



SCHOOL OF CIVIL & ENVIRONMENTAL ENGINEERING

ANNUAL REPORT 2022



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UNSW SYDNEY 2052

ADDRESS
School of Civil and Environmental Engineering (H20)
UNSW SYDNEY NSW 2052
AUSTRALIA

ENQUIRIES
T +61 (0)2 9385 5033
F +61 (0)2 9385 6139
E cven.enquiries@unsw.edu.au
W http://www.civeng.unsw.edu.au

PROJECT & CONTENT MANAGEMENT
Mary O’Connell

With thanks to Kate Brown, Anthony Dever, Ellie Williams and Lucia Wong.

GRAPHIC DESIGN
Marylouise Brammer

PHOTOGRAPHY
UNSW: Mike Gal, Kurt Douglas, UNSW Engineering
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SECTION 1

THE BIG PICTURE



WELCOME

Welcome to the 2022 Annual Report of UNSW’s School of Civil & Environmental Engineering, internationally ranked as the number one School of its kind in Australia, and one of the world’s top twenty (AWRU & QS Rankings 2022).

IT IS MY PRIVILEGE and honour to lead this School, with its tremendous pool of staff and student talent. The sky is truly the limit in what we can achieve in teaching, research, community engagement and in making a significant and positive impact for Australia and the world.

We maintain a strong breadth and depth of knowledge in all core areas of civil and environmental engineering as well as surveying and geospatial engineering. The quality and diversity of our academic staff, and our intensive engagement with industry, allows us to bring an unmatched level of expertise to our research and teaching.

This is the first Annual Report since Covid-19 and the ensuing lockdowns and disruptions. I want to acknowledge both the suffering and the strength of that period of great uncertainty, how our valiant students and academic and professional staff persevered in the School’s research and education mission - pivoting rapidly to online delivery of courses and exams, and still staying tight as a team while physically separated and mainly working from home.

Our researchers continue to be awarded millions of dollars each year in industry and government funding, at the forefront of innovative ‘blue sky’ and applied research across the many facets of our broad engineering field.

As well as our critical-mass research contribution to the global knowledge economy, we are very mindful of the important social impact we have as teachers and guides of the next generation of innovative, creative and ethical professionals.

We aim to have a positive use for the whole community beyond our campus, as we transfer and share our deep knowledge and expertise with our students, industry, government and society.

NKhalili

Scientia and PSM Professor Nasser Khalili
Head of School



“ Our researchers continue to be awarded millions of dollars each year in industry and government funding ”

ABOUT US



UNSW CIVIL AND ENVIRONMENTAL ENGINEERING is internationally ranked as the top School of our kind in Australia and one of the world's top twenty.

We have been pursuing excellence and innovation in education and research since our foundation in 1949. We were the first School in the country to offer a postgraduate coursework program for engineers with our Master of Technology (1958), the first to design an Environmental Engineering degree (1991) and the first to provide a Civil Engineering with Architecture degree (2007).

We continue this tradition of innovation along with our equally strong commitment to advancing a sustainable, safe and just society. Our academic staff are recognised world leaders in their fields of expertise, while our alumni are to be found as innovators and decision makers in industry, government and the community.

With a large and talented student cohort, we offer more than ten undergraduate single and double degrees, while our postgraduate coursework degree, the MEngSc offers nine areas of technical specialisation. The number and diversity of our academic staff and the breadth of our engagement with industry allows us to bring tremendous expertise to our teaching.

Our research centres and discipline groups are at the forefront of fundamental and applied research across civil and environmental engineering with strengths in infrastructure (CIES), water (WRC & WRL), transport (rCITI), geospatial engineering, construction innovation, decarbonisation, sustainability and smart infrastructure (RIIS).

We are always embedded in the real world. Each year, our researchers work with over 120 industry and government organisations on specific industry and community-related projects. But we don't seek to uphold the status quo, in these challenging times, we are looking for change and transformation.

“
We don't seek
to uphold the
status quo
”

LEADER
AB

LEADERSHIP CHANGES IN 2022

IN MAY 2022 SCIENTIA PROFESSOR NASSER KHALILI became the new Head of School at UNSW Civil and Environmental Engineering, as Professor Travis Waller departed for Germany to take up a professorship at the Technical University of Dresden.

Nasser is of course no stranger to the School. Since his appointment at UNSW in 1993 as Senior Lecturer in Geotechnical Engineering, he has been an indefatigable worker for the cause of Australia's leading School. In recent years, Nasser held appointments at UNSW as Deputy Director of the Centre for Infrastructure Engineering and Safety (CIES), Associate Dean - Research in Engineering, and as Acting Head of the School of Civil and Environmental Engineering. He is also Director of the ARC Industrial Transformation Research Hub for Resilient and Intelligent Infrastructure Systems (RIIS) in Urban, Resources and Energy Sectors.

Out-going Head of School Professor Travis Waller began his career at UNSW in 2011 as the Evans & Peck Chair Professor of Transport Innovation (later the Advisian Chair) and the founding Director of UNSW's Research Centre for Integrated Transport Innovation (rCITI), reenergising transport engineering at UNSW.

Since stepping down as rCITI Director in 2018, Travis held positions as Deputy Dean (Research) in the Faculty of Engineering and as Head of School of Civil and Environmental Engineering, where he introduced many initiatives that have propelled, and are propelling, the School and Faculty forward down our ambitious pathway.

Professor Waller said he was sad to say goodbye. "For over the past decade, I have been continually impressed with the staff, students, alumni and other engaged partners in this amazing School. This is truly one of the greatest Schools of our type in the world and that is made possible by everyone working together within it. Thank you. I am privileged to have served as its Head."

"I am absolutely privileged and thrilled," says Professor Khalili, "to have been given the opportunity to contribute to the ambitious vision of one of the world's leading Schools in Civil and Environmental Engineering. The School has a tremendous pool of talent, and the sky is truly the limit in what we can achieve in teaching, research, engagement and in making a significant and positive impact for Australia and the world."

Here's to the ongoing journey!



Scientia Professor Nasser Khalili



Professor Travis Waller


2022

2022 OVERVIEW

No.

Global ranking in Australia!
(AWRU & QS Rankings 2022)

TEACHING



PROGRAMS

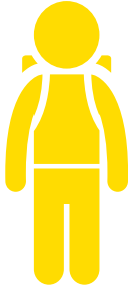
11

Undergraduate

9

Postgraduate

STUDENTS ENROLMENT




1599 Undergraduate
(903 EFTSL*)

800 Postgraduate
(382 EFTSL)

206 Higher Degree Research
(104 EFTSL)

*Equivalent Full Time Student Load

GRADUATIONS



340 Undergraduate

288 Postgraduate

40 HDR

31

academic staff achieved an extraordinary

100%

student satisfaction from the 2022 MyExperience student feedback survey

MOST POPULAR UNDERGRADUATE DEGREE

BE (Hons) Civil Engineering

1,165

students

LOCAL/INTERNATIONAL ENROLMENTS

Undergraduate

78%/22%

Postgraduate Coursework

44%/56%


Higher degree research

36%/64%

10 | SCHOOL OF CIVIL & ENVIRONMENTAL ENGINEERING

2022 OVERVIEW | CVEN

RESEARCH




Research centres and hubs

GRANTS AWARDED

4 ARC, 1 NSW EPA

TOTAL \$2.3M

PUBLICATIONS




361 =

5 Book Chapters

23 Conference Papers

333 Journal Articles



FEMALES


25% Undergraduate students

27% Postgraduate students

36% HDR students


20% Academic staff

FINANCES



\$50.2M


Generated teaching & research income



\$19.1M

Operating Budget

STAFF




59 Academic staff

45 Research staff


22 Professional & technical staff

17 WRL Engineers

SOCIAL MEDIA



7,518 views



401,790 views

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SCHOOL EXECUTIVE GROUP

THE SCHOOL EXECUTIVE GROUP (SEG) is a senior leadership group which acts as an advisory group to the Head of School. It meets monthly with the Head of School to discuss key and current issues on matters of strategy, planning and policy directions for the School.

GROUP MEMBERS



NASSER KHALILI
Chair



KURT DOUGLAS
Associate Head
(Engagement)



DENIS O'CARROLL
Deputy Head (Research)



LUCY MARSHALL
Equity and Diversity



RICHARD STUETZ
Deputy Head (Education)



ANTHONY DEVER
School Manager



IAN TURNER
Deputy Head
(Industry & Innovation)



STEVE DAVIS
Associate Head (Academic)

Head of School is an *ex officio* member of all the CVEN committees

SCHOOL MANAGEMENT COMMITTEE

THE SCHOOL MANAGEMENT CTTE (SMC) represents the peak decision-making body in the School with all key decisions relating to academic matters and overall direction debated and ratified by this Committee. The SMC is chaired by the Head of School and is made up of Deputy and Associate Heads, Directors of the School's Research Centres, the Chair of the H&S Committee, School Manager, the Equity, Diversity & Inclusivity representative, senior Teaching Support Officer and the Executive Assistant to the Head of School.

COMMITTEE MEMBERS



NASSER KHALILI
Chair

DENIS O'CARROLL
Deputy Head (Research), & Director WRL

RICHARD STUETZ
Deputy Head (Education)

IAN TURNER
Deputy Head (Industry & Innovation)

STEVEN DAVIS
Associate Head (Academic)

KURT DOUGLAS
Associate Head (Engagement)

CHONGMIN SONG
Director CIES

LUCY MARSHALL
Director WRC

VINAYAK DIXIT
Director rCITI

ASAL BIDARMAGHZ
Equity, Diversity & Inclusion rep

PAUL GWYNNE
Chair, HSC

ANTHONY DEVER
School Manager

LUCIA WONG
EA to HoS/Admin

ELLIE WILLIAMS /EMMA COTTER
Teaching Support Officers



2022 HIGHLIGHTS

In 2022 academic staff at the School were awarded \$2.3M in Federal and State government grants.

“
Kristen’s research uses physical and numerical modelling as well as field data collection to better understand coastal processes.
”

2022 ARC Future Fellowship

Associate Professor Kristen Splinter, from the School’s Water Research Laboratory and an expert in the fields of coastal processes and hazards, was awarded an ARC Future Fellowship in 2022.

Dr Splinter received \$932,168 to incorporate sandy shoreline adaptation by developing a time-varying framework for model ensemble averaging. This will significantly advance our ability to predict shoreline change over a range of management timescales from days to decades along high-value coastlines.

This project expects to generate new knowledge in Coastal Engineering using new methods to train models and deliver unprecedented new shoreline data. The expected outcomes are enhanced capacity to predict shoreline change over a range of timescales and a better understanding of how sandy coastlines adapt to future climate variability. This should provide significant benefits by enabling a better assessment of coastal hazards along our high-value coastlines.

Kristen’s research uses physical and numerical modelling as well as field data collection to better understand coastal processes. Her research team has pioneered the use of remote sensing in the coastal zone, including satellites, lidar, UAVs, and video cameras within Australia.

2022 ARC Discovery & Linkage Project Grants

PSM Professor Nasser Khalili, Dr Arman Khoshghalb, and Dr Babak Shahbodagh were awarded an **ARC Discovery Project grant DP230102874: \$470,000**, with colleagues Professor Jie Li from RMIT and Emeritus Professor Harry Poulos (USyd).

Their geotechnical engineering project will develop a mechanistic approach to pile foundation design in variably saturated soils through integrated expertise in the fields of unsaturated soil mechanics, material nonlinearity, numerical modelling, limit analysis and experimental investigation. It will achieve a rigorous understanding of pile behaviour in unsaturated soils subjected to monotonic loading through a comprehensive program of scaled laboratory testing, numerical and theoretical analyses.

The models, theories, mechanics and predictive tools arising from this research will have direct and immediate impact on the planning, design, construction and management of many types of infrastructure involving pile foundations in industrial and residential developments.

Prof Vinayak Dixit, Em Prof Michael Regan, Stefan Wolter (Ford)
“A Road Out of Motion Sickness in Autonomous Vehicles”,
Linkage Project 210200826 for \$345,388.
Industry Partners: Ford Motor Coy

Autonomous vehicles have been found to provide significant improvements in safety and efficiency, as well as the potential to comfortably engage in other activities including work and entertainment. Motion sickness is particularly a significant source of concern in this regard, with factors ranging from demographics, vehicle kinematics to in-vehicle designs affecting the likelihood of discomfort. This study aims to understand factors inducing motion sickness in AVs and to develop and evaluate mitigation strategies for motion sickness.

Dr Ailar Hajimohammadi, Prof Stephen Foster, A/Prof Hamid Valipour, Dr Danielle Moreau, Mr Gary Bullock, Mr Ryan Roberts.
“Development of Novel Concrete Noise Walls Incorporating Recycled Materials.”
LP210200285 \$210,000.00
Industry Partners: Tyre Stewardship Australia Ltd & Flexiroc Australia Pty Ltd

Dr Ailar Hajimohammadi will lead a project that will develop high-performance lightweight concrete noise walls and acoustic barriers that use recycled tyre and glass products. These products will improve sound absorption, and address environmental problems associated with the mining of river sands and stockpiling of waste tyre and glass products.

2022 NSW Environment Protection Authority (EPA) Grant

Through the EPA’s Circular Solar Grants Program - Phase 2, **Associate Professor Ailar Hajimohammadi** was awarded \$330,962 funding for her research into solar photovoltaic (PV) glass recycling and its reuse in construction projects, as a component of innovative geopolymer concretes. Dr Hajimohammadi’s research group at the Centre for Infrastructure and Engineering and Safety (CIES) aims to investigate and compare the possibility of using waste glass powder derived from PV modules as a partial precursor in producing geopolymer concrete. Designing and thoroughly testing a geopolymer concrete mix which incorporates recycled solar panel glass will be conducted at CIES laboratories for a period of two years.



