroughly enjoyed returning as a mature-aged student," he says. "I was more prepared and driven to learn and position myself to change direction and enhance my career, which is what I feel I have done."

After graduating, Will moved to New York and within six weeks was working at the Kingsbridge Heights Community Center (KHCC) in the Bronx, managing a nutrition and garden program.

The community is made up of predominantly Latino immigrant families on low-incomes, many of them living below the poverty line. Because of the lack of affordable fresh produce, they are forced to eat cheaper processed or takeaway foods. Will says this is resulting in extremely high rates of food-related health issues such as obesity, diabetes and heart disease.

"We need to ensure that the community has access to affordable fresh produce and the knowledge from a young age of the importance of healthy eating and the food system," he says.

Will organises fundraising campaigns and is responsible for projects that provide food literacy education and an affordable source of fresh produce for the community.

In April, Will invited New York-based University of Adelaide alumni to visit the centre and help prepare the Bronx garden for spring.

He says everyone felt a sense of achievement so they have agreed to keep in touch and make the work day an annual alumni get together.

"Working at KHCC has shown me a side of New York that I never would have seen if I worked downtown or came here as a tourist," says Will.

"It is really a city of social and economic inequalities, but there is a significant movement to make change with a bustling non-profit sector working to improve the infrastructure and support systems to ensure residents are able to live healthier, more productive lives."

Left: Will Littleton

Green thumbs on campus

Ecoversity – the University of Adelaide's sustainability engagement program – has helped establish two edible gardens at the North Terrace and Waite campuses. The gardens were made possible through start-up funding from Ecoversity's Green Project Fund and passionate staff and students keen to grow food on campus, share skills and meet like-minded people. Find out more: **www.adelaide.edu.au/ecoversity/action/ediblegarden/**

Ploughing the way for young farmers

Nat Wiseman started his university career studying nanoscience, pursuing an interest in artificial photosynthesis and the possibility of designing solar panels that act like the leaves of plants.

But towards the end of his Bachelor of Science he realised that he was more interested in social and environmental issues rather than working in a laboratory – so he started a degree in planning, focusing on urban agriculture and land-use policy.

Reflecting on his time at the University of Adelaide, Nat says it opened up a whole world of ideas – through the people he met to the wide range of resources in the library.

"This led to a real awakening for me and ignited my passion in trying to address the environmental and social issues I learned about," he says.

For the past five years Nat has worked part-time in the Department of Geography, Environment and Population with Dr Douglas Bardsley, looking at the impacts of climate change and adaption options for Indigenous groups in the APY lands in the far north-west corner of SA.

He has also developed his skills in farming and urban agriculture by completing a Permaculture Design Certificate at the Food Forest in Gawler and being active in local permaculture and sustainability groups.

"It has been very inspiring for me to get more involved in permaculture at the grassroots level, and has been a great antidote to the 'paralysis by analysis' that sometimes comes from too much reading on environmental/social crises," says Nat.

In 2012 Nat co-founded the semi-commercial Wagtail Urban Farm with friends on a 180-square metre block at suburban Mitchell Park, producing a ute load of vegetables each week and selling them to markets and the local community.

"That experience convinced me that small-scale farming was possible and productive, but I knew that I needed to scale up in order to make a livelihood from it," says Nat.

So, Nat and others launched a crowdfunding campaign which raised $17,000 to start Village Greens of Willunga Creek at the Aldinga Arts Eco Village. From a fledgling business in 2014, they now grow a half-acre of mixed organic vegetables, selling to the local community as well as city customers and restaurants.

Nat and the farm team also formed a loose collective of young market gardeners on the Fleurieu Peninsula, sharing tools, information and meeting up for shared dinners. Collaboration, not competition, is the aim.

Nat is passionate about the young farmers' movement but says they face real challenges in Australia and all over the world.

"There are less and less farmers to learn the skills from. Urban development pressures are increasing the price of good farmland – and paving over it – and the average age of Australian farmers is approaching 60," he says.

