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2019 EDITION

Shining the spotlight on cybersecurity

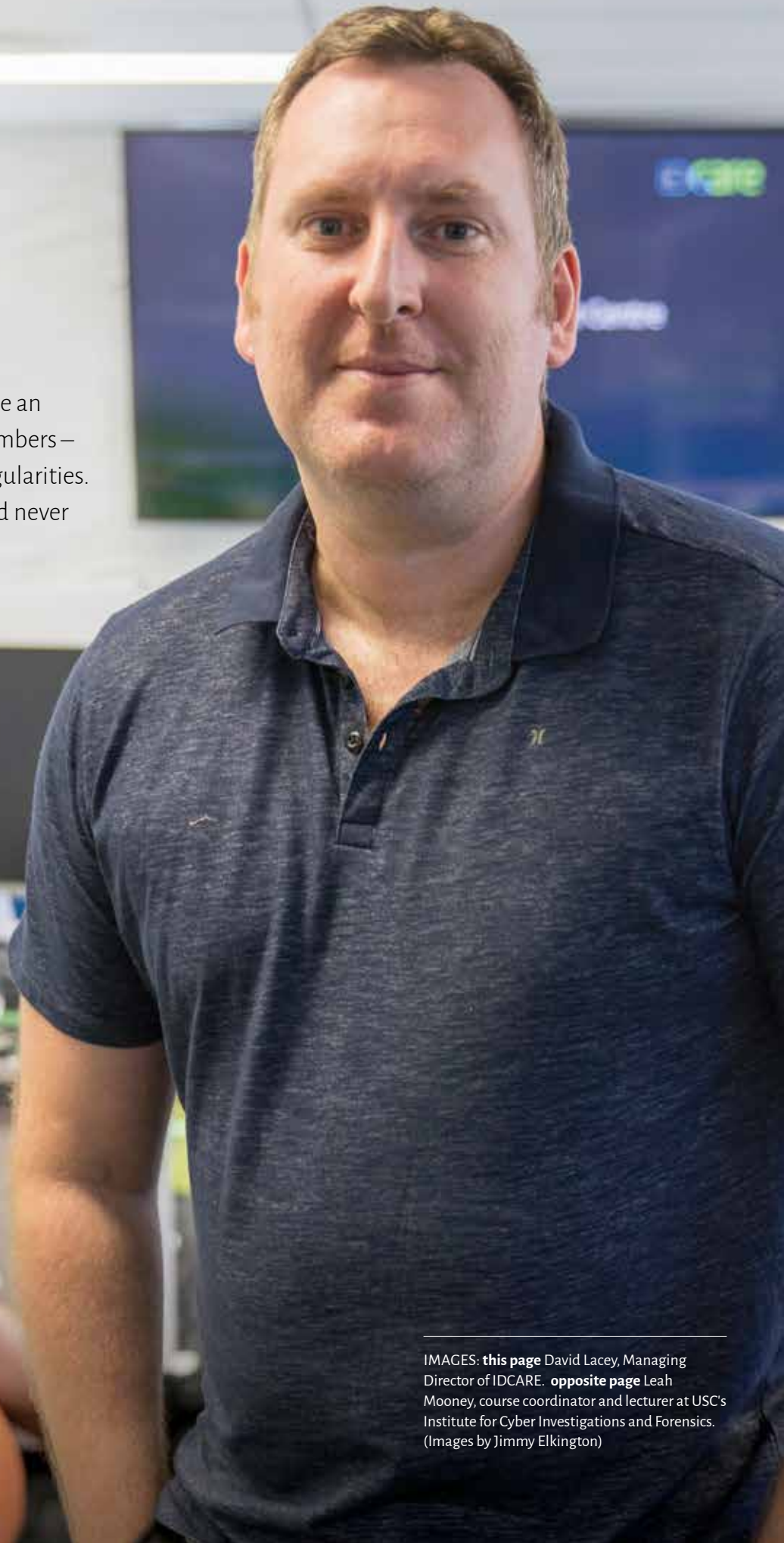
FROM RESEARCH TO REALITY:
MENTAL HEALTH IN OUR COMMUNITY

KICKING CARBON NEUTRAL GOALS

Cyber career change

BY TOM SNOWDON

David Lacey never wanted to be a cybersecurity expert. He wanted to be an accountant. He was interested in numbers – in solving problems, looking for irregularities. The world of IT and cyber activity had never really entered his mind.



IMAGES: **this page** David Lacey, Managing Director of IDCARE. **opposite page** Leah Mooney, course coordinator and lecturer at USC's Institute for Cyber Investigations and Forensics. (Images by Jimmy Elkington)

BUT then he went through a career change. He joined the army, working his way into intelligence roles, where his natural abilities for flagging threats were nurtured.

It was a turning point in his career that led him to take on some of the most senior roles in specialised crime-fighting organisations in Australia.

He now regularly advises governments and industry players about all matters relating to identity, cybersecurity, law enforcement and national security, partly through his role as Managing Director of IDCARE—Australia and New Zealand’s first national identity and cyber support service.

Professor Lacey also leads USC’s Institute for Cyber Investigations and Forensics—a training ground he established for future cybersecurity professionals, taught online by some of the most distinguished leaders in the field.

However, it’s not to his knowledge of computers or the online world that Professor Lacey attributes his success—or anyone else’s success in cybersecurity—it’s to an ability to communicate.

“There’s an emphasis on the C in ICT,” Professor Lacey says.

“The cybersecurity profession has not benefited at all from stereotypes around who the typical IT person is.

