

# UQmedicine

Summer Edition 2019/2020



FROM CZECHOSLOVAKIA  
*by chance*

Advancing  
women's health

Liberation through  
education

Spider-Man  
harnessing nature

## Our purpose

Through the education we provide and the research we conduct, the Faculty's medical, biomedical and public health endeavours aim to save lives and improve human health in material and lasting ways.

## Our values

Pursuit of excellence  
Creativity and independent thinking  
Mutual respect and diversity  
Honesty and accountability  
Inclusiveness and wellbeing



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COVER IMAGE  
Dr Bert Klug - article on pages 4-7

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## MESSAGE from the Executive Dean

The American Jurist Oliver Wendall Holmes is quoted as saying, "Many ideas grow better when transplanted into another mind than the one where they sprang up." This notion underpins one aspect of the efficacy of collaboration, which is the theme of this editorial of *UQmedicine*. In recent months I have been delighted with multiple collaborative efforts occurring within the Faculty of Medicine and the transformative potential of the teams that have been assembled.

The School of Biomedical Sciences is approaching a critical transition. Professor Kaye Basford will step down as Head of School in 2020 and the selection process to appoint an outstanding candidate to replace Kaye has commenced. To assist in this transition, the staff of the School of Biomedical Sciences have worked closely together to derive a clear purpose, set of values and strategic intent for the school. This work has progressed in a highly collegial way and has already resulted in actions in the areas of learning, teaching and research. To illustrate this collaboration, a video has been produced which will be available to prospective candidates, allowing them to see the forward-thinking and enthusiastic leadership within the school. I am sure all of this collaborative activity will attract the transformative leader we wish to recruit.

The MD program is one of the flagship programs of the Faculty of Medicine and our graduates are highly regarded nationally and internationally. The health care system is in constant evolution however, and the MD program needs to reflect these changes. Under the leadership of Professor Stuart Carney a revision process of the MD, entitled MD2025, has commenced to ensure we continue to graduate game-changing students. A key principle of this process is broad consultation and collaboration. To this point, over 20 consultative sessions have occurred and the results of these discussions will ensure ideas are transplanted into other minds.

Our research endeavour is, at its heart, a collaborative one. In the past these research collaborations would sometimes cross disciplinary grounds but often focus on different groups from the same discipline working together. The new world of research is truly multidisciplinary and to answer the "wicked" questions in health we need to assemble teams that cross disciplines in a broader way. A funding scheme entitled the HHealth Research Accelerator (HERA) has recently been approved and will fund such teams which will be entitled Trans-disciplinary Impact Networks. From what I have observed so far there has been a growing willingness to create such networks that cross faculty borders and assemble teams with true interdisciplinary strength, focused on key questions derived for the health system and community we serve.

These three brief examples illustrate the power of collaboration but, as Henry Ford once said, "Coming together is a beginning; keeping together is progress; working together is success." So we have further work to do.

It is in this context of collaboration that I commend this edition of *UQmedicine* where we see both individual and team excellence across all our schools and centres.

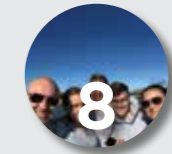
I hope you enjoy the journey.

Professor Geoff McColl  
Executive Dean, Faculty of Medicine

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From Czechoslovakia by chance



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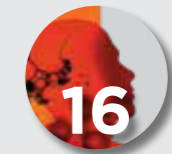
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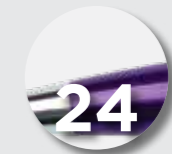
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# A RANDOM *life*

by Angie Trivisonno

*"For those who've come across the seas  
We've boundless plains to share;  
With courage let us all combine  
To Advance Australia Fair".*

It seems fitting to recite parts of the Australian national anthem when speaking about University of Queensland graduate, Dr Bert Klug.

Dr Klug's birthday falls on 26 January – Australia Day. In a few weeks he will be turning 98 years old, which is more than good reason to sing.

However, life has not always been fair for Dr Klug.

Born in the small town of Sered in Slovakia (formerly part of Czechoslovakia) in 1922, Dr Klug has summoned up more courage than one can imagine to survive truly devastating events before crossing the seas to our shores.

His childhood was happy, living at home with his younger sister and parents.

"Appearance-wise, I'm more like my mother, but temperamentally, I think I'm more like my father," Dr Klug laughs.

"In 1934, at the age of 12, my parents arranged for me to receive my secondary education in Bratislava, the capital of Slovakia, where I boarded with an elderly lady while attending high school.

"Then, in 1939, Adolf Hitler's Nazi Germany began invading Czechoslovakia.

"This was a major problem for me and my family because we were of Jewish origin," Dr Klug explains.

"One of the new laws was the exclusion of Jewish students from all educational facilities. From kindergarten to university, we were not able to attend any educational facility. So, I could not complete my final year of high school."

Between 1939 and 1945, Dr Klug suffered multiple harrowing experiences.

He was separated from his family and placed in two forced labour camps, Hiadel and Sered. Strangers took over his family home. He witnessed thousands of Jewish citizens being deported to the Polish border on their way to extermination camps in Poland. Dr Klug also saw the start of World War II. He participated in a failed uprising to overturn the Slovak government. His parents died in separate German concentration camps. Dr Klug faced starvation and potential death on a daily basis, and spent days walking through forests, lonely and homeless, looking for shelter.

Looking at Dr Klug today, it's hard to imagine how anyone could survive such events and still go on to achieve a successful marriage, career, family and life after starting anew in a different country.



A RANDOM *life*, continued...

Australia has certainly been the lucky country for Dr Klug.

Throughout Dr Klug's life random people have regularly appeared and afforded him generous opportunities that would lead him to his better life.

One such person was an English woman who was living in Bratislava when Dr Klug was in high school.

Dr Klug wanted to learn English and convinced his parents to let him take lessons.

"I took to English like a fish to water. I don't know why I wanted to learn it, I just thought it was a good idea," Dr Klug recalls.

"I can still remember the first English book I read. It was a thriller called *'Face in the Night'* by Edgar Wallace.

Learning English fluently before his arrival Down Under would certainly make it easier for Dr Klug to navigate his future island home.

Dr Klug's liberation from war came in 1945.

"I immediately went to my home in Sered, which had been occupied by strangers, but when they saw me they got out," Dr Klug recounts.