"I hope my work, as well as the work of many other young farmers around the country, can show that it is possible to be a successful young farmer despite the odds, and provide a model for others."

Nat is keen to develop a young farmer's network and is also looking at setting up a regional Fleurieu food hub to source a whole range of fresh food produce from farmers.

"We need production by the masses, not mass production, if farming is going to have a sustainable future."

Right: Nat Wiseman

Taste for **success**

story by **Genevieve Sanchez**

South Australia is forging a worldwide reputation for the high quality of its food and beverage sectors. The University of Adelaide is playing a key role in delivering the range of technical and professional skills necessary to achieve that success. *Lumen* caught up with some of our graduates who are using this expertise to launch their own businesses.

Scientist brews the perfect formula

Moving from medical science into the world of craft brewing might seem an unusual career path but for Prancing Pony Brewery CEO Corinna Steeb it was a natural progression for someone with her entrepreneurial spirit and fast-racing mind.

After arriving in Australia from Germany as a trained maxillofacial surgery nurse, Corinna added more strings to her medical bow by studying animal physiology and then enrolled in a PhD in medicine at the University of Adelaide.

She says that her time at university helped her gain discipline. As a mature age student she treated it like a job, arriving at 8am and going home at 6pm.

"I wanted to absorb knowledge and I carried that discipline through to my work – I don't procrastinate on things or restrict myself to the most obvious solution that is in front of me," she says.

Reflecting on how her education has helped in her many entrepreneurial ventures, including a stint as a business strategist, Corinna says that much of her learning didn't happen until she applied her skills out in the workforce.

"I view all of my formal training as a ground for gaining patience and solving problems," she says.

"When you walk out of university, you're not an expert but you do have a number of very basic skills – being resilient, coping with disappointment and rejection, problem solving, perseverance and understanding there is a reward at the end of it if you stick with it.

"I very happily lean on my formal training for the soft skills that you don't receive a grade for – being able to work through problems and making sure you take a logical approach to everything that you need to achieve."

In the three years since establishing Prancing Pony, Corinna and her partner, head brewer and physicist Frank Samson, have seen some great success, receiving numerous awards for their beers and moving premises to expand production.

The restaurant and unique brewery experience at the Brewshed has become a hugely popular venue for beer enthusiasts and tourists visiting Hahndorf. They've also recently installed new brewing equipment, increasing production capacity from 250,000 to 3 million litres.

Corinna is now working on plans for further expansion to include a bigger kitchen to cater for more meals.

Most important to Corinna is that she has fun with her work. "We don't take ourselves too seriously – everything we do has to have an element of humour and fun," she says. "We've come a very long way from when we arrived in Australia so I figure let's play and take everyone with us."

Joe delivers a Tour de Fork

As the man behind one of Adelaide's most innovative food events, Joe Noone has literally brought trucks to a standstill.

He has delivered over 40 Fork on the Road food truck festivals around the city and suburbs, bringing street food to packed crowds and amassing a following of tens of thousands of passionate food lovers, eager to sit on crates and kerbsides to enjoy some of the city's tastiest fare.

But Joe's pathway to entrepreneurialism was anything but linear and his day job has nothing to do with food.

Studying a Bachelor of Health Sciences at the University of Adelaide and following a variety of career routes before landing an industry partnerships role in the public service, Joe says that for him it has always been about the journey rather than the destination.

"My role in community and affordable housing is not that far removed from the public health principles I learnt in the first few years of university," he says.

And it was at uni where Joe says he picked up many of the skills that he uses in his day job and when organising the Fork events – planning, researching, finding out how and why people do things and building relationships.

"These are concepts that hold you in really good stead whether you're trying to come up with good public policy or you're organising a food truck event for thousands of people," says Joe.

His desire to bring people and food trucks together came after visits to the US where he saw the popularity of street food and the strong community vibe it created.

"My idea came about because of the realisation that people talk a lot in Adelaide about how things should be and maybe sometimes we talk too much without action," says Joe.

The opportunity to stop talking and take action with his first Fork on the Road came when Adelaide City Council's Splash Adelaide initiative put the call out for innovative city projects.

