

# EXCITE

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WESTERN SYDNEY  
UNIVERSITY



News from the School of Engineering, Design and Built Environment.

eNewsletter | June 2022 | Issue 9



## Message From The Dean

First of all, I would like to acknowledge the hard work that all of our staff within School and University have performed during Autumn Session in 2022. I am delighted to inform you that Western Sydney University has been **RANKED #1 IN THE WORLD** in the 2022 Times Higher Education Impact Rankings to assess over 1400 universities' performance against the United Nations' Sustainable Development Goals ([https://www.timeshighereducation.com/impactrankings#!/page/0/length/25/sort\\_by/rank/sort\\_order/asc/cols/undefined](https://www.timeshighereducation.com/impactrankings#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined)).

Recently several of our programs in the discipline of Architecture, Engineering and Construction Management were under review by relevant professional accreditation organisations. A special thanks to the accreditation panels, colleagues, industry advisory members, employers, graduates and students for their input and commitment to the accreditation processes.

In conjunction with the School of Law, we have launched a brand-new program, Master of Construction Law. This one-year long Master's program aims to provide training opportunity for construction lawyers and professionals working in

building, design, engineering, and related fields. They will be able to work with leading academic and professional experts to gain an advanced understanding of construction law and practice to manage the potential disputes and maximise commercial efficiency. The program will be located at our state-of-the-art learning facilities at Parramatta, we offer flexible on-campus and online options so students can study around their other obligations. Details can be found at <https://www.westernsydney.edu.au/future/study/courses/postgraduate/master-of-construction-law>.

I like to extend my thanks to the 14 industry partners who actively engaged in the workshop to co-design 20 subjects across the disciplines of Architecture, Construction Management, Engineering, and Industrial Design. The co-design is a part of the National Priorities Industry Linkage Fund (NPILF) project under the Commonwealth Government's Job Ready Graduates initiative. I am also grateful to the five industry partners for their generous contribution to recordings of over an hour-long session on Foundations of Vertical Transportation. The introductory subject is a part of the recently launched Graduate Certificate in Vertical Transportation, and the program is the first of its kind in the Asia-Pacific Region. The program has been designed in close consultation with the NSW Office of the Building Commissioner and practising professionals. Details can be found at our website: <https://www.westernsydney.edu.au/future/study/courses/postgraduate/graduate-certificate-in-vertical-transportation>.

I would like to take this opportunity to thank all of our colleagues for their diligent work, all of our partners and collaborators for their continuing support and wish each and every one of you well for the rest of the year.

Professor Mike Kagioglou  
Dean, School of Engineering, Design and Built Environment



## The Buzz

### Multiplex Jump Start University and Careers Day

On 27 and 28 April, SoEDBE were invited to join other Universities and industry organisations at the inaugural Multiplex Jump Start University and Careers Day. Over 100 female students from seventeen Sydney high schools attended the event across the 2 evenings who were given the opportunity to ask questions regarding university courses and career opportunities available in the built environment.

It was a fantastic event, and we are so pleased to have been a part of Multiplex's drive to increase diversity in the workforce and wider industry.

Thank you to Sameera Wijesiri Pathirana, Laura Melo c e de Almeida, Belinda Vidurruzaga Ruiz, Danielle Taggart and Sarah Chae for attending the event and encouraging the next generation of females in the Built Environment.

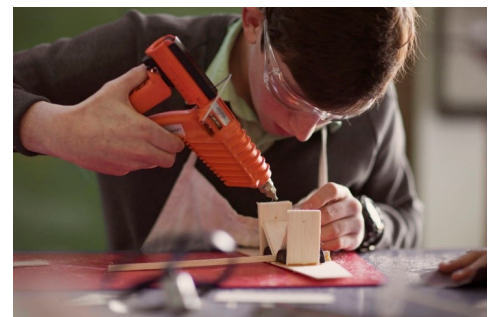


## Teaching and Learning

Autumn semester classes are over, and the students are getting ready for final exams. Classes at the Parramatta Engineering Innovation Hub (PEIH) ran smoothly, both the students and staff enjoying the state-of-the-art new facilities. All tutorial and most of the laboratory classes for Engineering students will move to PEIH from Parramatta South (PS) campus from Spring 2022 onwards, making PEIH the central hub for Architecture, Engineering, and Industrial Design students. Classes at the Kingswood campus will continue for Engineering students who are enrolled on this campus.