A few months later Dr Klug was reunited with his future wife Eva, whom he had met in a forced labour camp.

Now that he was back home and with the love of his life, Dr Klug was determined to complete his high school education.

"I was highly motivated to complete my studies, so I did at my former school in Bratislava. I then went to university and completed one year of medical school," Dr Klug says.

"I had always wanted to do medicine, for some reason that I don't really understand. I think my mother's poor health might have been a factor. My mother suffered from a duodenal ulcer and was always in pain."

In March 1947, Dr Klug and Eva married in Bratislava. Soon after, they decided to leave Slovakia.

"We felt very uncomfortable living in that country because we felt surrounded by people who had witnessed all these horrible events, and so many had been willing helpers of the Nazis in destroying our background," Dr Klug explains.

Enter another fortuitous event: Dr Klug's uncle, who had immigrated to Australia before WWII broke out, invited him and Eva to join him in Brisbane.

"When we began the moving process, Eva and I were not married, but by the time the landing permit (now known as a visa) was granted, we were," Dr Klug explains.

"Eva had to travel to Australia on her maiden name, and we decided that when we arrived we would tell the authorities our story.

"I said to the official, if necessary, we are happy to get married again under Australian law.

"This guy looked at me and said, 'Mate, isn't once enough for everybody?'," Dr Klug laughs.

Dr Klug was keen to continue his medical studies upon arriving in Brisbane. The only problem being he didn't have any money.

Then another lucky random event: an accountant, who handled the books for his uncle's business, had a nephew who was a young doctor. The young doctor arranged an interview for Dr Klug with the Dean of The University of Queensland's Medical School - Professor Errol Solomon Myers.

Within three months of landing in Australia, Dr Klug was enrolled in UQ's medical program.

Dr Klug completed his degree, worked as an intern at the Brisbane General Hospital (now Royal Brisbane), opened a practice in Rainworth, and went to Melbourne to specialise in psychiatry before returning to Brisbane.

Since then, Dr Klug's middle son, Dr Peter Klug, has completed his medical degree at UQ and is now practicing psychiatry in Sydney, and his grandson is currently mid-way through his psychiatric registrar training. Dr Klug's two other sons are also UQ graduates. His oldest son is a lawyer and his youngest son works as a company director and chairman of a government board.

"Looking back I can see a whole chain of random events, which have resulted in me being here now," Dr Klug explains.

"I feel that I have had a good life, except for the Holocaust period and the loss of my family. My life has been good since the end of WWII, particularly my 70-year marriage to Eva before she died.

"I think I have been very lucky to end up in this country.

"I have been able to achieve everything that I wanted in the 71 years that I have lived here. People have been absolutely wonderful here."

On Australia Day, let us all celebrate how lucky we are to live in this country, and send a very happy birthday wish to one mighty inspirational man - Dr Bert Klug.

 To view the online version of this story visit [medicine.uq.edu/magazine](http://medicine.uq.edu/magazine).



Dr Klug, with his family at UQ's 80 Years of Medicine Celebrations.

# Breathing new life into CYSTIC FIBROSIS research

by Georgina Ramin



Greg Dunn with children Mya, Avery, Aidan and wife Heidi.



Aidan, Mya and Avery Dunn

Greg Dunn will never forget the heart-wrenching moment he and his wife learned that their two year old son had cystic fibrosis. It was half-way through the pregnancy of their second child.

As new parents, Greg and Heidi barely had time to come to terms with the diagnosis before being hit with a new harsh reality – their second child could suffer the same fate.

“We got two-out-of-two babies affected, which was pretty unlucky,” recalls Greg, who is now a father of three. Their youngest child doesn’t have the disease.

“When the kids were born they were talking about a life-expectancy into the early-30s, now they’re talking about it being late-30s, and it goes up every year.”

The incurable genetic disease primarily affects the respiratory and digestive systems. When both parents are carriers there is a one-in-four chance of the baby being affected with cystic fibrosis (CF).

Fast forward to present day and son Aidan, aged 17, and daughter Mya, aged 15, have learned to live with their disease. They stoically embrace up to three hours of daily treatments and numerous 2-3 week hospital admissions during each year for their ‘tune-up’.

“The kids take up to 25 tablets every day, including enzymes, antibiotics, vitamins, salt and also calorie supplements,” Greg explains.

“Twice a day we do treatments to remove excess mucus which clogs their lungs, and they take nebulised antibiotics and other drugs.”

Both children have been part of clinical trials to help improve their condition. Mya has responded to one trial with great success, but Aidan hasn’t been able to reap the same benefits due to concerns the drug may worsen his liver disease.

The good news is a new \$15 million Queensland Cystic Fibrosis Research Program has now been created to help improve outcomes for patients with CF in Queensland and elsewhere.

The program will focus on two new research projects: the Early Life Origins of CF lung disease (the ELO study) and the Mycobacterium abscessus (MABS) pulmonary disease program.

The ELO study will recruit patients from birth to 30 years of age to develop disease trajectories.

Both research projects aim to improve clinical diagnosis of lung disease and its progression across early life and adulthood.

“We will use novel lung function tests, novel MRI techniques, and develop new specific biomarkers that show lung disease activity earlier than currently possible,” UQ researcher, Professor Peter Sly explains.

“Findings from this study will increase our knowledge of why lung disease progresses, and will offer a better understanding of the relationship between early lung disease and loss of lung function.”

Professors Claire Wainwright, Peter Sly and Scott Bell will lead The Queensland Cystic Fibrosis Research Program team as part of UQ’s Child Health Research Centre.

Major funding to support this program has been awarded to the Queensland researchers by The University of Queensland, the Children’s Hospital Foundation and the American-based Cystic Fibrosis Foundation. The clinical trials have attracted funding from the Australian Department of Health Medical Research Future Fund and an anonymous donor, as well as support from the Thoracic Society of Australia and New Zealand. Research support will also be provided by the Children’s Hospital Foundation, The Prince Charles Hospital Foundation and UQ.

The research will be carried out in partnership with the Children’s Health Queensland Hospital and Health Service, the Metro North Hospital and Health Service and The Prince Charles Hospital.

# Advancing WOMEN'S HEALTH

by Georgina Ramin

They say a picture tells a thousand words and that certainly holds true for the photograph that sits proudly in an office at UQ's School of Public Health.