“What the industry needs is people who can communicate what they’re seeing happen in an online environment to an audience who is often non-technical—whether it be decision makers or executives in organisations.

“We need people who can explain what organisations need to do to mitigate risk.”

The industry is going to need a terrific lot of these new workers, too. A Deloitte Access Economics report projected a need for 60,000 more cybersecurity professionals by 2030 in Australia alone.

Another report, from the Australian Cybersecurity Growth Network, predicts the industry will triple in size to be worth a staggering \$6 billion by 2026.

“It’s an industry that’s crying out for more people because it’s evolved in response to the digitised economy and threats to that economy,” Professor Lacey says.

“The result of those two things is this new emerging profession that is having to play catch up.”

Professor Lacey says anyone who studied the arts, criminology, or law disciplines would already have the qualities needed in future cybersecurity workers.

“Most of our students are career changers,” Professor Lacey says.

“In terms of backgrounds, we’ve got a pretty mixed bag of students—people who have come from education, law enforcement, bartending, arts’ graduates, criminology and law.

“Our student cohort is largely representative of what you’ll find in the broader industry base.”

LEAH MOONEY—a course coordinator and lecturer at USC’s Institute for Cyber Investigations and Forensics—is among those who found their way into the cybersecurity industry via law.

Before 2012, she was a senior lawyer at multinational law firm Minter Ellison, specialising in insurance and risk management. But after returning from maternity leave, it was time for a career change.

Ms Mooney’s early move into cybersecurity put her at the forefront of the industry. She was one of the few females working in the male dominated field—an irregularity the industry is still trying to correct.

“The cybersecurity industry at that point was still immature,” Ms Mooney says. “Cyber-insurance was relatively new to Australia. There were some blue-chip insurance providers that offered policies but for the most part it was relatively new. Whereas now, you’d be hard pressed to find an insurer who didn’t offer cyber-insurance among their suite of policies.”

Ms Mooney set out to make herself a “thought leader” in the cybersecurity space, presenting at conferences, writing articles—taking any opportunity she could get.

Recognising the multi-faceted legal framework surrounding cybersecurity, Ms Mooney’s initial focus on cyber insurance developed into legal expertise in privacy, technology, media and communications. However, she realised there were limitations to working as a sole operator in the complex world of cybersecurity—a field that requires collaboration with experts from other disciplines.

“At the point I started doing data-breach response work, I realised a lawyer couldn’t do that job on their own,” Ms Mooney says.

“I needed to be part of a specialised team, so I started working with other cybersecurity response professionals.”

Ms Mooney now wears many hats. She still consults for legal firm Minter Ellison, and is an Executive Director and Company Secretary at IDCARE. She is also a senior legal officer at USC, specialising in cybersecurity and privacy. And, of course, she is one of the course coordinators and lecturers



at USC’s Institute of Cyber Investigations and Forensics.

“I have a portfolio career now,” Ms Mooney says. “To specialise in this area, I have to work across a number of organisations to get the right mix of expertise. It’s a juggle—and it has its own challenges—but it’s incredibly rewarding and flexible, which is very appealing.

“There’s something very gratifying about walking straight from the situation room into the classroom.”

Explore your postgraduate cybersecurity study options at:
usc.edu.au/institute-for-cyber-investigations-and-forensics
USC Law and Criminology students will be offered cybersecurity electives from 2020.



USC community digs deep on G-Day

BY GREG BRADLEY

THANKS to the incredible generosity of the USC community, over 100 deserving students have received a Study Support Bursary this semester.

Through G-Day, USC's annual giving day, and other fundraising initiatives, these bursaries are providing much-needed support for students at risk of dropping out due to financial pressure.

A total of 346 alumni, staff and local businesses contributed over \$156,000 towards G-Day 2019 and every dollar will go directly to those who need it most. USC and its students cannot say thank you enough for the incredible acts of kindness, which are truly making a difference.



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A celebration of philanthropy

BY TERRY WALSH

IN September, USC celebrated the amazing things made possible with the support of hundreds of generous donors. Over 200 guests attended the USC Celebration of Philanthropy event, which included a keynote address by USC Chancellor Air Chief Marshal Sir Angus Houston AK, AFC (Ret'd) and a panel presentation by scholarship donors and a student recipient.

Philanthropy has enabled the development of facilities like the Sunshine Coast Mind and Neuroscience – Thompson Institute (a world-class centre for mental health research, teaching and clinical services), the USC Art Gallery, which has the largest public collection of art on the

Sunshine Coast, and the USC Sports Precinct, which is home to several elite-level sporting teams.

In 2019, donations have also provided scholarships, bursaries and prizes of more than \$925,000 to 366 deserving students to acknowledge academic achievement and provide financial assistance to those in need.

“The impact is truly worth celebrating. When the University partners together with our community, incredible outcomes are achieved, and our full potential is realised,” said USC Director of Development Russell Ousley.

\$925,568
in donations to students



\$376,500 from **14** endowments

\$95,811 from **22** individuals

\$306,757 from **64** companies and organisations

\$146,500 from **432** Starfish and G-Day supporters



students received a donor-funded scholarship, bursary or prize



IMAGES: **opposite page 1** (L to R) Andrew Stevens (Project Urban), Amy Coney and Laurie Cowled. **2** (L to R) Kenan Hibberd (Unitywater), Denise Schiemann, Benjamin Must and Cassii Rusk (Unitywater) **3** (L to R) Win Fowles, Desiree Van De Kamp, Brittany Elliott and Leo Van De Kamp. **4** (L to R) Jocelyn Walker, Laraine Hill, Angela Gaiero, Suberia Clemmensen. **above 5** (L to R) Dr Ipek Kurtboke, Prof Fiona Bogossian, Associate Professor Marc Broadbent, Dr Alison Craswell and Elizabeth Cannon.

