Young Woman of the Year
How Angelica Merlot is shaping the new frontier of cancer research

Inside Opal Tower
Engineering Dean Mark Hoffman describes what went wrong

Liquid gold
The breakthrough that offers clean water to the world

Surviving our roads
Simple steps to keep more pedestrians and cyclists alive
From the Vice-Chancellor
W e l c o m e t o t h e f i r s t e d i t i o n of UNSW Magazine for 2019.

O n delivering the Gandhi Oration earlier this year, The Reverend Tim Costello reminded us of the power of ordinary people to do good, drawing on Bapa’s timeless advice that “in a gentle way we can shake the world.”

Alongside an edited transcript of Costello’s Oration, this issue of UNSW Magazine is overflowing with stories of the many ways UNSW students and staff make a positive impact – both gently and quite powerfully - on the world.

I found it heartwarming to read about the spirited display of inclusion and community that was our third appearance at the Sydney Gay and Lesbian Mardi Gras, and to learn that the Australia Ensemble, which has been resident at UNSW since 1980, has exciting plans for the future, after four decades delighting classical music fans across Australia and the world.

There is ample inspiration to be found in the story on Dr Angelica Merlot’s pioneering work on drug-resistant pancreatic and brain cancers, as well as news of our University’s new global outreach efforts to improve eye care services in Malawi and access to electricity in Malawi.

As always, UNSW pushes the boundaries of what it means for a university to serve society. But what is most clear reading these stories is the depth and breadth of the impact UNSW people make.

I hope that you enjoy exploring this edition of UNSW Magazine as much as I did. Only by working together can we “shake the world” in the most diverse and inspiring ways.

Professor Ian Jacobs

Top honours from the Australian Academy of Science

Seventy-one Fellow Dr Laurie Menzies of UNSW Climate Change Research Centre and Dr Daniel Falster of Ecology Research Centre were among 20 Australian scientists recognised with honorific awards by the Australian Academy of Science. Dr Menzies, an early career researcher and ARC Future Fellow who received the Dorothy Hill Medal, aims to help improve projections of climate and sea-level rise using research focusing on the role of ocean circulation in climate change. She has made major contributions to understanding oceanic circulation, its variability and its impact on global climate, the carbon cycle and the cryosphere.

“Given increased atmospheric greenhouse gases, this knowledge is crucial to improving climate and sea-level projections,” says Dr Menzies. “This year my research will focus on understanding some of the warmest periods of the recent past and attempting to pinpoint the feedbacks that led to high latitude warming, loss of continental glaciers and higher sea-levels.”

Dr Falster received the Fenner Medal for his research on the impact of human activities in ecosystems. The Royal Society of NSW commended him for his “ground-breaking research” and for “his dedication to sentimentally improving our understanding of the processes shaping biological diversity.”

Cancer screening expands Uganda health program

More than 1500 women from northern Uganda have been screened for cervical and breast cancer as part of a community health project – backed up in part and quite powerfully - by the Universidade de São Paulo.

Launched in 2016, the Transforming Community Health Program is a partnership between UNSW, Gulu University and the Ugandan Health Ministry to improve women’s and children’s health, reduce non- communicable diseases and mental illness, and introduce online learning in the Gulu University Master of Public Health program.

Before the program, Ugandan women had some of the poorest prospects in the world when it came to surviving cervical cancer. Now cancer clinics for women are being launched in health centres across northern Uganda.

“By the time the five-year plan for the Transforming Community Health Program finishes, we should have really well-trained nurses and midwives in cervical cancer screening in all the major health centres across northern Uganda, as well as trained health educators, researchers and clinicians,” says Professor Robyn Richmond, of UNSW Medicine.

The UNSW team also surveyed women about domestic violence to better understand the underlying social issues affecting efforts to provide better health services for women.

The group is screening children for cataract, scoliar and oral health this year, and will survey non-communicable diseases among those seeking information on nutrition, tobacco use and alcohol consumption, with emphasis on cardiovascular problems and mental health.

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Translator: Anthony Kelleher

Kelleher leads Kirby Institute

• Leading international HIV researcher and clinician Professor Anthony Kelleher is the new Director of the Kirby Institute.

The Dean of UNSW Medicine, Professor Rodney Phillips, said Professor Kelleher (pictured) was “an accomplished and highly respected academic and clinical scientist with a strong record of high-impact research across the Kirby Institute, UNSW Sydney and St Vincent’s Hospital, Sydney”. The Kirby Institute’s inaugural Director, Professor David Cooper, passed away last year. The Kirby Institute has been at the forefront of infectious diseases research in Australia and globally, for more than 20 years.

Johnston wins Clarke Medal

• Professor Emma Johnston, Dean of Science, is the winner of the Royal Society of NSW 2018 Clarke Medal for her research on the impact of human activities in complex marine ecosystems. “A deeper understanding of our coastal ecosystems is critical to human health, and in a rapidly changing world,” Professor Johnston said. She is now leading the development of molecular approaches to monitoring the biodiversity and functioning of estuarine ecosystems. The Royal Society of NSW Clarke Medal is one of the most highly prized awards for natural scientists, with the disciplines of botany, zoology and geology considered in relation to every three years.

LEADING RECYCLING INNOVATION

• UNSW will lead the new NSW Circular Economy Innovation Network, a state government initiative to drive waste management and recycling. It will link industry with government, local councils and researchers to stimulate new ways of tackling the challenges of the circular economy. Founding Director of UNSW’s Centre for Sustainable Materials Research & Technology (SMaRT), Professor Emma Johnston, said the centre has appointed Executive Director of the new network. “We need to rethink attitudes to all the materials we discard and start to see them as valuable resources if we want to live more sustainably,” she said.

Cover image: Angelica Merlot, cancer researcher and the NSW Young Woman of the Year. Photo: Anna Kuzera

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In this issue

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COVETED RESIDENCY

• Award-winning sculptor and UNSW Art & Design graduate Rex Sellen has been awarded the coveted Terson Sculpture Award by the Australian Council Affiliated Fellowship to study in Rome. The fellowship will enable Mr Sellen (pictured) to spend two months in residence at the prestigious American Academy. Mr Sellen, who graduated from UNSW in 1998, says Theory and History is, in his contention, one of the most important areas of carving techniques that explore difficult human problems. He also works in sculpture, photography, video and installation. Mostly, Mr Sellen says, his work has shown a lot of the plight of refugees and migrants around the globe.

Hones enormous potential

M ore than 200 of the world’s brightest minds converged on UNSW for an event that underscored the need for higher education institutions to do more to champion the value and significance of their research.

The Times Higher Education Excellence Summit: Asia Pacific at UNSW Sydney in February challenged university leaders and researchers from around the world to better showcase how they are tackling the world’s major problems.

UNSW President and Vice-Chancellor Professor Lachlan Joels implemented higher education leaders to continue to fight for research in the public interest and to work better together.

Professor Jacobs said flagging enthusiasm for public funding for universities and research was a challenge.

“Academics and university leaders must be proactive in sharing their stories and emphasising the link between universities and the research that, ultimately, advances society,” Professor Jacobs said. “We have to make sure communities care enough to champion our work on issues as diverse as accounting, linguistics, political science, psychology and law.

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**New publication puts students in the beating heart of a newsroom**

Newsworthy, a news website featuring writing, audio and video produced by the School of the Arts & Media Studies, is adding a voice to Australia’s news media industry.

A network of contributors from across the Faculty of Arts & Social Sciences are also contributing to the site, which is run under the guidance of a former editor of The Sydney Morning Herald news app, Connie Levett.

Ms Levett, who has more than 30 years’ experience in the industry, came on board as Newsworthy’s editor because she saw the value in students gaining practical experience in online publishing.

“Newsworthiness is about student learning,” Ms Levett says. “The experience of working in a high-powered digital newsroom… it can be a brutal world. You need some basis before you get thrown into that.”

“We made a decision to have a place where the students could publish their work, because one of the big things when you’re leaving university is to have a portfolio and get that first job.”

The publication aims to cover topics relevant to modern newsrooms.

