

## *Message From The Associate Dean, Engagement*

First of all, I would like to welcome our staff to 2022. Under the unique circumstances, we managed to get through 2021. The school was thrilled to welcome our commencing students to the University, with some wonderful events being held as part of Welcome Week. Most staff are also back on campus, which is a pleasing step back to more normal operations. Another exciting news: the school is collaborating with Sydney Opera House on Tertiary Built Environment Program (BUILD).

BUILD is a new Creative Learning program that uses the lens of the Sydney Opera House building, its site and its story to explore creative explorations around STEM and built environment perspectives, through the power of the arts and architecture. Western Sydney University is the first academic institution to take part in this wonderful program. 60 students of diverse backgrounds and disciplines are participating and we are excited to see the outcomes at the end of the Program.

**Associate Professor Olivia Mirza**



### **The Buzz**

In celebrating International Women's Day, the school would like to celebrate our female staff and student



achievement in 2021. The school has successfully accumulated 20 awards, they are:

### **ACADEMIC EXTERNAL AWARD:**

Samanthika Liyanapathirana  
Elected Fellow (ASCE), first and only female Civil Engineer from Australia.

Olivia Mirza  
Winner of Western Sydney Women Award under Women Executive Entrepreneur under STEM.

Laura Almeida  
Finalist GISU Urban Innovation and Entrepreneurship Competition and received a Highly Commended Scholarship.  
Winner of Chairs' Award for Detailed Study on Occupant Behaviour from the RISE Awards.

Sarah Zhang  
Finalist Australian Museum Eureka Prize-Department of Defence Eureka Prize for Outstanding Science in Safeguarding Australia.

### **ACADEMIC INTERNAL AWARD:**

Maria Rashidi  
Winner school researcher of the year through industry partnership.

Maria Darestani  
Runner up EDBE Research Impact award.  
Winner 21C STEM Champion and 21 Curriculum fellowship.

Sarah Zhang  
Winner WSU Research Excellence Award through Partnership  
Winner EDBE of Researcher of the Year National and International Collaborations.

### **FEMALE STUDENT AWARD:**

Navodana Rodrigo  
Winner EDBE Award for Excellence on HDR Study.  
Winner EDBE 3MT People's Choice.

Buddhini Ginigaddara  
Winner Best Lightning Talk Award under 'Education and Work' .  
Nominated for the 'Young Achiever Award 2021 - Academic Achievement Award' by 7News Australia.

Thilini Weerasuriya  
Winner Humorous Speech Contest 2021, Evaluation Contest 2021, and Table Topics Contest 2021 of Area 28, Western Division, Toastmasters International.  
Second Place at the International Speech Contest 2021 of Area 28, Western Division, Toastmasters International.  
Third Place at the Table Topics Contest 2021 of Western Division, Toastmasters International.

Elisabeth Kalou  
Railway Transport Society Australasian Award for Best Thesis Award

Vihanga Ilankoon  
Winner WoW Research Impact Award.

Agatha Kosinska  
Runner up WoW Research Impact Award.

Heimy Molina  
Second Runner Up Winner WoW Research Impact Award.



## LEARNING & TEACHING



Welcome Week sessions ran smoothly, as face to face activities, taking advantage of the new health guidelines.

Attendance to all sessions were full, despite the rain, and it's good to see so many eager students to see on our campuses. Opening the new state-of-the-art building Parramatta Engineering Innovation Hub (PEIH) was a huge moment for our School.

Autumn classes have begun. Students are flocking the campuses, although the recent rain and flooding have cast some clouds into the enthusiasm of our students. Opening of the international border meant more students are able to join us on shore.

All Directors and the Academic Program Advisors are working hard to ensure that our students have the best possible experience and be successful in their ventures.

## INTERNATIONAL WOMEN'S DAY



School of Engineering, Design and Built Environment celebrated International Women's Day on the 8th of March 2022 with the aim to celebrate women's achievement, raise awareness against bias and take action for equality and collectively **#BreakTheBias**

Professor Deborah Sweeney, Deputy Vice-Chancellor and Vice-President, Research, Enterprise and International and our Dean, Professor Mike Kagioglou confirmed the University's and School's commitment to championing women in the STEM sectors.