Pictured are three women, Professors Gita Mishra, Annette Dobson, and Julie Byles (University of Newcastle), who together with Professor Wendy Brown (UQ School of Human Movement and Nutrition Sciences) became the pioneers of the Australian Longitudinal Study on Women's Health.

Two years after the study commenced at The University of Newcastle, the women took a rare pause in their busy schedules to have dinner together, unaware that this photograph and their bond would endure the test of time.

Professor Brown was one of a small group of women at The University of Newcastle who had the idea to tender for the survey which would assess the health and health service use of three generations of women. They co-opted a person with extensive experience in large epidemiological studies to lead the study – biostatistician Professor Annette Dobson.

"I'd run a 10-year study on cardiovascular disease organised by the World Health Organization, so they invited me to be the founding director," recalls Dobson.

Shortly after setting up operations, there was a clear need for a second statistician to help crunch the numbers and a fresh-faced Mishra was hired for the job in 1995.

"We hired Gita, who had just finished her PhD in New Zealand, in her first academic job.

"She became enthused with women's health, and then progressed, spending about five years in Newcastle before going overseas. She always kept a focus on women's health wherever she could, building her skills in statistics and large longitudinal studies."

It was a fortuitous phone call from UQ's then Executive Dean of Medicine Professor Peter Brooks in 1999, who offered both Dobson and Brown positions at the University and a new home

for the study. Another notable researcher from the original group at Newcastle, Professor Christina Lee, later joined UQ in the School of Psychology.

"Over time it's been a serious exercise in capacity building and bringing expertise to UQ," recalls Professor Dobson.

"By this time, Gita was a fairly senior researcher and was looking to come back to Australia; UQ stepped up to the mark and offered her a position.

"We worked in parallel for a couple of years before it became pretty clear I needed to have a proper succession plan."

Passing the baton to Professor Mishra came easily for Professor Dobson, but she says there were times when she needed a gentle reminder from colleagues to pull back.

"When Gita took over, the advice from everyone was that I needed to make it very clear that she was the boss, and that I wasn't to hover around. It wasn't hard to step back, but I'm glad I had people reminding me."

Professor Dobson now works as a part-time researcher on the study and was recently awarded an NHMRC grant to focus on dementia.

She admires the drive in Professor Mishra, who is determined to keep the study running in the safe hands of the next generation. They are preparing early and mid-career researchers for all the possible futures of the changing healthcare system.

"Whether you're talking about better analysis of big data, how genomics fits into the picture or how the workforce will need to adapt to an ageing population, we need to prepare our young researchers to develop breadth right across the spectrum of healthcare so we don't lose relevance."

No matter what the future holds, both women will be there to guide the next successors through the ranks and continue the advancement of women's health.

 For more information on the Australian Longitudinal Study on Women's Health, visit [alswh.org.au](http://alswh.org.au).



Professors Julie Byles, Annette Dobson and Gita Mishra

The Australian Longitudinal Study on Women's Health started with more than 57,000 women in three cohorts, aged 18–23, 45–50 and 70–75 years old, in 1996. In 2012/2013 more than 17,000 extra women aged 18–23 years old were recruited to form a new cohort.



Professor Kirsty Foster

# *Liberation* through EDUCATION

by Angie Trivisonno

Professor Kirsty Foster is no comic book super hero but she could very well give Iron Man a run for his money, despite her mild-mannered persona.

"On my first day at Edinburgh Medical School in Scotland there were 50 women and 100 men in a cohort of 150. One of the male professors stood and looked at the women in the room and said 'I don't know what we're educating you for because you're all going to go off and have babies,' and I thought 'you just watch me'," Professor Foster recalls.

Six years later Professor Foster graduated as a doctor.

"I became the first woman partner in what was known as the 'Trainspotting' practice [named after the film] where I had spent my trainee year in general practice. It was a very tough area in Edinburgh. The senior partner previously thought it was too rough an area for women to work in but since I had already worked there for a year they knew I could hack it."

It is this experience that has spurred on Professor Foster throughout her career.

"My real burning interest and desire is to make a difference to health care, especially among vulnerable groups," Professor Foster says.

"From my practice in Edinburgh, I saw how much people have to struggle to get attention when they really need it and often don't have the wherewithal or support mechanisms to obtain help. It's the same whether it's in rural Australia or a deprived area of Edinburgh, Brisbane, Sydney or Melbourne.

"One of the reasons I wanted to come to The University of Queensland was because social accountability is a key value. The other reason was the medical program."

As the Director of the Office of Medical Education at UQ's Faculty of Medicine, Professor Foster is keen to have compassion and kindness as overarching principles in high quality, student-centred education and person-centred health care.

"I was always attracted to general practice because it gives the opportunity to look at a person as a whole, rather than just as 'the gall bladder in bed eight', an aspect of hospital medicine I didn't like," Professor Foster recalls.

"Thankfully that's changed now. An holistic approach to people and thinking about where they're coming from is really much more important.

"I spent a lot of the 1970s and early 80s striving to be the same as my male colleagues and then I realised that, actually, women are different. Women bring different strengths to medicine, just as broader diversity does.

"I think some of our strengths lie around the whole maternal thing, because [men] they're not built to be mothers, they're built to be fathers. This creates a difference in how we nurture and care for others.

"Basically, 50 per cent of the population are women. They deserve the choice to be able to see a woman doctor if they wish, and that doesn't apply to just older women in my experience. It's younger women as well. Some men also prefer to see a woman doctor.

"Our Executive Dean, Professor Geoff McColl is already working to increase access to medical education for women and other minority groups at UQ and this is important to us all.

"We want women to know they are definitely welcome at UQ, not like I found on my first day in medicine in Scotland."

 For more information about enrolling in The University of Queensland's Doctor of Medicine (MD) program visit [future-students.uq.edu.au/study/medicine](https://future-students.uq.edu.au/study/medicine).



Dr Lachlan Rash

# SPIDER-MAN

## *harnessing nature*

by Simone Moyle

Venomous animals are normally associated with pain, however they're now showing promise in the treatment of conditions like chronic inflammation, ischemic (low oxygen) tissue damage, traumatic nerve injury and multiple sclerosis.

Dr Lachlan Rash, Senior Lecturer at the UQ School of Biomedical Sciences (SBMS), started using venoms for drug development during his Honours at Melbourne's Monash University over 20 years ago.

"I once played with spiders to avoid studying in my final year of high school," Dr Rash laughs.