Em Prof Michael Regan

“
Autonomous vehicles have found to provide significant improvements in safety and efficiency
”



Associate Professor
Ailar Hajimohammadi

Mark Fowler, Managing Director PSM and Professor Stephen Foster, Dean UNSW Engineering, sign the agreement to PSM's sponsorship and partnership with UNSW, Sept 2022 Behind: L-R: Garry Mostyn, Principal PSM, PSM Professor Nasser Khalili, HoS Civil & Environmental Engineering, Professor Anne Simmons AM, UNSW Provost, & Dr Kurt Douglas, PSM Senior Lecturer of Rock Mechanics.



PSM Professorship

For fifteen years leading geotechnical consultancy PSM have supported an academic position at UNSW Civil & Environmental Engineering – with CIES academic Dr Kurt Douglas filling that role as the PSM Senior Lecturer of Rock Mechanics. The relationship allowed PSM to have direct access to an academic expert ‘on tap’ while UNSW kept in direct contact with leading geotechnical practitioners, assisting with and learning from their challenges in an ever-changing industry.

In September 2022 PSM stepped up their support to add a new Professorship and CIES Deputy Director Scientia Professor Nasser Khalili is proud to take on the new mantle of PSM Professor. “PSM are a cutting-edge, innovative company” he said, “who are constantly raising the bar in geotechnical design. Our school has many links with them, through shared industry research projects and personnel, and they have employed many of our best students. I’m delighted that the relationship continues to deepen and expand through this new Professorship. ”

“UNSW are leaders in geotechnical engineering education and research and the teaching and research team at CIES have made major contributions to the profession over many years,” said Mark Fowler, PSM’s Managing Director. “By supporting these academic roles, we are giving something back.”

PSM Professor Nasser Khalili is an international leader in geotechnical engineering, computational geomechanics and unsaturated soil mechanics. His work encompasses roads, tunnels, mines, dams, earthquake engineering and groundwater projects.

Dr Douglas’s expertise covers rock mass strength and deformation prediction, spillway erosion assessment and piping within embankment dams. His research looks at how to better predict the properties of rock so that foundations, tunnels, slopes and dams can be more efficiently designed.

UNSW gratefully acknowledges the generous support of PSM to advance research in geotechnical engineering and rock mechanics through the PSM Professor and the PSM Senior Lecturer academic positions.

“PSM are a cutting-edge, innovative company who are constantly raising the bar in geotechnical design.”



Staff Teaching 100%

We are delighted to acknowledge the thirty-one exceptional educators in the School who achieved an extraordinary 100% satisfaction from the 2022 MyExperience student feedback survey.

The UNSW myExperience Survey is an opportunity for students to provide feedback to the University to improve courses, programs and the overall UNSW student experience.

A course is surveyed each time it is offered. The survey opens approximately 2 to 3 weeks before the end of the teaching period and closes before the exam period. There are two sets of questions in the myExperience survey – questions about the course and questions about the teacher.

myExperience gives our staff the opportunity to listen. It provides us with the ability to see courses and teaching from the students’ perspective and allows us to continuously build on these courses and programs to improve their experience.

"Their dedication, passion and innovative teaching methodologies" a proud Professor Khalili said, "have left a profound impact on our students and elevated the standard of education in the School. I extend my heartfelt congratulations to all our educators for their remarkable contributions to the School."

L-R, Top to bottom: Dr Mehri Makki Alamdari, A/Prof Martin Andersen, Dr Asal Bidarmaghz, Dr Steven Davis, A/Prof Stefan Felder, Dr Ruth Fisher, Dr Shane Geha, Prof William Glamore, Dr Mitchell Harley, Dr Bruce Harvey, Dr Robert Holdom, A/Prof Fiona Johnson, Dr Arman Khoshghalb, A/Prof Samsung Lim, Prof Michael Manefield, Dr James McDonald, Dr Divya Nair, Dr An Ninh Pham, Dr Veljko Prodanovic, Dr Craig Roberts, Dr Babak Shahbodagh, Dr Johnson Xuesong Shen, Prof Chongmin Song, A/Prof Kristen Splinter, Prof Richard Stuetz, Dr Bojan Tamburic, Prof Ian Turner, Prof Hamid Valipour, Professor David Waite, Prof Tommy Wiedmann, and Dr Kefeng Zhang.



“
Our aspiration
is to make a step
change in the way
infrastructure
is designed
”

RIIS 2022 First Year Report

ARC Industrial Transformation Research Hub - Resilient and Intelligent Infrastructure Systems (RIIS) in Urban, Resources and Energy sectors. Towards productive, connected, sustainable and smart infrastructure.

The Hub provides opportunities for industry and university partners to develop, co-design, develop, and enhance technologies suitable for safe and sustainable operations, further enhancing the resilience and intelligent capability of existing and new infrastructure, transportation networks, distribution systems, minerals and energy sectors, and other hard infrastructure.

RIIS has the potential to transform advanced manufacturing, service and infrastructure engineering in Australia focussing on five main themes:

Research and Innovation Themes

- Ubiquitous Sensing, Intelligent and Adaptive systems
- Data collection, security and integration
- Modelling, simulations and prognostics
- Infrastructure health monitoring and predictive maintenance
- Spatial data, Digital Twins and decision support

Director's Report

With all agreements fully executed between Industry and Universities – the Australian Research Council (ARC) approved an official work start date for the Hub of 20 July 2022.

RIIS began its work in 2022 with four university partners - UNSW Sydney, University of Melbourne, Queensland University of Technology, and Western Sydney University - and 19 industry partners – these include five new partners gained since the ARC award in 2021.

By the end of 2022 we were working on several major projects including

- Development of computational tool for data-driven structural safety assessment and service life prediction
- Automated Scan-vs-BIM for Real-Time Construction Progress Management of Infrastructure Projects
- Infrastructure protection utilising real time monitoring of affected catchments by developing predictive models during flash flooding events.
- Bayesian Techniques for Rail Reliability Modelling and Maintenance Decision Support
- Data Integration with Spatial Digital Twin for No Spill Network and Fibre Optic System for Pipeline Monitoring
- Predictive Maintenance for Building Electrical Assets

Our aspiration is to make a step change in the way infrastructure is designed, constructed, monitored, managed, and maintained. As we all know, significant advances have been made in digital technologies in recent years, to the extent that they now touch every facet of our lives. They have the potential to revolutionise infrastructure and engineering in ways that we could not have imagined even a few years ago. RIIS is part of that revolution.

Scientia Professor Nasser Khalili
RIIS Hub Director & Lead Chief Investigator



rCITI Celebrates an amazing first decade!

In 2022 the School's Research Centre for Integrated Transport Innovation (rCITI) celebrated its tenth year anniversary! It has been an impressive trajectory for the centre which began with initial support from NICTA (now CSIRO's Data61), Evans and Peck (now Advisian) and UNSW Engineering.

Partners from industry, government and academia, amongst them numerous rCITI alumni, came together to celebrate this significant milestone with rCITI. The Hon. Dr. Robert Stokes, MP, NSW Minister for Infrastructure, Cities, and Active Transport congratulated the university on rCITI's achievements, highlighting the importance and significance of research currently undertaken to future-proof transport as well as the integral part technology plays in providing fundamental solutions.

rCITI Director Professor Vinayak Dixit puts people at the heart of what rCITI does and emphasised that “this would not have been possible without our wonderful students, staff, collaborators and partners at universities around the world, as well as industry (Suncorp Group, IAG, Nexport, Google, to name a few) and government partners (amongst them Transport for NSW, Ministry of Road Transport & Highways – India) who have trusted us.”

“I still vividly remember excitedly setting foot on Australian soil to join rCITI under our founding Director Travis Waller. I remember him saying to me in a café in Austin, Texas, before he left for Sydney, “We are going to build something special, that will have a global impact and outlive us.”

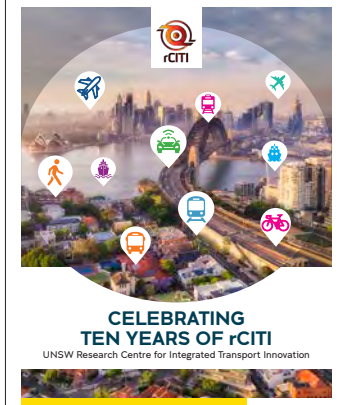
“We are now ten years in and have developed into one of the best Transport Engineering programs in Australia, with our students working across the world (Australia, U.S., India, China, Middle East) in world-renowned academia, government and industry. A legacy that I know will outlive me, and I am inspired to continue building on.”

Emphasising the fundamental need of mobility for any flourishing society that enables people to access resources and opportunities, Professor Dixit's sentiment was very much about the future and that the Centre's research would significantly contribute to developing cleaner, safer and more efficient transport systems.

Critical contributors are rCITI's cutting-edge research and development of technology and tools in bio-secure mobility, human factors, integrated transport planning and management, connected mobility and smart cities as well as complex multi-criteria and multi-disciplinary data-driven decisions.

To download the rCITI *Celebrating Ten Years* booklet, please visit <https://www.rciti.unsw.edu.au/other-publications>

L-R A/Prof. Tahar Rashidi, Deputy Director rCITI, Prof. David Waite, ex CVEN HoS, Ian McIntyre, Chair of CVEN IAC and ex Evans & Peck, Prof. Ian Gibson, Deputy Dean – Industry Engagement, Prof. Stephen Foster, Dean UNSW Engineering, the Hon. Dr. Rob Stokes, NSW Minister, Prof. Vinayak Dixit, Director rCITI, Prof. Anne Simmonds, UNSW Pro Vice-Chancellor, Prof. Nasser Khalili, HoS CVEN.



Professor Vinayak Dixit



Professor Stephen Foster

“
His work has
provided significant
impact on the
construction
industry through
incorporation
in the fib Model
Code 2010
”



Professor Nasser Khalili



President of global organisation fib

In June 2022 UNSW Dean of Engineering and CVEN Professor Stephen Foster was elected President of the International Federation for Structural Concrete (fib).

The fib, (Fédération internationale du béton), is a not-for-profit international association formed by 45 national member groups and approximately 1000 corporate and individual members. Its mission is to develop at an international level the study of scientific and practical matters capable of advancing the technical, economic, aesthetic and environmental performance of concrete construction.

Professor Foster's research on strut-and-tie modelling, on high strength concrete columns and steel fibre reinforced concrete, much of which was funded through ARC Discovery and Linkage project grants, now forms the basis of many of the design rules in the Australian Concrete Structures Standard, AS3600-2018. This has impact on many thousands of structures built throughout Australia each year. Similarly, his work has provided significant impact on the construction industry through incorporation in the fib Model Code 2010.

Our heartiest congratulations to Professor Foster on all his achievements.

Elected to ATSE

Head of School PSM Professor Nasser Khalili FTSE was amongst 27 academics elected in October 2022 as new Fellows of the Australian Academy of Technological Sciences and Engineering (ATSE). ATSE is Australia's foremost impact network for leading applied scientists, technologists and engineers.

Professor Khalili is an international leader in geotechnical engineering, computational geomechanics and unsaturated soil mechanics. His work encompasses roads, tunnels, mines, dams, earthquake engineering and groundwater projects. National design guidelines for embankment dams include Nasser's seismic analysis. His assessment of the Hume Dam helped determined the cause of increasing movement in the dam's core-wall and the design of an effective solution.

Professor Khalili currently oversees a project diverting 10,000 tonnes of paper and plastic waste into road construction, creating technical leadership in Australian recycling and reducing infrastructure costs. He is also Director of the ARC Industry Transformation Research Hub for Resilient and Intelligent Infrastructure Systems (RIIS) (NSW).



Global Impact – Adrian Russell

Congratulations to Professor Adrian Russell who in 2022 was invited to join the editorial board of Géotechnique, the most prestigious journal in the field of geotechnical engineering.

Adrian is a Professor in Geotechnical Engineering and an Australian Research Council Future Fellow in the School. He has expertise in the areas of soil mechanics, rock mechanics, microstructure, geotechnical science, geotechnical engineering, unsaturated soils, soil-structure interactions, shallow foundations, retaining walls, physical modelling, analytical modelling, constitutive modelling, cone penetration testing, in situ testing, fibre reinforcement, granular media, particle mechanics, morphology, fractals, particle crushing, particle breakage, tailings, liquefaction, and geotechnical earthquake engineering.

Adrian's Future Fellowship aims to reduce risk in the mining industry from failing mine tailings. Adrian and his team have discovered how to characterise tailings, and assess liquefaction propensity, when they are partially saturated. They are now reaching out to a global and local audience, educating them on a pressing problem that is vital to reducing the number of tailings dam failures, which can be catastrophic to the downstream community.

One of Australia's top researchers

Congratulations to Associate Professor Jinling Wang from our Surveying and Geomatic Engineering (SAGE) group, who was named by The Australian Research Magazine in 2022 as Australia's top researcher in the field of Radar, Positioning & Navigation.

Jinling's research goal is the development of reliable mathematical modelling and quality control procedures for geospatial mapping and navigation applications.

His research expertise is in the areas of Global Navigation Satellite Systems - GNSS (GPS, Glonass, Galileo, BeiDou System-BDS) and their integration; Multi-Sensor Integration for Positioning, Mapping and Navigation; and Statistical Theory and Its Applications in Positioning, Mapping and Navigation.

The Australian's Research magazine names the top researcher and top research institution in each field of research, based on the number of citations for papers published in the top 20 journals in each field over the past five years.