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**Professor Simmons appointed inaugural Provost**

Professor Anne Simmons has been appointed the inaugural Provost at UNSW Sydney.

The recent Pro-Vice-Chancellor, Academic Excellence and UNSW alumnus has served in senior leadership roles in Australian higher education for 20 years. As UNSW Provost, Professor Simmons is the senior deputy to the Vice-Chancellor and a member of the University’s Management Board.

UnSW President and Vice-Chancellor Ian Jacobs highlighted Professor Simmons’ breadth of experience in university leadership.

“Anne has an outstanding track record of leadership at UNSW and her experience and skills make her an ideal candidate for this important new role,” Professor Jacobs said.

Professor Simmons said she was delighted and honoured to join UNSW as its first Provost.

“I look forward to helping the Vice-Chancellor and the University deliver on UNSW’s strategic plan over the coming years.”

Professor Simmons has been the head of large organisations such as start-ups, by fostering placements in small and large organisations, for developing innovative resources in the field of creative professional experience, and by fostering placements in small and large organisations, for developing innovative resources in the field of creative professional experience.

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**Venice Biennale entry examines the power of ‘the people’**

Three-channel video installation created by UNSW alumnna Angeline Messitt is entered in this year’s Venice Biennale, one of the most prestigious cultural institutions in the world.

The work, **Assembly**, was created by Ms Messitt during a two-month residency at UNSW Art & Design. In it, she says, a communal gathering is a means for making those with authority recognise the collective power of ‘the people’.

“Assembly is looking at all the meanings of that word, at this historical moment where we are dealing with multiple crises, whether it’s political, humanitarian or environmental,” she says. “More than ever, we feel the human need to assemble, to come together, to exchange, for individual voices to be heard, that are coming from different perspectives.”

She says the idea is explored through a series of translations and reinterpretations, both musically and choreographically, through performance and a range of generative animations.

The artist used the high recognition factor of the Venice Biennale to approach the eminent writer David Malouf, who allowed her to use his poem ‘To Be Written in Another Tongue’. Other collaborators include composer Max Lyandvert and curator Juliana Engberg.

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**Academics honoured with prestigious NHMRC awards**

Four UNSW Sydney academics have been honoured with National Health and Medical Research Council (NHMRC) 2018 Research Excellence Awards for outstanding contributions to health and medical research.

Professor Helen Christensen, Director of the Black Dog Institute and Professor of Mental Health at UNSW Medicine, was awarded the Elizabeth Blackburn Fellowship in Public Health. Professor Christensen is a leading expert on using technology to prevent and treat depression, anxiety and suicide.

Medical epidemiologist Dr Louise Cusack, from the Kirby Institute and UNSW Medicine, was awarded the Frank Fenner Early Career Fellowship. By Cusack’s work focuses on point-of-care diagnostics for sexually transmitted infections. Point-of-care testing allows people in remote areas to be tested and treated in one visit.

Conjoint Professor Sally Dunwoodie, a biomedical researcher at the Victor Chang Cardiac Research Institute, was awarded the NHMRC’s Project Grant. Professor Dunwoodie and her team are examining the impact of environmental factors on prenatl cell division. Their work could prevent some developmental defects.

Conjoint Professor June Butler, principal research scientist at NeurA and conjoint academic at UNSW Medicine, won the Elizabeth Blackburn Fellowship in Clinical Research. Professor Butler’s work looks at natural control of respiratory muscles. Her research aims to improve respiratory health in the critically ill and those with quadraplegia.

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**25+ REVIEW CONSOLIDATES PURSUIT OF GLOBAL GOALS**

- A revised strategic framework, known as 25+, was developed by the University’s long-term vision: 2020 strategy 2025. An extensive consultation process involving staff, students, alumni and external partners is taking place to inform an options paper expected in October. New priorities identified in the process will then be confirmed once the next strategic framework is finalised and announced in early 2020. The President and Vice-Chancellor, Professor Ian Jacobs, said the 2025 strategy was backed by a planned $13 billion funding investment and underpinned the University’s ambition to become Australia’s global university.

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**UPFRONT 11TH EDITION**

- **Accounting Hall of Fame**
  - **Professor Roger Simnett** has been inducted into the Accounting Hall of Fame for his impact on accountancy. “I feel an overwhelming sense of pride and gratitude at being recognised by my peers for the contributions I have made as an audit regulator, educator, and my contribution to practice and standards both in Australia and internationally,” Professor Simnett said. He is the fourth UNSW Business School academic to be awarded the prize and joins Ken Baird, Philip Brown and Ken Trithem as inductees.
Dancing with the enemy

Scientia Fellow Angelica Merlot is determined to outmanoeuvre some of the deadliest cancers, writes Lucy Carroll.

Dr Angelica Merlot has achieved what many medical researchers could only dream of in a decades-long career. She completed a PhD in anti-cancer drug development at the age of 24. Four years later, she became the youngest recipient of a National Health and Medical Research Council Grant.

Now, at 29, she leads a research team at UNSW Sydney exploring targeted treatments for some of the deadliest forms of cancer. The UNSW Scientia Fellow, who is based at the Children’s Cancer Institute, this year achieved another first: in March, she received the NSW Young Woman of the Year award for her work developing new targeted medicines that combat drug-resistant cancers and cancer spread, with a specific focus on pancreatic and brain cancer.

“The power of research is that every day you can discover something new, solve problems and push barriers using your curiosity to address some of the major health issues in the community,” Dr Merlot says. “For me, a career in medical research is about a lifelong discovery and education.”

Dr Merlot received her award at a ceremony in Sydney for the NSW Women’s Health Award. The Premier, Gladys Berejiklian, congratulated the winners and finalists in seven nominated categories.

“Your achievements,” Ms Berejiklian said, “are paving the way for generations of women to come.”

Dr Merlot hopes the award will encourage more women to study science and medicine and pursue careers in health and cancer research. She believes it will raise the profile of cancers with poor survival rates and generate funding for more research.

“There are almost 150,000 people diagnosed with cancer in Australia each year. It is wonderful to be acknowledged for the work the researchers do behind the scenes,” she says.

Born to French and Syrian parents, Dr Merlot is the youngest of three girls. “My father was a high school maths teacher and my mother taught French. They encouraged us to do what we enjoyed. But also instilled a real drive to learn.”

After receiving her undergraduate degree in medical science at The University of Sydney, she went on to complete a PhD with a team that is developing metal-binding agents, a new class of anti-cancer drugs.

“In high school, I was influenced by medical television shows and my biology teacher. I think that sparked my interest in medical science in general and how each cell in the body is quite different, but they all work together as one combined unit which is so fascinating,” Dr Merlot says.

As an undergraduate she became focused on cancer research. “Seeing the impact cancer was having on the community and my family pushed me to pursue cancer research. It’s been hard work. I’m very determined and passionate and that has helped along the way.”

Her interest in aggressive cancers, such as pancreatic and brain cancer, was motivated by lack of improvement in survival rates over the past decades, largely due to late diagnosis, a lack of screening programs, low awareness of symptoms and a lack of treatment options. Pancreatic cancer has some of the lowest survival rates, often diagnosed so late and at an advanced stage, with about 90% of patients dying within five years of diagnosis. The five-year survival rate for brain cancer is about 20%. It kills more children than any other disease.

After moving to UNSW Medicine as a Scientia Fellow in 2018, Dr Merlot focused on understanding the mechanisms by which cancer cells grow and adapt to their environment, why drugs become less effective and the development of nanoparticles to improve drug delivery.

Her work into metal-binding agents contributed to a phase I multi-centre clinical trial in Australia, treating patients with advanced tumours.

“Metal-binding agents have been shown to deprive cancer cells of essential metals such as copper and iron that are vital for cancer cell growth and proliferation. These agents have been tested on advanced cancers and they take advantage of the fact that cancer cells have altered metal metabolism and require a greater amount of these essential nutrients than normal cells,” Dr Merlot says.

“These drugs have been shown to be effective in drug-resistant cancers that are no longer able to be treated by standard chemotherapy. Metal-binding agents have also been shown to not only stop the growth of the primary tumour, but also block metastasis.”