"I thought that if it didn't work, I'd try another idea – that's what

entrepreneurialism is about," he says.

But each event attracted huge crowds and the feedback was overwhelmingly positive. Three and a half years and 40 Forks later, Joe has delivered events that have the whole city talking through social media and the local press.

Joe says the success of Fork is about "just trying stuff out" and he has some simple advice for others wanting to take the entrepreneurial pathway: "Try something, be flexible, retry it and don't be afraid to fail – just go, do something, don't stand still."

Gin maker shows winning spirit

With an interest in science but a desire to work outdoors rather than in a lab, Sacha La Forgia decided that studying winemaking would provide the best career path to satisfy both interests.

Graduating from the University of Adelaide in 2011, Sacha didn't wait until finishing his studies to hit the vineyards.

During his degree he did five vintages in Australia and overseas and followed this up with two years of travel, working on another seven vintages.

While in Italy he met Bepi Tosolini, the owner of a grappa distillery in Friuli, who inspired him to start his own business.

Sacha realised that the small-batch gin-making industry was on the verge of taking off and jumped in with both feet, launching the Adelaide Hills Distillery in 2014.

He's already seen some remarkable success in the short time he's been in business, with three products – the 78 Degrees Gin, a companion orange bitters and a white-spiced rum – winning gold, silver and bronze at the recent San Francisco World Spirits Competition.

Sacha is grateful to have his formal education behind him and says that building his technical palate through tastings while at university was one of the most important skills for his career.

"Having knowledge about flavour chemistry and how molecules interact in the bottle has been really beneficial – it helps me make intelligent decisions," Sacha says. "I'm able to technically look at flavours and aromas and recognise when something is not quite right."

Sacha has also called upon his university contacts to help him through difficult times.

One of these is his former lecturer, Associate Professor Graham Jones, who helped Sacha to analyse and problem solve a technical issue he encountered at the distillery.

"It was great to be able to call upon his expertise, otherwise I would've lost all my hair," he laughs.

Sacha is now looking forward to expanding his repertoire into whiskey and has teamed with other local small-batch producers – the Hills Cider Company and Mismatch Brewing – to launch a full-production facility to house cellar doors for the three craft beverages.

Opening in early 2017, the luxury beverage hub will be the first of its kind in Australia, offering local hospitality and an educational experience where visitors can learn about making gin, beer and cider.

Winemaker makes switch to cider

After growing up on a farm in South Australia's Barossa Valley and doing work experience at the world-renowned Henschke Winery, Steve Dorman was destined to forge a career in wine.

That was until he transferred his learnings to making cider – an industry where he now leads the way. In 2010 Steve and business partner Tobias Kline launched the Hills Cider Company which is the largest privately-owned cider company in the country.

Steve was among the first students to study oenology and viticulture at the University of Adelaide's Waite campus after the course was transferred from Roseworthy.

> "It's so highly recognised that you can walk into any wine region in the world and tell them you've got a University of Adelaide degree and they welcome you with open arms."

He and his classmates enjoyed the benefit of Waite's new state-of-the-art facilities, a scaled winery and vineyards. Steve says it was a privilege to be among the first to use the site and meet others from around the globe who had been attracted to study the world-renowned degree.

After graduating, Steve did vintages in Australia and Italy, returning to manage the Australasian wine and beverage division for Orica before moving into the wine trading business. It was during a trip to Europe that he experimented with fruit wine and witnessed the 'cider explosion'.

He returned to Adelaide to discover a distinct lack of local quality ciders and set about making the real product from 100 per cent fresh Adelaide Hills apples.

Today the Hills Cider Company not only produces multi-award winning ciders but has contributed to the rejuvenation of many local orchards.

"Growing up on a farm, I've seen the perils of farming with the good and the bad years so being able to now support a whole industry in the Adelaide Hills is very rewarding," he says.

"In the last 12 months we've had three growers come back to orchards they walked away from because they hadn't thought it was commercially viable."