17 industry partners joined us in our celebrations, demonstrating their support to #BreakTheBias. Keynote speakers Natalie Haydon, Senior Project Engineer, Multiplex and Merielvi Ferrer, Cost Planning Specialist, John Holland, shared their journeys and challenged us. Diana Zagora, Director Civil Engineering Infrastructure, Transport for NSW was the moderator for the panel discussion. The panel included Kuer Duot from Advanced Engineering, Emma Moore from Architecture, Angelique Sultana from Construction Management and Nese Sirikci from Industrial Design.

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# STUDENT NEWS

## RISING STAR AWARD



Congratulations to Ms Atra Tchikha on winning the inaugural Multiplex Rising Star Award at the WTBE Breakfast, held on 8th of March this year. The Award aims to encourage women in the school Of Engineering, Design and Built Environment, by acknowledging their efforts and academic achievements.

Atra is currently studying Bachelor of Construction Management and is currently working as a site administrator at Toplace Group.

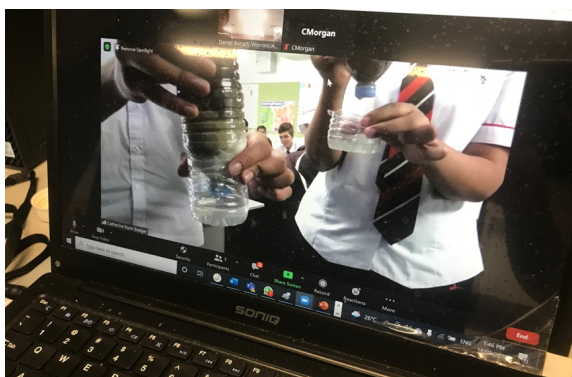
## DXC HACKATHON



DXC Technology and Launchpad hosted an innovation hackathon as part of Venture Makers. Over 50 students from the STEM, humanities, business and health disciplines at Western Sydney University linked virtually to develop solutions to the pressing challenge of human identity in the digital age.

Congratulations to James Hill, Bachelor of Industrial Design (Honours) for being part of the winning team.

## Engineering Students Supporting STEM in High School



On Monday 14 March, four fantastic third-year Engineering students delivered a Water Filtration workshop to over 180 high school students from across NSW via Zoom, as part of the Engineers Australia, [Discover Engineering](#) Program. Students learned about the processes of Water Treatment and even created and tested their own water filters using a water bottle, cloth, sand, rocks and charcoal.

One aspiring engineer made connections to real-life situations – cleaning up dirty water from the recent floods in his area! A big thanks to our Engagement Team for organising this event.

## INTERNATIONAL NEWS

The International committee met on 2nd of March to discuss the ongoing international activities. The committee in particular reviewed School's performance in international mobility. Actions are listed to be taken to facilitate and encourage EDBE colleagues to seize the opportunities in this area like the New Colombo Plan.

As part of our strategic goals, School is seeking to establish TNE delivery of our Bachelor of Construction



Technology and Master of Project Management in Indonesia. This attempt will follow the same model we utilised in Vietnam. In the same vein, Associate Deans Zekavat and Hagare met with SLIIT of Sri Lanka to examine the potential to expand our relationships.

The potential to extend the articulation to Engineering (they have EA accreditation), pathway to PG programs and joint PhD programs were discussed. Thanks to Profs Zhao, Mashiri and Le, School successfully delivered an Advice Session for international students enrolled in Bachelor of Engineering in the first week of the semester. The International office reported that overall the students were very appreciative that an online session was available to them.

## RESEARCH NEWS

The School has great success for our recent Australian Research Council (ARC) and NSW Circular projects.

### **ARC Discovery Project, \$352,000**

A Green and Fire-resistant Magnesium Oxychloride Cementitious Composite  
**Professor Yixia (Sarah) Zhang**

This project aims to develop a novel and green fibre reinforced magnesium oxychloride cementitious composite with durability and resilience for buildings subject to fire/bushfire attack via well-integrated multiscale numerical and experimental studies. This enhances integrity and safety of buildings and increases the energy efficiency for buildings. The project will significantly advance the research and application of green cement, and find a solution to recycle and reuse a large amount of waste/industry by-products in construction towards circular economy. The research outcomes are innovative material, models, experiment technology and modelling methods, with significant impact and benefits to environment, economy and society.