Professor Adrian Russell

“
Adrian and his team
have discovered
how to characterise
tailings, and
assess liquefaction
propensity, when
they are partially
saturated.
”



Associate Professor Jinling Wang



Professor Tommy Wiedmann

“All the gains we made in energy efficiency in the last decade have been more than outpaced by economic growth and population growth.”

Climate solutions are not just technological – it’s time to consume less.

The April 2022 report by the Intergovernmental Panel on Climate Change (IPCC) was delivered with a bleak warning: limiting temperature rises to 1.5°C is beyond reach without significantly reducing emissions immediately.

The report, titled Climate Change 2022: Mitigation of climate change, was written by 278 scientists from 65 countries that comprised IPCC’s Working Group III.

It revealed that in the 10 years from 2010-2019, average annual global greenhouse gas emissions were at their highest levels in human history, although the rate of growth has slowed.

Professor Tommy Wiedmann, Professor of sustainability research in the School of Civil and Environmental Engineering, was an author of the report. He said a modest reprieve in emissions caused by the COVID-19 pandemic was sadly only short-lived. “There was a drop of about 6 per cent in 2020 because of COVID-19,” he said. “But in 2021 emissions increased again to about the same level as in 2019.”

“Some greenhouse gas-intensive activities have grown particularly fast between 2010 and 2020. For example: sales of sports utility vehicles went up 17 per cent, aviation increased 29 per cent. And energy demand for cooling in residential buildings went up 40 per cent.”

But there have been some improved outcomes in this timeframe, Prof. Wiedmann said. The costs of renewable energy have drastically reduced, a trend that could pave the way towards meeting future emissions targets. However, Prof. Wiedmann said the world still had a long way to go. “Change is not coming fast enough,” he said. “All the gains we made in energy efficiency in the last decade have been more than outpaced by economic growth and population growth. And economic growth is twice as strong as an upward driver of emissions than population growth.”

According to the report, the richest 10 per cent of world’s households contribute about 40 per cent of global greenhouse gas emissions while the bottom 50 per cent contribute less than 15 per cent. “And half of all emissions from aviation are caused by the top 1 per cent alone,” Prof. Wiedmann said.

He argues that at the higher end of the inequality spectrum, this points to the problem of high consumer demand and over-consumption. And that making simple lifestyle changes in developed countries could reduce greenhouse gas emissions decisively. Changes could include shifting to plant-based diets, active and public transport, less flying, sharing living space and products, but also energy and material efficiency.

Together with the right policies, infrastructure and technology in place to enable changes to our lifestyles and behaviour, these changes could result in a 40-70 per cent reduction in greenhouse gas emissions by 2050.



Alumnus Janet Salem – Outstanding Engineer Award

CVEN alumnus Janet Salem was awarded the 2022 UNSW Women in Engineering Ada Lovelace Medal for Outstanding Engineer.

Salem, who completed a Bachelor of Environmental Engineering (Hons 1) and a Master of Engineering Science from the School, is an expert in sustainable consumption and production.

“Winning this award is a very proud moment,” Salem said. “I see it as an encouragement to the engineering community to engage in entrepreneurship and climate solutions.”

Salem has spent 17 years working in circular economy and sustainable lifestyles at the United Nations, strengthening the science-policy interface, providing technical assistance to governments, advocating for sustainability in the private sector, and expanding the technology and innovation portfolio of the UN.

Part of that involved supporting startups that offer sustainable solutions, and advocating for the integration of sustainability information into financial transactions. This led to her co-rounding FootprintLab which integrates sustainability data into FinTech and banking transactions.

Footprint’s vision is to make the environmental footprint of every transaction transparent and credible. By bringing to light the hidden impacts behind consumption and production activities, consumers, producers and governments can make informed decisions that align with society’s sustainability goals.

“When you work in climate action long enough, you see that the problem is not a lack of technology solutions, it’s that the solutions are not connected to consumption or production decisions,” she said.

“If every transaction could also include a carbon footprint, that could help steer people towards low carbon options, and incentivise companies to put their best foot forward. Considering the urgency of climate change, it’s hard to believe this information isn’t more widely available.”

I think it’s important for people to understand you don’t need to be an environmental engineer to help solve these problems. All types of engineers can contribute to developing climate change solutions.”

Congratulations Janet!



“I see it as an encouragement to the engineering community to engage in entrepreneurship and climate solutions”



SECTION 2

OUR PEOPLE

ACADEMIC STAFF



SHARAREH AKBARIAN
Associate Lecturer
BE (Surveying) Zanzan, MSc Tehran
PhD UNSW

Research Interests: Geospatial engineering, with a focus on image processing, clustering, classification, change detection, as well as 3D mapping; along with knowledge of machine learning and deep learning methodologies for photogrammetry and remote sensing applications.



MARTIN ANDERSEN
Associate Professor
MSc in Engineering, PhD DTU, Denmark

Research Interests: Reactive flow and transport modeling, Investigation of geochemical processes and groundwater dynamics in the coastal zone, Surface water groundwater interactions.



ELENA ATROSHCHENKO
Senior Lecturer
MSc in Mechanics and Applied Mathematics,
Saint-Petersburg State University PhD in Civil
Engineering, University of Waterloo, Ontario

Research Interests: Computational Mechanics and Numerical Methods, with application to fracture mechanics, acoustics, bending and vibration of composite plates.



KHALEGH BARATI
Associate Lecturer
MSc Sharif, PhD UNSW

Research Interests: Automation, Data Sensing, Fuel and Emissions Modeling, Optimization, Sustainability Issues, and their applications in the construction and operation of infrastructure projects.



ASAL BIDARMAGHZ
Senior Lecturer
PhD Civil Engineering (Geothermal
Technologies) University of Melbourne

Research Interests: Energy geo-structures and geothermal systems, Investigating the impacts of urbanization on subsurface temperature increase at the city-scale, Uncertainty analysis of large scale subsurface hydro-thermal models.



MARK BRADFORD
UNSW Scientia Professor
BSc BE PhD USyd DSc UNSW FTSE CPEng CEng
PE Dist.MASCE FStructE FIEAust.

Research Interests: High-strength steel structures, steel-concrete composite structures, steel-timber hybrid structures, concrete structures, arches, geometric non-linearity, pavement thermo-upheaval buckling, railway thermo-lateral buckling, design for deconstructability, low-emissions structural paradigms, forensic engineering.



ROBERT CARE
Professor of Practice
BE, PhD UNSW

Research Interests: My interests include the development of management and leadership in engineering and in business with a strong engineering focus, in major infrastructure projects and in the development of sustainable cities. Specific interests include road and rail transport systems, procurement methods, collaborative and relationship contracting, the development of humanitarian engineering and sustainable communities and climate change adaptation.



ULRIKE DACKERMANN
Lecturer
Dipl.-Ing. Univ., Technical University of
Munich (TUM), PhD UTS

Research Interests: Structural Health Monitoring, Non-Destructive Testing, Damage Detection, Structural Dynamics, Artificial Intelligence, Timber Engineering.



ANDREW DANSIE
Senior Lecturer & Academic Lead,
Humanitarian Engineering UNSW
BSc, MSc Flinders, PhD Oxford

Research Interests: Specialising in water resources, water access, air pollution, and the biogeochemistry of dust. Concerned with large-scale environmental systems and international development to meet environmental and social SDGs. Dansie has 18 years of experience in the water and development sector spanning the private sector, the United Nations, universities and an NGO



STEVE DAVIS
Senior lecturer
Chair, Teaching & Learning Committee
BE PhD UNSW

Research Interests: Online Assessment, Virtual Reality, Project Scheduling, Safety, Construction Defects and Rework.



VINAYAK DIXIT
Professor, Director of rCITI, IAG Chair of Risk
in Smart Cities
MT Institute of Technology, Delhi, PhD
University of Central Florida

Research Interests: Key research interest lies in studying risk in the transportation infrastructure system as it relates to highway safety, travel time uncertainty, as well as natural and man-made disasters



KURT DOUGLAS
Pells Sullivan Meynink Senior Lecturer of
Rock Mechanics, Chair External Relations
BE (Hons1) USyd, PhD UNSW

Research Interests: Lie in the field of rock mechanics and dam engineering. Predicting field properties of rock masses continues to be a major challenge for us to address. My dams research focusses on spillway erosion and backward erosion of dams.



STEFAN FELDER
Associate Professor
Dipl.-Ing. RWTH Aachen, PhD UQ

Research Interests: Expert in hydraulic engineering and applied fluid mechanics with internationally recognised research in air-water flows, hydraulic structures engineering and fish passage. Pioneered the use of remote sensing technology for flow observations in hydraulic structures.



RUTH FISHER
Lecturer
BASc/BEng USyd, MEngSc PhD UNSW

Research Interests: Education focused academic, Environmental Engineering and Sustainability - research expertise in the sustainability and performance of waste management systems, such as wastewater treatment.



STEPHEN FOSTER
Professor and Acting Dean of UNSW Engineering,
BE NSWIT, MEngSc PhD UNSW, MIEAust,
FIEAust

Research Interests: Behaviour of structural systems (buildings and bridges) constructed of reinforced and prestressed concrete. I'm particularly interested in bringing new and advanced materials technologies to the engineering of structures. My interests are in the use of high and ultra-high performance concretes, fibre-reinforced concretes and geopolymer concretes and in use of carbon fibre technologies for strengthening and repair of structures and structural systems. I develop physical-mechanical models for use in advanced computational and numerical tools such as FEM and for their use in the study of behaviour of concrete structures that are subjected to extreme events.



WEI GAO
Professor
BE HDU, ME PhD Xidian, MIIAV, MAAS

Research Interests: Uncertain modelling & uncertain methods: Vehicle-bridge interaction dynamics: Wind and/or seismic induced random vibration: Train-rail-sleeper-foundation-tunnel/bridge system: Stochastic nonlinear system: Vehicle dynamics & vehicle rollover: Structural optimization & control: Smart structures: Stability & reliability analysis.



LINLIN GE
Professor
BE, MSc Wuhan, PhD UNSW

Research Interests: Professor of remote sensing and earth observation. Integrating radar and optical remote sensing with GPS and GIS, we measure the subtle change on the surface of the Earth with minimum latency using data collected from satellite, airborne and UAV platforms



WILLIAM GLAMORE
Professor
BE UI Boulder Colorado USA, PhD UoW

Research Interests: Primary fields of interest are related to estuarine hydrodynamics and water quality including restoration of estuarine environments, acid sulphate soils, coastal wetlands, boat wake waves, outfall hydraulics and field testing, and related physical and numerical models. William is particularly interested in restoring large wetland and riverine systems.



MILAD HAGHANI
Senior Lecturer & ARC DECRA Fellow
BSc US&T, Tehran, MSc Sharif,
PhD U Melbourne

Research Interests: Milad's research and teaching is at the intersect of transport and safety research with a particular focus on human factors. He has undertaken an extensive amount of experimental and theoretical research in the areas of crowd safety, mass emergencies, public safety, public security perception, evacuation planning, pedestrian modelling and simulation, road safety and transport psychology.



AILAR HAJIMOHAMMADI
Associate Professor
Ph.D. University of Melbourne

Research Interests: Examines the chemistry of materials to develop innovative construction elements with attractive properties. She is also investigating waste management and resource recovering strategies towards the circular economy in civil and construction projects.



EHAB HAMED
Associate Professor
BSc MSc PhD Technion

Research Interests: Viscoelastic behaviour of materials and structures, strengthening of structures with FRP composite materials, sandwich panels.



MITCHELL HARLEY
Scientia Fellow and Senior Lecturer
BE/BSc, PhD UNSW

Research Interests: Leading researcher in the field of coastal hazards, wave climates, coastal monitoring and real-time early warning systems.



BRUCE HARVEY
Senior Lecturer
BSurv (Hons1), GradDip HE, PhD UNSW

Research Interests: Dr Harvey's expertise and research interests include: Least Square analysis of surveying measurements; Alternative surveying measurement analysis methods (L1 norm and grid searching); Surveying education; 3D laser scanning; High accuracy surveying; Surveying calculations and computing.



ROBERT HOLDOM
Senior Lecturer
Research Interests: Construction management.



ELNAZ IRANNEZHAD
Senior Lecturer
MSc Iran Uni of Science & Technology,
PhD UQ

Research Interests: Elli's research contributes to the advancement of science in cross-disciplinary fields, including logistics, supply chain and freight transportation, agent-based modelling, mobility and logistics as a service, automated vehicles, and blockchain technology. Elli endeavours to align her research closely with industry to ensure a good alignment with



FIONA JOHNSON
Associate Professor
BE, PhD UNSW

Research Interests: Associate Professor Johnson's areas of research and teaching focus on statistical hydrology, particularly with respect to flooding and extreme events and the use of global climate models for climate change assessments of water resources systems. She has a particular interest in solutions to climate and hydrological challenges faced by communities in the Global South and is currently undertaking research projects in Tanzania, Nepal, the Pacific and Australia.



MOHSEN KALANTARI
Associate Professor
BE (Surveying), MEng GIS - UT, Tehran, PhD
Geomatics, GradCert Uni Teaching -
U Melbourne

Research Interests: Digital Engineering, Space situational Awareness, Geospatial Data, LiDAR, Geographic Information Systems (GIS), Cadastral Surveying, Building Information Modelling (BIM), Land Administration. Mohsen is a co-founder of Faramoon, a geospatial technology company which, amongst other things, converts point cloud data to 3D models.



ALIREZA KASHANI
Senior Lecturer
BSc, MSc Amirkabir University
of Technology, Tehran PhD University
of Melbourne

Research Interests: Lecturer and Churchill Fellow in Sustainable Construction Automation and 3D Printing with extensive experience in research, development, and commercialisation of advanced and sustainable construction materials. Research areas include development of novel high-performance materials and techniques for construction 3D printing, and sustainable construction materials for the 'Circular Economy' including wastes valorisation, low-carbon construction materials and sustainable concrete.