"I used to catch flies and feed them to black house spiders, when I should have been studying for my Year 12 exams.

"Who would have thought five years later I'd be studying their venom, and then make it my career," he says.

As part of his PhD, Dr Rash worked on several other spider venoms and discovered mouse spiders (*Missulena* spp.) have a similar neurotoxic venom to funnel web spiders, which means their bites can be treated with funnel web spider anti-venom.

An opportunity to travel to Antibes, France, saw Dr Rash complete a post-doctoral fellowship at the Institute of Molecular and Cellular Pharmacology.

"It was a very exciting time for me," he recalls.

"I started studying tarantula venom peptides that block ion channels, which are protein molecules that create pathways

for charged ions to cross cell membranes, and allow proper cell function, particularly nerve and muscle cells.

"My goal was to discover molecules that inhibit acid-sensing ion channels and other channels involved in pain and neurodegeneration in the body," Dr Rash says.

When he returned to Australia, Dr Rash joined UQ's Institute for Molecular Bioscience (IMB), and then established the Ion Channel Pharmacology lab at SBMS where he continues to research tarantula venoms.

"Our recent studies, in collaboration with Monash University, show that potent and selective venom peptide inhibitors of acid-sensing ion channels provides promising brain protection after a stroke in an animal model," Dr Rash says.

"We are now working to improve these peptides and test their potential to treat other inflammatory and ischemic diseases."

Working with spiders has made Dr Rash quite fond of the creatures.

"We keep tarantulas in the lab for many years so we can milk their venom, and I do get quite attached to them.

"Believe it or not, each spider has its own personality. One of my favourites, Queen Beatrix, is very feisty and quick to show her one centimetre-long fangs, others are quieter and more reserved."





# MIND OVER MATTER

by Georgina Ramin

Today's aspiring female neuroscientists walk across the shards of a glass ceiling that Professor Pamela McCombe helped break.

As one of only a handful of women to pursue neuroscience in the 1980s, the pioneering researcher has shaped the field into what it is today, all while raising five children.

Her fascination with neuroscience began while studying Zoology at school and drove her to pursue Medicine at UQ.

"I loved it for its complexity. Even as a medical student, I could see that this exciting and relatively unexplored field was going to take off and there would be much to do. I wanted to be part of it," she recalls.

"Both immunology and neurology were emerging and I was attracted to putting these two together in the study of neuroimmunology."

After completing her clinical training in Sydney, Professor McCombe enrolled in a PhD to study a rare neurological disorder called chronic inflammatory demyelinating polyneuropathy (CIDP), under the guidance of leading expert Professor Jim McLeod.

"I always felt supported by my mentors, but like all women, the real challenge comes with having kids," she recalls.

"It was difficult. I thought that I couldn't have it all, something would have to give, and that was money. I spent a lot on childcare and housekeeping to make sure my kids were well looked after."

No night shifts while raising five children made research look attractive to Professor McCombe and accelerated her towards a full-time career in the field. Her interests have spanned a range of neurodegenerative disorders, including motor neurone disease (MND), multiple sclerosis (MS) and stroke. Most recently, she has been studying the effect of pregnancy on MS.

"I've used my strengths in multitasking to shape my research," she explains.

"On face value, diseases like MS, MND and stroke are very different, but when you get down to the base biochemistry and the molecular biology, it's the same old molecules. I find it helpful to think about these processes in all different diseases. Women often excel in this way of thinking, and it's good to have people doing things in different ways."

Collaboration across genders, ages and research institutes has heralded a new era for neurosciences at UQ, and Professor McCombe has been at the forefront of this work. She has teamed up with several researchers across the University, including Professor Michael Pender on MS and the School of Biomedical Sciences MND research teams.

Now, it's about giving back and creating new opportunities for those who follow in her footsteps, something Professor McCombe hopes to achieve as the first female President of the Australian New Zealand Association of Neurologists.

"We are very focused on helping the next generation, and a lot of what we do is centred on supporting the trainees. We need to ensure the structures we have established keep rolling on."



Dr. David McEnery and mum Professor Pamela McCombe



# CAMP INDEPENDENCE

by Angie Trivisonno

Photo taken at the April 2019 HABIT-ILE camp at the Queensland Children's Hospital Middle School.

"Absolutely, independence is the motivator for these children."

UQ Senior Research Fellow Dr Leanne Sakzewski reinforces these words when speaking about her research designed to improve the lives of children who have cerebral palsy.

Unlike many traditional treatments which centre on children receiving occupational therapy and/or physiotherapy for one hour a week over six to eight weeks, Dr Sakzewski's study is all about intensity.

"Kids aged six to 16 years old come to a day camp for six and a half hours, five days a week over a fortnight, so they have 65 hours of very intense rehabilitation that is targeting the functional goals important to them," Dr Sakzewski explains.

The program, conducted at the Queensland Cerebral Palsy and Rehabilitation Research Centre, involves 120 children at the Queensland Children's Hospital and two other sites around Australia.

"Most children will set four to five goals for themselves. The older children can be very articulate about what they want to achieve.



"Children with more mobility challenges want to do things like independently transfer from their wheelchair to the classroom chair or the toilet without someone else helping.

"There's a lot of different goals and they're all highly nuanced to each child and their capabilities and motivations."

The anecdotal results are promising and the research project will be completed in December 2021.

"Looking at the kids before and after the camps, some of them fully achieve their goals and are making major changes," Dr Sakzewski recounts.

"We hope our study will show this treatment is effective in helping these kids achieve their goals, increase their mobility, improve their independence, and enhance how they use their two hands together.

"We also want our results to inform the National Disability Insurance Scheme (NDIS) to support these intensive models of therapy for children with cerebral palsy."



Mr and Mrs Frear

# Match made DOWN UNDER

by Georgina Ramin

From a chance encounter in the UQ library to walking down the aisle and stepping on stage, MD-PhD student Cody Frear thanks his wife for it all.

It was Louise Frear's reassuring words that encouraged Mr Frear to pursue an analogy between a children's burn treatment and a vacuum cleaner called 'Noo Noo' from the children's television show Teletubbies. The winning idea saw Mr Frear take home this year's UQ Three Minute Thesis competition (3MT™).

Over the past five years Mrs Frear has inspired her husband to add an extra three years to his studies to complete his MD-PhD. She was also the taxi driver whenever Mr Frear needed to recruit patients for his clinical trial, and made a home for the couple to settle down in Australia.