These metal-binding agents work on a broad range of cancer types and also target specific proteins such as NDRG1 which can act to suppress the spread of cancer.

“One of my current projects looks at developing nanoparticles prepared from a protein found in the body known as human serum albumin. We’ve seen that this protein helps the delivery of these metal-binding drugs and helps their anti-cancer activity.”

Most of Dr Merlot’s projects and work takes place at the Children’s Cancer Institute labs, at UNSW’s Kensington campus, where a typical day involves conducting experiments in the lab, working with mouse models, patient tissue, writing grants and publications and supervising staff and students.

Dr Merlot believes the next two decades of cancer research will be defined by improvements to personalised medicine through better understanding of the genetics of the disease to predict patient response to therapy.

“The future of cancer treatment will not be about one miracle cure; it will be about a combination of treatments that will provide the best survival outcomes for each unique patient.”

Dr Merlot emphasises the importance of funding early career researchers, particularly in areas such as pancreatic and brain cancer that have traditionally been under-funded.

“More funding equates more research which means better outcomes for patients. We’ve seen improvements in breast cancer, melanoma and prostate cancer survival rates but brain and pancreatic cancer still have a dismal prognosis,” she says.

Dr Merlot’s current projects are investigating part of a human cell called the endoplasmic reticulum (ER). The ER is a type of organelle, or subunit within a cell, that has been shown to help cancers grow, spread and develop drug resistance.

“I’m looking at how this part of the cell helps to induce cancer progression. This knowledge will help to identify new targets and therapeutics to stop the advancement of cancers,” she says.

Some of the major advances in cancer now are seen as coming from understanding the tumour itself - how it consists of more than just cancer cells but other important cells that help the cancer spread and survive. A major area of advancement is immunotherapy and understanding of the interactions of the immune system with cancer. Immunotherapy helps boost the immune system to attack the cancer.

“We are understanding more about the genetics of cancer and how to tailor a more personalised approach, we are hopeful that we can improve survival rates for children and adults with cancer,” she says.

Photo: Ania Kasior

The future of treatment won’t be about one miracle cure; it will be about a combination of treatments that will provide the best survival outcomes for each unique patient.
UNSW’s third appearance at Mardi Gras created a sense of empowerment for students and staff, writes Lori Youmshajekian.

Beyond policy and words, the Sydney Gay and Lesbian Mardi Gras in March was a chance to exhibit UNSW Sydney’s commitment to community and inclusion. A towering float of Clancy the Lion, the official UNSW mascot, led the way for more than 80 students and staff parading along Oxford Street for the ‘fearless’ 41st Mardi Gras.

“It was a true and generous collaboration with staff and students from Engineering, Art & Design and Built Environment,” UNSW event organiser Fergus Grealy says.

“For the young LGBTQI+ community, making networks within the University, especially finding commonalities with students they wouldn’t have much interaction with, was a really positive experience.”

The cross-faculty collaboration marks the third year that UNSW has participated in the annual parade.

“It was a really heart-warming experience. We were able to see the tangible and positive impact it had on the student community – educating individuals on issues, aiming to start conversations and lead debates on campus and in the wider community.

Five new Diversity Champions commenced in January 2018 to make change in equity, diversity and inclusion as part of the Division’s key priority to make UNSW a place for everybody. The Division also offers training to the leadership of the investigation into the building’s structural integrity.

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“Our participation is both a symbol and a genuine activity that signals our commitment to that group of students and staff,” Professor Baldry says. “It is one of the key ways we can show our support for the LGBTQI+ community and celebrate with them.”

Initiatives pioneered by the Division draw attention to a range of community issues, aiming to start conversations and lead debates on campus and in the wider community.

When the Opal Tower at Sydney Olympic Park started cracking, residents were fearful their home was falling down around them. Lachlan Gilbert asked the Dean of Engineering, Mark Hoffman, about his leadership of the investigation into the building’s structural integrity.
FROM PAGE 11

placed electrical conduit and reinforcing steel, beams increased. In the level 10 case, which of grout between a pre-cast concrete panel was changed, specifically to reduce the amount standard practices slipped through. design approvals and monitoring during aspects to the construction, and when there were then some inappropriate 

Essentially, there were some changes made confirmed in the final report on February 22. 

MH 

Can you elaborate? 

MH In one case the initial approved design was changed, specifically to reduce the amount of grout between a pre-cast concrete panel and the hob beam. When the amount of grout was reduced then the local load on the hobs increased. In the level 10 case, which was heard on Christmas Eve, it was incorrectly placed electrical conduit, made a repair to the panel, which reduced the hob beam’s strength, and so it failed. Another beam was found to have failed because a lower strength concrete was used. Different strengths of concrete are often used when you’re building a large building. And of course, they’re bringing trucks in all the time to pour the concrete, and during this process they pour one of the beams with a lower strength concrete than the others. Then we had to ask, why wasn’t this dealt with at the time? We discovered that various versions of the design drawings indicated different strengths of concrete. Some people were claiming ‘this is what it should be’, others pointed to another design document and said ‘no, this is what it should be’. It was not immediately clear to us who were correct. What was clear, however, was that one beam was made from lower strength concrete than the others and it was the one that failed. There was also a grousing issue.

LG What were your recommendations? 

MH The first recommendation was around the process to fix the structural damage in the building. Very quickly, the risk factor was reduced by inserting some grout and bracing around the damaged sections. Some highly reputable independent engineering teams have been engaged to structurally strengthen the beams by the time they’re finished, it will be far stronger than it would have been normally. 

That was made the point that in one sense, the Opal Tower will now be far stronger than it would have been before the fire or the repair. So the building will be much stronger because it got such wide media coverage. It’s lucky that it happened on Christmas Eve.

Another issue is there’s no clear process for changing an original design. When you’re building, things happen, designs need to be changed. Using company WSP’s project was a whole new system that came in and poured for the beam – it was the wrong truck. With building teams on the course of the building, it’s no surprise there’s one mistake. There should have been a formal sign-off process by qualified and registered people and there wasn’t. The same independent checking would have clarified the design ambiguities we also identified.

What we’ve said is, designs and any changes to them have to be signed off by qualified and registered people. Once that is in place, your system becomes much more robust and it’s not that much more expensive, if one focuses on critical components. 

LG It looked as a stressful time for the residents who had to find somewhere to live really quickly around Christmas. What was your impression of that? 

MH The builder acted extraordinarily well. As soon as it was clear that people had to leave they found them accommodation and they gave them a living allowance for a long period of time.

LG A newspaper opinion piece in February was good news for the people living in the Opal Tower were 

Professor Randolph hopes to see the balance of power shift towards the consumer, with increased transparency, extensive building track records. “Thousands of consumers are buying properties today, many will have no idea whether they’re good, bad or indifferent.”

“With the Opal Tower incident comes the realisation that knowledge into the hands of the consumers which will help to shift the balance of power,” says Professor Randolph. “We’ve actually going to do an in-depth data gathering exercise on about 600 of these blocks in these three areas, with a view to trying to work out what’s going on – which ones have defects, what are the defects if they have them and, importantly, how much is it going to cost to fix a building?”

He believes the project will further uncover fundamental issues in the housing sector – beyond undermining risks, blame shifting and lack of oversight. “We’re a whole series of places where things can go wrong,” he says. “We can identify the whole chain of risk which is pushed further and further down from the chain of the developers right down to the subcontractors, where the subcontractors have to engage stakeholders across industries, including insurance and the mortgage sector. “Quality control methods need to change, and our project will give some pointers as to how that might happen.”

An interim report on the project findings will be released at the end of the year.

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LG So what do you think will happen moving on from this? 

MH I think this whole incident will be a real watershed for the construction industry and the way it’s regulated in NSW. There’ll be a number of reports and anecdotal discussions about these sort of problems look like they’re coming. But now the Opal Tower incident has brought it all into very sharp focus, so hopefully the construction industry will be the better for it.

