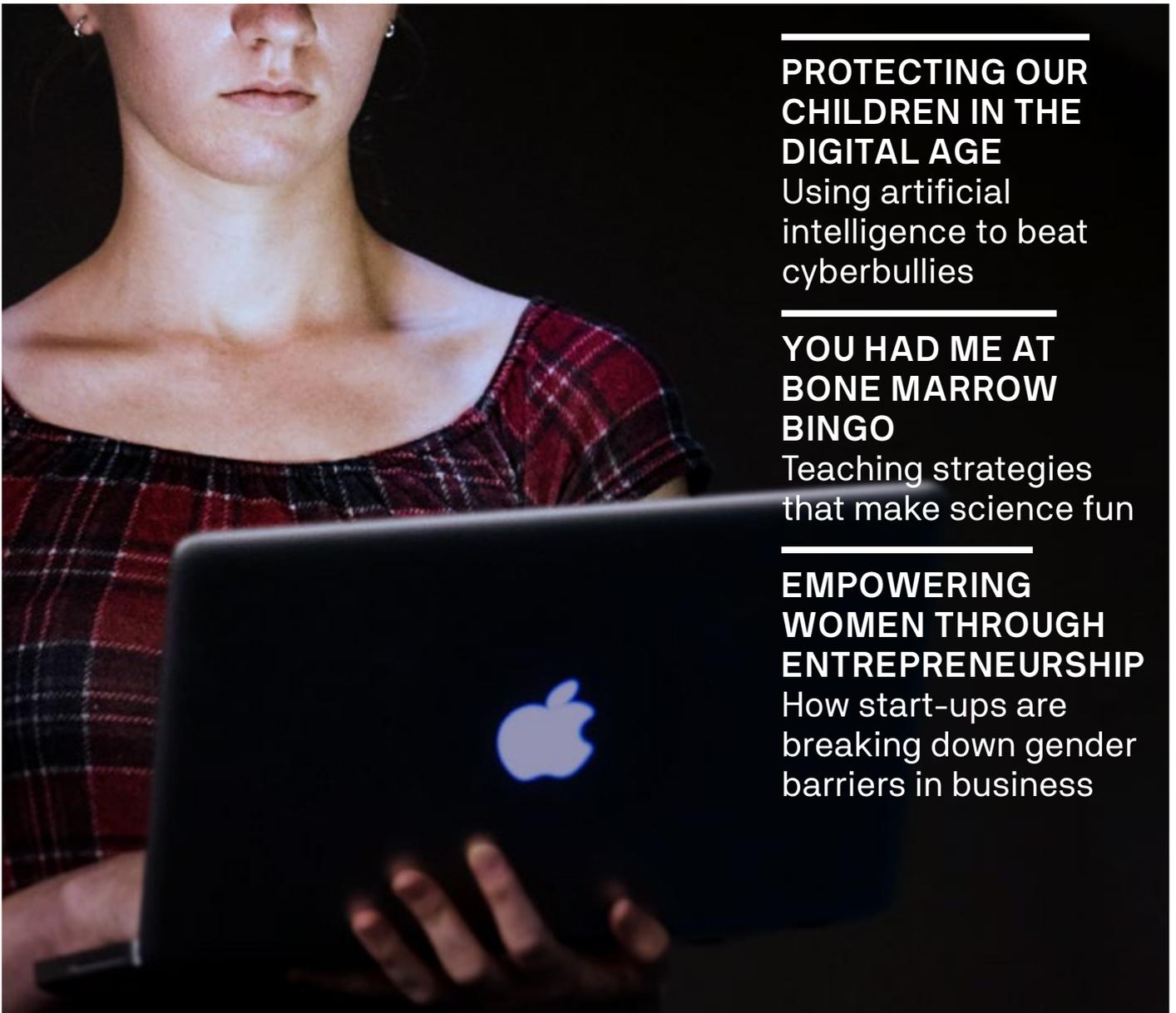


MARCH 2018



PROTECTING OUR CHILDREN IN THE DIGITAL AGE

Using artificial intelligence to beat cyberbullies

YOU HAD ME AT BONE MARROW BINGO

Teaching strategies that make science fun

EMPOWERING WOMEN THROUGH ENTREPRENEURSHIP

How start-ups are breaking down gender barriers in business

Catherine Livingstone

chancellor



You're now just over a year into your role as Chancellor. In layman's terms, what do you actually do?

I really make sure the governance framework at UTS is healthy. At the highest level, governance is defined as direction and control. So, direction is all about strategy. For example, right now, we're entering a period of working on the next strategic plan and my role is to ensure Council works with Attila and the senior team to develop that plan.

Control means making sure the operations of the organisation are in a state of control – are our finances okay? Do we have a sustainable student mix and student load? Are our work, health and safety policies working correctly?

Then there's the external representation role, particularly in advocacy for innovation policy, and internally at university events, like the Alumni Awards, Research Awards, faculty events and graduations. They're great! As the students walk across the stage you just can't help but think what opportunities the future holds for them.

This year UTS celebrates its 30th anniversary. What had you achieved by the time you were 30?

I would say by 30 I was only just starting to work out which way was up, really. I'd done a great deal of travelling, I'd worked overseas, and I'd actually joined a company called Nucleus which was started by Paul Trainor who, I think, is one of Australia's true entrepreneurs. He had a vision for establishing a medical device industry in Australia. Working with him triggered my interest in innovation and I saw the power of government, industry and academia working together. At that time, Cochlear was just a research project within Nucleus!

What was your first job?

My first job when I was still at school, so aged 14 or 15, was a script clerk for a stockbroker. I would run around the city exchanging documents, a job which is now, of course, completely gone because it's all electronic. But in those days you had to carry the documents. Some of them were bearer bonds and they could be worth hundreds of millions of dollars. It was terrifying!

With International Women's Day on Thursday 8 March, what is one small change you believe we can all make to achieve gender parity?

I think it's a persistence in having the confidence to speak up and step up. Even now, I know women, very capable women, who say, 'I'm not sure I can do that'. Well there's only one way to find out and that's to risk and try.

It's tough, and the onus isn't totally on women, but you've just got to take a deep breath and if you make mistakes and don't succeed, well, there are plenty of men who've made mistakes too. As I've said in my graduation addresses over the last year, you learn far more from failure than you ever do from success.

How do you unwind and recharge?

For me, the best downtime is being in natural environments. I love hiking in, sometimes, relatively wild areas. Last year, I did the Larapinta trail. I've done a lot of hiking in New Zealand, quite a bit in Europe, France, Spain, the Lake District in the UK, Scotland, Canada, the US – all over.