Supporting the futures of...

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| 75 TEACHERS | 9 ENVIRONMENTAL SCIENTISTS | 5 URBAN AND TOWN PLANNERS |
| 75 NURSES | 9 SCIENTISTS | 4 JOURNALISTS and COMMUNICATORS |
| 26 BUSINESS LEADERS | 9 SPORT AND EXERCISE SCIENTISTS | 3 IT PROFESSIONALS |
| 19 ENGINEERS | 8 OCCUPATIONAL THERAPISTS | 3 MEDICAL SCIENTISTS |
| 17 ACCOUNTANTS and FINANCIAL PLANNERS | 8 PSYCHOLOGISTS | 2 ANIMAL ECOLOGISTS |
| 16 LAWYERS | 7 HUMAN RESOURCES PROFESSIONALS | 2 DIETITIANS |
| 15 SOCIAL WORKERS and COUNSELLORS | 7 TOURISM and EVENT MANAGERS | 2 RESEARCHERS |
| 14 PARAMEDICS | 6 HEALTH SCIENTISTS | 2 WRITERS |
| 12 BIOMEDICAL SCIENTISTS | | 1 CRIMINOLOGIST |
| 9 CREATIVES and DESIGNERS | | 1 INTERNATIONAL RELATIONS OFFICER |

Simon and Sandy Whittle – a planned gift for USC

BY KATE EVANS

SIMON WHITTLE was born, grew up and has stayed on the Sunshine Coast. He was fortunate enough to get a job with his parents' paper, the Maroochydoore Advertiser, as it was known. He became the first advertising manager for the Sunshine Coast Daily when it launched in 1980. Simon has witnessed many changes to the Coast over the years. When a university was proposed for the region he was thrilled.

"It became pretty clear to me very early on that this was the most significant thing to happen in my lifetime on the Sunshine Coast," says Simon.

Simon also concedes that it was "a bit weird for someone like me, who was never an academic and I didn't go to university but for some reason I've always loved universities."

The built structure, the landscaping and the open spaces drew Simon in. Simon felt the landscape of the planned site was a high priority for Emeritus Professor Paul Thomas, USC's first Vice-Chancellor. He could see, with the architects employed, that the new campus would resemble the great universities he admired.

Simon says he is proud of his early association with USC, and enjoyed the time he had as a Foundation Board member.

"The graduation ceremonies were a great way to watch the University grow," Simon said.

Simon's wife, Sandy, a daughter of cane farmers in Maryborough, is a retired primary school teacher. The Whittles met through mutual friends and as Simon describes it, "even though Sandy wasn't remotely interested in cricket, she came to watch me play." They were married in 1991.

They have enjoyed living on the Coast and their friendship network is made up of people who worked in the volunteer sector.

When Simon and Sandy were first married, they created their Wills. As Simon grew older, he became more involved in philanthropy and more comfortable talking about it. The Whittles see the enormous potential in leaving a bequest.

"It is important to talk to those involved and make sure partners and children are in the loop," adds Simon.



Simon and Sandy understand that a bequest can be transformative for an organisation and even a modest amount can make a big impact. They would like their bequest to support campus enhancement, protecting the landscape and nature reserve on which USC Sunshine Coast is located.

For many people like Simon and Sandy Whittle, adding a charitable gift to their Will is one of the most powerful and enjoyable decisions they can make. They know they have created a legacy that will have a lasting impact.

We encourage you to discuss your intended bequest with us

and seek professional advice from a solicitor when planning your estate, to ensure your wishes are expressed correctly. Please let us know if you have provided for USC in your Will so we may express our gratitude and keep you informed of the programs you care about. For any bequest enquiries contact Kate Evans on +61 7 5456 5136 or visit usc.edu.au/bequest



The USC 1996 Society is a giving club that inspires conversations and action – not just about what is needed today, but about how philanthropists can shape and secure the future of higher education.

For more information about the USC 1996 Society contact Kate Evans on +61 7 5456 5136 or visit usc.edu.au/1996society



USC's outstanding alumni recognised

DR SONIA MARSHALL, OUTSTANDING ALUMNI AWARD WINNER

Dr Sonia Marshall, who graduated with a PhD in 2010, was among three winners at the Outstanding Alumni Awards at USC Sunshine Coast on 24 October 2019.

Dr Marshall, the recipient of the Outstanding Alumni Award, said she had driven positive change in public health and the local community using the communication techniques, research skills and "ability to think outside the square" gained during her USC doctorate in environmental interpretation.

The Sunshine Coast Council strategic policy officer in sustainability, whose teenage daughter has cystic fibrosis, last year successfully lobbied for a cystic fibrosis medication to be approved for listing on the Pharmaceutical Benefits Scheme.

The cost for patients to access the drug Orkambi has now dropped from \$250,000 a year to less than \$500 a year, increasing the expected lifespan of sufferers by 23 years to age 50.

Dr Marshall is currently leading a UNESCO Biosphere nomination for the Sunshine Coast area and continuing to work on local environmental sustainability benchmarking. In 2017, she helped achieve carbon neutrality accreditation for the Sunshine Coast Airport.