Steve now buys 15 per cent of all fruit grown in the Hills, has 13 sales staff and indirectly employs around 65 people. His products are sold all over the world, including the UK, Hong Kong, Singapore, New Zealand, Papua New Guinea and Japan.

Steve is so committed to the 'support local, drink local' ethos that he's joining forces with the Adelaide Hill's Distillery and Mismatch Brewing on a new Adelaide Hills beverage hub (see *Gin maker shows winning spirit*).

story by **Genevieve Sanchez**

Ezani juggles **dentistry, fame and motherhood**

As a dentistry student at the University of Adelaide Ezani Farhana Md Monoto was inspired by the diversity of Australian cuisine.

She spent her spare moments cooking and watching MasterChef Australia – a pastime that proved unexpectedly rewarding when she returned home to Malaysia.

Encouraged by friends to enter the first season of MasterChef Malaysia, Ezani was not only selected as a contestant, but after battling her way through the challenges was crowned the winner.

"I entered the competition not really having any expectations and not even aiming for the win so when it happened it was very daunting thinking that my life was about to change so much," she says.

Afterwards, Ezani received an influx of offers for TV appearances, product endorsements and ambassadorships.

"I was ready to take on new adventures with my new life but being thrown into the limelight with attention from the media and also being recognised in public was quite nerve-wracking," she says.

But fame hasn't prompted Ezani to set aside her career in dentistry. She juggles her full-time dental work, practising at a university health centre in Malaysia with her life as a celebrity chef.

In the evenings she writes recipes and on weekends she often makes guest appearances at events, acts as a cooking competition judge, takes part in photo and video shoots for commercials or gives live cooking demonstrations.

> "Being a dentist means that I have good manual dexterity - this pays off for a cook as well, to have good hand and technical skills."

As a health professional, Ezani is an advocate for healthy eating and spreads the awareness and inspiration for healthy cooking through various platforms. In 2015 she published her first cookbook entitled Inspirasi Dapur.

On top of managing two very diverse careers, Ezani spends as much time as she can with her baby daughter, enjoying introducing her to the world of food that she is so passionate about. Ezani credits her parents for helping her to succeed, saying they gave her the freedom to follow her passion, while also encouraging her academic and professional career.

"University also taught me a lot about being independent and studying in Adelaide as an international student gave me invaluable social and communication skills, and an understanding of diversity," she says.

"Being a dentist means that I have good manual dexterity – this pays off for a cook as well, to have good hand and technical skills. Dentistry also moulded my patience – I was known in the MasterChef kitchen as the cool and calm one."

Ezani is now hoping to expand her range of baked products which were released on the market last year.

"I want to continue to be active in both my careers and ultimately I want to keep sharing my passion for food with others."

Photos: Ezani on the MasterChef set

story by **Johnny von Einem**

Adelaide's **out-**

The blank-page problem – when the only thing standing in the way of you and your bestselling three-part sci-fi novel series and inevitable Hollywood adaptation – is figuring out where to start.

> "There are two parts to my brain; there's a creative part, but there's also an organised, ordered part of my brain … so I really loved first-year economics."

of-this-world author

Sean Williams knows this better than most; the New York Times best-selling author has had a prolific career spanning hundreds of novels and short stories, including contributing three novels to the expansive Star Wars franchise.

Like the cursor blinking at the top left corner of a freshly opened Word document, Sean's university career also began as a plethora of possibility.

While growing up, reading and writing were hobbies for Sean; his parents were both school teachers and had programmed into him a love of books from a young age.

During high school Sean's creative drive turned to music, and by the end of Year 12 he'd won a Young Composers Award and was being courted by staff at the Elder Conservatorium who wanted him to follow through with the hype.

Rather than jump straight into higher learning though, Sean deferred to think about where further study might take him.

With lofty dreams of becoming a famous novelist or composer planted firmly in his mind, he made his decision and enrolled, surprisingly, in a Bachelor of Economics.