The accreditation visit by the Australian Institute of Building was a huge success, the panel members praising our programs, staff, and students as well as our facilities. Huge congratulations to the team who prepared the submission and facilitated the accreditation process.

Another huge achievement was the successful workshop event held in May that brought together 14 industry



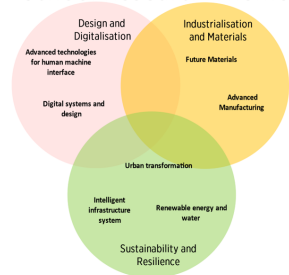


partners to co-design 20 subjects offered by the school. The workshop was a part of the National Priorities Industry Linkage Fund (NPILF) project funded under the Job-Ready Graduates Package launched by the Commonwealth Government.

## Research News

School of Engineering, Design and Built Environment developed the Cross-Disciplinary School Research Themes: (1) Sustainability and Resilience; and (2) Design and Digitalisation; and (3) Industrialisation and Materials, with seven active research groups working closely with researchers and industry partners: (1) Advanced technologies for human machine interface; (2) Digital systems and design; (3) Future Materials; and (4) Advanced Manufacturing; (5) Intelligent infrastructure system; (6) Renewable energy and water; and (7) Urban Transformation.

School Research Themes



Scientific Writing Workshop for SoEDBE was held in June 2022. The workshop included three topics "Essentials of Writing a Paper", "Publishing with Impact" and "Writing Winning Scientific Proposals, CVs and Applications" and conducted over four days. Many HDR students and academics attended the workshop.



## Engagement News

School of Engineering, Design and Built Environment participated in the 2022 Fast Forward program in partnership with high schools at Greater Western Sydney. This program encourages students to see the value in continuing their education and assists in subject selection with a focus on future career choices. Our school organised 3 interactive workshop sessions which included Engineering, Industrial Design, Architecture and Construction Management. These sessions were assisted by Associate Professor Olivia Mirza, Dr. Leigh Sheppard, Dr. Md Abdul Alim and Ms Kuer Duot (Final year student) for Engineering with 70 students, Dr. Sasha Alexander and Ms. Karen Yevenes for Industrial Design with 40 students and Dr. Anthony Butera for Architecture and Construction Management with 60 students. The workshops covered the sustainability and practicality theme. We would like to acknowledge Ms. Sarah Chae from Engagement Team for the setup and organisation of this event.



## International News

School is leading the Transnational Education delivery in Indonesia by having our Master of Project Management, Bachelor of Engineering (Civil Engineering and Advanced Manufacturing) degrees in the forefront of the nomination list to be offered to Indonesian education market. As of 14th of June, we have 88 acceptances for spring intake that School will attempt to convert to enrolments. School is also contemplating to offer selected PG and UG Engineering summer offerings to capture those international students whom we may lose to our competitors with more flexible trimester intakes. Like always, DAPs are the behind-the-scenes engine for successful accomplishment of international initiatives.

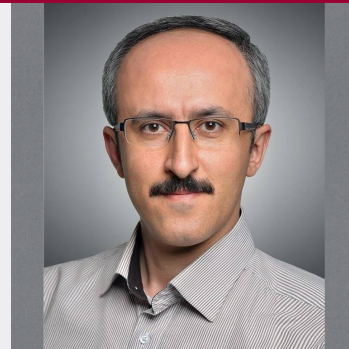
## Expert Corner



### **An Intergenerational Learning and Living Campus: A New Model for Healthy Senior Living and Integrated School Communities across Urban and regional Australia**

#### **Prof. Paul Sanders**

I am a CI on a NHMRC Ideas Grant (\$1,156,152) titled An Intergenerational Learning and Living Campus: A New Model for Healthy Senior Living and Integrated School Communities across Urban and regional Australia. The principal research partners are QUT/ ACU/ Deakin University and Fulton Trotter Architects; with a large range of industry partners that give the project a direct line of impact into the Aged Care and Education sectors. There is potential at WSU for intergenerational opportunities on our varied campuses.