UNSW’s City Futures Research Centre is investigating the multi-unit housing sector and will propose changes to protect people buying units. By Ben Knight.

Researchers to investigate major building defects

The City Futures Research Centre is investigating the multi-unit housing sector and will propose changes to protect people buying units. By Ben Knight.

As well as identifying the prevalence of significant building defects, the project will seek to understand the causes and provide innovative solutions to improve housing quality, which could bring about sweeping changes to the sector.

The multi-unit housing sector in Australia is estimated to be worth more than $1 trillion and is almost half of new Australian housing. A previous study conducted by the City Futures Research Centre found that between 72% and 85% of dwellings have at least one significant defect identified. 

The research will focus on three areas of Sydney’s biggest high-density housing markets – City of Sydney, Parramatta and Canterbury-Bankstown. Professor Randolph says the project methodology is one of the most ambitious undertaken. 

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LG So what do you think will happen moving on from this? 

MH I think this whole incident will be a real watershed for the construction industry and the way it’s regulated in NSW. There’ll be a number of reports and anecdotal discussions about these sort of problems look like they’re coming. But now the Opal Tower incident has brought it all into very sharp focus, so hopefully the construction industry will be the better for it.

Professor Randolph hopes to see the balance of power shift towards the consumer, with increased transparency, extensive building track records and more information about track records. “Thousands of consumers are buying properties today, many will have no idea whether they’re good, bad or indifferent.”

“With the Opal Tower incident comes the realisation that knowledge into the hands of the consumers which will help to shift the balance of power,” says Professor Randolph. “We’ve actually going to do an in-depth data gathering exercise on about 600 of these blocks in these three areas, with a view to trying to work out what’s going on – which ones have defects, what are the defects if they have them and, importantly, how much is it going to cost to fix a building?”

He believes the project will further uncover fundamental issues in the housing sector – beyond undermining risks, blame shifting and lack of oversight. “We’re a whole series of places where things can go wrong,” he says. “We can identify the whole chain of risk which is pushed further and further down from the chain of the developers right down to the subcontractors, where the subcontractors have to engage stakeholders across industries, including insurance and the mortgage sector. “Quality control methods need to change, and our project will give some pointers as to how that might happen.”

An interim report on the project findings will be released at the end of the year.
Ever since his extraordinary life, Albert Einstein hung portraits on his wall of two scientists, Isaac Newton and James Maxwell, as role models to inspire him. But his life was peaceful and it is as a result that he replaced them with a portrait of the Mahatma Gandhi.

Einstein said he realised he needed role models to inspire him. He said all our activities should be centred on the Left would argue it means equality of opportunity, rendering justice to the other party.

He said we win justice quickest by “not caring” that was the real problem in this. He said we win justice quickest by rendering justice to the other party. But what exactly is social justice? Some on the Left would argue it means equality of opportunity, rendering justice to the other party. But what exactly is social justice? Some on the Left would argue it means equality of opportunity, rendering justice to the other party.

We all have the power to change the course of history, says Tim Costello in this edited version of his Gandhi Oration delivered at UNSW.

The annual Gandhi Reconciliation Ceremony and Gandhi Oration was held at the Library Lawn on 30 January 1948. The Reconciliation Ceremony is held at the Gandhi bust on the Library Lawn (pictured).

The Marxist struggle for equality of opportunity, rendering justice to the other party. But what exactly is social justice? Some on the Left would argue it means equality of opportunity, rendering justice to the other party.

All of us have to be a part of the solution. We all have gifts, privileges and talents to make a difference.

In search of hope

We have all the power to change the course of history, says Tim Costello in this edited version of his Gandhi Oration delivered at UNSW.

The annual Gandhi Reconciliation Ceremony and Gandhi Oration was held at the Library Lawn on 30 January 1948. The Reconciliation Ceremony is held at the Gandhi bust on the Library Lawn (pictured).
How a liquid metal discovery could solve a global challenge

A tenth of the planet’s population could get access to clean drinking water at low cost thanks to breakthrough research by Professor Kourosh Kalantar-Zadeh.

When UNSW chemical engineer Professor Kourosh Kalantar-Zadeh first placed a chunk of aluminium into some liquid gallium, he was hoping nature would reveal some more of her secrets to add to our knowledge of the mysterious world of liquid metals.

But after seeing the results – sheets of aluminium oxide that formed at the surface of the gallium – he soon recognised a practical use of his discovery that could help achieve one of the biggest challenges facing the planet: giving people in the developing world access to clean drinking water.

Professor Kalantar-Zadeh wondered whether the extremely porous and layered wafers of aluminium oxide that emerged from the liquid gallium could be used to filter water polluted with toxic chemicals and make it drinkable.

“When we tested it, we pushed water contaminated with 10 times the safe level of lead through the filters and found the filtered water was completely safe and drinkable,” Professor Kalantar-Zadeh says.

In 2000, the Millennium Summit of the United Nations identified clean water access as one of the challenges facing humanity. It is estimated that 800 million people, or one in 10, do not have access to clean water.

What made Professor Kalantar-Zadeh’s discovery a possible solution to this challenge was the fact the water filter material could be made so cheaply using simple equipment and at room temperature.

“If you really wanted to, you could make this in your kitchen,” he says.

“We published this concept and released it to the public domain, so people around the world can use the idea for free and implement it for enhancing the quality of their lives.

“This is all about a new paradigm. We haven’t even begun to explore how we can use liquid metals as a base for manufacturing things that are cheap, green and safe for humans.”

Professor Kalantar-Zadeh says a German manufacturing company is looking into replicating the technology to produce portable water filtration devices at low cost. The portable filtration products that already remove heavy metals from water are prohibitively expensive to use in developing countries, coming in at more than $100 a unit. By contrast, each aluminium oxide filter produced from liquid gallium can be produced for as little as 10 cents.

Professor Kalantar-Zadeh says the technology can be put to good use in Africa and Asia in places where heavy metal ions in the water are at levels well beyond safe human consumption.

“You pour the contaminated water in the top of a flask with the aluminium oxide filter. Wait two minutes and the water that passes through the filter is now very clean water, completely drinkable. And the good thing is, this filter is very cheap,” he says.

“Up until now, to produce aluminium oxide, you needed to process aluminium at above 1000 degrees or use other energy intensive processes. Now we’re talking about something you can do even under the sun in summer at 35 degrees.”

Professor Kalantar-Zadeh was awarded an ARC Australian Laureate Fellowship soon after joining UNSW’s School of Chemical Engineering as part of the University’s SHARP program in 2010.

His research that details the science behind making the water filter material was published in the journal Advanced Functional Materials with former colleagues from RMIT. The work was funded by The ARC Centre for Future Low-Energy Electronics Technologies (FLiET).

For his work, Professor Kalantar-Zadeh was awarded an Australian Laureate Fellowship soon after joining UNSW’s School of Chemical Engineering as part of the University’s SHARP program in 2010.

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The many and significant achievements of the first 100 Indigenous graduates from UNSW Law form a story that demands to be told, Dean of Law, Professor George Williams, says.

“The graduation of 100 Indigenous students from UNSW Law is a significant milestone. These students have gone on to extraordinary careers, ranging from high judicial office through to political and community service,” Professor Williams said at a celebration in March for the respective alumni and the ‘community’ of their families.

“They succeed reflects the efforts of the students themselves, their families, their teachers and the many others who have provided support to ensure that they have access to a world-class legal education.”

Pro Vice-Chancellor, Indigenous, Professor Megan Davis, said at the event that the proudest and most active Aboriginal and Torres Strait Islander lawyers came from UNSW.

“UNSW Law has been home to so many Indigenous Law students, with academic standards far exceeding the national average, who have deeply committed to the education of Aboriginal and Torres Strait Islander students as well as research and advocacy for law reform that impacts the lives of Indigenous peoples,” Professor Davis said.

The event wasn’t all talk. The crowd arrived to the sound of Ewie J Wylie’s singing and Bhyan Clapham (Dobby), hip-hop artist and UNSW’s first Indigenous Bachelor of Music graduate, performed.