LIEUTENANT COMMANDER THOMAS MILLER, RISING STAR AWARD

The Rising Star award recipient was Royal Australian Navy Lieutenant Commander Thomas Miller, who has two nursing degrees from USC and is a full-time specialist Emergency Nursing Officer and Head of Nurse Education for the Australian Navy.

Lieutenant Commander Miller was sponsored by the Australian Defence Force during his USC studies, which included a Master of Advanced Nursing Practice (Emergency Care) in 2016 and a Bachelor of Nursing Science in 2010.

The senior clinician has held leadership roles in many types of operational deployments both within Australia and overseas, including Iraq, Fiji, and Papua New Guinea. His current role involves overseeing education for all nurses entering the Australian Navy.

This year Lieutenant Commander Miller attended a military operation in Kabul as Officer in Command of the Military Emergency Department. Last year he was awarded a Fellowship by the College of Emergency Nurses Australasia recognising his contribution and professional excellence in emergency nursing.

MR ANDREW FAIRBAIRN, REGIONAL ACHIEVEMENT AWARD

The Regional Achievement Award went to 2001 marketing graduate Andrew Fairbairn, who leads industry and membership development at Visit Sunshine Coast.

Mr Fairbairn said his Bachelor of Business (Marketing) had taken him from work experience at Tourism Noosa and sales management at Sheraton Noosa in 2004 to an international career with luxury hotel chains and Wotif Group across the Asia Pacific.

He returned from overseas in 2017 to champion the development of the Sunshine Coast as a tourism destination. A key element of this strategy was helping unify 19 local groups by creating a Sub-Regional Development Board and developing new tourism products and experiences. These initiatives have largely contributed to unprecedented visitation numbers for the Sunshine Coast.

For more information about the Outstanding Alumni Awards visit usc.edu.au/alumniawards

IMAGES: 1 2019 Outstanding Alumni Award winners (L to R) Lieutenant Commander Thomas Miller, Dr Sonia Marshall and Mr Andrew Fairbairn. 2 (L to R) Deanne Limpus, Marianne Carpenter, Kate Carpenter and Kristen Miller. 3 (L to R) Brad Poepmann, Amanda Poepmann and Chuck Forzatti.

Sunshine Coast Mind and Neuroscience – Thompson Institute

Leading the way in mental health research, teaching and clinical services

THE Sunshine Coast Mind and Neuroscience – Thompson Institute was established by USC as a hub for world-class mental health research, teaching and clinical services.

Opening in 2018, the Institute is already at the forefront of research for some of Australia's most pressing mental health issues, including dementia, suicide prevention, post-traumatic stress disorder and youth mental health.

USC received an Excellence in Research for Australia (ERA) performance rating of 5 for neuroscience, well above world standard, as an outcome of the research conducted at the Institute.

The Institute is committed to finding cures for these conditions through onsite research and educating the next generation of mental health professionals and researchers working in the field.

Importantly, the Institute's objectives are centralised around a community engagement model that enables the translation of research into practice.

This unique point of difference is called the Institute's C-A-R-E model. It has four central themes:

- Provision of **Clinical services**
- **Advocacy** for patients and their carers
- Ground-breaking translation **Research**
- **Education** and teaching

The model's rapid translation of research breakthroughs into clinical practice not only improves lives but reduces the economic and social impacts of mental health issues and creates commercialisation opportunities for USC.



Professor Greg Hill presented the Vice-Chancellor and President's Award for Excellence in Research to Professor Jim Lagopoulos at USC's September Graduation ceremony.

Professor Jim Lagopoulos BSc (USyd), MBIomedE (UNSW), PhD (USyd), FAINM, is the inaugural Director of the Sunshine Coast Mind and Neuroscience – Thompson Institute.



Support behind the scenes

BEFORE the Thompson Institute had a building, or even a name, Mary Henzell knew she wanted to support mind and neuroscience research at USC—so she created a scholarship.

The Judy Henzell Memorial PhD Scholarship was awarded to Dr Ben Isbel, whose research examined the ability of mindfulness to enhance attention, mood, and cognition in normal ageing.

This scholarship allowed him to lead the Healthy Brain Ageing Clinic, where he is exploring how mindfulness could help delay the onset of dementia.

“We have found that there is a clear link between mindfulness and healthy brain ageing,” Dr Isbel said.

“Results from our first study show that eight weeks of training is all that it takes to change the way the brain functions.”

Dr Isbel said that, with a young family, the financial support allowed him to focus on the research. To acknowledge the huge impact of her philanthropy, Dr Isbel presented Mrs Henzell with a bound copy of his PhD dissertation (pictured right).

A delighted Mary said, “I am so grateful that I was first to contribute to this research. It has been my absolute pleasure to have helped Ben and to have helped all this to happen.”

Healthy Brain Ageing Clinic

APPROXIMATELY 50 percent of the risk for developing dementia is modifiable. This means we can change it.

The Healthy Brain Ageing Clinic at the Thompson Institute will provide world-class research into reducing modifiable risk factors for dementia using lifestyle intervention programs.

The research will assess whether improvements in cognition (ie, memory and thinking) and mood can be brought about by lifestyle interventions, and identify the brain changes associated with any improvement. The clinic will open in November this year and the team are seeking people aged 50–85 years to take part in the research.



To get involved in one of the Thompson Institute's studies, visit usc.edu.au/thompson-institute

Studying young minds

THE Longitudinal Adolescent Brain Study has reached its one-year mark with significant initial findings.