Photographer: Mark Glaze

Articles

06

Empowering women through entrepreneurship

Margaret Maile Petty reveals how women in start-ups are breaking down the gender gap in business and what universities can do to help

08

You had me at bone marrow bingo

How UTS academics are using celebrity case studies, bingo and classroom banter to make learning science fun

10

Protecting our children in the digital age

The artificial intelligence experts who are working with community and industry organisations to develop new technology to detect, and ultimately prevent, cyberbullying

02

Ask the Exec: Catherine Livingstone

04

News: UTyeS

05

Around U: Building on success

12

Staff profile: The reality of cancer care

13

Alumni profile: The good fight

14

Two of U: Big data, big improvements

16

Student profile: Pitching CAMP and creating change

17

U read it: UTS in print

18

Featured event: Soft topologies

19

What's on: March

19

Art & U: UTS art collection

Next issue

The next issue will be released on
Tuesday 3 April 2018

All U articles are available to read online via newsroom.uts.edu.au or follow us [@UTSEngage](https://twitter.com/UTSEngage). Send your story ideas, opinions and events to u@uts.edu.au

Page 19 images: *Soft Topology*, 2017, hand pleated and heat-set polyester organza, cotton thread, black tourmaline, 185 x 120 cm (full expansion), adaptable form, dimensions variable, courtesy the artist and ALASKA Projects; photo supplied by Diversity Council of Australia; rawpixel.com on Unsplash

Issue 01

U is published by the Marketing and Communication Unit and provides a voice for the university community. As such, the views in U are not necessarily the views of the university or the editorial team. U reserves the right to edit as it sees fit any material submitted for publication.

Managing editor: Georgia Nielsen

Editor: Fiona Livy

Assistant editor: Katia Sanfilippo

Enquiries: 02 9514 2249 | u@uts.edu.au

Contributors: Lexy Akillas, Tess Gibney, Allison Glavin, Max Halden, Hannah Jenkins, Daren Maynard, Emily Mead, Janet Ollevou, Margaret Maile Petty, Rachael Quigley, Stephanie Roberts, James Stuart

Art direction: Shahnam Roshan

Design: Stella Thai

Cover image: Shane Lo

Media enquiries: Lesley Parker | 02 9514 3054

UT YES

“Mardi Gras was made as a statement of pride, of visibility in the face of erasure, and for people to say we’re here and we’re proud, and we’re going to be ourselves,” explains Student Liaison Officer Aadarsh Prasad.

That’s why we’re saying UTyeS to Mardi Gras 2018, with the university’s first float appearing in this year’s event.

Aadarsh and Equity and Diversity Project Officer Jess McGowan have been leading the charge, with architect and lighting specialist Michael Day heading up the design of the float. Michael enlisted help from his colleagues in the Faculty of Design, Architecture and Building, including architect and artist Mark Gerada, who created the float’s feature artwork.

“It’s very artistic, but it incorporates a lot of technology, and I think it embodies what UTS is very well,” says Aadarsh, who is also a social and political sciences student and the Queer Officer of the UTS Queer Collective.



Aadarsh Prasad and Jess McGowan



The artwork created for UTS’s first Mardi Gras float

Initially working with a small group, Jess says the team grew rapidly. Both she and Aadarsh shared a hope they could involve as many students and staff as possible, particularly those who identify as LGBTQIA+. They also wanted to ensure the float was as accessible as possible.

“We’ve been really specific about asking if anyone has any accessibility needs, and thinking about how that can work. We’ve created a partnership with Glow Worm Bicycles, which do electric bikes for those who want to be part of the float but can’t walk the whole way,” says Jess.

“We’re also doing a bit of work externally with fashion designers that are really body-positive. We want to subvert the notion that Mardi Gras is male-body-beautiful. It’s for everyone.”

For students like Aadarsh, the float is symbolic of our commitment to social justice, but also a reminder that UTS is a safe space for LGBTQIA+ people.

“It’s us saying this is why we need to continue being proud of ourselves and our students who come from that experience,” says Aadarsh.

“We’re lucky enough to not have to campaign to fight our university, because the university is on our side and is receptive to the students’ wants and needs. We don’t have to always scream and shout for change to be made – we can just ask.”

Mardi Gras is only one example of our equity and diversity initiatives. UTS has the longest-running university Ally network in Australia and a well-established program to implement policy and training to better support, inform and celebrate sexuality and gender diversity. Jess also administrates the PROUD network – a 200-strong group for LGBTQIA+ staff.

“Most of my role is with staff, so I’m really excited to have a project that is student-focused,” she says. “Mardi Gras is fundamentally a celebration of inclusion, and our first-ever float is just one symbol of a much larger commitment to our diverse community.”

EMILY MEAD
Marketing and Communication Unit

Photographer: Shane Lo
Artwork by: Mark Gerada



View this article at
UTS NEWSROOM
or share it @UTSEngage

Building on success

Seven levels of state-of-the-art equipment. That's how our newest science research facility is being described.

An extension of building 4, the new facility will replace what was once University Hall and bring together existing and new research equipment. Interim Dean of the Faculty of Science William 'Bill' Gladstone says, "It will consolidate our expertise and high-end infrastructure in one physical location, rather than spread over the campus.

"What makes the facility unique," he adds, "is that each of the floors is themed around particular scientific methods that can be applied across multiple disciplines and industries.

For example, there will be a floor committed to state-of-the-art analytical instrumentation allowing researchers to investigate a diverse range of contemporary issues across biological, environmental and forensic sciences.

Likewise, all of UTS's high-resolution imaging equipment including the super-resolution DeltaVision OMX Blaze™, will be brought together in an imaging suite on another level of the new facility."



Artist's impressions of the new building 4 extension

Bill says, "This will really cement UTS's reputation as world-leaders in using super high-resolution imaging to undertake research."

UTS will also get its first walk-in fume cupboard, along with over 20 regular fume cupboards. They'll be used to support high-level research in chemical synthesis in a safe and inclusive environment.

Bill says consultation with researchers and technical staff was integral to the design of each space. "We studied their research workflow to ensure that benches and equipment were installed in a sequence that catered for the way in which scientists work."

The exterior, designed in collaboration with H2o Architects Melbourne, is just as distinctive as the interior. A glass curtain wall on the southern facade will enable passers-by on the Harris Street footbridge to view the research taking place inside the labs. It will be complemented by coloured glassed facade features, inspired by a lightning strike, which represent the energy and spirit of UTS.

The construction of the new building, which is set to begin in May, will also take advantage of the empty "air space" above the former University Hall. Senior Project

Manager in the Facilities Management Operations Projects Team Ben Jenkins says, "Going up enables us to gain a lot more square meterage."