### **Research on environmental quality, architectural development, and energy regulations**

#### **Dr Mohammad Reza Razavi**

Doctor Mohammad Reza Razavi has conducted several research projects in Iranian universities in collaboration with industry and councils to improve environmental quality, architectural development, and upgrading energy regulations. For six years, he was a researcher at the Technical University of Berlin and has worked on the international research project of Young Cities, funded by BMBF Germany. In that project, Reza collaborated in the architectural design process, building energy performance simulations, envelope optimisation, developing innovative architectural details, and energy efficiency improvement of buildings fenestration.

## Staff Awards

Professor Sarah Zhang won the Best Maritime Innovation Award in the INDO PACIFIC 2022 Pitchfest held at the International Convention Centre, Sydney. 20 pitches from universities and industries were selected to enter the 3-minute pitchfest for their innovative research. Prof. Zhang presented the research on high performance nanocomposite adhesive material which was developed over recent years in her team. The innovative nanotechnology that was developed solved the notorious dispersion issue of nanoparticles in polymer resulting in 144% increase in bonding strength. The high-performance adhesive materials could advance the manufacturing of composites which have been widely used in infrastructures in various defence platforms including air, sea, and land. It could enhance the structural safety and integrity and offer rapid repair to military infrastructure in battlefields with potential to save the maintenance cost and increase the battle readiness.



In May 2022, two of our Engineering Colleagues Dr. Ranjith Liyanapathirana and Associate Professor Olivia Mirza have been elected Fellows of the Engineers Australia. This is an award recognising the distinguished contribution and influence they make within the engineering profession.

Dr. Liyanapathirana has an undergraduate degree in electronics and telecommunication engineering from University of Moratuwa, Sri Lanka, and a doctorate in electrical engineering from Memorial University, Canada. He is a Senior Lecturer in Telecommunications at Western Sydney University. Before this, he was an Associate Lecturer and Research Fellow at the University of Western Australia. He is the author of



more than 150 technical papers in the field of communications engineering and supervised 12 PhD and numerous masters and honours theses in engineering. He is a Senior Member of the Institute of Electrical and Electronics Engineers and the Australian Computer Society.

A/Prof. Mirza has an Honours Bachelor Degree in Civil and Environmental Engineering from UNSW. She worked as an Engineer for 10 years before pursuing a career in academia. She is currently the Associate Dean Engagement for the School and the Research Theme Champion under Urban Living Futures for the University. Externally she is in the Execute Level Management Team for Engineers Australia, (Deputy President for Engineers Australia). She is a forensic engineer rehabilitating the bridge failure using innovative techniques. Her passion is to increase the number of female and Indigenous students in Engineering and Built Environment sector. She is working closely Women in Engineering.



## Student Success

The Chartered Institute of Building (CIOB) has announced the six finalists competing for the prestigious Global Student Challenge title this year. In this annual competition, the CIOB has a genuinely global line up of finalists, with representation from six different institutes across three continents. The competition began on February 23 in an on-line, seven-week process where teams had to make construction and business decisions on a weekly basis. Team TechnoEdge from WSU, under Associate Professor Yingbin Feng's tutorship, ranked second among the six finalists. Many congratulations to the student members, Ella Summers, Alena Alanis, Georgio Doumit and Alexander Soliman for this great achievement.



## Alumni Achievements

Dr Ayesha Rahman is currently joining the water resources engineering team at WSP Australia as one of their surface water engineers. She graduated from her PhD in advanced statistical hydrology in September 2021, where she has pioneered a new technique in regional flood frequency analysis which had never been used in hydrology before. She has been working as a casual academic in WSU The College since 2016 and has worked as a civil engineer at TekCivil briefly during her PhD life. She likes a challenge to keep her head in the game and loves to spend her time with her family.