"I was recruiting from the hospital, on-call 24/7, for around nine months," Mr Frear recalls.

"Burns occur at all hours of the day, so sometimes I would receive a call about an eligible patient in the middle of the night. Louise would always volunteer to drive me in and pick me up, even if it was 3am."

Six months after starting a relationship with Mrs Frear, a law student at the time, the Arizona local headed back home to the USA to complete his undergraduate degree in anthropology and biology. Soon after Mr Frear headed back Down Under and enrolled in Medicine at UQ.

In April 2018, Mr and Mrs Frear exchanged textbooks for vows and married in Samford.

Now in the fourth year of his studies, Mr Frear's attention is focused on his MD-PhD, which is looking into a treatment method that might improve health outcomes for children who sustain thermal burns.

"It's called negative pressure wound therapy and works by applying an evenly-distributed vacuum across the area of a burn," he explains.

"This is hypothesised to improve healing by removing rogue immune cells from the injured area, reducing swelling around the burn, and directly stimulating the growth of new skin cells and blood vessels."

It was his time on hospital wards that gave Mr Frear insight into how children can perceive their burn injuries and the idea for his 3MT™ presentation.

"I was at home one night thinking about a patient I met in the burns centre. She was this remarkable girl named Ellie who would re-enact scenes from the Teletubbies," explains Mr Frear.

"Then I had a little flash of inspiration: perhaps I could use 'Noo Noo' as an analogy for the negative pressure device. It seemed like a half-decent idea at first, but, like many late-night light bulb moments, self-doubt quickly set in. Was it too silly? Are the Teletubbies still relevant? I was about to dismiss the idea altogether when Louise told me to follow my intuition and just go for it, which is a really good embodiment of our entire relationship."

Watch Mr Frear's winning 3MT™ presentation on the web at [vimeo.com/360951845](https://vimeo.com/360951845).

# WEIGHT *of it all*

by Georgina Ramin



Sifting through more than 500,000 genetic profiles would seem a laborious task for many, but not for UQ Diamantina Institute researcher and statistician, Dr Nicole Warrington.

Using statistical software to crunch the numbers, Dr Warrington is attempting to explain why babies with a lower birth weight are more likely to develop diseases like type 2 diabetes, obesity and heart disease.

"It can be hard for women to navigate competing information about what they should and shouldn't do during pregnancy," Dr Warrington explains.

"I hope my research will alleviate some of their anxieties by creating clear, evidence-based guidelines that tell mothers how their actions can impact their babies."

By focusing her attention on regions of the genome that are associated with birthweight, Dr Warrington came across a surprising finding.

"Previous research has primarily focused on whether the mother's intrauterine environment, including the nutrition she provides, programs her baby to develop cardiometabolic diseases later in life.

"Our research into low blood pressure found no evidence of this type of intrauterine programming, instead it appeared to be a genetic relationship."

Dr Warrington and her team conducted one of the largest ever genome-wide association studies, published earlier this year, and identified nearly 200 regions of the genome associated with birth weight.

Busting previous beliefs on the intrauterine environment was an exciting moment for the early career researcher, whose natural aptitude for numbers and desire to make mathematics meaningful led to her unique path of research.

"I've been thinking a lot about how we can increase the number of women studying and researching in these mathematic and statistical fields.

"Encouraging girls to pursue these subjects in school and in undergraduate degrees can help them find their own passion for numbers and solutions to real-world problems."

This particular problem might be too big for Dr Warrington to solve on her own, but it won't stop her trying to crack the code for younger generations.



# ROAMING *back home*

by Georgina Ramin



They say home is where the heart is and that's certainly the case for third-year medical student Tionne Seden, who one day hopes to return to the Torres Strait Islands as a rural GP.

The idea has played on Ms Seden's mind for years, but after two clinical placements in Roma in outback Queensland, she has made up her mind that rural medicine is going to be her speciality.

"Before enrolling in Medicine, I didn't know there was such a thing as rural medicine and rural generalism," Ms Seden recalls.

"I was excited as I started to learn more about specialities in the MD because I realised there was a career for people like me who didn't necessarily want to work in a major hospital."

After a successful Year 1 Observership in the small country town, Ms Seden decided to apply for her third-year placement in Roma.

"I spent six weeks on the wards of Roma Hospital and rotated through the Emergency Department, antenatal clinic and the pre-anaesthetic clinic. I even got to spend a few days in theatre," she remarks.

"The placement opened my eyes to the variety of cases I will encounter on a day-to-day basis as a rural generalist, which is exciting.

"I remember one case; a man in his 30s had come into emergency following a drug overdose, and all the medical students were helping stabilise him for retrieval. In Brisbane, we would have been nowhere near that patient."

The connection between rural doctors and their communities has given Tionne a deep appreciation for the role.

"One day, I was examining a patient and taking their history in the hospital, and the next week I was tending to her mum in another clinic.

"Being in a small town, you become part of the community. It's a sense of belonging I want to take back to my own hometown, and it seems more and more attainable every day."

Ms Seden will begin a rural placement at the Rockhampton Rural Clinical School next year.

**You can support students like Ms Seden by donating to the Medical Scholarship Endowment Fund.**

**Email [med.advancement@edu.au](mailto:med.advancement@edu.au) or call 07 3365 5075.**

# TECHNOLOGY

increasing *equality in health*

by Georgina Ramin



The success of telehealth is growing in leaps and bounds across Australia as it bridges the gap between diverse communities and specialist healthcare in the treatment of melanoma.

Many Australians have embraced the transformative service, experiencing first-hand how technology can improve their quality of life.

"A lot of my work has focused on Indigenous Australian communities and rural healthcare delivery," explains Dr Liam Caffery from the Centre for Online Health, part of the Centre for Health Services Research.

"We work closely with community health providers to create healthcare models that work in practice, not just on paper. So, the 'cookie-cutter' approach isn't always the most effective way to deliver telehealth services," he says.

"The key is understanding why telehealth works in some scenarios and not others so we can tailor services to individual communities.

"The benefits of telehealth aren't just isolated to outback communities. Telehealth also plays an important role in providing services to metropolitan patients.

"Telehealth helps improve equality in health for all patients."