Many alumni sent a strong message that their individual achievements were grounded in the support they had received from their families. They also acknowledged the Law School and academic, Jennifer Vincent (2012) who today now working at Legal Aid as a project officer, worked closely with the Faculty to interview alumni for both the video and booklet for the event.

“They [the Faculty] were really invested in getting us not only into the degree, but through the degree,” she says.

“When I was really struggling with my studies, I received help that I didn’t even ask for. Jeni Engel [the Director of Indigenous Legal Education] talked to Shalson College and Nama Gili to get me a residential place when I didn’t have anywhere to live.”

As well as celebrating alumni achievements, the event paid tribute to the Founding Dean’s commitment to social justice for Indigenous Australians. Among the many distinguished guests was

Belinda Henwood.
Eye care revolution for millions

In a country where optometrists are one in 4 million, UNSW is supporting a dramatic expansion in health care that will change how many people see their world. By Lucy Carroll

A partnership between UNSW Sydney academics and Makerere University in Kampala, Uganda, will train optometrists and transform access to eye care services for thousands of people affected by vision problems.

The team, led by Associate Professor Isabelle Jablert and Dr Kathleen Watt from the School of Optometry and Vision Science, will oversee the training of local optometrists, the creation of specialist eye health programs and curriculum development for the first optometry degree ratified in Uganda.

“There are less than 10 practising optometrists in Uganda to service about 40 million people,” Dr Jablert says. “All of them received their training overseas.

“It’s a really young profession and there is a huge need to train and build up the workforce to provide quality eye care.”

The team from UNSW Science, supported by UNSW’s Institute for Global Development, will spend the next year visiting Makerere University to teach students and support the faculty, particularly in specialised fields of advanced contact lenses training, subocular vision, diabetic retinopathy, optometry and ocular diseases.

“Our team will travel to Uganda four times this year to teach through practical workshops and provide online training material that students can access outside of the visits. The optometry faculty at Makerere University is in the process of being built up and is very stretched in covering all the teaching required,” says Dr Jablert.

The School of Optometry at Makerere University is a collaboration between UNSW, the Brian Holden Vision Institute, the Australian Department of Foreign Affairs and Trade, Optometry Giving Sight, Light for the World, and the Optometrist Association of Uganda. The first group of Ugandan-trained optometrists graduated from Makerere University in January.

Uganda is one of the African countries supporting optometry as a public health priority to address the growing need of uncorrected sight. Training optometrists locally in Uganda using internationally developed teaching materials and advanced equipment will help ensure the population receives basic services including prescription eye glasses, eye exams, contact lenses and the prevention and detection of eye disease.

Dr Anguyo Dralega, Head of the Optometry School, Makerere University, says: “Young optometrists are the building blocks for a sustainable eye-care service in Uganda. They will relieve the country’s 45 ophthalmologists from the management of eye conditions, allowing them to concentrate on other areas of specialties. The optometrists will help improve the quality of life for many Ugandans with uncorrected vision impairment by providing refraction services and appropriate glasses. The benefit of this simple measure cannot be underestimated by a life diminished through poor vision.”

Dr Jablert says the growth of the school and ongoing work of Makerere University is helping to establish Uganda as a leader in developing a sustainable East African optometry program.

The current ophthalmologists working in Ugandan hospitals are unable to meet demand. By training local optometrists, we are helping to supply primary eye care services which is key for triaging patients and providing vision screening and services across regions,” she says.

FOR UNSW Business School graduate Dylan Booth, for many Indigenous people it isn’t as simple as that – improving outcomes for Aboriginal and Torres Strait Islander people. In the Indigenous Sector Practice we work with and for our clients to do exactly that.”

He relishes the opportunity to work with the Indigenous community and address equality issues at a national level.

Mr Booth has worked on projects that focus on improving outcomes for Aboriginal children in out-of-home care and supporting Aboriginal families, and has designed policy frameworks for state government agencies to increase Indigenous participation in procurement, employment and community development.

His latest project aims to ensure that every Aboriginal or Torres Strait Islander person living with a disability has access to the essential medicating they need.

“I feel as though I have a cultural obligation to do what I can,” he says. “During my career I’ve come to understand that it’s not always about what you can gain but rather what you endeavour to give back that’s important.”

Being a graduate from one of the most prestigious business schools in Australia is something that too few Indigenous people have. This is something that I am determined to change.”

Undeterred, however, he completed internships at AMP Capital NSW Procurement and Allen’s Linklaters, and in 2016 he graduated with a Bachelor of Commerce, majoring in International Business and Business Law.

“I was the first person in my family to finish year 12, go to university and get a degree,” he says. “I’m proud to say that my sister Ariel and IJ have ambitions to do the same. I am immensely proud of them.”

After graduating, Mr Booth joined KPMG and “fell in love with consulting.”

“I decided to leave KPMG after my grad year to take up my current role at EY and pursue what I am passionate about – improving outcomes for Aboriginal and Torres Strait Islander people. In the Indigenous Sector Practice we work with and for our clients to do exactly that.”

Mr Booth is a proud Kāi Tahu man, an UNSW Sydney alumnus and a consultant in professional services firm EY’s Indigenous Sector Practice and Transaction Advisory Services.

His relationship with UNSW Business School began in 2012 as he was getting ready to go to his Higher School Certificate and make a decision about his future.

“My careers advisor at school set up a meeting with Nura Gill, the Indigenous Programs Manager at UNSW. I was invited to the inaugural UNSW Business School Indigenous Accounting forum.

The Indigenous Accounting forum was an initiative of Rebecca Harcourt, Program Manager Indigenous Business Education at UNSW Business School.

“I attended the forum, met industry leaders, UNSW staff and current students and that was it. I sold it,” Mr Booth says.

“I couldn’t believe that I had been accepted to study at one of Australia’s leading business schools. I was excited to start the next chapter of my life.”

The journey of navigating the two overlapped worlds had well and truly begun. Living away from home for the first time and adjusting to university life was challenging. The UNSW Business School graduate says the hardest part was being away from his family, School, and my other siblings, Brodie and CJ, have ambitions to do the same. I am immensely proud of them.”

Through education, I have the privilege of choice – something that too few Indigenous people have. This is something that I am determined to change. I am motivated to change the landscape of Indigenous affairs in this country, one way or another.”

The UNSW alumni attributes his success to the hard work done by his Elders.

“I am a firm believer that I am here because I am standing on the shoulders of the giants who have come before me,” he says.

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Walking between two worlds

Business School graduate Dylan Booth is determined to reshape the landscape of Indigenous affairs in Australia. By Ibrar Khan.

‘Choice is something that too few Indigenous people have. This is something that I am determined to change.’
A UNSW study has shown a clear link between mandatory helmet laws and a drastic reduction in cycling fatalities, defying critics of the laws, writes Lochlan Gilbert.

The evidence is in: Australian mandatory helmet laws brought in to reduce fatalities in cycling have worked, with a world-first study of such laws at UNSW showing they led to an immediate 46% drop in fatalities and have saved billions of dollars in medical costs since 1990.

Professor Jake Olivier of UNSW’s School of Mathematics and Statistics and Deputy Director of the Transport and Road Safety (TARS) Research Centre, says the statistics are clear: solid and indisputable scientific evidence that mandatory helmet laws (MHL) have been effective in reducing injuries in Australia. “There was an immediate 46% reduction in the rate of cycling fatalities per 100,000 population following the introduction of bicycle helmet legislation,” he says. “This decline has been maintained since 1990 and we estimate 1332 fewer cycling fatalities associated with the introduction of bicycle helmet legislation to date.”

Australia does not have national road laws as such, but after Victoria brought in mandatory helmet laws in 1990 the remaining states and territories had followed suit by 1992. This study is the first in the world to examine the effects of mandatory helmet laws applied on a national scale where those laws apply to all ages and are dutifully enforced.

The findings of the study are in stark contrast with claims made by anti-helmet advocates who believe helmets do not reduce fatalities. Instead, they say, MHL have deterred people from cycling and have reduced the number of fatalities only by lowering participation rates.