### **ARC Discovery Project, \$416,000**

Maximising the Use of Waste Glass in Sustainable Composite Columns  
**Professor Zhong Tao**

This project aims to develop novel structural concrete made with over 80% waste glass for use in manufacturing sustainable concrete-filled steel tubular columns used in buildings. Because of limited established markets for recycled glass, significant stockpiling of recycled and recyclable waste glass currently exists across Australia. This study will provide a suite of novel solutions to maximise the use of waste glass in structural concrete by fully replacing sand and gravel with crushed glass and up to 72% cement with glass powder. This will provide practical solutions to address not only Australia's glass recycling crisis but also the worldwide issue of disposal of waste glass.

### **ARC Linkage Infrastructure, Equipment and Facilities Project, \$1,213,351**

National Facility for Physical Fire Simulation  
**Professor Zhong Tao, Professor Yixia (Sarah) Zhang, Professor Bijan Samali**

This LIEF proposal aims to establish a ground-breaking national facility for physical fire simulation (NFPFS) that will extend and upgrade existing research capacity in Australia to become world-leading. The facility will open new research possibilities and collaborations on the fire resistance of structures and infrastructure, from individual components (e.g. columns, beams) to structural assemblies (e.g. joints, frames). The NFPFS will unite researchers in their endeavours to conduct high-quality research in fire-related disciplines from all Australian mainland states; enhance collaboration with industries and government agencies; and provide research, training and education for this critically important area to the country.





**Interdisciplinary Outreach for  
Internationalisation of Industrial  
Design Programs.  
*Dr Sasha Alexander***

Research collaboration with 3M Australia R&D, Pressalit Denmark (IoT Futures), and Circularity Partnership Pedagogy (Australia & USA), and University of Houston Astronaut Health and Wellbeing for Extreme Environments.

These relationships have been very influential in industrial design program renewal and interdisciplinary outreach culminating in ID subjects in 2022 WSU-wide Minors in: Urban Evolution; Eco-Socially Conscious Design and Manufacturing; and Innovating For Humans.

Circularity research seed funding has led to a multi-stakeholder partnership surveying Greater Western Sydney regarding industrial design impacts.



**Productivity, Ergonomics, Inclusivity:  
Redefining Workspaces. *Ms Karen  
Yévenes with  
Dr Sasha Alexander***

In 2022, we are teaming with a nationally recognised Western Sydney -based SME, Maxton Fox Commercial Furniture & Joinery Manufacturer on a collaborative project. Students are invited to consider how the disruptions caused by the pandemic have led to new interpretations of traditional workplace models.

Students will work in inter- and multi-disciplinary teams, and across year groups to consider design work furniture which is flexible and capable of monitoring our health and wellbeing. The project is a competition, with the winning concept brought to life as a full-scale prototype. This WIL project embraces partnership pedagogy as the industry partner is a co-designer of the learning activities and inspires students to produce a substantial body of work.

## **FACILITIES**

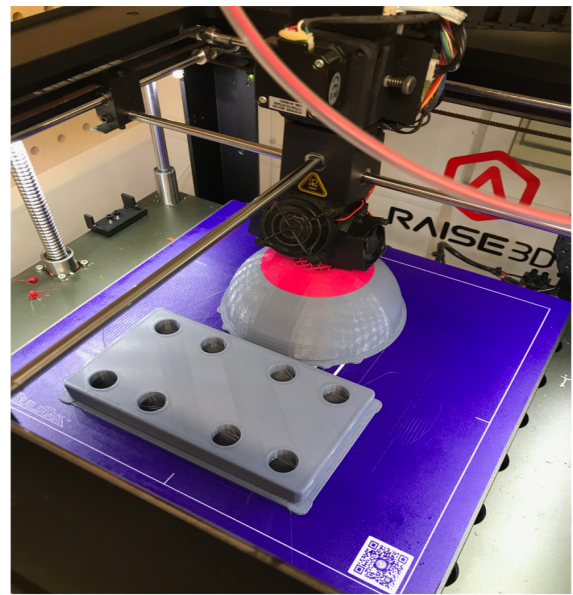
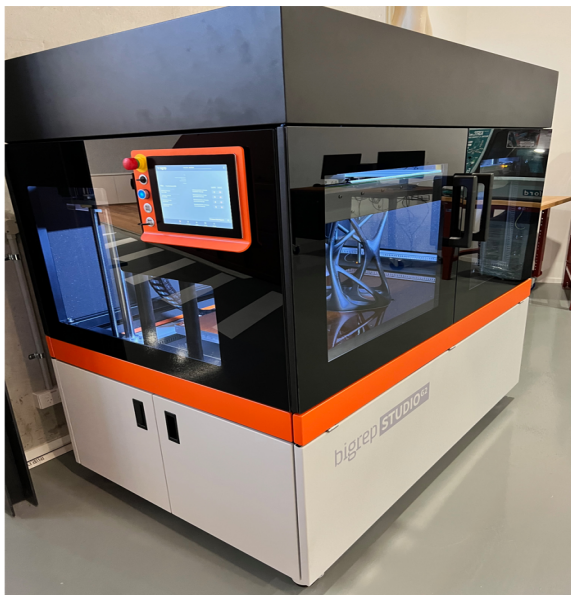
### ***New Parramatta Engineering Innovation Hub Workshops @ Hassall Street***