NASSER KHALILI
UNSW Scientia & PSM Professor
BSc Teh, MSc Birm, PhD UNSW

Research Interests: Mechanics of unsaturated soils: Flow & deformation in double porosity media: Numerical methods applied to geotechnical engineering: Pavement engineering.



STUART KHAN
Professor
BSc (Hons 1) Usyd, PhD UNSW, MIEAust

Research Interests: My research encompasses the fate of trace organic contaminants during conventional and advanced water treatment processes, with a particular emphasis on water recycling applications.



ARMAN KHOSHGHALB
Senior lecturer
BEng, MEng, Sharif University of Technology, Tehran, PhD UNSW

Research Interests: Mechanics of unsaturated soils, coupled analysis of porous media, advanced numerical methods in geomechanics, modelling discontinuities in porous media, large deformation analysis in geomechanics, stabilisation techniques in computational geomechanics, constitutive modelling of geomaterials, dynamic properties of geomaterials.



TAEHWAN KIM
Lecturer
BSc, MSc KAIST, PhD Purdue USA

Research Interests: Advanced and sustainable infrastructure materials: Thermodynamics in cementitious materials and the modelling of their chemical process: Advanced materials characterization techniques: fundamental understanding of chemo-physical reactions in cementitious materials: Microstructure evolution of cementitious materials: Utilizing natural and waste materials to develop low carbon foot-print materials.



SAMSUNG LIM
Associate Professor
BA, MA (Maths) Seoul, PhD U Texas at Austin

Research Interests: I develop advanced GIS technologies that allow us to improve the way we view, understand, design, plan, manage, analyse, interpret, and extract information such as patterns and trends of big data. I apply GIS to real-world problems and help decision-making in humanitarian engineering problems, including red-flagging of epidemics and natural disaster management



YI LIU
Scientia Fellow & Senior Lecturer
MSc Environmental Mgmt, MSc Hydrology - Vrije Universiteit Amsterdam, PhD UNSW

Research Interests: Earth Observation, Ecohydrology, Climate Change & Extreme Events



MEHRISADAT MAKKI ALAMDARI
Senior Lecturer
BSc Sharif, MSc Iran University of Science and Technology, Mech Eng Manitoba, PhD UTS

Research Interests: Structural Health Monitoring, vibration analysis and testing, structural dynamics, inverse dynamic problems, signal processing and data mining. Mehri is on the Executive of the Australian Network of Structural Health Monitoring (ANSHM), and a member of The International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII).



MICHAEL MANEFIELD
Professor
BSc, PhD UNSW

Research Interests: Prof Manefield has broad interests in environmental microbiology. Research highlights include the discovery of the first bacterial quorum sensing inhibitors, the development of RNA based stable isotope probing, development of experimental models of activated sludge floc formation, discovery of the world's first chloroform degrading bacterial culture and the discovery of isoprene respiring bacteria.



LUCY MARSHALL
Professor
BE, MEngSc, PhD UNSW

Research Interests: I quantify new conceptualizations of hydrologic processes and develop methods for model diagnostics and uncertainty analysis (especially via Bayesian statistics and multi-model methods)



JAMES MCDONALD
Lecturer
PhD UNSW

Research Interests: Research Fellow in the School of Civil and Environmental Engineering's Water Research Centre (WRC)



DIVYA JAYAKUMAR NAIR
Senior Lecturer
PhD UNSW

Research Interests: My research interests extend but are not limited to, the following topics; Transportation Engineering, Transport Infrastructure Resilience, Traffic Assignment, Network Design, Highway Engineering, Operations Research, Statistical Modelling, Data Mining, Traffic Flow Theory, Autonomous Vehicle, Humanitarian logistics.



DENIS O'CARROLL
Professor, Deputy Head of School (Research), Managing Director - WRL
BASc Ottawa, MESc Clarkson, PhD U Michigan

Research Interests: Research projects include developing nanometals for contaminated site remediation, investigating the environmental fate and ecotoxicity of nanoparticles released from commercial products, improving the understanding of the fate of nonaqueous phase liquids in the subsurface and developing climate change mitigation measures in urban areas.



DANIEL O'SHEA
Lecturer
BE (Civil), PhD UNSW

Research Interests: Computational Mechanics, Biomechanics, Continuum Mechanics, Hyperelasticity, Advanced Finite Element Methods, Shell Analysis, Fibre-Reinforced Composites. Expert in applied mathematics, computational mechanics, devising models for nonlinear material behaviour, with application to biological tissues and advanced manufactured composites.



AN NINH PHAM
Lecturer and Research Fellow
BE Hons 1, PhD UNSW

Research Interests: Dr An Ninh Pham is a Lecturer and Research Fellow with the UNSW Water Research Centre in the School of Civil and Environmental Engineering. His research interests include: Geochemistry of iron in natural systems; Kinetic modelling of chemical reactions; Acid sulfate soils; Ground water modelling; Water treatment processes.



TAHA HOSSEIN RASHIDI
Associate Professor
BSc MSc Sharif UT: PhD UI Chicago

Research Interests: A/Prof Rashidi leads rCITI's Travel Behaviour Modelling Team. Current research areas include: Travel behaviour analysis; Transport planning; Activity-based travel demand modelling; Housing search and land use modelling; Integrated land use and transportation models; Goods movement modelling; Microsimulation Modelling methods for urban activities; potential and capacity of new mobility technologies and social media data; autonomous driving.



CRAIG ROBERTS
Senior Lecturer
BSurv U South Australia, PhD UNSW

Research Interests: As an education-focussed academic, I am interested in the implications of datum modernisation on the geospatial community, leveraging multi-GNSS CORS infrastructure and combining UAV or laser scan data for practical application to surveying and geospatial engineering, understanding the policy implications of new measurement technologies on authoritative geospatial data management, and investigating AR/VR applications.



ADRIAN RUSSELL
Professor
BE, PhD UNSW, PGCert Bristol

Research Interests: Applied unsaturated soil mechanics; Liquefaction of variably saturated soils and tailings; Fundamental modelling of soils linking microstructure to large scale behaviour; Fundamental rock mechanics: Fibre reinforced soils.



MEEAD SABERI KALAE
Associate Professor
BSc Mashhad, MSc Portland, PhD Northwestern University, Illinois

Research Interests: A/Prof Saberi leads rCITI's CityX research lab which focuses on scientific understanding of cities through modelling, simulation, data analytics, and visualisation. His research interests and experience include traffic flow theory & characteristics, large-scale transportation network modelling, complex networks, pedestrian crowd dynamics and simulation, and urban data analytics & visualisation.



BABAK SHAHBODAGHKHAN
Lecturer
MSc Uni of Tehran, PhD Kyoto University

Research Interests: Computational Geomechanics, Dynamics of Unsaturated Soils, Constitutive Modelling of Geomaterials, Seismic Analysis of Geostructures, Dynamic Soil-Structure Interaction.



ASHISH SHARMA
Professor
BE Roorkee, MTech IIT Delhi, PhD Utah State

Research Interests: Prof Sharma is an engineering hydrologist interested in problems involving hydrological uncertainty. Much of his research has focussed on the impact of climate change and variability on hydrological practice, along with applications related to remote sensing, formulating stochastic approaches, developing hydrological models, and the two big hydrology bread-and-butter problems - design flood estimation + water resources management



JOHNSON XUESONG SHEN
Senior Lecturer
BEng, MSc Nanjing, PhD Hong Kong Polytechnic University

Research Interests: Digital Twins, Artificial Intelligence, Smart Sensing, Autonomous Systems, Internet of Things, Mixed Reality, and their applications in the construction, operation, and maintenance of civil infrastructure and built environment.



CHONGMIN SONG
Professor and Director CIES
BE ME Tsinghua, DEng Tokyo

Research Interests: Scaled Boundary Finite-Element Method, Mesh Generation, Dynamic Soil-Structure Interaction, Structural Dynamics & Earthquake Engineering, Fracture Mechanics, Elasto-Plastic-Damage Constitutive Modelling.



KRISTEN SPLINTER
Associate Professor & ARC Future Fellow
BSc Queens University, Kingston, Canada, MSc Florida, PhD Oregon State

Research Interests: Applied and fundamental research experience in the fields of coastal processes and hazards, engineered wetland design, and coastal structures. Kristen's research uses physical and numerical modelling as well as field data collection to better understand coastal processes. Her team pioneers the use of remote sensing in the coastal zone, including lidar, UAVs (drones), and video cameras.



RICHARD STUETZ
Professor and Deputy Head of School (Education)
BSc, PhD UNSW

Research Interests: Research is in the fate of contaminants in atmospheric and aquatic systems with specific interests in: Assessment of volatile emissions: Management of emissions from water, wastewater, waste management and intensive animal operations: On-line monitoring water and wastewater quality and process control: Characterisation of complex emissions using chemical and sensorial methods: Reducing environmental impact and annoyance through improved community engagement practices.



BOJAN TAMBURIC
Melbourne Water Lecturer and ARC Industry Fellow
BSc, MSc, PhD Imperial College, London

Research Interests: Research to predict and control harmful algal blooms in the environment so as to preserve water quality and aquatic habitats, and how to cultivate algal biomass in order to produce useful products such as biofuels, animal feed and sustainable chemicals. ARC Fellowship to improve the resilience of Australian water supplies by advancing urban stormwater reuse.



ROHIT TIWARI
Lecturer
MEng Indian Institute of Technology, PhD Uni of Melbourne

Research Interests: Geotechnical Earthquake Engineering, Performance Based Seismic Design of Geo-structures. Rohit has a strong background in experimental investigations of seismic actions in Earth Retaining Structures and calibration of numerical non-linear material models.



IAN TURNER
Professor and Deputy Head of School (Industry & Innovation)
BSc (Hons) USyd, MEnvEngSc UNSW, PhD USyd

Research Interests: Ian's current research interests include beach groundwater dynamics and sediment transport at the beach face, monitoring of coastal change and impacts of climate variability, coastal erosion control and coastal management, and coastal aquifer hydrogeology. Named by The Australian in 2020 as Australian Leader in the field of Ocean & Marine Engineering, recognising his extensive contribution to coastal engineering.



HAMID VALI POUR GOUDARZI
Professor
BE, MEngSc, PhD UNSW

Research Interests: Structural mechanics; Development of innovative hybrid steel-timber-concrete structures with emphasis on sustainability and improved structural performance; Behaviour of structures subjected to extreme loads such as earthquake, impact, blast and explosion: Computational mechanics and non-linear finite element modelling of structures: Constitutive modelling of materials.



DAVID WAITE
Scientia Professor & Executive Director and CEO, UNSW CTET
BSc Tas, GradDip RMIT, MAppSc Monash, PhD MIT

Research Interests: Researcher of international standing who has made a significant contribution to the field of environmental chemistry. Particular expertise in the behaviour of elements such as iron, manganese, copper, silver and uranium in natural and engineered systems. Aims to improve our understanding of natural aquatic systems to enable prevention of environmental degradation as well as development of solutions to challenges in provision of water supply and improving human health.



TRAVIS S WALLER
Professor and HoS (till May 2022)
BSc Ohio State, MSc, PhD Northwestern

Research Interests: Transportation network modelling, particularly systems characterized by dynamics, uncertainty & information; large-scale integrated transport optimization & planning. Specific applications or problem domains include Dynamic Traffic Assignment (DTA), routing algorithm development, network equilibrium, stochastic optimization, integrated demand/supply modelling, network design, adaptive equilibrium, system analysis of public-private partnerships, & bi-level optimization of transport networks.



JINLING WANG
Associate Professor
BSc, MSc Wuhan, PhD Curtin

Research Interests: Global Navigation Satellite Systems - GNSS (GPS, Glonass, Galileo, BeiDou System: Multi-Sensor Integration for Positioning, Mapping and Navigation: Statistical Theory and Its Applications in Positioning, Mapping and Navigation. Research Goals: The development of reliable mathematical modelling and quality control procedures for geospatial mapping and navigation applications.



THOMAS (TOMMY) WIEDMANN
Professor of Sustainability Research
MSc, PhD Ulm

Research Interests: Long-standing experience in integrated sustainability assessment and environmental footprint analysis. My main research question is how to achieve concurrent human and planetary well-being. I develop and apply environmental input-output analysis as part of a holistic concept to life cycle assessment, industrial ecology and sustainable consumption and production research. Recent research interests are related to systems change towards post-growth economies.