Left: Sean Williams
Photography: Brendan Homan

"I decided to go to uni to get a sense of a real job and then retire when I was 40 to do all of this other stuff that I was interested in," Sean says.

"There are two parts to my brain; there's a creative part, but there's also an organised, ordered part of my brain … so I really loved first year economics."

Passions are not so easily sidelined, though.

Sean spent two-and-a-half years in the economics degree before his creative drive became restless and – only months away from reaching the end of his third and final year – he transferred into an arts degree and eventually dropped out completely.

He was not without a plan though. With a distinction under his belt from a science fiction writing course at uni, Sean felt qualified to at least try and become a published author, so he set himself a 10-year deadline.

The stakes were high; if he didn't publish a novel in that time it was straight back to his economics degree and into a real job.

Sure enough, Sean not only published a novel within the 10 years, he was asked to write three Star Wars books, and he had managed to find a place on the *New York Times* Bestsellers list.

But despite the accolades and achievements, there was something niggling at the back of Sean's mind.

"I was quite proud of the fact that I'd dropped out of university to pursue my career … but it was a relief to decide that I was going to come back because I don't like leaving things unfinished, and that … unfinished degree is still bothering me," he laughs.

Sean enrolled in a University of Adelaide Masters program in 2005 and has since undertaken a PhD studying the history of the teleporter in fiction, and can now add being the world expert on that niche subject to his long list of credentials.

Sean's story has been captured as part of the University's Seek Light campaign, which aims to highlight the diverse career journeys of some of our most interesting alumni. More stories can be viewed at **www.adelaide.edu.au/seek-light**

A powerhouse of world-class research

The University of Adelaide received an outstanding result in the latest national measure of research quality in Australia – and the Creative Writing discipline continues to be among the highest performers. In the Excellence in Research for Australia (ERA) ratings, 82% of the University's research areas were considered to be above or well above world standard. Of the 67 individual research areas assessed, more than half achieved the maximum rating of 5.

"This is an outstanding result, reflecting great depth of research quality and the huge regard in which the University's researchers are held within Australia and globally," says Vice-Chancellor and President, Professor Warren Bebbington.

Professor Brian Castro, Chair of Creative Writing One, says having Nobel Laureate Professor John Coetzee on staff is just one of the reasons for the department's success.

"Our Creative Writing staff and students publish much quality work each year, work which has an international outlet and appeal. We are not just writers, but thinkers who write in fictional form," he says. "The Creative Writing department has a fast-growing reputation for guiding writer-scholars towards the highest standards in publishing. We practice what we preach and, in the real world, we get the readership for which we aim."

More than 18,600 individual research outputs by academic staff and affiliates of the University were assessed as part of the latest ERA process. For the full details of ERA ratings across each research area, see the ERA Institution Report **www.adelaide.edu.au/research/our-research/strengths/era/**

story by **Genevieve Sanchez**

Adelaide Education Academy has its first class of 2016

The University of Adelaide has launched a new academy for staff who specialise in teaching in a first for an Australian university.

The initiative continues the transformation of the teaching and learning experience for both students and staff at the University.

So far 49 highly-regarded teaching staff have been inducted into the Adelaide Education Academy with academics from each of the University's five faculties.

Vice-Chancellor and President, Professor Warren Bebbington, says the intention is to induct a total of 100 academics.

"In a research-intensive university, it is a challenge for staff to be recognised as real academics for teaching alone," he says. "By establishing the Adelaide Education Academy, we are saying teaching is a noble career in a university with its own unique rewards and privileges."

Professor Bebbington says the University is opening a pathway for staff to be promoted all the way to professor for their teaching alone.

"Through its members, the academy will become a symbol of the University's unique learning and teaching proposition which, to the great benefit of our students, is at the centre of our strategic direction," he says.

"Among the first members of the academy are academics who have played an outstanding role in the quality of education at our University for many years."

Academy members include Associate Professor Elizabeth Koch OAM, Head of Classical Performance with the Elder Conservatorium of Music, and Associate Professor Colin Kestell from the School of Mechanical Engineering. Both are past winners of the University's long-running Stephen Cole the Elder Prize for Excellence in Teaching.

