

# EXCITE

CONNECTING  
ENGINEERING  
DESIGN AND BUILT ENVIRONMENT



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

e-Newsletter | September 2023 | Issue 14



Science and Engineering Challenge - Bridge testing final event.

## Message From The Dean

The School of Engineering, Design and Built Environment will warmly welcome Professor Brian Falzon as the new Dean of the School on 4 December.

Professor Falzon joins WSU from RMIT University, where he currently holds a Chair in Composite Materials and Aerospace Structures, and is the Director of the University's Space Industry Hub and the Smart Satellite CRC Victorian Node, and Director of Education and Training for the Sovereign Manufacturing Automation of Composites CRC Centre.

Professor Falzon graduated from The University of Sydney with Bachelor of Engineering in Aeronautical Engineering, Bachelor of Science with Physics and Pure Mathematics majors and PhD in Aeronautical Engineering. He is an accomplished and passionate engineer and holds several senior leadership positions in the higher education sector, including Head of School of Mechanical and Aerospace Engineering at Queen's University Belfast. He is a Fellow of the Royal Aeronautical Society, member of the Australian Institute of Company Directors and a member of several professional organisations, scientific and thought leadership committees.

Please join me in welcoming Professor Falzon to Western Sydney University and our School.

**Professor Yang Xiang**

Acting Dean

School of Engineering, Design and Built Environment



## The Buzz

### STEM Engagement in Western Sydney

It has certainly been a busy quarter for the School, supporting significant STEM activities including The Science and Engineering Challenge, Science and Maths Exposed, Kingswood High Science night and Trade up for a Better Future.

In July, we proudly hosted the Science and Engineering Challenge at our Kingswood Campus. 500 students from 18 Western Sydney high schools competed in the regional challenge over two days, with the winning schools from each day progressing to the state challenge. The Science and Engineering Challenge was awarded the United Nations Day Honour Award for 2022, in recognition of the significant contribution the Challenge has made to the lives of thousands of students across the country, inspiring a generation of students to pursue tertiary education and careers in STEM.

On the 11 August, the School supported Science and Maths exposed at our Kingswood Campus. We discussed EDBE programs with over 200 year 9 and 10 students and encouraged them in their STEM journeys.

For National Science Week we supported Kingswood High School's Science Night on 16 August. The remarkable evening saw over 700 members of the community attend. We brought along the Planetarium, Robotics Club and Spheros on display. We were able to share about our exciting programs in EDBE as well as HSC True Reward and other pathways into Western Sydney University.

On the 21 September we partnered with Cumberland City Council in 'Trade Up For A Better Future!'. The event encouraged the community to explore STEM careers. Along with the Formula SAE, Robotics Club and Solar Car Team, EDBE showcased buggies, remote-controlled (RC) robots, solar car model, 3D printing and Baxter the robot. We had a fantastic day sharing about our degrees and opportunities. TAFE NSW, SSI, DLI Training were also in attendance with some serious excavating equipment.

With the invaluable support of key members within the School, these activities have been a huge success. We will continue to engage with our communities with the aim to support pathways into STEM and breakdown barriers to see our region thrive.

## Research News

### Annual Research Conference

On 19 July, the School successfully held its 2023 annual research conference at the Kingswood campus. During this event, we provided updates on our research and HDR matters and initiatives, highlighted our performance from the previous year, and shared our future plans.

A significant announcement was made by Professor Richard Yang, who officially introduced the establishment of the "Centre for Advanced Manufacturing Technology" as the School's third research centre. The conference featured engaging discussions within the School's research groups, followed by the 2022 Research Awards ceremony, during which the awardees were announced.

To conclude the conference, participants had the opportunity to partake in various well-being activities, including an invigorating Drumming Workshop.

### Higher Degree Research Cultural Event

Higher Degree Research (HDR) students organised a Sri Lankan cultural event on 22 September as a part of HDR students' well-being program of the School. The event was attended by many staff and students and one of the highlights was the traditional dresses worn by many students.

The event was opened by lighting a traditional oil lamp and participants were introduced to popular Sri Lankan games, songs and sweet and savoury festive food. It was a great success and enjoyed by everyone attended.



### International News

In September, the School participated in Open Days in Vietnam and Pakistan. This photo from the Vietnam Campus reflects on the context and scale of these activities.

Our School's articulation proposal in Engineering with ICBT Sri Lanka is now approved by APCAC and will soon be signed.