EMERITUS PROFESSORS



IAN ACWORTH



JOHN BLACK



DAVID
CARMICHAEL



ROBIN FELL



IAN GILBERT



MIKE REGAN



CHRIS RIZOS



FRANCIS TIN-LOI



JOHN TRINDER



SOMASUNDARAM
VALLIAPPAN

VISITING AND ADJUNCT
ACADEMICS

Adjunct Associate Professor	James Aldred
Honorary Visiting Associate Professor	Mario Attard
Adjunct Lecturer	Dr Bruce Cathers
Honorary Associate Professor	Ron Cox
Senior Visiting Fellow	Lauren Gardner
Adjunct Professor	Shane Geha
Adjunct Lecturer,	Hanna Grzybowska
Adjunct Associate	Professor Jing Guan
Adjunct Professor	Kourosh Kayvani
Visiting Professor	Bill Kearsley
Visiting Professor	Ian King
Visiting Fellow	Gough Yumu Lui
Visiting Professional Fellow Emeritus Professor	Sue McNeil
Adjunct Professor	William Peirson
Adjunct Senior Lecturer	David Rey
Visiting Fellow	Dr Haemin Song
Adjunct Associate Professor	Dr Yen Lei Voo
Honorary Professor	S Travis Waller
Adjunct Professor	Xiao Lin (Joshua) Zhao

RESEARCH STAFF
(BY CENTRES)

CIES

Iman Munadhil Abbas Al-Damad	Research Associate
Xiaojun Chen	Research Fellow
Allen Chhor	Senior Research Associate
Yuan Feng	Research Associate
Roshan Jayathilakage	Research Associate
Ankit S Kumar	Research Associate
Xinpei Liu	Senior Research Associate
Lakshminarayanan Mohana Kumar	Research Associate
Ehsan Mohseni	Research Associate
Mojtaba Salehi Dezfooli	Research Associate
Shukai Ya	Research Associate
Mohammad Vahab	Lecturer
Yang Yu	Research Associate

CWI

Helen Rutlidge	Lecturer
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rCITI

Research Associates

Tanapon Lilasathapornkit

Ali Najmi

Siroos Shahriari

Amarin Siripanich

Water Research Centre (WRC)

Adjunct Senior Lecturer - Program Manager,
Environmental Microbiology

David Roser

Senior Research Associates

Mark Browne

Shikha Garg

Miguel Hernandez-Prieto

Matthew Lee

Kefeng Zhang

Senior Research Fellow

Rajeshwar Mehrotra

Research Associates

Md Mahamudul Hassan

James Emerson Hayes

Calvin He

Adele Jones

Andrew Kinsela

Christopher Miller

Ademir Abdala Prata Junior

Veljko Prodanovic

Yingying Sun

Zhaozhi Zheng

Postdoctoral Research Fellows

Jie Jian

Onder Kimyon

Elisabeth Vogel

Water Research Laboratory(WRL),
Manly Vale

Lecturer

Mahmood Sadat-Noori

Research Associates

Daniel Raj David

Valentin Heimhuber

Christopher Kenji Leaman

Jamie Errol Ruprecht

Killian Vos

WRL Engineers

Principal Coastal Engineers

James Carley

Ian Coghlan

Principal Engineers

Francois Flocard

Benjamin Modra

Duncan Rayner

Adjunct Senior Lecturer

Matthew Blacka

Project Engineers

Farid Chaaya

Jonathan Chan

Mathieu Deiber

Yarran Doherty

Christopher Drummond

Daniel Gilbert

Alice Harrison

Gabriela Lumiatti

Margot Mason

Laura Montano

Priom Rahman

Toby Tucker

PROFESSIONAL STAFF & TECHNICAL STAFF

SCHOOL OFFICE



ANTHONY DEVER,
School Manager



**WARASSAMON
KATE BROWN,**
Web/IT Coordinator



LAARNI CALUDUCAN,
Health, Safety & Environment
Adviser (OH&S embedded)



DENISE LEE,
Facilities Officer
(Faculty embedded)



PAULA PLOYSARAK,
Finance & Purchasing
Administrator
(Faculty embedded)



LEKANA TOUBIA,
Finance Officer
(Faculty embedded)



PATRICK VUONG,
Computer Systems
Officer (IT embedded)



LUCIA WONG,
Executive Assistant
to HoS

HDR & TEACHING SUPPORT



SUNHEE LIM,
Higher Degree Research (HDR)
Support Officer (Faculty Embedded)



EMMA COTTER,
Teaching Support Officer



ELLIE WILLIAMS,
Teaching Support Officer

EXTERNAL RELATIONS & COMMUNICATIONS



MARY O'CONNELL,
Digital Content Coordinator (p/t)



TAMARA ROUSE,
Industry Relations Special Projects (p/t)



PATRICIA TESORIERO,
Project Manager, Community Outreach (p/t)

RESEARCH CENTRES

RESEARCH CENTRE MANAGEMENT



UTTRA BENTON,
Manager, Water Research Centre



MARIA LEE,
Manager, rCITI



BRETT MILLER,
Director - Industry Research, WRL



THERESA WISNIEWSKI,
Research Hub Business Manager, RIIS



GRACE ZHU,
Manager, CIES.

RESEARCH CENTRE PROFESSIONAL



ANNA BLACKA,
Scientific Illustration, Graphics &
Communication, WRL & Social Media CVEN



SYLVIA BROHL,
Project Officer, rCITI



GRACE CARLINO,
Administrator, WRL



KATIE JACKA,
Publications Officer, WRL



ROSS MATHEWS,
Purchasing Officer, WRL

TECHNICAL SERVICES

LABORATORY MANAGERS



DR ZHEN-TIAN CHANG,
Manager, Randwick Heavy
Structures Laboratory



PAUL GWYNNE,
Manager, Infrastructure
& Geotechnical
Laboratories, Kensington



MINH NHAT LE,
Manager, Water Quality
Laboratory, Kensington



JULIUS SECADININGRAT,
TRACSlab Manager, rCITI

INFRASTRUCTURE & GEOTECHNICAL LABORATORIES – KENSINGTON



FARJ ELHADAYRI,
Technical Officer



LUIZ PETTERSEN,
Technical Officer



RUDINO SALLEH,
Senior Technical Officer



WILLIAM TERRY,
Senior Technical Officer



TIMOTHY WESTON,
Technical Officer

WATER LABORATORIES – KENSINGTON



THI SONG THAO LE,
Technical Officer



KELVIN ONG,
Technical Officer



ARTUR ZIOLKOWSKI,
Technical Officer

TECHNICAL SERVICES

HEAVY STRUCTURES LABORATORY – RANDWICK CAMPUS



SANJEEWA HERATH,
Senior Technical Officer



RONALD MONCAY,
Senior Technical Officer



TUAN MANH LE,
Technical Officer



GREG WORTHING,
Technical Officer

WRL TECHNICAL STAFF



LARRY PAICE,
Workshop Supervisor



FANG BIAN,
Technical Officer



AARON COLUSSO,
Technical Officer



ROBERT JENKINS,
Technical Officer



ROBERT THOMPSON,
Technical Officer - IT

rCITI



ALEKSA ZLOJUTRO,
Software Engineer

SAGE



PETER MUMFORD
(SAGE & rCITI)



DR YINCAI ZHOU,
Professional Officer, SAGE



HS&E COMMITTEE

THE SCHOOL IS COMMITTED to protecting the health and safety of all staff, students, visitors and contractors. Our Level 3 Health, Safety and Environment Committee meets at least quarterly. The purpose of the committee is to facilitate effective consultation with workers and students in order to identify and resolve health and safety issues where they arise. Inspections and training, combined with a wide range of communication methods, ensure that all staff and students are informed of their responsibilities.

The Committee is comprised of members elected or nominated from the workplace which are representative of all work groups within the School. Representatives are elected from undergraduate and postgraduate student bodies.

The physical areas covered by the Committee include:

- Civil and Environmental Engineering Main Building H20
- Civil and Environmental Engineering Laboratory Block – Vallentine Annexe H22
- Water Research Centre – Vallentine Annexe H22
- Heavy Structures Laboratory, Randwick R9
- Water Research Laboratory, Manly Vale
- Hilmer Building, Level 5, Room 569 E10

COMMITTEE MEMBERS



PAUL GWYNNE
Chair

YINCAI ZHOU Deputy Chair	ZHEN-TIANCHANG Heavy Structures (Randwick)	YINCAI ZHOU SAGE
DENIS O'CARROLL Deputy Head (research)	JULIUS SECADININGRAT rCITI	SAMSUNG LIM Academic Rep.
LAARNI CALUDUCAN Secretary/Health, Safety & Environment Advisor	UTTRA BENTON WRC	DENISE LEE Admin Rep
GRACE ZHU CIES	MINH NHAT LE WQL	CHRISTOPHER WANG Undergrad Rep
ALEX ONG iCinema	FRANCOIS FLOCARD WRL	SIROOS SHAHRIARI Postgrad Rep

“The Committee is comprised of members elected or nominated from the workplace which are representative of all work groups within the School.”

HS&E

VALE



VALE TO SCHOOL AND WRL LEGEND COLIN (COL) DUDGEON (1932 - 2022)

An early alumnus (1954) of the School and Director of the School's Water Research Laboratory WRL from 1987 -1993, Col was a gifted scholar and engineer, a mentor, an inventor, an adventurer, a storyteller, and a wonderful colleague.

Col's career at UNSW spanned over 30 years in a full-time capacity and another 10 years in semi-retirement. Alumni recall him as an excellent teacher. "Colin had significant impact on all staff and students that he interacted with" says his colleague at Water Research Laboratory Honorary Associate Professor Ron Cox, "he was a mentor to many – supportive to all and respected by all – he will be missed."

Full School obituary at <https://www.wrl.unsw.edu.au/news/vale-school-legend---col-dudgeon-1932-2021>



VALE FRANK SCHARFE

Technical Officer Frank Scharfe, who passed away in October 2022, was based at the Randwick Heavy Structures Lab (HSL) for almost forty years, from the 1970s until the late 2000s. Dean of UNSW Engineering, Professor Stephen Foster recalled "I knew Frank well, right back to the days of my own PhD. Frank was very dedicated and highly valued by everyone that he worked and socialised with. The numbers of PhD and Masters students alone that he supported, and contributed to their work, would number in the many dozens."

Fuller story <https://www.unsw.edu.au/news/2022/11/vale-frank-scharfe>

VALE PROFESSOR SOMASUNDARAM VALLIAPPAN (VAL) (1933 – 2022)

CIES Emeritus Professor Somasundaram Valliappan, or Val, as he was affectionately known, was an internationally renowned expert in computational mechanics, and an active member of academic staff from 1969 until his retirement in 2003. He was a Fellow of the International Association Computational Mechanics, the Institution Engineers Australia, and the American Society of Civil Engineers.

He was described as 'a towering figure' by one of his many PhD students, PSM & Scientia Professor Nasser Khalili. "He was a mentor to many staff within the School" Professor Khalili said, "and will be immensely missed by all those who have been fortunate enough to know him."

For full UNSW obituary please see <https://www.unsw.edu.au/news/2023/01/vale-emeritus-professor-somasundaram-valliappan-1933-2022>



VALE ALICE YAU (FONG) (1949 -2022)

Professional Staff member Alice Yau held many roles within the School's administrative team for twenty years. Cheerful, helpful and astute, she contributed greatly to the work of the School.

Many UNSW staff posted on her Funeral Service (Joseph Medcalf) Guestbook page - some excerpts below.


I have known Alice for more than 20 years since we worked for the same boss at UNSW. Whenever I couldn't read boss' handwriting, I got help from Alice... CFW

Dear Alice, you were a wonderful work colleague, so patient and persevering at your work, a friendly, kind and thoughtful presence in the hectic office. Mary O

Alice was a thoughtful and dedicated team member who showed courage and gave something of herself to all around. Fly high you beautiful human. You will never be forgotten. Lots of love, your old colleague Trishy.



VALE

A photograph of a person with glasses and a dark shirt standing in a shallow river. They are next to a large, rectangular metal box with a diamond-plate pattern, which is supported by a metal frame of pipes. The box has two white circular openings on top. A blue cable runs along the rocks in the background. The scene is set in a natural environment with large rocks and some greenery.

WRL PhD Candidate Hiruni
Kammanankada researching
the application of UNSW Tube
Fishways to low-head weirs

SECTION 3

OUR RESEARCH

RESEARCH MANAGEMENT COMMITTEE (RMC)

THE SCHOOL'S RESEARCH MANAGEMENT COMMITTEE (RMC) meets monthly to manage and support research activities within the School. It liaises with and contributes directly to the Faculty's Research Management Committee. An important aspect of the Committee's work involves the management of the School's postgraduate research student program. This involves the assessment of applications, the formulation of specific research plans, the nomination of suitable supervisors, reviewing the progress of students at regular intervals, making recommendations on progress to the Faculty's Higher Degree Committee, and nominating examiners when the thesis is completed. In 2022 206 PhD students were enrolled in the School, and 40 graduated. Over a third (36%) of our PhDs are women, and two thirds (64%) are international students.

COMMITTEE MEMBERS



DENIS O'CARROLL
Chair

HAMID VALIPOUR
Postgrad Research Student Coord.

ADRIAN RUSSELL
Geotech Rep.

CHONGMIN SONG
CIES Director

TAHA RASHIDI
rCITI Rep

JINLING WANG
SAGE Rep.

JOHNSON SHEN
Construction Rep.

MICHAEL MANEFIELD
WRC Rep.

MITCHELL HARLEY
HDR Admissions/WRLRep.

BOJAN TAMBURIC
ECA

MEHRI MAKKI ALAMDARI
ECA

THERESA WISNIEWSKI
Admin

“
Over a third
(36%) of our
PhDs are
women, and two
thirds (64%) are
international
students.
”

RMC

ESTATE & TECHNICAL SERVICES COMMITTEE (ETSC)

THE SCHOOL HAS SEVERAL WELL-EQUIPPED laboratories used for research and teaching purposes. None of our research achievements and awards would be possible without these high-use laboratories and technical facilities, which are staffed by a highly skilled team of technical officers and managers. The ETSC provides oversight, support and management of the School's physical estate.

COMMITTEE MEMBERS



DENIS O'CARROLL
Co-Chair – Estate



VINAYAK DIXIT
Co-Chair – Technical

STEFAN FELDER
Deputy Chair; WRL Rep

MINH NHAT LE
Water Quality Labs

PAUL GWYNNE
Geotechnical and
Materials Research Labs

ZHEN-TIAN CHANG
Heavy Structures Laboratory

YINCAI ZHOU
SAGE Rep.

JULIUS SECADININGRAT
TRACSLab/SNAPLab Rep.

HAMID VALIPOUR
Academic-in-charge Heavy
Structures and Materials Lab.