Most recently, Dr Caffery and his team have ramped up the number of specialist services in outback Indigenous communities like Charleville and Cunnamulla. This builds on the regular telehealth endocrinology clinic, which has already been running in the Charleville community with great success.

For the past two years, Dr Caffery has also been using teledermatology and 3D total body photography in his efforts to detect melanoma earlier. That service is about to be rolled out to 15 rural communities across Australia.

*"High-risk patients with a previous or family history of melanoma will soon be able to go to an imaging centre and be scanned," says Dr Caffery.*

"Their photographs will be sent to dermatologists who will review them and provide a report and recommendations.

"The idea is to pick up any signs of melanoma as early as possible so intervention strategies can be put in place."

Dr Caffery is involved with the Princess Alexandra Hospital Telehealth Centre, Australian Centre of Excellence in Melanoma Imaging and Diagnosis, Child and Youth Forensic Outreach Services, eGROW, Health-e-Regions, DREAMT and the Diamond Jubilee Fund's Telehealth network.



**McCallum Founder's Lecture in Dermatology at TRI**

Professor Liz Eakin, Associate Professor Chris McCormack, Dr Amanda Godbolt, Dr Phillip Bushell-Guthrie and Dr David Francis.



**Class of 1969 50 Year Medical Reunion**

Dr Emlyn Jones, Dr Lynn Kennedy, Dr Marjorie Pawsey and Dr John Knott.



**Class of 1989 30 Year Medical Reunion at Customs House**

Dr Nick Pang, Dr Kylie Hall, Dr Claire Jarvis, Dr Claire Dunlop and Dr Mark Wilson.

**Donor Thank You event, celebrating philanthropy in Medicine**

Dr Stephen Emmerson, Professor Brett Emmerson, Mrs Elva Emmerson and Dr John Casey.

**Class of 2009 10 Year Medical Reunion at Victoria Park**

Dr Vanessa Whiting, Dr Adam Simpson, Dr Lindsay McGrath, Dr David Ryan and Dr Nicole Simpson Sng.



**Faculty leaders attend Brisbane Arcade's Spring Collection Runway Show.**

The Brisbane Arcade is part of the Mayne Estate Trust, which generates significant annual philanthropic income from the bequests of Dr James and Ms Mary Emelia Mayne in support of UQ's medical program and students.



**Bundaberg Rural Clinical School Open House Showcase**

Mr David Batt MP, Professor Sarah Strasser AM, Professor Stuart Carney, Dr Denise Powell and Mayor Jack Dempsey.

## Community contributions

### A tribute to Dr Keith Hirschfeld



Inaugural Otto and Joan Hirschfeld Scholarship Award:  
Dr Brian Hirschfeld, Dr Keith Hirschfeld and recipient Dr Max Lau.

On behalf of the Australia and New Zealand Society of Geriatric Medicine (ANZSGM), we express tribute to Dr Keith Hirschfeld, who passed away earlier this year and who was a significant contributor to our discipline.

The division acknowledges Dr Hirschfeld's pioneering endeavours in establishing geriatric medicine and rehabilitation as core subspecialties in Queensland. As Director of the Princess Alexandra Hospital Geriatric Medicine and Rehabilitation Unit in 1976, Dr Hirschfeld expanded the unit to also manage amputees and head injury rehabilitation. Dr Hirschfeld retired in 1989 but continued to work as a visiting physician until 1999.

As an honorary life member of the ANZSGM and Australian Association of Gerontology (AAG), Dr Hirschfeld served as President of the AAG between 1972-1976. Dr Hirschfeld was the founding member of the FAFRM.

The division and society are deeply indebted to Dr Hirschfeld's vision in promoting and advancing geriatric medicine to the development of services now present in Queensland. Dr Hirschfeld was a mentor and role model for future trainees and geriatricians.

**Professor Ruth Hubbard**  
Geriatric Medicine

### Importance of philanthropy

As the recipient of the 2019 Otto and Joan Hirschfeld Memorial Honours Scholarship in Immunology, I want to express my deepest and most sincere gratitude to the Hirschfeld family for this generous support of my education. I feel extremely fortunate and thankful to have been awarded with this honour.

As a result, I successfully completed my Honours degree with a GPA of 7 equating to Honours Class I, and was ranked first in my cohort. Additionally, I obtained results of excellent quality that will be compiled in a first-authored manuscript

for publication. These successful outcomes of my Honours year have enabled me to secure one of the highly competitive international PhD student scholarships by the University of Queensland to commence my PhD candidature in the Blumenthal lab in October this year. In this way, I will be able to continue pursuing my dream of becoming a biomedical scientist.

Thank you to the Hirschfeld family for your investment in students like myself, whose priority it is to contribute to the ongoing advancement of the field of immunology through research.

**Leslie Dominguez Cadena**  
PhD Student, UQ Diamantina Institute

### A memorable reunion

The Class of '69 celebrated the 50th anniversary of graduation in September... and what a weekend it was!

The festivities began on Friday night when we met for drinks and nibbles at the UQ Art Museum. Lots of wonderful memories and faces I had not seen for many years.

Saturday morning lectures began with Professor John Pearn addressing our cohort, followed by an array of interesting presentations from our own class and finishing with Professor Mark Smithers updating us on the complexities of today's university and medical school.

We joined again at the Brisbane Convention and Exhibition Centre on Saturday evening and enjoyed a delicious meal and it was a wonderful time in so many ways. Meeting, talking, occasional tears and joyous laughter all made a great encouraging time for all.

Sunday morning some travelled to the Breakfast Creek Hotel for lunch and more discussions and laughter.

It was a wonderful weekend and will allow many memories for the years to come.

**John North**  
UQ MBBS Graduate, Class of 1969

### A donor's perspective

From the first moment I stepped into an operating theatre as a medical student, I knew this was where I wanted to be for my working life, at the heart of the action helping people during one of the most difficult periods imaginable. Anaesthesia turned out to be my career for many fulfilling and rewarding years, so it was with considerable excitement that I discovered the UQ Centre for Excellence and Innovation in Anaesthesia at Royal Brisbane and Women's Hospital under the remarkable stewardship of internationally-acclaimed polymath Professor André van Zundert. As anaesthesia has given me so much, it is now my pleasure to give something back and support this remarkable team as they seek to take anaesthesia training and research to the next level and beyond, improving safety and comfort for patients not just in Queensland, but the world over.