The School has also started a new articulation negotiation





in Architecture with Ciputra  
University of Indonesia.

## Student Success



Matthew Rowley graduated from WSU and received a Dean's Medal in the Master of Fire Safety Engineering in 2023.

He currently works as the manager of the Fire Safety Infrastructure Unit at Fire & Rescue NSW. In his role, he leads a team of engineers and firefighters that provide fire agency advice into the design of road and rail infrastructure, hospitals, airports, and other Class 2-9 buildings throughout NSW.

Matthew says that his experience at WSU was very positive and equipped him with the knowledge and skills required in his role to make an impact on his field and for the community.

## Alumni Achievements

Congratulations to Kuer Duot, one of our recent graduates, who has won the top three 2023 Engineers Australia Excellence Award for Student Thesis Award. Her final year thesis was an industry-led research in collaboration with Premier Steel and ABES Consulting, titled "Influence of web opening on the flexural stiffness of Truedek decking formwork".

Kuer decided to pursue engineering after moving to Australia from Kenya. Having completed only one year of high school, she had ambitions to continue her education journey. She was inspired by her parents, who despite having no formal education themselves, were extremely supportive of Kuer pursuing her passions and taking up the opportunity to be the first person in her family to study at university.



"There were times when I wanted to give up but the fire in me and the people who saw something in me pushed me beyond my limits."

Kuer is now working as a Site Engineer for civil engineering company, Trazlbat, with a goal of one day returning to her home country of South Sudan to work as a Water Engineer.

"My home country is a developing nation, and it is crucial to me that I utilise the skills I have acquired via my education and work experience back home," said Kuer. "My objective is to provide citizens with clean and safe water."

## New Staff Corner

### Professor Michael Chapman

**Could you please introduce yourself and share some insights into your background in architecture and design?**

I am excited to join Western Sydney University and to lead its programs in architecture and design into the next phase. Western Sydney is currently the site to a vast number of exciting architectural projects and I'm encouraged by the role that architecture and design thinking will play in this dynamic and accelerating urban environment. It's also



inspiring to join a program that is in the heart of the Parramatta CBD and immersed in the changes happening all around.

### **What significant events or people have shaped your career in architecture and design?**

I studied architecture in the late 1990s under the influential problem-based learning model at the University of Newcastle, and I have maintained a close relationship to and passion for architecture ever since. In Newcastle, I was drawn to the power of industrial landscapes and machines, the dramatic morphology of the city and the role of geology in shaping the built environment and its history. I have written widely about the conditions of urban transformation and the role of architecture in enriching public space. As well as my practice making buildings, I have a particular interest in visual communication and the tools that architects use to not only describe buildings, but engage in critical debates about the built environment. I have a particular interest in the role that the architectural profession can play in advancing social equity and steering important cultural shifts around climate, carbon and resilience. These questions have underpinned my most recent work with the Red Cross in Kiribati prior to taking this role.

### **As the Chair of Architecture and Design, what is your vision for the School of Engineering, Design, and Built Environment?**

I was drawn to Western Sydney as I saw the potential of a high quality architecture and design school in the region to play a role in shaping the future built environment and contributing to the broader issues of social equity and urban amenity across Sydney. I believe in the importance of a strong and innovative program at WSU for architecture and design, with strong relationships to the profession and region that can give our graduates access to both the skills and temperament to shape the future built environment.

### **Doctor Yichao Wang**

#### **Could you briefly tell us about your research and your expectation in your role?**

I am recognized for my award-winning research funded by prestigious grants such as ARC Discovery Project and Future Fellowship, which is dedicated to unravelling the underlying principles of observed phenomena and addressing real-world challenges. Part of my research focus is on manipulating atomically thin materials, which are thousands of times thinner than a human hair and exhibit unique properties not found in bulk materials. Through my honed skills and deep knowledge, I aim to gain a comprehensive understanding of the scientific foundations in this field, with a specific emphasis on their applications in sustainability, advanced manufacturing, energy, and agriculture sectors.



#### **What led you to your research area and your career path?**

When I was a child, I was always curious about how things worked and why they operated as they did. This natural inclination towards exploration and discovery led me to pursue a PhD degree in Australia. As I progressed through my academic journey, I had the opportunity to be involved in different scientific disciplines, including mechanical engineering, civil engineering and material sciences. I am attracted by Western Sydney University's vision and ambition in nurturing young minds and preparing graduates for the workforce. I am very lucky to be part of it and am grateful for the inspiring mentors and colleagues with whom I am working in the School of Engineering, Design and Built Environment.