STUART KHAN
Academic-in-charge Water Quality Labs

RICHARD COLLINS
Academic-in-charge Radiation Lab

ADRIAN RUSSELL
Academic-in-charge Geotechnical Labs

MARIA LEE
Admin

“
The ETSC provides
oversight, support
and management
of the School's
physical estate.
”

ETSC

OUR RESEARCH CENTRES AND HUBS

The School is a research powerhouse – with forty five professional researchers in 2022 and 206 PhD candidates led by our world-renowned academic staff. Our success is based upon the detailed, rigorous and visionary work of our research centres and discipline groups, working together with external academic, government and industry colleagues to address current local and global challenges.

In 2022 our Centres worked with over 120 industry, government, and community partners on a wide range of research projects. See Grant Income tables in this Section for more details.

CIES Centre for Infrastructure Engineering & Safety

CIES Director: Professor Chongmin Song
Centre Manager: Ms Grace Zhu
W: www.cies.unsw.edu.au
E: cies@unsw.edu.au

CIES was established as a UNSW Research Centre in January 2007 to facilitate advanced research in all aspects of civil engineering infrastructure, including building structures, bridges, tunnels, roads, railways, pavements, dams and the like. Our work has expanded to include construction management, advanced systems and low-carbon technologies.

We aim to be the nexus of the various scientific disciplines including structural engineering, geotechnical engineering, engineering materials and computational mechanics, in the broad fields of engineering infrastructure; its design, evaluation, construction, performance, retrofit and reuse. We achieve this as an integral part of a circular economy, dedicated to high societal productivity and minimised waste.

rCITI Research Centre for Integrated Transport Innovation

rCITI Director: Professor Vinayak Dixit
Centre Manager: Maria Lee
W: www.rciti.unsw.edu.au
E: maria.lee@unsw.edu.au

rCITI's vision is to be a world-leading organisation in integrated interdisciplinary transport research, development and education. They are well on their way to achieving the Centre's goals by providing critical expertise and experience in Mobility planning, Analytics, Operations and Technology. With a core objective to drive Efficiency, Equality and Emerging technologies (3Es) in mobility systems.

rCITI aims to pursue globally-leading interdisciplinary solutions for transport planning and management that integrate three critical aspects for societal impact:-

- (i) Emerging mobility technology
- (ii) Human behaviour & choice
- (iii) Institutional / market landscape

RIIS: Resilient and intelligent infrastructure systems

RIIS Hub Director and Lead Chief Investigator: Professor Nasser Khalili
HUB Business Manager: Theresa Wisniewski
W: <https://riis.org.au>
P: +61 2 9348 0771

RIIS is an industry and ARC funded research and innovation hub for smart infrastructure established in 2022. It engages with industry, government, and the community to develop and implement science-based policy and integrated practical solutions to the current and future challenges facing Australia's urban, resource and energy infrastructure.

RIIS will deliver transformational technologies to address Australia's critical infrastructure needs. It will integrate advances in sensor technology, connectivity, data analytics, machine learning, robotics, smart materials, and reliable models to deliver resilient and adaptive infrastructure systems in urban, energy and resource sectors – sectors critical to Australia's prosperity and well-being.

SAGE Surveying and Geospatial Engineering Research

SAGE Academic Leader: Professor Linlin Ge
W: www.sage.unsw.edu.au
Research enquiries: l.ge@unsw.edu.au

The SAGE Research group conducts world-class research in the sub disciplines of geodesy, photo-grammetry, positioning measurement and remote sensing. Broad research topics include Satellite Navigation Technology and Applications, Geodetic Infrastructure and Analysis, Light detection and ranging (Lidar), Geospatial Information Systems, Multi-GNSS, Multi-sensor integration for positioning & mapping, Statistical theory applied to positioning, mapping, and Remote Sensing.

WRC Water Research Centre

WRC Director: Professor Denis O'Carroll
Centre Manager: Ultra Benton
W: www.wrc.unsw.edu.au
E: water@unsw.edu.au

The Water Research Centre (WRC) is an international leading university centre that provides multidisciplinary pure and applied research in water resources, engineering, management and the development of tools for environmental management and sustainability for improving aquatic and atmospheric environments. As a leading Australian water research organisation we apply our experience and critical thinking across more than just water, into diverse (yet related) fields.

- Water quality and treatment processes
- Lifecycle assessment and sustainability
- Waste management
- Hydroclimatology
- Carbon and water footprinting
- Issues concerning atmospheric emissions and odour
- Risk assessment

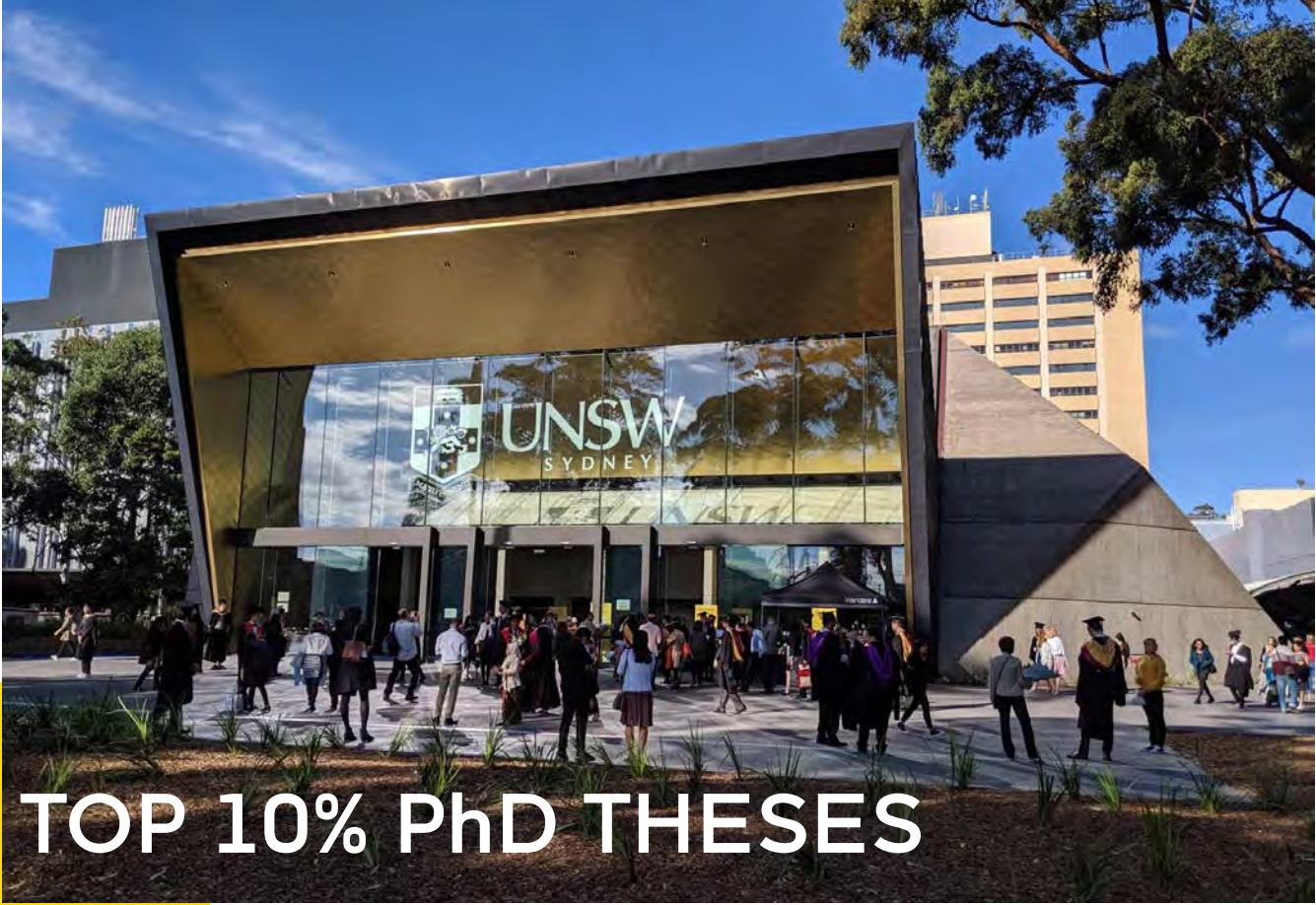
WRL Water Research Laboratory

WRL Managing Director: Professor Denis O'Carroll
WRL Industry Research Director: Brett Miller
W: www.wrl.unsw.edu.au
E: info@wrl.unsw.edu.au

The Water Research Laboratory (WRL) is a world-leading research and consulting laboratory on a four-hectare site at Manly Vale that tackles the most challenging and pressing water engineering problems faced by the world today. We are the largest coastal/hydraulics research laboratory in Australia, home to state-of-the-art facilities, equipment and personnel comprised of the most experienced and creative problem solvers in their respective areas of research and industry.

Our areas of expertise include coastal, ocean, ecosystems engineering, estuarine and wetland management; riverflow and floodplain management; civil engineering hydraulics; and climate change adaptation.

PhD GRADUATES



OUR PhD CANDIDATES UNDERTAKE innovative research across the entire breadth of the School's disciplinary areas and are a vital part of our research efforts. In August 2022 six of our PhD graduates were awarded the Dean's Award for an Outstanding PhD Thesis. To receive this award, candidates must produce a thesis that in the opinion of both examiners is in the top 10 per cent of PhD theses they have

examined. (Examiners are external to the University and are leaders in their fields.) Professor Jonathan Morris, Pro Vice-Chancellor Research Training and Dean of Graduate Research, noted that "Given the challenges of the past two years, these graduates should be especially commended for their achievements." Congratulations to our students and their supervisors.



YUFAN CHEN
Mechanism and Application of Iron-Mediated Heterogeneous Fenton Reactions,
Supervisors: TD Waite & C Miller



YUAN FENG
Machine Learning Aided Stochastic Elastoplastic and Damage Analysis of Functionally Graded Structures,
Supervisors: W Gao & F Tin-Loi



CHRISTOPHER LEAMAN
Regional-Scale Forecasting for Coastal Storm Hazard Early Warning Systems,
Supervisors: I Turner & K Splinter



JAMIE RUPRECHT
Integrating microbial and nutrient dynamics to improve waterway management,
Supervisors: W Glamore & I Turner



JIANGZHOU XIE
Anodic Oxidation of Organic Contaminants Using Fixed and Flow Electrodes,
Supervisor: TD Waite



YUTING YUAN
Mechanisms of Catalytic Ozonation for the Removal of Low Molecular Weight Acids,
Supervisor TD Waite



ROUNAK AFROZ
Supervisor: A Sharma & F Johnson
New Methods for Quantifying the Spatio-temporal Severity of Droughts under Climate Change
Discipline: Water



ABDUL MATHEEN AHMED NASHWAN
Supervisor: IR Turner & M Harley
An Early Warning System modelling framework for 'hot-spot' erosion forecasting along wave-dominated sandy coastlines
Discipline: Water



MOHAMMED F. E. ALNAHHAL
Supervisor: A Hajimohammadi & T Kim
Rheology and Durability of Alkali-Activated Materials Made of Rice Husk Ash-Derived Sodium Silicates
Discipline: Structural



MUDABBER ASHFAQ
Supervisor: M Saberi, ST Waller & L Gardner
Modelling Traffic Congestion as a Spreading Phenomenon
Discipline: Transport



MIKEL BARBARA
Supervisor: D Nair & TH Rashidi
Modelling and Optimisation Methods for Public School Networks
Discipline: Transport



YUFAN CHEN
Supervisor: TD Waite & C Miller
Mechanism and Application of Iron-Mediated Heterogeneous Fenton Reactions
Discipline: Water



MAX YUHUI CHEN
Supervisor: V Dixit, W Liu, & ST Waller
MPhil: Modeling ride-sourcing and public transport services in a multi-modal network with multi-class users
Discipline: Transport



XIAOTONG (SHARON) DONG
Supervisor: D Rey & ST Waller
New Formulations and Solution Methods for the Dial-a-ride Problem
Discipline: Transport



JIAYI FU
Supervisor: TD Waite
Development of high performing, commercially relevant concretes with high levels of clinker replacement by manipulating microstructure and controlling crystal growth
Discipline: Water



MAHMOUD HAMMAD
Supervisor: H Vali Pour & SJ Foster
Timber-Steel-Concrete Hybrid Connections
Discipline: Structural



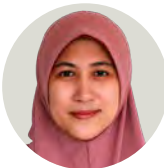
CALVIN HE
Supervisor: TD Waite & J Ma
Flow-electrode Capacitive Deionization (FCDI) for Ion Removal of Brackish Water: Scale-up Pathways and Evaluation
Discipline: Water



PHILIPPA HIGGINS
Supervisor: M Andersen, F Johnson, C Turney, J Palmer
Remote tree-ring proxies: methods, opportunities, and limitations for reconstructing South Pacific climate
Discipline: Water



RAIMUNDO JAVIER IBACETA VEGA
Supervisor: IL Turner & KM Splinter
Seasonal to Interannual Shoreline Variability in a Changing Wave Climate
Discipline: Water



NUR FADHILAH IDRIS
Supervisor: R Stuetz, M Le, & J Hayes
Study to increase the efficiency of odour abatement system
Discipline: Water



AHMAD JAFARI
Supervisor: N Khalili & M Vahab
Numerical Modelling of Hydro-Mechanical Coupling Processes in Fractured Porous Media
Discipline: Geotech



AMIR KARIMI NOBANDEGANI
Supervisor: H Vali Pour
Timber and Timber-Timber Composite (TTC) Beams with Openings: Laboratory Experimentation and Nonlocal Finite Element Simulation
Discipline: Structural



DANIAL KHOJASTEH
Supervisor: W Glamore & S Felder
Estuarine Hydrodynamics under Sea Level Rise
Discipline: Water