**Dr Sheena Burnell**  
UQ MBBS Graduate, Class of 1980

### Bundaberg event supports rural health efforts

The vibe was upbeat and positive at the recent inaugural Open House at our Bundaberg Campus site. Present were UQ academics, Professors Stuart Carney and Kirsty Foster, local academics and health professionals, Faculty of Medicine and Rural Clinical School (UQRCS) staff, medical students and community members.

Many expressed delight and surprise at the progress made in Bundaberg by UQRCS in training future doctors from third and fourth years. The pipeline is starting to flow with past students attending as consultants, registrars and junior doctors.

Support for this continued growth was launched in the form of the 'Bundaberg Rural Student Scholarship Endowment'. Acting Director, Dr Denise Powell, said there have been unexpected ongoing successes from the event. An attending specialist has become an academic title holder and delivered his first tutorial last week, dentists and physiotherapists have expressed keen interest in working together on simulation cases and the Head of School, Professor Sarah Strasser, has been invited to attend a local farmers shed meeting. A great night!

**Dr Denise Powell**  
Bundaberg Rural Clinical School

We want to hear from you. To be considered for publication in our next print edition, send your letter to [med.alumni@uq.edu.au](mailto:med.alumni@uq.edu.au).

### Upcoming reunions

In 2020, the following classes have milestone reunions to celebrate!

1. Class of 2010 (10-year) Reunion
2. Class of 2000 (20-year) Reunion
3. Class of 1995 (25-year) Reunion
4. Class of 1990 (30-year) Reunion
5. Class of 1980 (40-year) Reunion
6. Class of 1970 (50-year) Reunion

Please contact the Faculty of Medicine Advancement team on [med.alumni@uq.edu.au](mailto:med.alumni@uq.edu.au) if you would like to help organise your class reunion.

## Leaders in public health and medical education

At UQ, we're committed to improving global health and share an ambition to make a difference.

With postgraduate programs across seven study areas, our students are prepared with the knowledge, skills and networks they need to create change.

Applications are now open for 2020 entry.

- Alcohol, Tobacco and Other Drug Studies
- Biostatistics
- Doctor of Medical Leadership
- Epidemiology
- Environmental Health Sciences
- Mental Health
- Skin Cancer
- Public Health

Visit [future-students.uq.edu.au](http://future-students.uq.edu.au).

# TREK

to save *women's lives*

by Georgina Ramin

A group of everyday Queenslanders will draw on the strength and determination of women suffering cancer when they embark on their own uphill battle and trek the epic Larapinta Trail in the Northern Territory next year.

The Cherish Women's Cancer Foundation wants you to join them on this challenging six-day hike to help raise vital funds for gynaecological cancer research at UQ.

Despite 6000 Australian women and girls being diagnosed every year, research into gynaecological cancer remains critically underfunded. One-third of women will tragically succumb to the disease.

Cherish Chairman and UQ cancer researcher, Professor Andreas Obermair, who will be part of the trek, describes the importance of research to improve outcomes for women with gynaecological cancer.

"Unfortunately, there's not the same kind of funding support for this cancer research like there is for other diseases. As a result, gynaecological cancer is not as well-known or understood, and this affects survival rates," he explains.

"Research is the most effective way to improve the odds of surviving gynaecological cancer. We have research teams ready to go to expand life expectancy and save more women's lives. We are only limited by the funds available.

"Currently, research trials in uterine, ovarian and vulval cancer all need funding. These projects will address impactful research problems, some of which have remained unsolved for more than 30 years."

Gynaecological cancer affects the female reproductive system and causes abnormal cells to grow and mutate. Uterine and endometrial cancer is the most prevalent form of the disease, followed by ovarian – the most deadly gynaecological cancer type – cervical, vulval and vaginal cancers.

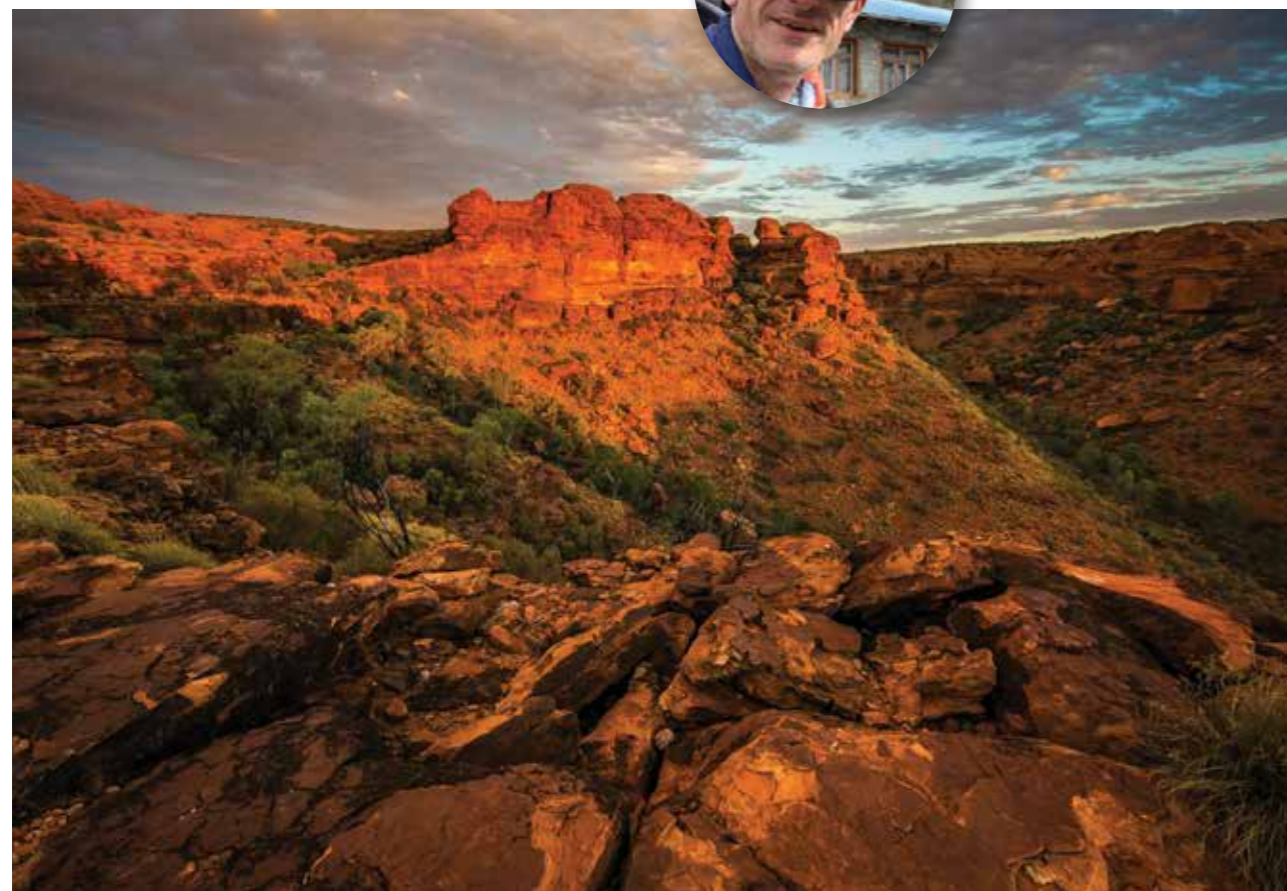
"That's why we need as many friends, workmates and families to go bush for this fundraising hike. The lives of the women we cherish depend on it."