And in doing so, "We are now making the most of the site's potential and allowing UTS, and science, to expand."

The building is also expanding underground. A basement level will be dug out during the demolition of University Hall, to provide extra storage and passage through to the loading dock in building 1.

Ben says, "We are also adding a walkway that leads to the Alumni Green, so the building will connect to the heart of our campus." And to collaborators in other faculties.

"A lot of the research we do," says Bill, "is done to have an impact in society. By being able to push the barriers of science and technology with this new facility, our knowledge and research will become better, and ultimately more impactful."

LEXY AKILLAS

Bachelor of Arts in Communication (Journalism)

Image: H2o Architects Melbourne



View this article at
UTS NEWSROOM
or share it @UTSEngage

Empowering Women through entrepreneurship

#PressforProgress may be the theme for International Women's Day 2018, but for female entrepreneurs it's a mantra. Professor Margaret Maile Petty reveals how women are using entrepreneurship to break down the gender gap in business and society and why universities must continue to encourage impact-focused entrepreneurship.

Patriarchy is a real thing. That's one of the lessons I've learned in my career. I've certainly been fortunate to have served in a variety of leadership roles, but representing the female minority is starting to wear thin.

In previous roles, I was often the only woman within management and executive teams. I have been to countless meetings where I was the only woman present. And most recently I was elected to an international board of directors, partly because I am a woman.

While I bristle at the thought that my most important credential is being female, I get that bigger change needs to happen and requires more women in senior roles. That's why developing and promoting entrepreneurship has been one of the most exciting aspects of my work. The powerful skillsets and mindsets that entrepreneurship opens up are a conduit for tapping into our incredible human capital, offering new pathways that are self-defined.

I'm reassured to find so many talented, supportive women choosing this pathway. Like Nicola Hazell, who has been brilliantly leading the SheStarts female start-up accelerator. And Monica Wulff, CEO of Startup Muster, who has documented the progress in hard numbers, commenting that programs like SheStarts encourage more female founders by offering more relatable business role models.

Not to mention Annie Parker, former CEO of start-up space Fishburners. Annie's known as one of the country's most influential innovators – earning her a ground-breaking new role as Microsoft's global head of start-ups. Annie, again showing us why she's so well respected, has handed the reins to UTS alumna Pandora Shelley, ensuring the succession trajectory female leadership can carve out.

These leaders are demonstrating how entrepreneurship is breaking down the gender gap in business and society. Here's how they're doing it:

1. Evening out the playing field

Start-ups are the leaders in creating jobs of the future, and more so for women. These new job opportunities mean both female leaders and employees now have a sharp axe to smash that glass ceiling and create a truly fair business culture.

How? Well, one in four start-ups in Australia are now launched by women, with 38 per cent of start-ups having full-time female employees and 42 per cent of start-up jobs being part-time.

Compare this with the corporate world, where less than six per cent of ASX 200 companies have a female CEO, as recorded by the 2017 Chief Executive Women's Senior Executive Census. In the Australian workforce as a whole, Workplace Gender Equality Agency stats show women constitute 36 per cent of full-time employees, and the Organisation for Economic Co-operation and Development reports that 26 per cent of employment overall is part-time.

This flexible working, productivity-focused mindset is liberating for many women whose career progression has traditionally been defined by their ability to maintain full-time hours, or sacrifice family commitments.

“engaging more women in start-ups will create a pipeline of future female CEOs”

2. Paying it forward

As Nicola from SheStarts has noted, engaging more women in start-ups will create a pipeline of future female CEOs, setting Australia up for a stronger, more equal future.

But, there is still much to be done. Women continue to face the issue of convincing largely male investors to back their ventures. Harvard Business School has found investors are 60 per cent more likely to invest in a man's proposal. And the *Sydney Morning Herald* has reported that less than five per cent of female-founded tech companies in Australia are funded by investors.

To break this cycle, women are 'paying it forward', literally. Take SheEO. Each year, they recruit 500 new women who contribute \$US1100 each to a female-managed venture fund. That fund then provides interest-free loans to female founders. Every year the community expands by another 500 women and \$US550,000. The result: a steady influx of robust female-founded ventures, ready to support the next generation of female entrepreneurs.

According to CNBC, expanding financing options like SheEO are fuelling the rise of women in the start-up scene. If you're a successful founder, it might seem like an extra ask to 'give back' when you're already juggling a daunting to do list, but this contribution will far exceed any expected return on investment.

I've always made it a point to invest in my own network, by helping others succeed, connecting people to opportunities and resources – not because I have something to gain in doing so, but because I know what it's like to start out. And what I've found is that this investment always comes back to me two-fold, without asking, like a good karma exchange to which I would attribute much of my own success.



3. Creating new opportunities through social impact

Women are having a tremendous impact in social enterprise. Statistics show that 55 per cent of the world's social entrepreneurs are male and 45 per cent female – a significantly smaller gap compared with the commercial world. There are multiple factors behind this; one importantly being many women launch businesses to gain a better work/life balance, rather than to chase hockey stick revenue models.

It's not surprising then to see a number of impressive female role models in this space. Take UTS alumna Violet Roumeliotis, CEO of Settlement Services International (SSI), who was awarded Telstra Australian Business Woman of the Year 2017. In the past four years, SSI, which helps refugees and migrants settle in Australia, has grown its revenue from \$9 million to \$110 million, and helped 1083 refugees and asylum seekers gain work in the past 18 months.

Women are showing that through entrepreneurship they are solving problems that governments don't have the resources, consensus or know-how to address. Women are not just uniquely placed to help tackle issues specific to women, but to inspire others to contribute to causes they're passionate about.

These female leaders demonstrate deep empathy for the problem they've set out to solve, and an acute awareness that innovation has the power to deliver real change. As SheEO founder Vicki Saunders has said: "I don't want to put my capital into the same old dumb apps that don't do anything in the world. I want to put my capital into female innovators who are strengthening our communities."

Many of the changes we need, to get to the point where women and men have the same opportunities for success, are already underway. But progress won't happen by accident or be delivered top-down. It will accelerate with the actions, choices, generosity and resilience of all of us.

Universities have a critical role to play in encouraging impact-focused entrepreneurship, celebrating diversity in our role models and helping graduates take these skills and mindsets into the world. I'm proud to be championing such efforts at UTS, and to be able to call on a strong network of female leaders to help all of us succeed in this mission.

MARGARET MAILE PETTY

Executive Director, Innovation and Entrepreneurship
Innovation, Entrepreneurship and
Creative Intelligence Unit

Photographer: Shane Lo



View this article at
UTS NEWSROOM
or share it @UTSEngage

You had me at bone marrow bingo

The study of blood doesn't tend to conjure up images of classroom banter, bingo calls or The Biebs. Until Associate Lecturer Rebecca Keppel and her team of scientists decided to change all that. Together they've reimaged the way their students learn about haematology at UTS, designing a series of games and authentic assessments that help students learn what they need in a way that's interesting to them.