#### **What guidance would you offer to students in the School of Engineering, Design, and Built Environment who aspire to explore your research areas?**

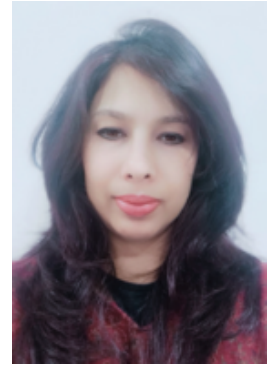
A student who wants to explore my research areas preferably have great passion for science and the momentum to think innovatively and ambitiously. He or she should think outside the box and have

the ability to break free from conventional boundaries. A strong work ethic and dedication are essential attributes for success in the field.

## **Doctor Marini Samaratunga**

### **Can you briefly tell us about your professional background and research areas?**

I am Marini Samaratunga, a recently appointed associate lecturer in Construction Management at School of Engineering, Design and Built Environment. I completed my PhD in Built Environment from the University of New South Wales in 2022. I have two decades of collective professional experience in academia, building industry and public sector. My academic experience spreads across several international and local universities, including University of Moratuwa- Sri Lanka, University of Sydney and University of New South Wales. Concurrent to being an academic, I am a registered Architect in Sri Lanka with the international chartered membership from Royal Institute of British Architects and had been involved in many landmark building projects. Just before embarking on the new academic role at WSU, I was working for NSW Department of Planning and Environment, as a member of the State Policy and Strategic Advice division. During my service, I have contributed to the NSW State Environmental Planning Policy (Sustainable Buildings) 2022 and the BASIX Materials Index.



My current research work is in subject areas of Sustainable design and policy, Post occupancy behaviour in energy consumption in buildings, Embodied carbon in construction materials and Digitalisation of construction.

### **What events in your life impacted you most in your career choices and especially in your research field?**

Among many events in my life, I could pick two which impacted my research career choices. One event is receiving the scholarship from CRC for Low Carbon Living for my PhD research at University of New South Wales. It provided me opportunity not only to be involved in an industry relevant research with high impact, but also to be closely engaged with the public sector. The second event which impacted my research career is joining the Centre for Smart Modern Construction (c4SMC) as the research associate. At C4SMC I was fortunate to be exposed to cutting edge research in the construction sector and develop a good research network with construction experts in both industry and academia. At both those places, I have met invaluable mentors who inspired and guided me towards my accomplishments in teaching and research in Architecture and Construction Management.

### **What advice would you like to leave to others who want to follow your steps?**

My advice to early career researchers would be to keep an open mind on your work opportunities. Do not be afraid to go out of your comfort zone and try new things. Accept challenges and opportunities and be willing to adopt to situations until you find your niche.

## School Engagement News

### Women of Wisdom Icebreaker Event

Women of Wisdom (WoW) organised a wonderful icebreaker event for the mid-year intake of female students at School of Engineering, Design and Built Environment. WoW invited three great speakers ranging from early career to senior career level, they were: Nishat Siddique, Project Manager from City of Ryde, Kelly van der Zander, Architect from Parramatta City Council and Kuer Duot, our own graduate who is currently working at Trazalbat. These inspiring women shared insights to the built environment and their journeys to becoming the professionals they are today.

The WoW team, Aso Hajirasouli, Tharika Kahandawa Arachchi, Sharidan Kearney and Olivia Mirza successfully organised this wonderful event. A special thanks to Sharidan Kearney for acknowledging the country.



### CSIRO STEM Education

Staff and students who are part of the CSIRO Education volunteering program went to Parramatta West Public School. Over a three-week period, the team facilitated STEM workshops for students in years 4-6, to encourage STEM education from an early age. These activities not only taught the students about engineering but also encouraged teamwork with different school mates. The students were very enthusiastic and enjoyed the workshops.

A big thank you to the team that facilitated the workshops, Olivia Mirza, Tharika Kahandawa Arachchi and Christophe Camille who helped the students understand that engineering is not hard but very practical.

S  
S

The first workshop is operating Lego Mindstorm using coding.





The second workshop is on how to build a dam.



The third workshop is building a water filtration system.



**Thank you & Subscribe**

View Newsletter in browser and subscribe