Professor of Youth Mental Health and Neurobiology Daniel Hermens at the Thompson Institute, said that 67 young people had enrolled in the ambitious study which was “building world-leading understanding of adolescent brain development, vital for early detection that a young person's mental health is at risk”.

“Thanks to the commitment of our participants and their parents, we've completed more than 169 scans of young people's brains, tracking their development every four months from the age of 12,” he said.

The study is the first of its kind, because researchers are scanning young people's brains three times a year during the rapidly changing period of adolescence, as well as discussing

what is happening in their lives, including stresses and influences.

Professor Hermens said the first year had unveiled some interesting discoveries.

“Early findings have revealed significant links between sleep quality and mental wellbeing in 12-year-olds,” he said.

Professor Hermens said the study had also revealed a link between distress and the size of the hippocampus, a part of the brain that is important for learning and storing memories.

“We know from studies in adults that mental illnesses such as depression have been linked to smaller hippocampus sizes,” he said.

“Although it is not yet clear how this happens, it is thought that the hippocampus is vulnerable to stress.

“The good news is that the hippocampus can recover very well from things like stress and actually increase in size, due to synaptic plasticity which is when brain cells grow and make new connections with each other.

This means that early intervention could aid a swift recovery in brain function and mental health.”

Professor Hermens said the Thompson Institute had also started investigating how brain function during rest can be an indicator of mental health.

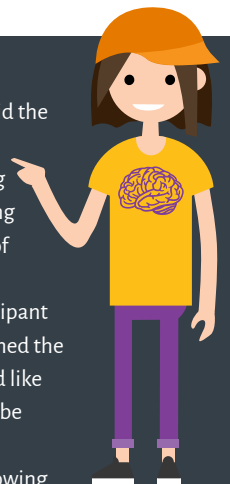
Twelve-year-old participant Oliver Woods said he joined the study because it sounded like “an important project to be a part of”.

“I am interested in knowing more about what studying the brain can do to improve everyone's health as they grow up,” he said.

The LABS study aims to reach 500 participants over the next five years and is currently seeking 12-year-olds in high school to register.

Data from the study is also being de-identified and made available to schools to conduct their own scientific investigations into mental health data, as part of a Future Researchers program.

For more information, visit usc.edu.au/thompson-institute/research



Congratulations

to the 1061 students
who graduated from
USC in September
and October.

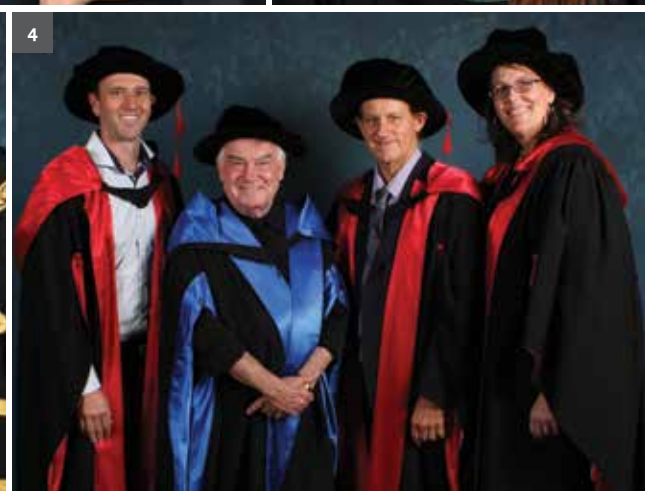


above Business graduate Belinda Harris was awarded a Chancellor's Medal in recognition of her impressive grade point average and devotion to disability advocacy and volunteer work. She received thunderous applause and a standing ovation for her moving speech. Belinda was among the many highlights of the USC graduation ceremonies held in September and October.

1 Fraser Coast Nursing science graduates Tahnee Togo, Brittney Day and Tracey Taylor. **2** USC MBA graduate Natasha Read received an Honorary Senior Fellow. Natasha has been a long-standing supporter and member of various USC committees including University Council. Her term concluded last December after nine years.

3 Prominent Mooloolaba businesswoman, philanthropist and long-time USC Foundation Board member Jocelyn Walker was awarded the Chancellor's Stole in recognition of extraordinary voluntary and philanthropic contributions to the University. She is with Chancellor Air Chief Marshal Sir Angus Houston AK, AFC (Ret'd). **4** Award-winning author and Professor Gary Crew became an Emeritus Professor for his contributions to the USC School of Creative Industries. Professor Crew introduced creative writing at USC in 1999 and expanded the programs to postgraduate, until his retirement this year. He is pictured with (L to R) Dr Ross Watkins, Dr Paul Williams and Dr Ginna Brock.

Images by Reed Graduations and Clare McKay.



Surfing the academia wave

TOM Wegener graduated with a Doctor of Philosophy (PhD) this year after finishing his thesis *Globalisation and the Sustainability of Small Manufacturers: Challenges Facing the Surfboard Artisans of Australia*.

Dr Wegener's PhD thesis began when it appeared mass surfboard production, particularly cheap imports from China, would ruin boutique shaping in Australia.

"Business from 2009 to 2012 was terrible. My research boiled down to what would be needed, as the impetus, for the surfboard industry to reinvent itself," Dr Wegener said.

"To my astonishment, 2014 saw many new makers come onto the scene who were making new designs. I simply couldn't believe it.

"What I found, as part of my research, was that among surfers, there is a culture of wanting the newest innovation. It seems that China can't keep up. Because we are niche, bespoke board makers, we have a culture that supports us."

This year Tom completed his thesis, supervised by USC's Professor of Sustainability Tim Smith.