The authors of the study (‘The impact of bicycle helmet legislation on cycling fatalities in Australia’, published in the International Journal of Epidemiology) address this by pointing to numerous international studies, including their own, that found no strong evidence for MHL leading to fewer people cycling. Emeritus Professor Raphael Grzebieta, also of TARS, says a small but vocal group of anti-helmet advocates are ill-informed and incorrect in claiming that MHL has been a disaster for cycling in Australia. Professor Olivier concurs and says misinformation such as this has been present from the beginning.

He doesn’t expect the most vocal advocates to be moved by the research. “It is one of those things where it has been repeated so many times that people just believe it to be true, and won’t question it because they’ve heard it so often,” he says. “These are the people who have made calls to repeal or weaken bicycle helmet legislation in Australia. The results from this study are not supportive of those initiatives.”

Professor Grzebieta takes this idea further. “If Australian helmet laws were repealed there would be a sudden [increase] in the rate of serious head injuries and fatalities among cyclists involved in a crash. The subsequent increase in hospitalisation costs would further exacerbate the already overwhelming demands for crash trauma treatment at hospitals and cause a significant increase in health costs.”

Instead, both authors call for strategies to improve cycling safety such as appropriately designed segregated bicycle infrastructure, something that Professor Olivier says is sadly lacking in Australia when compared with European countries where there are often clearly designated spaces for pedestrians, cyclists and motorists.

He notes that “this senseless focus on helmet legislation detracts from the more important concerns about construction of dedicated cycling infrastructure, education of all road users, and supportive legislation to protect cyclists, such as minimum passing distances”.

Professor Grzebieta agrees, saying “it is well known the primary reasons for not cycling in urban Australia are the lack of infrastructure and safety concerns due to interactions with motorised vehicles”.

Next the authors will be looking at the health benefits of cycling when not using a helmet versus those of introducing MHL on a population rate basis. “These numerous claims that the benefits of cycling far outweigh the ‘disbenefit’ of introducing mandatory helmet laws” Professor Grzebieta says. “We are highly sceptical of this claim and suspect poor assumptions are being made in the scientific methodology.”

A high pedestrian activity area includes any part of a city’s CBD, shopping strips along roads in suburbs and country towns, areas in front of schools during morning peak-hour arrivals and afternoon departures, and sports venues with crowds crossing roads. “Pedestrians struck in vehicle crashes are the largest group of traffic fatalities worldwide – and excessive speed is the biggest factor in such crashes,” says UNSW Professor Jake Olivier, who presented the findings to the US National Academies of Sciences, Engineering, and Medicine’s Transport Research Board’s annual meeting. The work is an international collaboration of researchers at UNSW Sydney and UHasselt in Belgium. “An impact speed of as low as around 30km/h is equivalent to what you would experience if you fell off the roof of your house,” Professor Olivier says. However, there’s still a lot of debate around what safe maximum speed limits are for vehicles in high pedestrian active areas, because the odds for any given particular speed vary extensively between studies.

“That’s why we wanted to see how the likelihood of a pedestrian dying in a crash changed at different speeds – and our study is the largest to date with data on over 37,000 pedestrians,” Professor Olivier says.

In the study, the scientists searched four electronic databases to identify studies that reported data on pedestrian fatalities or serious injuries from motorised vehicle crashes with known estimated impact speed. They then analysed data from 20 studies – containing data from six countries – for their meta-analysis. 

The analysis found that risk of a fatality reaches 5% at an estimated impact speed of 28km/h, 10% at 36km/h, 50% at 57km/h, 75% at 67km/h and 90% at 78km/h. “So, for example, if a pedestrian gets hit by a vehicle at 30km/h impact speed, the average risk of death is at 6% – but when the impact speed increases by 1km/h, the odds of a pedestrian fatality increase on average by 1%,” says Professor Olivier.

“Therefore, assuming a vehicle travelling at the speed limit will slow down to at least 25% below the speed limit for impact speed with high pedestrian activity should be set to 30 to 40km/h.”

The researchers stress that it is important for policy makers to prescribe speeds that are safe, i.e. survivable, for all road users. “There are many roads with available data.”

Professor at UNSW Science’s School of Engineering, said. “This is the urban limit of 50km/h that is currently prescribed for high pedestrian active areas. “The speed limits we propose for high active areas are commonly used by best practice countries – such as Sweden, the Netherlands and the UK – that have the lowest road fatality rates and that practise a Safe System Approach to road safety,” said Professor Raphael Grzebieta, Emeritus Professor at UNSW Science’s School of Aviation. “Our urban limit of 50km/h is simply much too high.”

In Australia, 5.34 in 100,000 people die in a motorised car crash every year, placing Australia fifth lowest out of the 31 nations with available data.
Finding his inner Bulldog

When Dean Towers was de-listed by the Sydney Swans, it was an opportunity at UNSW that put him back in the game, writes Megan Maurice.

F rom the AFL to the Sydney club competition and student life – the last few months have been quite a ride for former Sydney Swans player Dean Towers. After being de-listed by the Swans in October last year, Mr Towers decided to re-assess his career goals and focus on study. However, at 28 he still felt he had a lot to offer in the football world.

Through the Elite Athlete Program at UNSW, Mr Towers was able to cross the perfect opportunity – studying Exercise Physiology, while taking on the role of player-coach at UNSW-ES Bulldogs.

“I talked to a lot of the various units here and eventually settled on Exercise Physiology as a career path,” he says.

“Talking to some exercise physiologists who I knew, they said UNSW’s course is highly recognised and they haven’t heard a bad thing about it.

“UNSW was also good at communicating with me, and helping facilitate transferring my credits from previous studies, and were just very welcoming.”

“They made the process very easy on me. Mr Towers is excited about his decision and feels that he has made the perfect choice.

“It took me a while to realise after football that I wanted to work with different people – not the same people every day,” he says.

“I also wanted to make a difference in people’s lives – and you can do all of that with Exercise Physiology.

“The field’s just growing, so there’s different types of jobs popping up for exercise physiologists everywhere, which really appeals to me – I like the idea of not getting stuck in the same routine for a whole year.”

“We are not making sweeping changes at the AFL club, which has had plenty of success in recent years with four premierships across the grades in 2018 and a swathe of players drafted to AFL and AFLX clubs. Instead, he is promoting his knowledge and the elite coaching he has received throughout his career into the already excellent structure and culture of the club.

“I feel like I’m a pretty approachable person, so if anyone wants to talk to me about my journey, or they have any questions about the pathways and how to stand out and get better, then I’m an open book and they can come and speak to me,” he says.

Mr Towers certainly has a lot to offer the club’s first pre-season training session.

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Building for better living

The best built environment is inclusive, designed for people who are ageing and living with disability, writes Ben Knight.

B uilt Environment
Professor Catherine Bridge is determined to improve the accessibility of the built environment and improve life for some of the most vulnerable populations – the elderly and the disabled. Professor Bridge runs the Livability Design Lab at UNSW Built Environment, which pioneers inclusive design using cutting-edge technology such as motion capture and biomechanical analysis software to analyse the barriers to accessibility in the built environment. She says that current assumptions about design are preventing the built environment from being inclusive.

“The idea of wellbeing is modelled on a healthy, middle-aged man, and so that is how it [the built environment] is designed,” she says. “This is not representative of the population … especially those who experience functional impairment.”

The accessibility of the built environment is a factor of inclusion that is often overlooked, Professor Bridge says. Even designs that are accessible are typically not aesthetic which prevents people from engaging with their environments, particularly in the home, she says.

“Historically, modifications such as handrails and grab bars have been designed by modifying industrial equipment … or they’re things you would see in a hospital, by modifying industrial equipment … or things you would see in a hospital or aged-care facilities. ‘The solution’ to a challenge such as population ageing is usually to build more hospitals or aged-care facilities. Instead, what we should be asking is what else could we do that would prevent people from going to the hospital in the first place, or prevent people from going into an aged care facility, which will cost less and, in fact, have better economic and social outcomes?”