Rebecca Keppel

With a warm impish smile and a laugh that makes her shoulders bob, it's easy to see that Rebecca Keppel's a bit of fun. And as she talks through the activities she's introduced to her classes – like 'bone marrow bingo' and 'diagnose a celebrity' – you can't help but get caught up in her enthusiasm. Which is funny, says Rebecca, because "I never thought I'd be a teacher. My mum was a teacher and I was set on a career in microbiology."

Today, the Associate Lecturer in the School of Life Sciences (and a UTS biomedical science graduate) splits her time between both roles, teaching at the university and working at Liverpool Hospital.

Officially, says Rebecca, her title is Hospital Scientist. "I spend my day at the microscope looking at over 100 blood films and making diagnoses on these patients.

"A lot of us teaching Haematology 1 and 2 work part-time in the industry, meaning we still work in labs day-to-day. What we wanted was for our students to actually learn what we were doing in the lab outside of university, so they can build the skills required in the workplace.

"Most importantly, though, we wanted to make these experiences fun! We wanted to create hands-on activities that would engage our students."

So, what did they do?

Well, says Rebecca, "We developed a project to design activities that would change the way our students learned. We termed it 'small things that make a big difference'. One example was the 'case study project'.

“In the case study project, groups of students are assigned a set of case studies, progressing from basic to advanced. At each stage, the groups are assigned a celebrity exhibiting symptoms of varying degrees – we’ve Miley Cyrus, Bieber, you know the usual tabloid headlines.

“The students must look at the symptoms their celebrity is presenting and then proceed to order tests for the patient so as to find out what’s wrong with them.”

To help the students, Rebecca and her team (Susan Green, Toni Flanagan, Karieshma Kabani, Daniel Mediati, Samira Aili, Reece Ajaka, Hiba Bahidh and Tamara Carrodus) designed a PowerPoint slide deck with embedded macros.

As students work through the slide deck, they are prompted to ask, ‘which test do I order next?’. Choosing from four possible tests at each stage of the diagnosis, the macros work in the background to calculate the total costs of their selected tests, and for each test the group selects, presents the relevant results. Hopefully, says Rebecca, at the end of the simulation the groups have enough information to make their diagnosis for their celebrity, all while keeping to their assigned budget.

“The activity focuses on the skills students need in the workplace – students need to interrogate a range of symptoms, to be realistic about the total test expenditure, to be able to interpret certain results, and importantly make a progressive link to a diagnosis,” she explains.

“In some cases, someone might try to order a bone marrow biopsy for a patient that has come in with a fever. In a real situation, that’s not a logical step. By assigning them real people, albeit famous celebrities, with ‘real’ symptoms, we hope the students will get a sense of what it’s like to order tests for a patient.

“What we wanted was for our students to actually learn what we were doing in the lab outside of university, so they can build the skills required in the workplace.”

“It’s about teaching them to make sense of what they are seeing results-wise and the next steps to take. It’s all a process and they need to learn that process.”

It’s just the same when looking at cell changes under a microscope. That’s where ‘bone marrow bingo’ comes in.

“We introduced ‘bone marrow bingo’,” says Rebecca, “because looking at a bone marrow slide is just hideous. As a scientist, I don’t even do it in the industry!”

Previously, tutors would dedicate an entire three-hour practical class to students examining bone marrow slides under a microscope. “To give you an idea that’s asking them to identify a single cell in 10 billion,” Rebecca says.

“The students were just overwhelmed by this and didn’t have any idea what they were meant to be looking at. And we, the facilitators, would need to get around to 40 students one-by-one to try to show them the cells they needed to know. It was boring for our students and many felt like they weren’t making any progress.

“I would say to the students, ‘look, at the end of the class, all I need is if I give you a picture of the cell you know what cell it is’. So, I thought, well why don’t I just do that.”

Bingo!

“So, we developed an activity where one-by-one we would flash up the 16 cells the students needed to be able to recognise. Like bingo, when they recognised it, they marked their bingo card. And, like bingo, the first to recognise all tests would get a prize.”

Students agree the change has been positive. “I studied haematology in block-mode over Summer. There’s a lot to learn in two weeks; some days we could have up to six hours of class,” explains Bachelor of Medical Science student Luke Milham.

“The games were a fun way to break up the day and helped us see where we sat in comparison to the rest of the class,” he adds. “For our last game before the test, Rebecca had read through all the cells and no one had yelled ‘bingo’. She eventually figured out that the megakaryocyte card had been skipped. When she found the cell card and flashed it up – 35 out of 40 of us yelled ‘bingo’.”

It was this work, and more, that saw Rebecca and her team take out the Team Teaching Award in the 2017 UTS Learning and Teaching Awards.

And, while the recognition is nice, Rebecca’s motivation is much simpler: “I just like getting students to have as much love for science as I do. Getting them to the moment where they understand something they once couldn’t, that’s just really rewarding.”

You can find out more about Rebecca’s work and that of the other 2017 UTS Learning and Teaching Awards recipients at the Learning and Teaching Awards Showcase – Wednesday 6 June, 3.30pm UTS Great Hall.

ALLISON GLAVIN
Marketing and Communication Unit

Photographer: Shane Lo



View this article at
UTS NEWSROOM
or share it @UTSEngage

Protecting our children in the digital age

One in four Australian children aged eight to 14 experiences online bullying. Yet, most victims and witnesses stay silent, compounding the impact on mental health. Now, artificial intelligence (AI) experts are teaming up with community and industry organisations to tackle the problem in all its stages.

Xue Li's youngest daughter was just 10 years old when he walked in on her typing intensely on the family computer, causing her to cover the screen.

"I was a little surprised because I used to know everything my daughter was doing – I took her to school. Suddenly I felt a bit strange," says Xue, a Professor in the School of Information Technology and Electrical Engineering at the University of Queensland.

On learning his daughter was using social media, Xue's first concern was that she might be talking to strangers. Yet, when she told him she was chatting with her school friends, his unease remained. Xue began searching Google for information on cyberbullying.

"There were dozens of photos of children, some as young as my daughter, who had committed suicide because of cyberbullying. Most of them were bullied by their classmates, their school mates, their close friends, actually."

Xue resolved to do something to protect children from such "bad, ugly" experiences. So he set out to develop software to detect, and ultimately prevent, cyberbullying behaviour.