"The new education academy has already opened up opportunities for greater collaboration between teaching focused academics in all faculties of the University," says Associate Professor Koch.

"I am particularly looking forward to sharing knowledge on aspects of teaching and learning practice with colleagues in other disciplines. Learning from other teachers outside one's own specialisation will no doubt be very useful and inspiring and will facilitate reflection on learning and teaching approaches."

Members of the academy have exclusive opportunities to bid for learning and teaching advancement grants, apply for promotion based on their teaching and learning activities, and have access to support in the form of teaching-focused special study programs.

www.adelaide.edu.au/learning/teaching/academy/

Above: Elizabeth Koch in Elder Hall

Left: Inaugural members of the Adelaide Education Academy

Row 1 (seated): Bernadette Foley, Michael Leonard, John Tretola, Rebecca Tooher, Lucy Potter, Maria Elena Gonzalez Perdomo, Karin Hatch, Joy McEntee, Cathy Snelling

Row 2: Mignon Watson, Elizabeth Yong, Catherine Irving, Robyn Davidson, Yung Ngothai, Elizabeth Koch, Lynn Rogers, Beth Loveys, Pascale Quester, Warren Bebbington, Philippa Levy, Ian Johnson, Paul Duggan, Josephine Perry

Row 3: Antoni Blazewicz, Michael Liebelt, David Butler, Simon Pyke, Hayley McGrice, Katrina Plastow, Thomas Buchanan, Abdallah Salem, James Botten, David Foley, Adrian Koerber, Andrew McKinnon

Row 4: Colin Kestell, Dorothy Missingham, Sophie Karanicolas, Karina Riggs, Robert Reid, Gareth Pritchard, Elizabeth Beckett, Corinna Van Den Heuvel, Mario Ricci

story by **Genevieve Sanchez**

Sia Furler lends name to new institute

A new institute of contemporary music and media has been launched by the University of Adelaide and named after internationally acclaimed Australian singer-songwriter Sia Furler.

Housed at the Elder Conservatorium of Music and drawing on expertise from the Department of Media, the Sia Furler Institute for Contemporary Music and Media will build on the University's already outstanding contribution to teaching and practice in these fields.

Adelaide-born Sia, who is one of Australia's most celebrated and successful creative artists, said it was an "incredible honour" to have the institute named after her.

The Sia Furler Institute will prepare students for careers in contemporary music performance and composition, film, digital and other new media, sound engineering and music technologies.

"In recognition of Sia's international fame – and in keeping with her unique approach to music – we have established this new institute as an environment in which contemporary music and media can flourish together," said the University's Vice-Chancellor and President, Professor Warren Bebbington.

Director of the Elder Conservatorium, Professor Graeme Koehne, says the University is honoured that Sia has given permission to have the institute named after her.

"As a performer and songwriter, and one whose creativity extends equally to video and digital media, Sia has become an inspiration to young artists the world over – and it's that talent we aim to foster through our new institute," he says.

Students will have the opportunity to learn under the guidance of experienced artists, academics and technicians-in-residence, and will showcase their achievements to public audiences. Masterclasses, performances and short courses hosted by the Sia Furler Institute will also be available to the local community.

Australian musician and SBS TV's RocKwiz band leader James Black delivered the inaugural lecture at the University's Elder Hall in May. In his lecture, What Makes a Band Sound Good?, James drew on his rich and celebrated 35-year career as a professional musician.

Watch a message from Sia at **https://youtu.be/HFXyfELmOKo**

For more information about the Sia Furler Institute for Contemporary Music and Media visit **www.music.adelaide.edu.au/sia-furler-institute/**

story by **Genevieve Sanchez**

The couple behind an ‘aggie dynasty’

When Geoffrey and Mary Thomas graduated from the University of Adelaide in agricultural science 51 years ago, little did they know they were starting an ‘aggie dynasty’.

It was agricultural science that first brought them together and it has remained an important feature of their family since – with five more ‘aggies’ among their sons and daughters-in-law.