Professor Bridge believes the solution lies within the home. She hopes to see people empowered to live in their homes for longer, which can reduce the need for care, while improving quality of life in every metric. “Overwhelmingly, the research shows that people want to remain in their homes rather than enter institutional care facilities,” she says. “We know that [people staying in their homes] can reduce the need for care by 47% and lead to a 40% improvement in quality of life.”

“If we can effectively delay [institutional care] by just five years through ageing-in-place, that is huge for not just the individual’s wellbeing, but also the taxpayer and the healthcare system.”

Professor Bridge is also the Director of the Home Modification Information Clearinghouse (HMInfo), an information service which provides the evidence base for housing retrofit in Australia.

“People historically have focused on only one aspect, either disability or sustainability, but no one looked at how they intersect,” she says. “HMInfo is unique in that it bridges this gap between the wants, needs and desires of the older person or the person with the functional disability, and that of the industry – the built environment sector and the health sector.”

The information service combs through academic literature, industry best-practice principles and combines this with research from the Livability Design Lab to develop user-friendly materials, including fact sheets and mobile applications, which have been used by more than 200,000 people, from consumers to industry and policymakers.

She says HMInfo provides practical support and empowers individuals to age in place for longer, enabling them to have greater autonomy and reduce the burden on Australia’s healthcare system.

Life is good at 40 for Australia Ensemble

UNSW’s renowned chamber music ensemble is tuning up for a significant birthday, writes Neil Martin.

L ooking forward and looking back is the fitting way Artistic Chair Paul Stanhope describes the Australia Ensemble’s historic 40th season for 2019. The Australia Ensemble, resident at UNSW Sydney, was set up in 1980 and has become widely regarded as this country’s finest chamber music group.

The ensemble consists of seven of Australia’s leading instrumentalists, performing a wide range of pieces during its annual subscription season of Saturday evening concerts.

This year’s season kicked off in March and April with concerts at UNSW’s Sir John Clancy Auditorium. Others are scheduled for August, September and October.

As this is the 40th season, Mr Stanhope has crafted a program that includes many of the players’ favourite pieces, as well as new music never heard before in Australia.

“This year, there are some retrospective things that the players really wanted to share with the audience, such as the Pierre Pianu Quintet, which is not so well-known, but is a late-Romantic gem,” Mr Stanhope says.

“We also have some of the player’s favourite pieces such as the Brahms Serenade which is the very last piece in the whole season. But looking forward, there are new pieces – including a new commission by Jessica Weils who is a Sydney composer,” he adds.

“We’re also doing the Australian premières of a couple of pieces. In the first concert we have David Bruce’s Steampunk and later in the year we have a piece by Paul Moravec. They are both really established composers in America, but we don’t really get to hear much of their music over here.

“One of the things we like to do is introduce new pieces to our audience and I’m especially interested in the Steampunk piece. It’s really lovely and there is a theatrical element to it, as well, which I think the audience is really going to love.”

Although the Australia Ensemble has a significant loyal following of music lovers, Mr Stanhope is keen to welcome new people.

He believes this is the perfect season to come along and experience a wide range of different styles.

“The programs are full of diversity. It’s not just a string quartet performing all night. There’s a mix of instruments that come together, plus guest artists such as mezzo soprano Fiona Campbell and harp player Alice Giles. That new people bring a new energy to the performances.”

Mr Stanhope already has one eye on next year’s 41st season, which will celebrate 40 years since their very first concert back in 1980.

Plans for potential pieces are underway and the group’s artistic chair believes it will be a momentous occasion.

“I want to acknowledge UNSW’s support during what has been 40 years of great music-making,” he says.

“It was a real leap of faith that the University originally made to put on a professional ensemble like this and it’s become something of a trademark.”

Although, he adds, “I would be justifiably proud.”
Combining serious concerns with mischievous humour, Margaret Atwood encouraged her listeners to reconsider the future humanity is building during an exclusive event on Kensington campus.

After a sold-out UNSW Centre for Ideas appearance at the Opera House the previous day, Ms Atwood spoke with a mostly female undergraduate audience at the more intimate UNSW event.

Dr Fiona Morrison, Literary Studies senior lecturer in the Faculty of Arts & Social Sciences, led the discussion of Atwood’s rich body of work.

Ms Atwood has written 16 novels, eight collections of short fiction, and 50 volumes of poetry, children’s literature, fiction and non-fiction. As the 2011 Emmy-award-winning The Handmaid’s Tale, there is a TV adaptation of Alias Grace, and MaddAddam Trilogy has just gone into production.

“She is, of course, a great untold adaptor and reviser of works by others, including writers such as Homer and Shakespeare, and is involved very much in finding new shapes and forms for your work as counsel, as commentator and artistic force,” Dr Morrison said.

Described by The New Yorker as the “prophet of dystopia,” Ms Atwood takes us into many speculative worlds in her novels, including futures which are centred in present-day reality – such as lack of action on climate change and extremist politics.

The world literary figure said her most terrifying dystopian plot was the 2003 speculative fiction book Oryx and Crake, adding that she would “have had more plastic in the ocean” if she was writing today.”

“So, I think the scariest thing facing us today, Ms Atwood said, is the ocean warming and acidifying. And adding that she would “have had more, quite female-centric” but noted a change for the better.

Because the future humanity is building during an event hosted by poetry creative workshops hosted by poetry creation organisation Red Room Poetry last November. Ms Atwood explained how she ended up writing the introduction to Lewis Hyde’s 1983 non-fiction book The Gift, which explored the value of giving over receiving.

Hyde described the book as being about the value of creativity and of its importance in a culture increasingly governed by money and overrun with commodities. It’s the only book I recommend to young writers,” said Ms Atwood.

“It’s about the difference between the gift economy which art exists in, and the money economy that a work of art touches and has to pass through in order to turn back into a gift.”

Many years ago, the author did a favour for her publisher and, in return, asked her publisher to read The Gift manuscript, which he later published.

“People trade stuff all the time. That’s how human beings go about their daily lives, and in The Gift you will read why,” Ms Atwood said.

“While the difference between gifts and commodities is that you give a gift, you will receive from somebody else.

“And with writing, usually you receive the gift from previous writers, you incorporate it and then you pass it on.”

we could go – is that where we want to live?” she said. “If we don’t want to live there, maybe not go there. Maybe rearrange the blueprint so that we’re going to be in a different kind of future.”

Ms Atwood also talked about 18th and 19th century novels which “were both happily quite female-centric” but noted a change particularly after the 50s, when there was “a concerted effort to get women back into the home after the war.”

“One of the most celebrated authors and thinkers is engaging a new generation of fans after the runaway success of the TV adaptation of The Handmaid’s Tale, writes Diane Nazarrof.

Atwood woos with tales of creativity

Margaret Atwood at UNSW Sydney. Photo: Louise Belcher.

Voices in the water

Artist Allan Giddy’s new project is creating a unique connection between young Indigenous poets, writes Diane Nazarrof.

Alan Giddy’s Flow uses the movement of water to convey voices of young Indigenous children reading their poetry in their first language.

“A river’s waters have been recorded and edited into a soundscape, are ‘released’ into the water to flow to the oceans,” the public artist and director of the Environmental Research Institute for Australia (ERIA) at UNSW Art & Design says.

The Royal Botanic Garden Sydney version of the installation is called Cookaroo Flow – ‘Cookaroo’ being the Gadigal name for the land where the Garden is located.

Recently on display in the Garden, it is invisible to passers-by but can be accessed via a stick held with one end in the water, the other attached to a microphone.

Poetry for the Botanic Garden installation was created by Aboriginal students from Sydney and Victoria during workshops hosted by poetry creation organisation Red Bloom Poetry last November. Ms Giddy has received two grants to take his inventive Royal Botanic Garden Sydney water installation to other parts of NSW and Australia.

The funding from Create NSW and the Australia Council for the Arts will enable Mr Giddy to exhibit the installation in regional NSW (Ballina, Menindee and Broken Hill), the ACT and Victoria.

During this period, he will work with school students to record poetry across multiple languages in urban, regional and possibly remote communities.