"I loved bringing academia into the surfing world. It's being followed and it's making a difference to an industry that helps define who we are on the Sunshine Coast," Dr Wegener said.

Dr Wegener is now working on his own innovations using paulownia wood, which he pioneered globally as a surfboard material, and a non-toxic tree sap varnish from Japan called 'urushi'. He says this was a direct result of his USC research, leading to contact with suppliers.

"The world is in a place right now where people are really looking at these green industries that are dying and saying, 'wait a minute, we don't want to lose this industry,'" he said. "You look at surfing culture and it's not only about money value, but also cultural value. It helps people identify who they are in their social group and the value of a clean ocean and a safe environment – the intangibles that make our life really great here."



USC Moreton Bay will open early next year offering almost 50 jobs-focussed undergraduate programs. This full-scale teaching and research university will be the first full-service university campus ever built in Moreton Bay – one of Australia's fastest growing regions.

USC will introduce four new programs when it opens in 2020: Digital Futures (Bachelor of Business), Computer Science, and two engineering programs – Mechatronics and Electrical and Electronic.

With 90 percent of current students from the region travelling, on average, three hours a day

to attend university, USC Moreton Bay represents new opportunities for the community with easy access to a quality university education right on their doorstep.

USC Moreton Bay's 16,000 square metre foundation facility is the first stage of development within the university precinct – the anchor of Moreton Bay Regional Council's much larger Mill at Moreton Bay development.

\$10 million worth of state-of-the-art technology will be included in the foundation building including specialist areas such as nursing simulation labs, five engineering labs including a thermo-dynamic lab, and a large 'SuperLab' for chemical science experiments.

The foundation building is located next to a bus interchange and the Petrie train station. It has been designed to include the largest end-of-trip facilities of any USC campus, so more people can walk, run, or ride to the university precinct.

USC Vice-Chancellor Professor Greg Hill says, "The University has ambitious plans to help the region connect, expand and improve educational opportunities."

To see more of the campus and teaching and learning spaces, you can take a virtual tour online at usc.edu.au/usc-moreton-bay-tour or learn more about the programs and construction progress at usc.edu.au/moretonbay

USC library named after founding Vice-Chancellor

USC has named one of its most iconic buildings in honour of founding Vice-Chancellor, Emeritus Professor Paul Thomas AM.

The USC Sunshine Coast Library was renamed the Paul Thomas Library at a ceremony in May. Professor Thomas, who retired from the position in 2010, became inaugural Vice-Chancellor in 1996 and led USC through massive growth in enrolments and degree options, combating the talent drain from the Sunshine Coast and boosting the region's status and economy. The three-storey library, with its jagged roof line and slatted Queensland-style verandah, won multiple awards including the Sir Zelman Cowen Award for Public Buildings in the year it opened, 1997. It reflected Professor Thomas's vision for the campus as an innovative, welcoming and distinctly subtropical blend of the built and natural environment. Vice-Chancellor Professor Greg Hill said the library naming was a fitting tribute to the commitment, determination and ethos of Emeritus Professor Thomas.



USC student wins social media marketing award

AN emotive social media campaign designed by a final-year USC Bachelor of Communications student has taken out the Best Student Campaign in the Social Media Marketing Awards for Australia and New Zealand. Amy Roberts, 27 (left), is majoring in public relations, minoring in social media and advertising, and was recognised for her impactful storytelling campaign designed for the Australian Starlight Children's Foundation. Amy said: "The campaign included sharing stories of adolescent friendships formed throughout both Australia and New Zealand using a safe and supportive environment. The idea was that the foundation would then help the two friends meet in person for the first time, documenting the emotional moment to share with audiences online." Amy was named a finalist alongside two fellow USC Social Media students, Kirsty O'Callaghan and Cinty Buxton. Lecturer Dr Karen Sutherland was also acknowledged as a finalist in the Best Social Media Educator Award. She was formally recognised at the awards evening for her work as the Academic Ambassador for the Social Media Marketing Institute.



USC scientist joins world-first lobster research hub

A USC molecular researcher will play a vital role in a joint project to establish the world's first land-based rock lobster aquaculture industry in Australia. Senior Lecturer in Science Dr Tomer Ventura will join an ARC Research Hub for Sustainable Onshore Lobster Aquaculture—a project led by the University of Tasmania. Part of the project will include the development of a lobster farm at Townsville, providing an alternative, sustainable source of high-value seafood. Dr Ventura said the project to develop commercial-scale, land-based production of rock lobsters was the first of its kind in the world. Dr Ventura will lead the molecular genetics component of the research, developing techniques that will inform the culture of rock lobsters from egg to product-size on a commercial scale. USC is nationally and internationally recognised for its leadership and strength in aquaculture biotechnology research.

Aspiring diplomat inspired by Tokyo and Bangkok trips

INTERNING at the Australian Embassy in Tokyo and attending a high-level meeting simulation of the Association of Southeast Asian Nations (ASEAN) in Bangkok has given a 24-year-old USC student amazing insight into global relationships. Raymart Walker was one of 14 students selected by the Australian Department of Foreign Affairs and Trade (DFAT) to attend the 5th ASEAN Foundation Model ASEAN Meeting, known as AFMAM, where students from member nation universities role-played government decision-making on issues in South East Asia. Raymart also enjoyed an internship at the Australian Embassy in Japan and a study exchange at Akita International University. He travelled on a New Colombo Plan scholarship awarded by DFAT. Raymart has since accepted a role as an education officer with the ASEAN-Australia Strategic Youth Partnership while continuing his USC studies on campus at USC Sunshine Coast.