Our dynamic SoEDBE Studio and Workshop facilities have just been inaugurated by new and continuing students with a new array of machines and prototyping options at the Basement Level of Hassall Street.

Our laser cutting has tripled in capacity as has the 3D Printing Hub boasting two new large format Stratasys printers offering highly detailed resolution and ability to offer anatomical level outputs at the highest industry standards and inspiring industrial design, architecture, and engineering program use.

The new wood working shop is also a considerable asset and especially supportive of Architecture and Design and Technology Programs. Graduating students in Industrial Design unable to attend campus during 2020-21 were invited back to contribute to an industry research project for 3M Australia with new designs for their National Innovation Centre showcasing 3M excellence in scientific innovation also allowing the trialling of workshop-based student and staff safety induction protocols most important for safe 2022 Learning and Teaching environments for all.



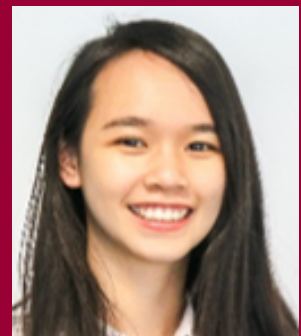


## ALUMNI ACHIEVEMENTS

**Grace Huang** is currently working as a Senior Fire Safety Consultant. She graduated from a Bachelor of Engineering (Chemical) with Class 1 Honours.

After graduating she was fortunate enough to secure a position as a graduate fire safety consultant at Warringtonfire. She enrolled in the Masters of Fire Safety Engineering course in 2019 at Western Sydney University.

In her role as a fire safety consultant Grace undertakes fire safety engineering assessments and prepares performance solution reports for a wide range of buildings. This involves using computational tools to model fire and smoke and develop innovative solutions for projects that need architectural design flexibility. She enjoys the variety of the work and the unique fire and life safety challenges each building brings.



**Nick Healey** is currently the General Manager - Design for Paynter Dixon, a company specialising in design and construct methodology. Nick has previously worked for architectural firms in London and Sydney.

Nick recently completed a Master of Building Surveying at Western Sydney University in 2021.

Although highly experienced in all aspects of the management of the design process, Nick was keen to broaden his understanding of building codes and regulations and wished to use the Masters course to conduct detailed research into a risk analysis for the use of Tactile Ground Surface Indicators.

## People who Inspire | Dr Keivan Bamdad Masouleh

**Welcome to Western Sydney University. Could you please introduce yourself?**

I am Keivan, a lecturer in Construction Management at Western Sydney University. Prior to joining WSU, I was a lecture at Victoria University and Queensland University of Technology (QUT). I completed my Ph.D. in mechanical engineering at QUT University.

**What are your research interests?**

I am interested in research in the fields of energy for buildings, HVAC systems and climate change. In my research I use simulation tools to predict energy





performance of buildings and evaluate the possible impacts of climate change on buildings. To improve the building designs, I use AI algorithms to identify an energy optimised design.

### **Which events or people have significantly impacted the direction of your research?**

There are some people who had an influence on my research direction. During my PhD study, I took part in weekly research workshops with other PhD students to discuss our PhD research projects. In those workshops, we had a senior academic who joined our discussions and often asked some key questions regarding the research philosophy, research significance and its impact on the real world. I have learned a lot from those workshops, in particular from that senior academic, and I can say that she had an impact on my research direction.

### **What advice do you have for students from the School of Engineering, Design and Built Environment that want to follow your steps?**

My advice for students is do not let failures stop you! Everyone faces failures, it's very normal, but what is important is to keep moving forward and not let failures overcome you and stop you from your goals.

## **Thank you & Subscribe**

Thank you to our staff for contributing to Excite:

Olivia Mirza

Samanthika Liyanapathirana

Kejun Dong

Won Hee kang

MD Kamrul Hassan

Laura Almeida

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