To begin with, one of Xue's PhD students compiled a data set, manually tagging what did and didn't constitute cyberbullying and suicide ideation. The information would be used to train a machine how to recognise the behaviours. But, Xue needed sponsorship to continue the project, so he approached researchers at UTS to collaborate in attracting an industry partner.

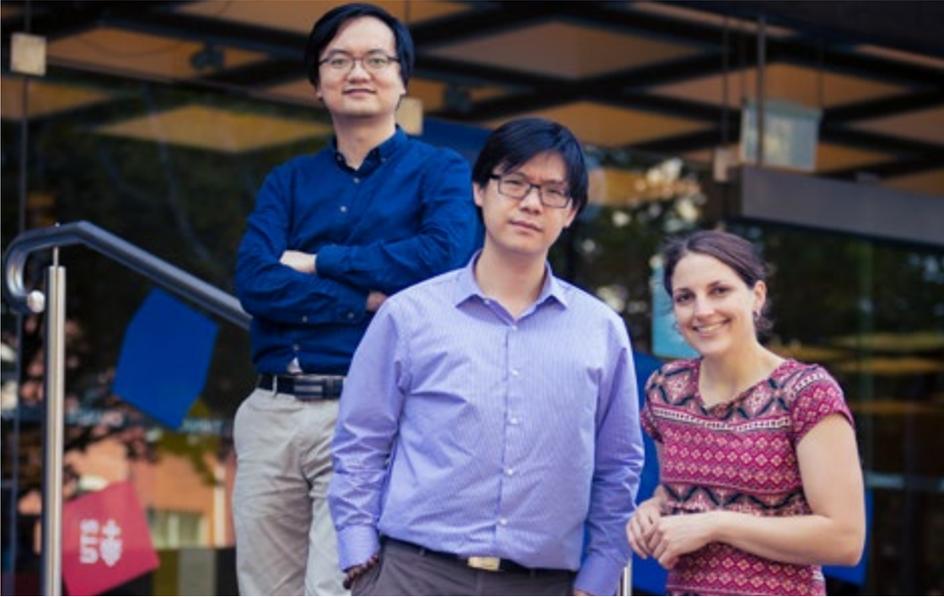
"UTS has a very strong research team in machine learning – one of the best in Australia," says Xue. "And this is basically a machine learning, AI project."

Fortuitously, when Xue made contact in 2014, researchers at the UTS Centre for Artificial Intelligence (CAI) were already "exploring how our research could be applied to social networks to benefit society," says Senior Lecturer Guodong Long.

Led by CAI's Professor Ivor Tsang, along with Xue, Guodong and Adjunct Professor Dacheng Tao, the team proposed to change existing cyberbullying prevention services from reactive keyword filtering to proactive early detection.

In 2015, they secured \$550,000 through the Australian Research Council's Linkage scheme, which supports research partnerships with business, industry and community organisations. This enabled the researchers to collaborate with the Australian Research Alliance for Children and Youth (ARACY) and the Global Business College of Australia (GBCA), bringing both additional expertise and partner funding to the project.

And the research evolved as a result. In addition to detecting cyberbullying, the team is now developing an automation tool to assist social workers and other support people to conduct effective conversations about cyberbullying with youth.



Guodong Long, Ivor Tsang and Kristy Noble

Director of Collaboration and Engagement at ARACY Kristy Noble says, “Because this pervasive digital world we live in is such a new thing, we don’t know much about how these technologies impact child and youth mental health.”

While public discourse often focuses on the negative effects of digital technologies on young people, Kristy says we need to ask, “How can we utilise them as a positive tool, such as through the delivery of online cognitive behavioural therapy?”

By leveraging ARACY’s expertise in evidence-based approaches to child health and wellbeing, the team are looking to develop practical, preventative solutions.

“Sometimes it is hard for social workers and parents to convince children not to bully or to help them if they have been bullied,” explains Guodong. “We are trying to develop a new technology that can help you rank your sentence when you say something or type something.

“This software can tell you if your words are suitable for the situation or how much impact they can have.”

Having used publicly available data to inform the detection model, the team are now grappling with the personal privacy aspect of the research. Guodong explains, “We want people to feel safe and comfortable that when they use our software their personal information will not be available to others as part of a big data set.”

Their solution was to develop a new piece of software that uses small data (accessible, easy-to-understand information) to preserve privacy. “This software can be deployed to your mobile and the computations will happen ‘within’ your phone without extracting your data. So your personal information is protected.”

It’s a complex project, requiring diverse expertise in cyberbullying, machine learning and AI, mental health and youth. So multidisciplinary and multi-sector collaboration are essential.

“By collaborating, we bring out expertise in all areas to facilitate the best possible outcomes.”

“We live in a world that is so full of expertise that no single person or organisation can really have the ability to provide the best of every aspect,” says Kristy. “By collaborating, we bring out expertise in all areas to facilitate the best possible outcomes.”

From the researchers’ perspective, the knowledge, networks and access to children’s and parents’ perspectives that ARACY and GBCA have brought have been crucial to refining their ideas into workable solutions.

“Imagination is where it begins,” says Guodong, “but to have comments from them helps us adapt our technology for the real world.”

RACHAEL QUIGLEY
Marketing and Communication Unit

Photographer: Shane Lo

This research is funded by: the Australian Research Council, Australian Research Alliance for Children and Youth, and Global Business College of Australia



View this article at
UTS NEWSROOM
or share it @UTSEngage

STAFF PROFILE

CHERE

The reality of cancer care

One in two Australians will be diagnosed with cancer by the age of 85. Imagining how each of those people would react to that diagnosis is hard. Predicting exactly how they'd go about deciding on a treatment option is even harder, especially when it may be invasive, intensive or high-risk.



Richard De Abreu Lourenco

Welcome to Richard De Abreu Lourenco's world. The 2018 Chancellor's Postdoctoral Research Fellow and Senior Research Fellow in the Centre for Health Economics Research and Evaluation (CHERE) is researching how patients make complex decisions about cancer care.

Right now, he's looking at how three specific groups make decisions in real-world scenarios: women at high-risk of ovarian cancer, parents of children experiencing fevers due to cancer treatment and those receiving long-term care after surviving cancer.

"My research aims to help better target where government money should be spent in cancer care and beyond," he says. "I hope to inform what happens, not just in cancer, but in other areas of health and how we can spend our limited health funding in the best way for patients."

It's something he's been investigating since he came to study a PhD at UTS in 2013. Prior to that, Richard spent more than a decade working in the private sector researching and evaluating the economics of pharmaceuticals and medical devices. His work inspired him to delve deeper into the assumptions being made about how patients want to receive care.