Professor of Sustainability recognised for life work

USC Professor of Sustainability Tim Smith has been named a Fellow of the Institute of Australian Geographers (IAG) in recognition of more than two decades of human geography research. A pioneer of understanding the dynamic relationships between social-ecological change and coastal livelihoods, Professor Smith said he was honoured to have received the award. "I've dedicated my professional life to understanding the implications and interactions between societal and ecological change and I'm still passionate about what geography as a discipline can do in the face of climate change. We're living in an age where people are the dominant force in changing the planet, which means humans aren't only responding to change, we're actually causing it. Over the next decade geographers will play a leading role in understanding the implications of the relationship between people, place and change." USC is rated at 'world standing' by the Excellence in Research for Australia (ERA) for research relating to human geography.

'Hidden victims' of tiger poaching: the tapir

A tiger conservationist is set to continue her USC research into poaching deaths of the tapir – an endangered mammal that lives in the forests of Sumatra. Animal ecology graduate Kassie Campbell, who received an academic excellence medal, had her first paper published in the leading international journal, *Biological Conservation*. Her joint research found an increased risk to Malayan tapirs becoming caught in illegal snares set by poachers in the lucrative black-market trade for tiger products. Ms Campbell said: "The Sumatran tiger is critically endangered and the focus of many campaigns, but there is less emphasis on the Malayan tapir, which lives alongside tigers and gets trapped in tiger snares accidentally." The journal publication recommends the immediate assessment of the Sumatran population of Malayan tapirs to determine their status. It's believed there are fewer than 2,500 tapirs left in Asia. Ms Campbell is continuing the research in a USC Honours degree with Senior Lecturer in Animal Ecophysiology Dr Christofer Clemente, who was principal supervisor of the project.



USC 1996 Society granted excellence award

USC is one of six Australian universities recognised in the 2019 Circle of Excellence awards held by the global Council for Advancement and Support of Education (CASE). The USC 1996 Society was the only entry from the Asia Pacific region to be awarded in the category of Emerging Programs. The society was started as a giving club in 2017 by USC Foundation Board members, staff and leaders in business and the community. It is open to donors of at least \$1,996 annually to the University's general endowment. The amount references the year USC opened at Sippy Downs. Development Office Director Russell Ousley said the award was wonderful acknowledgment of an important program. "The endowment will strengthen USC's investment in current and future students and innovative research. Donations are held in perpetuity while the interest is used for important university projects and programs. The fund currently stands at more than \$250,000 and is growing."

USC graduates named top local businesswomen

TWO USC graduates have taken out top honours in the Sunshine Coast Business Women's Network 2019 Awards. Frances Cayley won Outstanding Business Woman of the Year and Jade Law won Young Business Woman of the Year. Ms Cayley, who heads the council's property branch and is project director of the Sunshine Coast City Hall development at Maroochydhore, gained her Bachelor of Property Economics and Development and Faculty Medal from USC in 2011. Ms Cayley said studying at USC helped her land the senior management position – a position where she applies skills learnt in her degree on a daily basis. Ms Law, who graduated earlier this year with a USC Bachelor of Social Science (Psychology), is a human resources officer in the council's recruitment division. She said her degree gave her an invaluable understanding of people – critical skills to have in a human resources role.



Sustainability goal: Carbon neutral

BY ANNE MARIE DeROSE

“USC is committed to sustainability through our culture and governance structures, excellence in teaching and research, and effective corporate practices.”

—USC Vice-Chancellor and President, Professor Greg Hill

USC set an ambitious goal back in 2016: to achieve zero net carbon emissions by 2025. The focus is on reducing emissions through in-house initiatives before turning to buying carbon offsets.

Measuring performance is vital to achieving this goal, which is why USC captures and reports on emissions from its transport, travel, electricity, water and waste. One of the keys to successfully reducing emissions, while expanding the University, is to innovate. USC's approach towards managing and minimising waste is a good example.

In 2013, USC was the first Australian university to adopt a total waste streaming system that includes onsite processing of green waste. This system captures four waste streams: general recycling, green waste, paper and general waste. In order to divert more waste from landfill, campus food venues now use compostable cups, cutlery and plates. This waste, along with food scraps and paper towels, is fed into OSCA, USC's On-Site Composting Apparatus.

In 2018, USC diverted 45 percent of its waste from landfill. At capacity, 50 tonnes of organic waste a year is now processed by OSCA. This avoids 60 tonnes of CO₂ from entering the Earth's atmosphere.

OSCA is a popular sustainability attraction, with regular requests for tours from schools and businesses to learn about how they can adopt a similar waste management model.

Replicating initiatives across each campus means USC can multiply its efforts. For instance, the University is committed to becoming a “water refill campus”. That means there are no single-use water bottles sold on campus. This reduces waste and encourages staff and students to develop sustainable habits.

Another key to reducing the University's emissions is embedding sustainability initiatives into the curriculum. That is why USC runs sustainability tours, makes experts available for lectures and engages students at each step of major sustainability initiatives, such as the new thermal energy storage tank, known as the ‘water battery’.

Students can then use what they learn at USC to drive sustainable change in their workplaces and in their lives beyond university.

Innovation in energy

PREVIOUSLY, energy use accounted for over 75 percent of USC's environmental footprint, with a significant portion generated by the air conditioning system. The University's focus on reducing emissions meant that a more sustainable system was needed.