Back in 1964, Mary (nee Wauchope) and friend Primula Haas were the only women among the fourth-year agricultural science students at the University and they were only the second and third to graduate with a Bachelor of Agricultural Science.

“It was a small group and we were always treated with respect and as equals,” says Mary. “I originally thought I would like to study medicine but the broad subjects offered in agricultural science were exciting and I was always interested in insects, fungi and plants so the choice was easy.

“We were fortunate to have Professor Morton who was working in the then cutting edge area of DNA. I was captivated by his work and so started my interest in agricultural biochemistry.”

In her fourth year Mary was the first woman to be granted a cadetship with the Department of Agriculture, giving her career certainty.

“This provided acceptance in what was a male-dominated field and gave me the opportunity to do practical research which I enjoyed,” she says.

Mary started in the horticulture branch of the department, working across all fields as a plant pathologist. She was instrumental in solving the problem of ryegrass staggers and recorded work on onion smut and prune rust in stone fruits.

"I greatly enjoyed the varied work and visiting the affected paddocks at Black Springs, although I remember a very obstinate transport clerk who always assigned me a short-wheelbase Land Rover with no fuel and on two occasions, bald tyres," she recalls.

And with females in the field a rarity, there were other challenges for Mary who was treated with some scepticism by many horticulturalists and farmers.

"I remember the Barossa bureau conference where I had addressed a large group of vine and stone fruit producers and the vote of thanks at the end commented that it was an interesting topic and a good talk, 'especially as I was a woman'," says Mary.

When Mary and Geoff married in 1966, she had to seek parliamentary approval to continue working as an advisor at Loxton.

Following a period away from the workforce after starting a family in 1968, Mary moved into different areas of work, including juice quality control, biological control of red scale and teaching at three Riverland high schools.

She returned to Adelaide and found work in a busy garden nursery where her ability to identify plants and treat diseases and pests made her very popular with clients.

Geoff came to the University from a farm at Pinnaroo in the Murray Mallee and had always been interested in studying agriculture. He recalls the halcyon days of university in the 1960s with fondness.

"I enjoyed studying with a great group of people and appreciated the commitment shown by the lecturers. The breadth and depth of the course set me up for a very fulfilling career, working with farmers and fellow scientists," says Geoff.

Following graduation he joined the SA Department of Agriculture as a cadet and was posted to Loxton in 1965 as a soils officer, working in broadacre and horticulture. In 1969 the family travelled to Melbourne where Geoff did a Diploma of Agricultural Extension under a Wheat Industry Scholarship and in 1970 he was posted to Naracoorte as a Research Extension Liaison Officer.

After a spell with the Victorian agricultural department he returned to SA and held various posts before leaving the public sector in 1994 to become CEO of the Adelaide Hills Regional Development Board for five years. Geoff also ran his own consultancy from 1999, working in the commercialisation of technology and funds management in research and extension.

Mary and Geoff's four sons all went to university, three of them studying agriculture at the University of Adelaide and two of them going on to marry other 'aggies'. They now have nine grandchildren.

"There was certainly no pressure for them to follow in our footsteps," says Geoff. "But they were probably influenced by our wide-ranging family discussions and from observing our diverse, challenging and rewarding careers."

And the 'aggies of '65' have maintained a family-like closeness, coming together for reunions over the years to reminisce over their shared experiences.

Geoff and fellow graduate Tim Smeaton recently compiled a memoir which includes biographies and photos of their classmates. It's an impressive catalogue of interesting and productive careers that were founded in the lecture rooms and labs of the University 50 years ago.

Bottom left: The Thomas family from left: Dave, Andy, Geoff, Mary, Ben and Steve

Inset top: Agricultural Science students final year 1964. Geoff Thomas, back row, second from right. Mary Thomas (nee Wauchope) front row, third from right

Alumni on the move

Prestigious award for **aeolian researcher**

Jo Nield (BSc 2001, BE 2001, PhD 2006) came to our attention a few years ago when her out-of-office email message bounced back with the response, 'I am currently off with a laser scanner searching for dust in the middle of a salt pan in Botswana.' When *Lumen* enquired further about her fascinating workplace, Jo said that aside from the occasional lost ostrich, there was not a person around for hundreds of kilometres and her team didn't receive any visitors to their field sites in the four months they were set up to record data.