LAYLA KIA
Supervisor: H Valipour, K Kayvani & M Bradford
Development of Expressive Timber-Steel Hybrid Exoskeletal Systems for Tall Timber Structures
Discipline: Structural



CHRISTOPHER LEAMAN
Supervisor: IL Turner & KM Splinter
Regional-Scale Forecasting for Coastal Storm Hazard Early Warning Systems
Discipline: Water



BINGNAN LI
Supervisor: S Lim, X Cao, & H Jiang
Deep Learning-Based Spatio-Temporal Data Mining Using Multi-Source Geospatial Data
Discipline: Sage



RUI LI
Supervisor: S Felder & KM Splinter
On the Opportunities and Challenges of LIDAR Technology in Air-water Flows in Physical Hydraulic Modelling
Discipline: Water



TANAPON LILASATHAPORNKIT
Supervisor: M Saberi
Network Modeling for Walking Infrastructure: Developing Pedestrian Traffic Assignment Methodologies for Large-Scale Footpath Networks
Discipline: Transport



SHUANG LIU
Supervisor: F Johnson & W Glamore
Understanding algal blooms in shallow waterbodies
Discipline: Water



XUEQING LU
Supervisor: SR Davis
Examining Safety Behaviour on Construction Sites Using Virtual Reality
Discipline: Ecm



YATONG NIE
Supervisor: H Valipour
Short and long-term performance of timber-timber composite (TTC) systems
Discipline: Structural



JAMIE RUPRECHT
Supervisor: W Glamore & IR Turner
Integrating microbial and nutrient dynamics to improve waterway management
Discipline: Water



SIROOS SHAHRIARI
Supervisor: T Rashidi, S Sisson, E Robson
Redefine time series models for transportation planning use
Discipline: Transport



KIRAN SHAKEEL
Supervisor: T Rashidi & ST Waller
Optimisation of Travel Activity Schedule to Maximise Active Transport Use and Health Benefits: Application of a Smartphone App
Discipline: Transport



AMOLIKA SINHA
Supervisor: V Dixit
Evaluating Risks Associated With Automated Driving Systems
Discipline: Transport



KILLIAN VOS
Supervisor: IL Turner & KM Splinter
Novel Remote Sensing Applications of Artificial Intelligence to Quantify and Understand Changing Coasts
Discipline: Water



XIN WANG
Supervisor: R Collins & A Jones
The Chemodenitrification of Nitrate by Green Rust and Mackinawite and its Geochemical Implications
Discipline: Water



HAONING XI
Supervisor: ST Waller, W Liu, H Aziz & P Kirby
Optimization Methods for Mobility Resource Allocation, Pricing and Demand Management in Mobility-as-a-Service Systems
Discipline: Transport



JIELI XIE
Supervisor: TD Waite & C Miller
Application of high valent iron stabilized by a biomimetic carboxylato-containing ligand for aqueous contaminant removal
Discipline: Water



JIANGZHOU XIE
Supervisor: TD Waite
Anodic Oxidation of Organic Contaminants Using Fixed and Flow Electrodes
Discipline: Water



SHUKAI YA
Supervisor: C Song & S Eisentraeger
Seismic Analysis of Post-tensioned Concrete Gravity Dams using Scaled Boundary Finite Element Method
Discipline: Structural



SAAD YOUNAS
Supervisor: E Hamed & C Song
Time dependent behaviour of high strength concrete filled steel tubes
Discipline: Structural



YUTING YUAN
Supervisor: TD Waite
Mechanisms of Catalytic Ozonation for the Removal of Low Molecular Weight acids
Discipline: Water



YINGDA ZHANG
Supervisor: T Kim, A Castel, T Xu & RI Gilbert
Modelling early age cracking in blended cement concrete
Discipline: Structural



QI ZHANG
Supervisor: L Ge
Multi-source Remote Sensing for Forest Characterization and Monitoring
Discipline: Sage



ZHAOZHI ZHENG
Supervisor: A Delectic, C Y Toe, & R Amal
Stormwater herbicides removal via advanced oxidation process
Discipline: Water



GRANT INCOME 2022: RESEARCH CENTRES

Our Research Centres grant income for 2022 totalled \$15.9M, with research projects funded by government and industry, and involving over 120 industry, government and academic partners.

SAGE: Surveying and Geospatial Engineering

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
MacIntyre, CR, Heslop, DJ, Moa, AM, Lim, S, Yao, L, Paik, H	EpiWatch - artificial intelligence early-warning system for epidemics - Stage 1	49965	Medical Research Future Fund (MRFF) Frontier Health and Medical Research Grant
Ge, L, Liu, C	SmartSat CRC PhD scholarship for Chang Liu	35000	CRC for SmartSat PhD Scholarship
Ge, L	All-weather, near real-time monitoring of bushfire with satellite SAR	64667	CRC for SmartSat Project Agreement
Ge, L	Quantifying the Past and Current Major Australian Floods with SAR and other Satellites	66000	CRC for SmartSat Project Agreement
Lim, S	Assessing post-fire forested ecosystem by using Spaceborne LiDAR over south-eastern Australia - PhD Student Jiyu Liu	15000	Natural Hazards Research Australia Postgraduate Research Scholarship
SAGE TOTAL 2022		23,0632	

rCITI: Research Centre for Integrated Transport Innovation

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Pettit, CJ, Saberi Kalae, M, Zarpelon Leao, S	Sustainable mobility: city-wide exposure modelling to advance bicycling	22925	Monash University ARC Discovery Project Shared Grant
Han, JH, Dixit, V	Growing the Namoi agribusiness sector: a database and decision support tool to guide future investment	48750	CRC for Future Food Systems Research Project
Prusty, G, Dixit, V	Engineering-Application of Composites to Nexport Vehicles	36035	Nexport Pty Ltd Contract Research
Anstey, KJ, Kiely, K, Velonaki, M, Regan, MA	Ageing drivers: Cognitive ageing and technology	47494	Australian Research Council Linkage Project
Harris, MS, Lee, J, Pettit, CJ, Dixit, V	Interactively visualising street design scenarios for communicating bike infrastructure options to communities and policy-makers	43750	CRC for iMOVE Research Project
Waller, ST, Rey, D	Incentivised Strategic Traffic Assignment: Bi-level Transport Optimization	129667	Australian Research Council Discovery Project
Saberi Kalae, M, Waller, ST, Rey, D	Stable on-demand optimization for workforce and fleet logistics management	55218	Australian Research Council Linkage Project
Regan, MA, Dixit, V, Prabhakaran, P, Secadiningrat, J	Use of a driving simulator as a safety-assured method of assessing and approving alternative in-tunnel aesthetic solutions	41028	AUSTROADS LTD Contract Research

rCITI: RESEARCH CENTRE FOR INTEGRATED TRANSPORT INNOVATION CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Waller, ST, Hossein Rashidi, T, Jayakumar Nair, D, Rey, D	Quantifying Ethics-related Metrics for Transport Network Systems	175692	Australian Research Council Discovery Project
Saberi Kalae, M, Rey, D	Signal control optimisation with connected and autonomous vehicles considering vulnerable road users	36920	CRC for iMOVE PHD Project
Hossein Rashidi, T	The Australian Transport Research Cloud	99000	University of Melbourne Australian Research Data Commons Subcontract
Dixit, V, Hossein Rashidi, T	Travel time and Parking Study of AVs	108740	UChicago Argonne LLC (Argonne National Laboratory) International Contract
Saberi Kalae, M	Rethinking walking infrastructure: AI-assisted footpath network modelling	114792	Australian Research Council Discovery Project
Dixit, V	E-network for rail-based cane transport systems	9717	Advisian Pty Ltd Sugar Research Australia Shared Contract
Saberi Kalae, M, Rey, D	Stable on-demand optimization for workforce and fleet logistics management	21917	Staybil Pty Ltd ARC Linkage Project Industry Partner Contribution
Haghani, M	A novel approach in crowd evacuation planning: Behavioural intervention	139480	Australian Research Council Discovery Early Career Researcher Award (DECRA)
Dixit, V, Regan, MA	BEV and Hybrid Motion Sickness in China	8000	Ford Motor Company Ford-UNSW Alliance Contracts
Dixit, V, Waller, ST	Project for capacity building, technology transfer and creation of enabling environment for establishment of Centre of Excellence namely Centre for Advanced Transportation Technology and Systems (CATTS)	1760192	Indian Academy of Highway Engineers (IAHE) International Contract
Saberi Kalae, M	Road Surface Anomaly Detection	30000	Transport for NSW State Government Contract
Saberi Kalae, M, Haghani, M	Walking Data Deep Dive	39820	City of Sydney Local Government Contract
Hossein Rashidi, T	Evaluating 5G productivity uses in transport	80000	CRC for iMOVE Research Project
Dixit, V, Waller, ST	Predicting traffic flow in a city with roadways and railroad tracks	190000	Mitsubishi Heavy Industries, Ltd. International Contract
Irannezhad, E, Haghani, M, Hossein Rashidi, T, Yazdani, M	Desire Lines User Behaviour Research: Initial Scoping and Feasibility	125000	CRC for iMOVE Research Project
rCITI TOTAL 2022		3,364,137	

WRC: Water Research Centre

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Roser, D	Turning antimicrobial resistance in residential aged care inside-out from the patient to facility level	9631	University of South Australia NHMRC TCR - Antimicrobial Resistance (MRFF) Shared Grant
Browne, MA, Stuetz, R, Charlesworth, BE	Quantities and Toxicity of Micrometre-sized Particles of Plastics and Cellulosic in Sewage	100800	Melbourne Water Corporation Research Project
Deletic, A, Prodanovic, V, Zhang, K	Greywater treatment and reuse using vegetated walls for sustainable urban greening in Qatar	67441	Hamad Bin Khalifa University QNRF – National Priority Research Program Shared Grant
Johnson, FM, Marshall, LA, Kohn, R, Chandra, R	Development of Bayesian ensemble deep learning for Spatio-temporal modelling – Post Doc	51520	University of Sydney ARC Industrial Transformation Training Centres Shared Grant NSW Department of Planning, Industry and Environment (DPIE) ARC ITTC Shared Partner Contribution
Kearnes, MB, Khan, SJ	Consultancy Services	1500	Z-NET Uralla Inc Department of Planning, Industry and Environment IRCC Community Subcontract
Khan, SJ, O'Carroll, DM, Stuetz, R	ARC Training Centre for Transformation of Australia's Biosolids Resource - ITTC Project 1C: Advanced microbial technologies for enhancing biosolid transformations	36853	Royal Melbourne Institute of Technology ARC ITTC Shared Grant ARC ITTC - Shared Partner Contributions
Khan, SJ, O'Carroll, DM, Stuetz, R	ARC Training Centre for Transformation of Australia's Biosolids Resource - ITTC Project 3C: Development of a risk-based framework for biosolids quality management	112039	Royal Melbourne Institute of Technology ARC ITTC Shared Grant ARC ITTC - Shared Partner Contributions
Manefield, M, O'Carroll, DM, Khan, SJ, Lee, M	Biogeochemical remediation approaches for PFAS contaminated environments	55000	Coffey Services Australia ARC Linkage Project Industry Partner Contribution
Saydam, S, Lamei Ramandi, H, Kumar, N, Crosky, A, Manefield, M, Canbulat, I	Microbiologically Induced Stress Corrosion Cracking in Underground Mines	44338	Australian Research Council Linkage Project
Marshall, LA	Analysis of the uncertainty associated with water quality data - PhD Scholarship for Maryam Zeinolabedini Rezaabad	34627	University of Sydney ARC Industrial Transformation Training Centres Shared Grant
Marshall, LA	Data Analytics for Resources and Environments (DARE) Industrial Transformation Centre - PhD Scholarship for Maryam Zeinolabedini Rezaabad	5373	University of Sydney NSW Department of Planning, Industry and Environment (DPIE) ARC ITTC Shared Partner Contribution
Marshall, LA	New data science methods for addressing problems related to the natural environment - PhD Scholarship for Samudra Madushani	40000	University of Sydney ARC Industrial Transformation Training Centres Shared Grant NSW Chief Scientists Office ARC ITTC Shared Partner Contribution

WRC: WATER RESEARCH CENTRE CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Marshall, LA	New data science methods for addressing problems related to time series analysis across multiple applications in the natural environment, including water resources – PhD Scholarship for Yiyi Ma	10217	University of Sydney NSW Chief Scientists Office ARC ITTC Shared Partner Contribution
Marshall, LA, Chandra, R	Data Analytics for Resources and Environments (DARE) Industrial Transformation Centre - PhD Scholarship for Arpit Kapoor	5700	University of Sydney Geoscience Australia ARC ITTC Shared Partner Contribution
McDonald, JA	The Analytical Method Development and Water Analysis for Cytotoxic Drugs Project	6762	Water Corporation (WA) State Government Contract
Melo Zurita, Md, Prodanovic, V	Culturally Inclusive Water Urban Design - addressing the gap between water infrastructure and water literacy	2500	Sydney Water Corporation Community Grants Program
Sharma, A	The changing risk of very rare to extreme floods in a warming climate	274,000	Department of Energy and Water Supply (QLD) Melbourne Water Corporation SEQWater Sunwater Limited Water NSW Water Corporation (WA) State Government Contracts: Hydro Tasmania Snowy Hydro Limited Contract Research: Murray-Darling Basin Authority Commonwealth Government Contract:
Sharma, A	Assessing Water Supply Security in a Nonstationary Environment	120000	Australian Research Council Discovery Project
Stuetz, R	A comparison of removal performance of volatile organic and sulfurous compounds between odour abatement systems	66015	The Odour Unit Pty Ltd Contract Research
Stuetz, R, Fisher, RM	ARC Training Centre for Transformation of Australia's Biosolids Resource - ITTC Project 3A: Linking Stability, Odour and Production route	109713	Royal Melbourne Institute of Technology ARC ITTC Shared Grant ARC ITTC - Shared Partner Contributions
Stuetz, R, Hayes, J, Fisher, RM, Prata, AA	Independent review into the design, use and impacts of synthetic turf in public open spaces	15000	Office of the NSW Chief Scientist & Engineer State Government Contract
Stuetz, R, Kearnes, MB	ARC Training Centre for Transformation of Australia's Biosolids Resource - ITTC Project 3D: Stakeholder engagement and acceptance	8698	Royal Melbourne Institute of Technology ARC ITTC Shared Grant ARC ITTC - Shared Partner Contributions
Stuetz, R, Tamburic, B, Henderson, RK	Nuisance & Harmful Algae Science-Practice Partnership 2.0 (NHASP 2.0)	14455	Hunter Water Corporation State Government Contract
Waite, TD	Elemental release and oxidant production from mixed coal mine dusts	119500	Australian Research Council Linkage Project