He will also take Flow to Aotearoa (New Zealand) in October, and hopes to exhibit it elsewhere overseas, with the title of each iteration of the work incorporating the interconnected oceans of our globe.

“This intermingling of First Words will symbolise both the strength and support that First Cultures draw from establishing relationships with each other globally, and the interdependent nature of all humanity,” Mr Giddy says.

Flow, which features on UNESCO’s International Year of Indigenous Languages website, was conceived last year at Parihaka, New Zealand, with children speaking te reo Māori (Maori language).

The New Zealand-born sculptor is a pioneer in the use of sustainable energy systems and light in ‘time-based sculpture’ and has worked with alternative energy systems in his sculpture and installation art for more than 20 years.

Mr Giddy’s work has been shown at the Tate Modern, in Heidelberg and Rotterdam Town Halls, and numerous other international venues including Canada, Ireland and Finland. In recent years, he has completed a number of large public commissions in Australia, China, Ireland, Germany, the UK and New Zealand.

A past winner of NSW’s most prestigious travelling art scholarship (the NSW – now the Helen Lempriere – Travelling Art Scholarship), Mr Giddy regularly engages in industry and other partnerships to achieve his projects.

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Sarah Brough wants to know how time has shaped our galaxies – and she is a gender equity champion for the next generation of astronomers, writes Ivy Shih.

As an observational astronomer, Associate Professor Sarah Brough looks to the stars for answers – but her perspective wasn’t always crystal clear. After completing an undergraduate degree in Physics, Associate Professor Brough spent a year travelling and working, uncertain of what to do next. It was a New Scientist article that pulled her back into the trajectory of scientific research and astronomy. The article was about an amazing new discovery, exploring how the universe was not only expanding, but swelling at an accelerating rate, an idea she could study really big galaxies. “I remember just being really excited by the idea I could study really big galaxies,” says Associate Professor Brough.

She is particularly fascinated by how time changes the shape of a galaxy over time. For instance, how did the Milky Way galaxy, home to our own solar system, evolve to get its distinctive, beautiful spiral arms? The pursuit of such an answer has taken Associate Professor Brough to observatories around the world. To her, telescopes are like time machines looking to the stars for answers – but swelling at an accelerating rate, an idea she can map the different stages of evolution of galaxies over time, including massive galaxies thousands of times the size of the Milky Way.

Equal to Associate Professor Brough’s passion to unveil the evolution of some of our most massive galaxies is a keen drive to support the next generation of female astronomers. The former Chair of the Astronomical Society of Australia’s Inclusion, Diversity and Equity in Astronomy Chapter founded the first Australian Women in Astronomy workshop in 2011 to establish leadership support networks among women in the field. “I really believe in mentoring and encouraging the younger generation, particularly women,” says Associate Professor Brough. “It is about having those conversations more openly and having that top-down leadership.”

In 2005, Associate Professor Brough was selected to be in the Homeward Bound leadership program, which brings together future female leaders in STEMM and empowers them with skills to impact policy and decision-making. These days, Associate Professor Brough is leading Australia into a new astronomical survey of the southern sky.

The Cerro Pachón ridge in north-central Chile will soon be home to a new telescope that will be able to survey the whole Southern Hemisphere sky in just three days. The goal for the 8.4-metre Large Synoptic Survey Telescope (LSST) is to take 800 separate images of each region of the night sky over 10 years. Locked within those images are new data, opening up exciting new research, including mapping the evolution of massive galaxies. It’s those “aha” moments that truly light up research for Associate Professor Brough, a feeling she wants to preserve and communicate to the general public. “It is keeping that feeling of fundamental wonder alive,” she says. “We as a society value that understanding and curiosity about the universe.”

When she was a student, and he impressed me from that day right through to the present. He was a wonderful, wonderful man,” Mr Gonski says.

“Sir Rupert was a renowned materials scientist and academic who will be deeply missed by the UNSW community. He led the University at a pivotal time in its history, one that was plagued with the student unrest of the ’60s and ’70s and a decline in funding. Sir Rupert’s calm and prepared nature ensured UNSW remained peaceful during these times.”

Throughout his illustrious career, Sir Rupert held numerous appointments and had been director or chairman of more than 20 boards and foundations, and president, councillor or member on at least another 12 occasions. Among his honours, Sir Rupert was appointed a Knight Commander of the Order of the British Empire (KBE) in 1981. He was also appointed an Officer of the Order of Australia in 1995 Australia Day Honours for his efforts in promoting innovation and commerce in the fields of science technology and engineering. UNSW Sydney President and Vice-Chancellor Professor Ian Jacobs met Sir Rupert on a number of occasions. “He was always supportive, interested, charming and thoughtful,” he says.

“It was an inspiration to be able to meet a man who had such a big impact in the early years of UNSW.”

Professor Jacobs expressed the University’s condolences to Sir Rupert’s first wife Io. They made a formidable partnership and promoted the University with enthusiasm.

Family, friends and alumni attended a memorial service at UNSW Sydney’s Kensington Campus on 11 March.
A pioneering book gives a complete recasting of Aboriginal art through exhibitions, writes Diana Nazarrof.

When artist and then Assistant Director of the Art Gallery of NSW Tony Tuckson curated the first national touring exhibition of Aboriginal art in 1960, it was widely believed to be a correct assumption, Dr De Lorenzo says.

"And it’s taken quite a long time for that to be easily shown and named in quantities in gallery spaces," he thinks. "I think that shows a new perspective, and I think that shows a new understanding of Aboriginal art, the transformation of Australia as a whole and the cultural value of detritus all too readily dismissed as junk. This entertaining collection of essays is a must read for anyone interested in our place in the universe."

Empress of Space Junk

Alice Gorman (NewSouth Books)

"It was the artists and Elders who, since 1960, have told us about the massacres more widely known. The massacre at Jandakot in 1931, for example," he says.

But award-winning historian Michelle Arrow argues that if we reframe the ’70s as the story of the personal and the political, the problems for greater impact. The Seventies: The Personal, The Political and The Making of Modern Australia

Vanessa Finney (NewSouth Books)

Paper Empires – The Rise of Australia’s Newspaper Empires

Tom Frame (NewSouth Books)

"Women’s liberation, gay liberation, the sexual revolution, those three movements created seismic change in public and private life. Together with the advent of multiculturalism, and a new urgency in campaigns for indigenous rights, the decade is often framed as one of missed opportunities for economic reform."

"The exhibition described the narrative of seven sisters who were published in 2016, which marked the 100th anniversary of the Anangu peoples’ collaboration with the first woman to depict the Anangu country in the southwest of the central desert of Australia in 1725, as a key example of the effect of collaboration." The authors also point to "Tracking the Seven Sisters, which was a correct assumption," Dr De Lorenzo says.

The Seventies: The Personal, The Political and The Making of Modern Australia

Vanessa Finney (NewSouth Books)

"What does it take to change our mind? Why do we ignore compelling evidence? And does it always matter?" When Eleanor Gordon-Smith hits the back streets of Sydney’s red-light district to interview brothels for radio program This American Life, she discovers that her research could change their mind more easily than in Stop Being Reasonable

Gary Lennon-Smith (NewSouth Books)

"And locked up in the building that was formerly seen as a lunatic asylum because they [the lunatics] were thought to be crazy. This was seen as the most severe kind of madness that could possibly exist." The authors say exhibitions often start about the massacres before it is easy to see the importance of revisiting and rethinking topics such as Aboriginal women’s involvement in campaigning for greater public awareness and engagement with art history books by examining art exhibitions in publicly owned art museums and galleries from Australia and the world.

"We think that taking a history of art that looked at curated exhibitions would bring in some new perspectives, and I think that this is an important new exhibition," he says.

As a result, we have produced a book that describes the changing understandings of Aboriginal art, the transformation of Australia away from a purely Eurocentric perspective, assessments of the position of women, the power of photography and the significance of centres outside the Sydney, Melbourne and London," he says. The authors say exhibitions often start about the massacres before it is easy to see the importance of revisiting and rethinking topics such as Aboriginal women’s involvement in campaigning for greater public awareness and engagement with art.
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