Jo has just been recognised for her achievements as an early career researcher with a prestigious Royal Geographical Society (RGS) award. Currently an Associate Professor in Aeolian Geomorphology at the University of Southampton, Jo has been named as the recipient of the RGS Gill Memorial Award for her early career research into aeolian processes and arid landform development.

"I feel tremendously humbled and honoured to receive this award. I am passionate about aeolian geomorphology and really enjoy exploring interactions and feedbacks between wind and surface patterns through novel field work and computer simulation modelling," says Jo.

"I have had the pleasure of working with some brilliant colleagues and mentors, and appreciate the support I have received from ten different funding bodies, including the RGS. This has enabled me to undertake research in some incredible and remote environments to improve our understanding of arid landscapes and the processes which shape them."

Above: Jo Nield doing fieldwork in Namibia

More alumni achievements

Professor Roderick John Lawrence (B Arch (Hons) 1973) has recently retired from the University of Geneva with an Emeritus Professorial title. Roderick established an international reputation by developing a unique building construction laboratory at the University of Lausanne in Switzerland and later became involved in environmental science and housing at the University of Geneva. He has been an invited Professor at the United Nations University since 2014.

Professor H. Deep Saini (PhD (Ag + Nat Res Sc) 1983) has been appointed Vice-Chancellor of the University of Canberra.

Professor Simon Maddocks (B AgSc (Hons) 1984, PhD 1987) has been appointed Chair of the Menzies Foundation Board. He is also a Menzies Scholar himself and was one of the first two South Australians ever to be awarded a Menzies Scholarship. He is currently the President and Vice-Chancellor of Charles Darwin University, a former member of the Governing Council of the University of Adelaide and a former Chief Scientist in South Australia.

Paul Lehmann (B Arch St 1991, LLB 1993) has been appointed High Commissioner to Nigeria.

Dr Melanie McDowall (B Sc (Hons) 2000, PhD (Med) 2005) from the ARC Centre of Excellence for Nanoscale BioPhotonics was a recipient of the 2016 Barbara Kidman Women's Fellowship.

Dr. Nicole Panizza (B Mus (Hons) 2003) has been awarded two research fellowships at the University of Oxford – with the Rothermere American Institute and the Faculty of Music. Nicole has also been appointed a Research Associate with the Oxford Song Network. These appointments are in support of a five-year research digital archive project — focussing on musical settings of the poetry and letters of renowned American poet Emily Dickinson.

Dr Rajeev Pathak (PhD (Med) 2015) was awarded the American College of Cardiology's prestigious William W. Parmley Young Author Achievement Award.

Ben Geytenbeek (BSc (Hons) 2015) has been awarded a Gates Cambridge scholarship to undertake a PhD in Physics at Cambridge where he will be investigating extensions to the Standard Model of particle physics to explain phenomena such as gravity and dark matter.

What's new with you?

If you have recently celebrated a promotion or career achievement, a change of job or won a major prize, we'd love to hear about it! Share your good news with your fellow alumni by emailing us. Please include your name, degree and graduation year. Send it to **alumni@adelaide.edu.au** or call **+61 8 8313 5800**

View more alumni achievements at
www.adelaide.edu.au/alumni/about/on-the-move

THE UNIVERSITY of ADELAIDE

Join alumni leaders for breakfast

Meet your alumni leaders

The University of Adelaide is committed to supporting the career development of our alumni.

The 2016 Breakfast Series, hosted by alumni leaders from August to November 2016 in Adelaide will give you the opportunity to meet and network with key business leaders.

Contact Fiona Solente on +61 8 8313 6356 or email alumni@adelaide.edu.au

www.adelaide.edu.au/alumni/breakfast/

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