"Drug companies were saying to government, for example, 'we want you to pay more for our services because they are convenient'," explains Richard. "For my PhD, I wanted to investigate whether people really think it's worthwhile paying more for something like cancer treatment just because it is more convenient and how we go about measuring that."

That research showed the importance of information – both how it's communicated and how much is given – in the decision-making process. And how, for some decisions, such as whether to remove a healthy breast after a breast cancer diagnosis, most women wouldn't change their decision regardless of how the choices were explained.

For Richard, it's all about focusing on meaningful engagement with patients in a field that often pays lip service to the concept. "Quite often when we do research, we look at the things we're doing 'to' people rather than doing it 'with' them," he says.

"Having patients as part of my research team – helping me build the research question and understand the results – has been really valuable. There are aspects, like the importance of sensation in your breast area, which you're just not able to understand without having lived it."

And for governments having to make tough decisions on the ground, Richard's research could prove to be invaluable.

MAX HALDEN

Marketing and Communication Unit

Photographer: Shane Lo



View this article at
UTS NEWSROOM
or share it @UTSEngage

fight

The good



Ashleigh Barnes

Ashleigh Barnes had yet to settle on what she'd study at university when 33 South American miners were trapped underground in August 2010. Watching the rescue efforts in Chile's Atacama Desert on television, and learning about the mine's long history of safety violations, the Sydney high school student quickly found her vocation – human rights law.

Now a law and international studies graduate, Ashleigh will soon head to Oxford University as UTS's first Rhodes scholar. She's one of eight Australian students selected for the prestigious postgraduate study program, and plans to use her 2018 scholarship to study a Bachelor of Civil Law.

Ashleigh says, "I knew about the scholarship, of course, but only in the context of sandstone universities, elite sportsmen and politicians – three categories I obviously didn't fit into."

But, three different people – "a close friend from work, an academic and a university colleague" – urged her to have a go. And, with her confidence buoyed by winning the University Medal in Law, Ashleigh began the "intense and transformative application process".

For a graduate lawyer, the scholarship offers an immediate opportunity to understand the ways corporate and human rights law overlap, and, in the future, how she might be able to advance Australia's fight against modern slavery.

"Many people think corporate law and human rights law make strange bedfellows," says Ashleigh.

"The former is often associated with wealth, power and greed; the latter with respect and dignity. Indeed, many corporations repeatedly perpetrate gross human rights violations.

"My vision is to reform corporate law to facilitate and encourage human rights protection."

In fact, between finishing her studies at UTS and starting at Oxford, Ashleigh has spent her down-time conducting research with Jumbunna Institute for Indigenous

Education and Research into Indigenous deaths in custody and working as an intern at the Extraordinary Chambers in the Courts of Cambodia – the hybrid tribunal hearing the Khmer Rouge Trials.

She's also spent a year working as the Tipstaff to the Honourable Justice Robert McDougall in the Supreme Court of NSW and from March to September will take on the role of Graduate Lawyer at Herbert Smith Freehills.

The lesson, says Ashleigh, is to never rule yourself out.

"There is no such thing as the wrong kind of degree, the wrong high school or the wrong university. Yes, the Rhodes Scholarship is about intellect, leadership and mastery in extracurricular pursuits, but it is also about truth, courage, devotion to duty and more.

"If you have a vision for how you want to fight the world's fight, back yourself and be game to have a go."

TESS GIBNEY

Marketing and Communication Unit

Photographer: Kevin Cheung



View this article at
UTS NEWSROOM
 or share it @UTSEngage

Big data, big improvements

As Manager of the UTS Peer Assisted Study Success (U:PASS) program, Georgina Barratt-See wanted to know if it was really making a difference to student success. With 10 years of data to analyse she didn't know where to begin. That's where postgraduate student Len Tay and the Master of Data Science and Innovation's subject iLab came in – upskilling staff in data literacy while empowering students to work with real clients.

Georgina Barratt-See

We have 110 high-achieving and compassionate leaders running study sessions with students, mainly in first-year subjects. We know peer-based work is much more effective as the students see the peer leaders as just another student.

When I heard the Master of Data Science and Innovation had a subject giving master's students projects to look at real industry data, I instantly wanted to know more. I've been doing my job for a very long time now – almost 10 years – and we compile a lot of individual data sets each session and perform a lot of evaluation. We look at how often students come to classes, the types of students that attend, their opinion of U:PASS, that kind of thing. But, there was no linkage of that data.



Georgina Barratt-See and Len Tay

I don't have the ability or time to look at our data in-depth and I always thought it would make a good research project. This was a great chance to look at the big picture results, like how the different subjects are performing and which ones we could work on. I put together a proposal and next thing I knew I had an email from Len telling me she had selected my project.

We instantly connected. Working with a student can be hard because you spend so much time teaching them what needs to be done. But Len just 'got it', instantly. I immediately saw how intelligent she is.

If you meet Len she's just so calm and thoughtful. I'm kind of extroverted and passionate, so this pairing between us just worked.

I gave Len so much data and thought, 'She's not going to cope with this'. But she was able to unpick all the questions we were asking from a data perspective. As the project progressed, she clarified, probed and asked good questions.

We're already seeing the benefits of this data project. I was approached by an associate dean asking for data from their particular faculty. I pulled out some of Len's data and explained what we'd discovered over the semesters and how we could see the different patterns across the subjects. It was great.

Working with Len was really rewarding and easy. I hope to stay in touch with Len and I like to think I've helped her in her new data scientist career.

Len Tay

I've been working in computer science for close to 20 years and have seen a lot of things we're doing in the field already being outsourced. That's why I decided to go back to university and study the Master of Data Science and Innovation. It's a degree for students who'd like to become experts in data science.

I was attracted to the degree because it pointed to the future – I wanted to move into something that I can see being 'alive' in years to come. Plus, I really like writing algorithms. I like doing programming. I like analysing data.

I met Georgina through iLab 1 – it's a subject that requires students to team-up with real clients to analyse their data. Out of a list of possible projects, both at UTS and in industry, I chose Georgina's U:PASS project because I wanted to do something in student analysis. I'm a student myself, and my two kids study at UTS. I was curious to see what sort of experience students are having on campus. And the U:PASS data could tell me that.

I knew from the start that we'd work really well together. Georgina is a very open and helpful person and was flexible with how we worked. That's a big thing. I've met other clients who are very demanding but Georgina wasn't. She was very respectful of my time.

Georgina's more of a morning person and I prefer to work at night, so we'd just email back and forth. I'd say I spent a total of 50 or 60 hours mining the data over about three months.

Georgina was also very clear on her objectives. Some clients just give you the data and ask you to find correlations and patterns, but Georgina is smart and knew what she wanted to ask of it: which are the best performing subjects? Which are the worst performing subjects? If a student stops attending U:PASS will they still continue to improve or not? Essentially, what's the mark, if any, that U:PASS leaves on the student's learning.