Spots are still available for the Cherish Challenge Larapinta 2020. Participants commit to raising \$3500 for Cherish and cover their own travel expenses. 100 per cent of the funds raised go to UQ's Queensland Centre for Gynaecological Cancer Research.

If you are interested in joining the trek, please contact Lisa Harrold at [l.harrold1@uq.edu.au](mailto:l.harrold1@uq.edu.au) or visit [cherish.org.au](http://cherish.org.au).



Professor Andreas Obermair



**Together,  
our greatest  
days lie ahead**

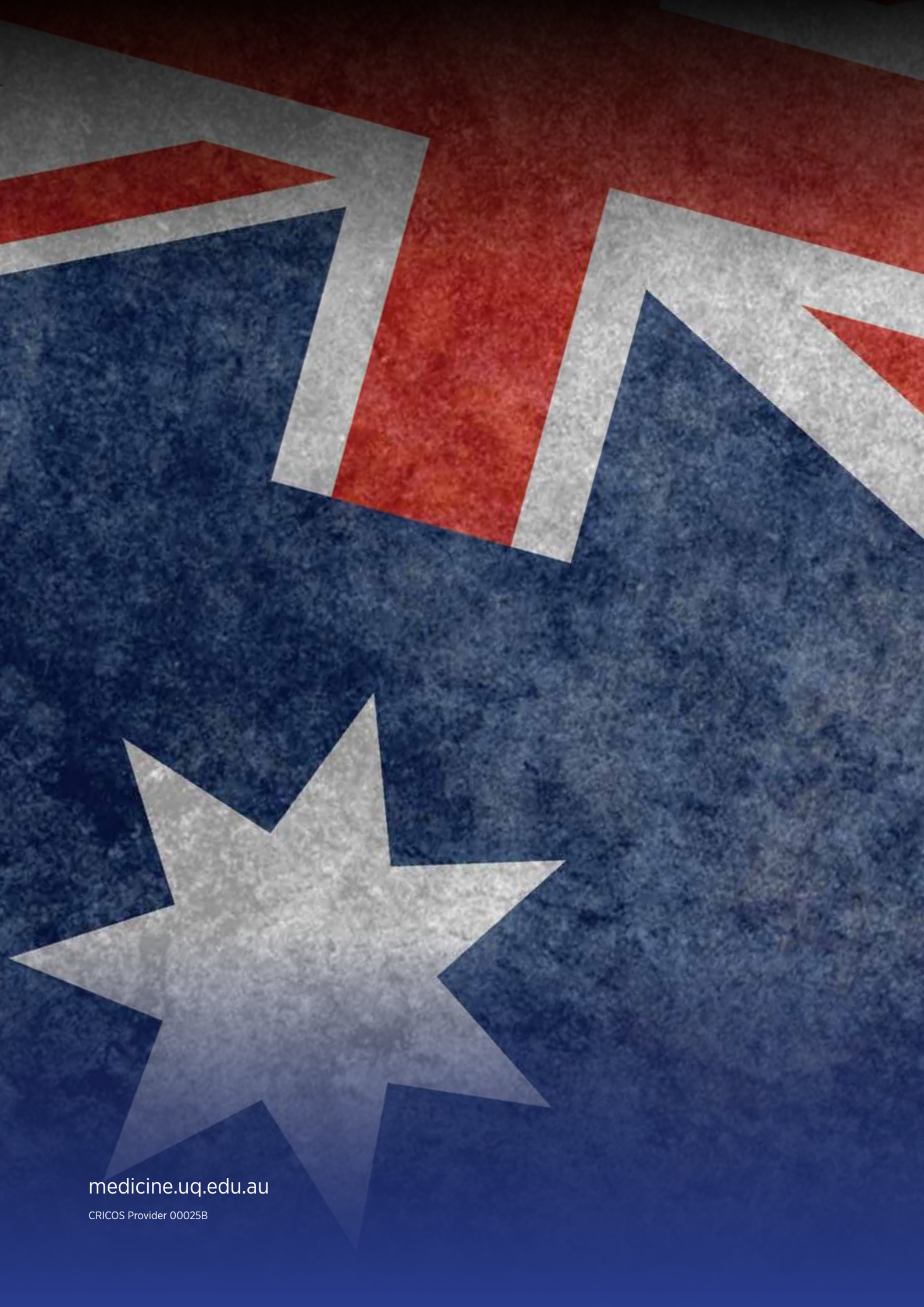
## Improving access to rural and remote health care through generosity and opportunity

Through community collaborations across Queensland, UQ is working to increase access to health care for people in rural and remote areas. In the Darling Downs region, Dr George Tucker and Lex Bailey are leading an effort to raise scholarship funds for medical and allied health students who want to study in rural or remote areas of Queensland. Dr Samantha Luck studied medicine at UQ's Rural Clinical School in Toowoomba and now practises in the community. She embodies the fact that students who study in rural and remote areas are more likely to stay in those communities, providing care as doctors, nurses, dentists, midwives and more. Philanthropy helps turn their career aspirations into reality, thereby helping people live healthier lives in rural and remote communities.

Give now at [medicine.uq.edu.au/philanthropy](http://medicine.uq.edu.au/philanthropy).



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