## School Engagement News

## Centre for Smart Modern Construction Supporter Breakfast

The Centre for Smart Modern Construction successfully hosted the c4SMC Supporter Breakfast on 17 May 2022 at the Western Sydney University Engineering Innovation Hub, Parramatta. The purpose of this event was to mark five years of c4SMC as a sector-leading hub for innovation in construction research, new academic leadership, a source of future ready graduates, and industry capability building. Built, Commnia, NSW Department of Customer Service, DASCO Australia, Fleetwood, Meriton Group, Richard Crookes Constructions, XLam, and ZAC Homes. A big thank you to Alpha Possamai-Inesedy, Pro Vice-Chancellor Engagement and Advancement, Professor Mike Kagioglou Dean, School of Engineering, Design and Built Environment, Professor Srinath Perera, Director c4SMC, and Associate Professor Mary Hardie, c4SMC, for their presence. We are grateful to Ms Lisa Morisset, Development Manager, Office of Advancement for her valuable support in organising the event.



## Sustainability Workshop for Women

On 5th May, Dr. Dharma Hagare presented the Sustainability Workshop to a group of Western Sydney Women. Four future women entrepreneurs attended the workshop which began with a brief introduction by all the participants indicating their various backgrounds. All participants were aware of impending climate change and keen to use sustainability tools to minimise the climate change impacts. The workshop discussed sustainability issues both at the global and household levels. Specifically at the household level, how one can start thinking about sustainability using water and electricity bills as the basis was also discussed.



## School of Now

School has collaborated with School of Now since 2020. This year we successfully ran 2 workshops for the high achieving students who are taking up Engineering. Mr. Christophe Camille and Ms Dayani Kahagala Hewage ran a material testing workshop. Mr. Brad Nadaline from the solar car team described the battery system of the solar car to the students.

This are the feedback from the School of Now co-ordinator, "I cannot thank you enough for what you did for our students yesterday. The day was perfectly planned, your team were highly professional and the information delivered to students was directly related to what we are doing in the HSC course! The students were engrossed in the content and were challenging their knowledge against what is happening at university and in industry."



## Pathway to Dreaming

Associate Professor Olivia Mirza, Associate Professor



Fidelis Mashiri and Dr. Ali Hellany from School Engagement Portfolio along with Mr. Zac White, Technical Officer, participated in the Western's Pathways To Dreaming program. There were 3 sessions and approximately 60 Indigenous and Torres Strait Islander students participated. This program is designed to engage Year 8 to Year 12 students to take up STEM programs in the university. A big thank you to Belinda Vidurizaga Ruiz and Sarah Chae for organising this event.



## People Who Inspire

### Prof. Greg Morrison

#### Welcome. What brought you to Western Sydney University?

I was approached to apply for the Lang Walker Endowed Chair in Urban Transformation and also the Co-Director of the new SRI in Urban Transformations. In fact I was settled and doing well at Curtin University as program leader for a CRC and also a NESP2, but somehow the challenge of a dynamic university looking to make a difference was enough for me to accept the offer. My six years at Curtin meant that I already had a good network of researchers and industry partners in NSW, so I have been able to move across to Sydney quite smoothly.



#### What brought you to this place in your career (people/places/others)?

I spent 30 years at Chalmers University of Technology in Sweden and progressed from lecturer to professor in a time when Sustainable Development was a new driving force globally. I have had a number of mentors but my time working with professors from MIT, ETH and University of Tokyo in the Alliance for Global Sustainability helped me understand how to create larger research programs with industry and society.

#### How do you make your profession a joy?

Working with the greatest challenge of our time, the Environment and Climate Emergency, and making a difference through my research and teaching.

#### What personal and professional example would you like to leave as a legacy?

I have built two Living Labs in my career, one in Sweden (HSB Living Lab – sustainability concept) and one in Perth (Legacy Living Lab – circular economy concept). Both are tangible assets and provide places for open innovation – my name is written all over them! I would like to build a new Living Lab in Western Sydney, I have some ideas for the concept, but that's a closely guarded secret for now! I would also like to lead a larger research program that shows how Western Sydney as a city can achieve a climate footprint close to zero by 2030.

## Engineers Australia

Finding a valuable internship in the engineering industry is simple with Engineers Australia's new Internship Hub. Connecting students and industry.

Find out more today

<https://yea.engineersaustralia.org.au/internship-hub>



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