Before the project, I wasn't sure if I could do data science confidently on my own. But working through it gave me enough confidence to say, 'Yep, I know what I'm doing'.

I think Georgina was surprised with what data can do. Or better, what we can do with data. When we started she was wary of handing over hundreds of thousands of records; like it was too much for me. But, I smiled and said, 'Don't worry, the programming language can handle it'. Plus, data analysis gives me a kick! To be able to answer the questions people have, that gives me so much satisfaction.

Unlock your data

Are you a UTS academic, faculty or unit keen see how data analytics can help the work you do? Get in touch

Masters of Data Science: Just like Georgina, pitch your data needs for an analysis project headed by MDSI students. Email Amanda McGregor or Rhiannon Tuntevski at FTDiPartnerships@uts.edu.au

Connected Intelligence Centre (CIC): Gain insights from your data by working with CIC's Data Scientist Michael Pracy. Email michael.pracy@uts.edu.au

KATIA SANFILIPPO AND ALLISON GLAVIN
Marketing and Communication Unit

Photographer: Shane Lo



View this article at
UTS NEWSROOM
or share it @UTSEngage

change and creating Pitching CAMP

At age 16, Emily Crozier attended an engineering camp in Wollongong, expecting nothing more than a relaxing weekend away from home. But, standing on the Sea Cliff Bridge and seeing the power of physical and metaphorical connections, Emily discovered so much more – a passion for engineering and the inspiration to study it.



Emily Crozier

Now aged 22, Emily has received a scholarship from UTS to participate in the China Australian Millennial Project (CAMP) – an award-winning, design-led innovation experience. This journey alone is an achievement to be celebrated, but as a woman in a male-dominated industry, Emily says her work is only just beginning.

Currently in her final-year of a Bachelor of Civil Engineering and Bachelor of Creative Intelligence and Innovation, Emily says CAMP, which kicks off this month, is a way for her to continue her journey exploring the possibilities of engineering.

“China is a hub of innovation and change,” affirms Emily. “They’re the ones with ‘the next big thing’, and CAMP gives us the opportunity to work with them, experience their facilities and be encouraged by their knowledge, whilst sharing ours.”

In April, the CAMPers travel to Beijing for a five-day ‘innovation immersion summit’. Here they’ll meet their collaborative team and participate in workshops held by thought-leaders, government, corporates, investors and entrepreneurs.

Upon returning home, the program continues with online training and learning materials and mentorship from high-profile industry professionals. It culminates in June when teams present their final work (which could be a business proposal or something physical) to a panel of judges at Sydney Town Hall.

The program involves hard work, creative thinking and group collaboration, and Emily is excited by the opportunity. “Someone once told me: ‘You don’t want to work with people who are like-minded, because how do you create new exciting ideas without being challenged?’”

“I’m looking forward to expanding on my UTS experiences and stepping outside the realm of Australia in terms of innovation communities,” says Emily. “I believe my eyes will be widened in regards to problem solving techniques, different methodologies and conceptual understandings. I think we will create things that are really special and have lasting impact.”

She adds, “Being a woman in engineering is an opportunity to provide diverse opinions to the issues which shape our world.”

“We are in an era where it’s even more acceptable for females to pursue STEM careers. Women are posing new and exciting ideas, not fearing they will be rejected. This empowering, unapologetic attitude will transfer into coming generations, creating even greater opportunities.”

As for her own future, Emily hopes to use her transdisciplinary knowledge to further ideas in engineering, work on complex problems and find simple satisfaction in disrupting them.

“I hope to make myself proud and one day be able to walk past a building and say, ‘I was part of that’. I want to create change and see others utilising the space. I want to create inclusive initiatives and be a voice for those who haven’t had one before.”

STEPHANIE ROBERTS

Bachelor of Communication (Journalism), Bachelor of Arts in International Studies

Photographer: Shane Lo



View this article at
UTS NEWSROOM
or share it @UTSEngage

 U READ IT

UTS in print



THE CRYSTAL BALLROOM

By: Libby Sommer
 Publisher: Ginninderra Press

Libby Sommer's *The Crystal Ballroom* is a contemporary Australian novel that explores the dating prospects of a middle-aged divorced mother. While younger people born in the digital age use a wide array of dating apps, the protagonist (Ingrid) uses a dancing club to meet men. If you're a Sydneysider, you may recognise some of the geography mentioned in the book (namely Bondi and Coogee), not to mention the cultural diversity of Sydney life which Libby deftly brings to life as we meet Caleb, Aravind, Vladimir, Hanif and her other dates and dancing partners. As I was reading, I couldn't help but think if this is what's in store for me as I get older? All in all, *The Crystal Ballroom* is a pleasant read. In fact, I'd suggest you take a leaf out of Ingrid's book and enjoy it while drinking a low-calorie fruit smoothie and ogling the passers-by.

DAREN MAYNARD

Faculty of Design, Architecture and Building

After years working in television and public relations, **Libby Sommer** came to UTS to study a Master of Arts in Professional Writing. *The Crystal Ballroom* is her second published novel.



WRITING ON THE WALL

By: Anne Carson and Julian Bailey
 Publisher: Mark Time Books

At the heart of this collection of poems and essays is Anne Carson's short poetic sequence that traces the life of a young Persian slave, Theo, in ancient Greece. Anne's poetry in recreating Theo's voice on his path from servitude to release is measured. It lacks the poetic flourish that could easily ruin this form of dramatic monologue, recalling the mastery of verse novel proponents like Dorothy Porter's *The Monkey's Mask* or Les Murray's *Fredy Neptune*: 'The desk where I tutor, stylus and writing tablets, / even my own self, will pass from one hand to another.' She traces the overlap of object and subject explicit in all master-slave relationships and paints a rich picture of Greek culture and life – a remarkable feat in such a small number of words. It's a testament to both the poet but also poetry itself. That said, the context to the poems is just as engaging. The foreword by Anti-Slavery Australia's Professor Jennifer Burn discusses the dimension and condition of modern slavery (embedded, sadly, in many of our product supply chains). Anne's own background to the poem enriches many of the poem's references, including the eponymous wall in Delphi where the names of freed slaves are inscribed.

JAMES STUART

Marketing and Communication Unit

Writing on the Wall is a fusion of poetry and music, dedicated to the ending of slavery through the work of Anti-Slavery Australia – a specialist legal research and policy centre within the Faculty of Law.