USC worked with an external partner, Veolia, to devise an innovative solution. That partnership resulted in the first thermal energy storage battery powered by renewables in Australia. The solution represents innovation across design, financing and education.

“It is essentially a giant water battery,” USC Vice-Chancellor Professor Greg Hill said.

The project consists of more than 6,000 solar panels that are chilling water held in a 4.5 megalitre thermal energy storage tank. That chilled water is pumped through air conditioners across campus, resulting in a 40 percent reduction of energy consumption from the grid, which will reduce emissions by more than 100,000 tonnes of CO₂ and save USC \$100 million over 25 years.

Veolia funded the development and construction of the infrastructure and will own and maintain it for the first 10 years of operation. Veolia will recoup its investment by charging USC for the solar energy produced during that time at a rate cheaper than from the grid. At the 10-year mark, ownership will transfer to USC for the remainder of the project's 25-year lifespan.

Deputy Head of the USC School of Science and Engineering Dr Graham Ashford said students had access to the project and Veolia experts during the construction stage and will continue to visit the site and use it as a hands-on sustainability case study.

“The university practises what it preaches. This project is proof that we are leading the way in sustainability initiatives,” Dr Ashford said.

To learn about more initiatives, such as how USC recycles its lake water for use in University pools and chillers or about study options in sustainability, go to: usc.edu.au/sustainable-usc

International accolades for USC water battery

USC's new 'water battery' gained global recognition at an awards ceremony in Iceland this October.

Alongside resource management company Veolia, USC won the *Out of the Box* category of the Global District Energy Climate Awards for the innovative system that is cutting grid energy use by 40 percent at the USC Sunshine Coast campus.

The award was received by USC Manager Infrastructure and Energy Dennis Frost, who drove the project from concept to completion. Mr Frost was also named *Practitioner of the Year* at the Tertiary Education Facilities Management Association Clever Campus Awards.

WATER BATTERY QUICK FACTS

- ✔ **6,000+** solar panels (2.1 megawatt solar system)
- ✔ **4.5 megalitre** thermal energy storage tank
- ✔ Saves over **100,000 tonnes** of **CO2**
- ✔ Over **\$100 million** saved in energy costs over 25-year life of the system
- ✔ Powers **4 electric vehicle charging stations**, with capacity to expand to over 20



the last word



Emily Rigby, horticultural research scientist in the field of medicinal cannabis

Graduating from USC in environmental science in 2008 and first-class honours in horticulture in 2014, Emily Rigby is a horticultural research scientist who has been working in the field of medicinal cannabis since legislative changes came into effect in 2016. She is Director of Research and Compliance for Cannatrek, Director of Research Programs for the AIMC (Australian Institute for Medical Cannabis) and is President of the Australian Society of Horticultural Science. Emily is dedicated to removing the stigma surrounding the cannabis plant, facilitating the Australian medical cannabis industry and improving patient access. Emily has also worked for many years in ornamental horticulture. Her research into the Australian native umbrella fern led to its successful domestication and first commercial plantation.

Q&A

I grew up/went to school in... Fig Tree Pocket, Brisbane. **When I was a kid I wanted to be...** like my older brothers. **My first job was...** dressing up as a koala for the Wilderness Society. **Now I spend my days...** growing, researching, educating and advocating for medicinal cannabis. **I can't live without...** my family and my forest. **My proudest moment was...** my two children. **The best advice I've been given is...** to always believe in yourself. **In other people, I value...** honesty and integrity. **It's daggy, but I love...** plants. **I'm currently reading/watching...** *Sir Joseph Banks and the Question of Hemp* by John Jiggins. **My hidden talent is...** whiskey connoisseur. **I'm hopeless at...** taking time off work. **One day I'd love to...** live in Spain.

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Tel: +61 7 5459 4558 | Email: marketing@usc.edu.au | usc.edu.au

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USC ART GALLERY REDEVELOPMENT

BY MEGAN WILLIAMS

USC Art Gallery is embarking on an ambitious capital works project made possible through the generosity of the late Arija Austin.

The project will see an expansion of the gallery's footprint through the construction of additional exhibition space, storage for our growing University art collection, and much-needed space for programs and events. It has temporarily closed while undergoing this transformation.

USC is committed to its communities and this revitalisation will give us the capacity to present inspiring world-class exhibitions and programs that encourage curiosity, inquiry and exchange.

The project is due for completion in the first half of 2020. Keep up-to-date with progress by visiting usc.edu.au/art-gallery



New facility to invigorate Creative Industries at USC

BY TERRY WALSH

CONSTRUCTION has started on a new building at USC Sunshine Coast that is set to inspire the study of creative industries and enliven the campus as a venue for regular performances by musicians and actors.

On track to open in March 2020, the new building will have an internal performance area for an audience of 80 and a stage for larger crowds that opens out to a lawn and the USC Art Gallery piazza.

It will feature professional-quality recording and video studios, a black box theatre production space, and Queensland's first MIT Fab Lab Maker Space.

Head of School of Creative Industries Professor Phil Graham, who is also a professional musician, said the new building would become the creative heart of the University and for creative industries across the Sunshine Coast.

"It will be a centre for engagement for the University with members of the broader creative industries across the region. It will provide a professional production facility for not only our students, but also the wider community," he said.

"There will be many uses for this building beyond teaching, including hosting creative festivals and collaborations involving our students, staff, and national industry experts that connect the talent of the Coast with the global creative industries."

The new building is designed by Wilson Architects and is being built by BADGE Constructions.



Image provided by Wilson Architects



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