THE PERFECT COUPLE

By: Lexi Landsman
 Publisher: Penguin Books Australia

The Perfect Couple is a mystery thriller that will induce a complex mix of emotions. Written in the first person, you get to experience the point of view of each main character – Sarah and Marco Moretti (the professional couple), Daniel and Emily (their children) and Sofia (the mistress). Each has a part to play in this intricate story of intrigue, greed, family life and passion. As with most thrillers, I found myself trying to solve the story's mystery – the missing artefact – as it unfolds in the book. At the same time, also attempting to be a forensic psychologist for the characters (just how willing would you be to sacrifice your family's happiness in pursuit of your professional fame?). This is a thrilling story with an intriguing ending. It's a good read for a quiet, lazy day at home when you need a fast-paced story to get your heart pumping. But, be warned: it will leave you asking yourself how could this happen?

DAREN MAYNARD

Faculty of Design, Architecture and Building

The Perfect Couple is **Lexi Landsman's** second book. Landsman, an author, television producer and journalist, graduated from UTS in 2006 with a degree in media arts and production.

Soft topologies



Kate Scardifield, *Soft Topology*, 2017. Hand pleated and heat-set polyester organza, cotton thread, black tourmaline. 185 x 120 cm (full expansion). Adaptable form, dimensions variable.

How do we navigate space? How do we map the passage of time? Of course, we have tools like clocks and telescopes, but how are these instruments themselves fixed in history or fragmented by time?

Artist Kate Scardifield has been exploring this idea through 19th century astronomical objects as part of a six-week residency with UTS Art. Combining her established practices in textiles, video and sculpture with loan objects from the Museum of Applied Arts and Sciences (MAAS), *Soft Topologies* 'wakes up' these archived tools of measurement by combining them with adaptable forms and a changing gallery environment.

"It's not often you get the opportunity to have access to a gallery space six weeks out from an exhibition," says Scardifield. "It's allowed me to approach this exhibition in a really different manner. In a way, I have used this show and residency to open up and expose some of the iterative learning process."

Scardifield spent four weeks as a Research Fellow at MAAS in 2017, working across Sydney Observatory and the Powerhouse Museum. Choosing fragments of objects from the museum's collection of 19th century astronomical instruments, Scardifield has now developed a charismatic exhibition, full of minute treasures and infinite possibilities.

"There are parts of a telescope used at the Parramatta Observatory," she says, "and a single weight from a clock that was used to keep sidereal time – that's Earth's rotation relative to the distant stars, rather than the Sun."

Expect fluid and transformative pieces, with Scardifield hoping to change and re-sequence works to create "spatial inversions" that respond to and interrogate the architecture of time, space and the human body.

Treating the gallery as an active working studio during the duration of the exhibition, Scardifield will also be inviting diverse experts to join her in re-shaping the textiles intermittently. "I'll be working with a sail maker, a percussionist, a choreographer, and an engineer amongst others.

"The residency has allowed me to resist the urge to make anything fixed or static," she says. "So the formation of objects will continue to evolve during the exhibition."

***Soft Topologies* is presented as part of the Sydney Design Festival and will be on display in the UTS Gallery until Friday 20 April. For details of Scardifield's talks and other public programs related to *Soft Topologies*, visit art.uts.edu.au**

HANNAH JENKINS
 Marketing and Communication Unit

Image: courtesy of the artist and ALASKA Projects



View this article at
UTS NEWSROOM
 or share it @UTSEngage

WHAT'S ON

March

Email your events for April 2018 to u@uts.edu.au by Friday 9 March

7



INTERNATIONAL WOMEN'S DAY FORUM

Cracking the Glass-Cultural Ceiling will explore some of the barriers and challenges facing culturally diverse women in the workplace. Diversity Council Australia CEO Lisa Annese will discuss new research revealing what's locking culturally diverse women out of leadership and how organisations can unlock their talent. Light lunch provided.

12pm-1.30pm
Aerial Function Centre,
building 10, level 7
uts.ac/2sceZOG

FROM 8



EXHIBITION

Soft Topologies is an exploration of 19th century astronomy and the human body. Kate Scardifield pairs astronomical artifacts from The Museum of Applied Arts and Sciences collection with speculative new work to create a poetic exhibition that demonstrates new ways of thinking and modelling the universe.

Until 20 April
UTS Gallery, building 6, level 4
art.uts.edu.au

13



PUBLIC LECTURE

Technological change is causing significant disruption to existing companies, and since 2000 more than half of the S&P 500 companies have disappeared. In this lecture, Senior Lecturer Natalia Nikolova will explore the characteristics of successful intrapreneurs and how they contribute to business.

6.15pm-8pm
Dr Chau Chak Wing Building,
building 8, level 8
uts.ac/2nrCI90

ART & U



Sam Leach, *Helmet for Cosmist* 2017, oil on linen, UTS Art Collection, purchased 2017

One of the latest additions to the UTS Art Collection is a still life by Sam Leach, *Helmet for Cosmist*. It depicts a helmet, used by pilots during high altitude testing, that has been jauntily crowned with a tuft of feathers. It's a wonderful combination of skilled photorealist painting and whimsy. And, although a futuristic subject, this decoration brings to mind more ancient uses of similar headgear – the crests and plumes symbolising rank or social status.

For the artist, this painting was inspired by his interest in the origins of the Russian cosmists and what he calls "their utopian techno mysticism". Indeed, *Helmet for Cosmist* represents an interesting new direction in Leach's work, and was highly commended in 2017 in the biennial Still: National Still Life award.

Arguably, however, Leach is best known for his exquisite portrait of Tim Minchin, which won the Archibald Prize in 2010. In the same year, he took out the Wynne Prize (an annual award for the best Australian landscape painting) for his *Proposal for landscaped cosmos*.

Since that time, Leach has continued to build a portfolio of painted and sculptural works informed by art history, science, and philosophy, overlaying and combining highly detailed realism with a cool, reductive aesthetics and at times elements of geometric abstraction.

JANET OLLEVOU

UTS Art

Art & U profiles a piece of work from the UTS Art Collection every issue

30 years young



“At midnight on 25 January 1988 the New South Wales Institute of Technology vanished and in its place on 26 January 1988 rose the University of Technology Sydney” – UTS’s first Vice-Chancellor Gus Guthrie.

As we celebrate 30 years of UTS, we’re giving you the chance to check out just how far we’ve come and to share your fondest memories and photos by emailing u@uts.edu.au

Photographers: Sarah Borsellino (Haymarket), Andrew Worsam (building 11 at night), Sherran Evans (Tower under construction), David Vagg Photography (Haymarket panorama, The Loft), Toby Burrows (Alumni Green)



UTS has done its bit for the environment by using environmentally friendly paper and ink to produce U
UTS CRICOS Provider Code: 00099F
ISSN No: 1833-4113