WRC: WATER RESEARCH CENTRE CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Waite, TD	Mineral transformation and oxidant production in subsurface environments	130000	Australian Research Council Discovery Project
Waite, TD	Physico-chemical characteristics and toxicity of coal mine and artificial stone particulates: Identifying factors critical to the pathogenesis and severity of coal workers' pneumoconiosis and silicosis	70529	University of Queensland Office of Industrial Relations (QLD) Shared Contract
Waite, TD	Hydrogen generation by subsurface iron cycling	13700	Geoscience Australia Commonwealth Government Contract
Waite, TD, Fletcher, J, Wang, Y, Bednarz, TP	High Water Recovery, Low Cost Desalination using PV-Powered Membrane Capacitive Deionisation (mCDI)	50000	Australian Coal Research (ACR) Limited Australian Coal Association Research Program (ACARP)
Waite, TD, Garg, S, Wang, Y	Development of Advanced Oxidation Processes for Chemical Coal Wastewater, Traditional Chinese Medicine Wastewater and VOCs Treatment	69081	UNSW Centre for Transformational Environmental Technologies (Yixing) International Contract
Wiedmann, T	IElab emission factors updates and advice	2000	Department of Industry, Science and Resources Commonwealth Government Contract
Wiedmann, T	Greenhouse gas emissions report	26000	Woolworths Group Limited Contract Research
Wiedmann, T	Circularity Gap Report - Student Agreement for Kylie Goodwin	5000	CSIRO - Commonwealth Scientific and Industrial Research Organisation Postgraduate Studentship
Wiedmann, T, Fisher, RM, Stuetz, R	ARC Training Centre for Transformation of Australia's Biosolids Resource - ITTC Project 3B: The role of Biosolids Management in preserving Earth's resilience	71120	Royal Melbourne Institute of Technology ARC ITTC Shared Grant ARC ITTC - Shared Partner Contributions
Wiedmann, T, Prasad, D	Achieving Circularity: Development of a sustainable and scalable model to recycle and reduce the cost of polypropylene waste in hospitals	50000	Office of the NSW Chief Scientist & Engineer Challenge Funding Continuation (formerly NSW Circular)
Wiedmann, T, Prasad, D	Repurposing recovered organic materials as alternative raw materials for brick production	40000	Office of the NSW Chief Scientist & Engineer Challenge Funding Continuation (formerly NSW Circular)
Wiedmann, T, Prasad, D	Circular Economy Technology Hub Phase 1 software development	35000	Office of the NSW Chief Scientist & Engineer Challenge Funding Continuation (formerly NSW Circular)

WRC: WATER RESEARCH CENTRE CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Sahajwalla, VH, Green, D, Wiedmann, T	Sustainable Communities and Waste Hub	1251000	Department of Agriculture, Fisheries and Forestry (DAFF) National Environment Science Program (NESP 2)
Zhang, K	From stormwater to potable water via Water Sensitive Urban Design?	145272	Australian Research Council Discovery Early Career Researcher Award (DECRA)
Zhang, K, Khan, SJ, Le Clech, P	Review of stormwater quality to support the development of stormwater recycling guidelines	56174	Water Research Australia Limited Contract Research
WRC TOTAL 2022		3,326,558	

WRL: Water Research Laboratory

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Andersen, MS	Predicting the impacts of groundwater drawdown on groundwater ecosystems	40000	Macquarie University ARC Linkage Project Shared Grant
Andersen, MS	Where is all the water?	60000	University of Sydney ARC Industrial Transformation Training Centres Shared Grant
Baker, AB, Andersen, MS, Melo Zurita, Md	National groundwater recharge observing system	52948	Australian Research Council LIEF
Blacka, MJ	Mandorah Marine Facilities Design	126700	Cardno (NT) Pty Ltd Contract Research
Blacka, MJ, Chaaya, FC	Merimbula Entrance Bar Remote Sensing Analysis	36500	Bega Valley Shire Council Local Government Contract
Blacka, MJ, Chaaya, FC	Clyde River and Manning River Boat Wake investigation	34000	NSW Department of Planning and Environment Prequalification Scheme: Performance and Management Services
Blacka, MJ, Flocard, FD, Carley, JT	Physical Modelling of Coastal Protection Options for Ebeye, Marshall Islands, Pacific Resilience Project - Phase II	111100	Haskoning Australia Pty Ltd Contract Research
Blacka, M, Flocard, FD, Coghlan, IR	Te Ara Tupua IPAA Phase	84429	Tonkin & Taylor Ltd (NZ) International Contract
Blacka, MJ, Howe, D, Carley, JT, Paice, L	Wave Overtopping Surveillance and Early Warning System, Fairy Bower (WRL2018092)	11300	Northern Beaches Council Local Government Contract
Carley, JT, Coghlan, IR, Flocard, FD	Wave runup on Long Reef walkway	7300	Northern Beaches Council Local Government Contract
Carley, JT, Harley, MD, Coghlan, IR	Pittwater Beach Erosion and Shoreline Recession Assessment	54100	Hornsby Shire Council Local Government Contract
Coghlan, IR, Carley, JT	Coastal Engineering Scoping Study for a Tidal Swimming Facility: Port River, Adelaide	20000	Estuary Care Foundation SA Inc Contract Research

WRL: WATER RESEARCH LABORATORY CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Felder, SM, Kingsford, R, Leslie, GL	Next Generation Water Engineering and River Management Hub	91327	Charles Sturt University Department of Education, Skills and Employment (DESE) Regional Research Collaboration (RRC) Program Shared Grant
Felder, SM, Suthers, IM, Kingsford, R	Phase 3: Installing Experimental Tube Fishways at NSW Weirs to develop fish passage design guidelines for new or rehabilitated barriers	26667	NSW Department of Primary Industries Recreational Fishing Trusts
Flocard, FD, Coghlan, IR, wCarley, JT	2D Physical Modelling of Armoured and Unprotected Bund Wall (WRL2021078)	195300	Advisian Pty Ltd Contract Research
Flocard, FD, Glamore, W	Review into the design, use and impacts of synthetic turf in public spaces	50000	Office of the NSW Chief Scientist & Engineer State Government Contract
Glamore, W	Improving Manning Estuary Floodplain Management - PhD Research Scholarship	20000	NSW Local Land Services State Government Contract
Glamore, W	Regional Land Partnerships Program - Shorebird Habitat Research Modelling (PhD Scholarship) - Water Research Laboratory	8000	NSW Local Land Services Department of Agriculture, Water and the Environment Regional Land Partnerships Program Subcontract
Glamore, W	Hydrological monitoring of THPSS	125000	South32 Limited Contract Research
Glamore, W	Moto Floodplain (Roche Property) Site Survey and Wetland Restoration Feasibility Update (WRL2019054)	20000	Roche Group Pty Limited Contract Research
Glamore, W	Hydrologic Assessment for Duck Creek DPI Property	50000	NSW Department of Primary Industries State Government Contract
Glamore, W	Central Coast Council Wetland Refugia Study	50000	Central Coast Council Local Government Contract
Glamore, W	Blue Heart Sunshine Coast: Blue Carbon and Blue Co-Benefits Pilot Project	106000	University of the Sunshine Coast Sunshine Coast Council Shared Contract
Glamore, W, Andersen, MS	Namoi Valley Water Balance Assessment	24000	Natural Resources Commission State Government Contract
Glamore, W, Andersen, MS	Assessing the Hydrology and Morphology of North Keeling Island Lagoon	22727	Director of National Parks Commonwealth Government Contract
Glamore, W, Harrison, AJ, Ruprecht, J	Assessing opportunities for blue carbon restoration projects across the Manning River floodplain	52725	The Nature Conservancy Australia Contract Research
Glamore, W, Ruprecht, J	Hunter River Estuary Water Quality Model (WRL2015081)	30675	Hunter Water Corporation State Government Contract
Harrison, AJ	Northern Beaches Council Lagoon Health Card	4900	Northern Beaches Council Local Government Contract
Harrison, AJ, Chaaya, FC, Tucker, TA, Glamore, W	Organic Sediment Mapping, Tuggerah Lakes	100000	Central Coast Council Local Government Contract

WRL: WATER RESEARCH LABORATORY CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Harrison, AJ, Glamore, W	Shortland WWTP overflows into Ironbark Creek	12000	Hunter Water Corporation State Government Contract
Harrison, AJ, Glamore, W	Tuckean Swamp Cost-Benefit Analysis	55000	NSW Department of Primary Industries State Government Contract
Harrison, AJ, Glamore, W	Project-level environmental economic accounting for coastal blue carbon ecosystems.	110152	Deakin University Department of Agriculture, Water and the Environment Subcontract
Harrison, AJ, Miller, BM	Pilot Modelling of Overflow Impacts on Port Stephens Oyster Harvest Areas	49150	Hunter Water Corporation State Government Contract
Harrison, AJ, Miller, BM	Assessment of sewage overflows on oyster leases in the lower Hastings River estuary	92150	Port Macquarie-Hastings Council Local Government Contract
Harrison, AJ, Tucker, TA, Chan, JW	Hydrological Assessment and Remediation Options Werri Lagoon	54000	NSW Department of Primary Industries State Government Contract
Keith, DA, Mason, TJ, Glamore, W	Implementing an action toolbox to conserve Coastal Upland Swamps in the Sydney Basin.	32140	NSW Office of Environment and Heritage (OEH) Saving our Species Research Grant
Leslie, GL, Felder, SM	SFIRP Drought resilience for turf production	360855	Department of Regional NSW Storm and Flood Industry Recovery Grants
Miller, BM	Independent Model Review-River flows project	33600	Sydney Water Corporation State Government Contract
Miller, BM, Carley, JT, Montano Luna, LE	Risks to Drinking Water Reservoirs of Petrol Motors being left attached to Vessels	40000	Victorian Fisheries Authority State Government Contract
Modra, BD	Pasay Harbor City Phase 1 2D Physical Model Test	18930	Pasay Harbor City Corporation International Contract
Modra, BD	Budgewoi Lakes (San Remo) water circulation study	12200	Optimal Stormwater Contract Research
Modra, BD, Miller, BM, Felder, SM, Montano Luna, LE, Chaaya, FC	Mt Bold Dam Safety Upgrade Concept Design - 3D Physical Hydraulic Model Study	744400	SMEC Australia Pty Limited Contract Research
Modra, BD, Miller, BM, Felder, SM, Paice, L, Jenkins, RB	Somerset Dam Physical Hydraulic Modelling	633706	SEQWater State Government Contract
O'Carroll, DM	Contamination from Per- and Poly-fluoroalkyl Substances (PFAS)	25000	NSW Environment Protection Authority (EPA) State Government Contract
O'Carroll, DM, Jones, AM, McDonald, JA, Le, TST, Colusso, AV	Enhancement of Calix Nano-Active Bio-Active Materials	25000	Calix Limited Investment NSW COVID-19 TechVoucher Shared Grant
O'Carroll, DM, Khan, SJ, McDonald, JA, Le, TST	Proposed Evaluation of Ixom's magnetic ion exchange resin for per- and poly-fluoroalkyl treatment	47509	Ixom Operations Pty Ltd Contract Research
Peng, Z, Yao, L, Vos, K	Prognostics and Deep Learning for Propulsion System Health Management - Phase-4	33333	Defence Science & Technology Group (DSTG) Commonwealth Government Contract

WRL: WATER RESEARCH LABORATORY CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Ruprecht, J, Glamore, W, Harrison, AJ	Big Swamp Monitoring Program (WRL2014086)	28427	Mid-Coast Council Local Government Contract
Sadat Noori, M, Andersen, MS, Glamore, W	Is groundwater discharge an overlooked source of methane in restored coastal wetlands?	14902	Hermon Slade Foundation & Australia and Pacific Science Foundation Australia Pacific Science Hermon Slade Research Fund
Splinter, KD	Developing Methodologies for Coastal Remote Sensing and Hazards Topic 5: Coastal hazards driven by climate variability and climate change	111453	Department of the Interior (USA) US Geological Survey Research and Data Collection Grant
Splinter, KD, Turner IL	Quantifying the impact of infiltration on dune erosion under waves & surge	115000	Australian Research Council Discovery Project
Tucker, TA	Pacific Highway Upgrade Clybucca offset properties: Hydrological assessment	54995	Transport for NSW State Government Contract
Tucker, TA	Yeramba Lagoon Monitoring	17160	NSW National Parks & Wildlife Service State Government Contract
Tucker, TA	Tomago Wetlands Rehabilitation Project - Stage 1 Monitoring	56344	NSW National Parks & Wildlife Service State Government Contract
Tucker, TA, Chaaya, FC, Glamore, W	Tomago Wetlands Rehabilitation Project - Stage 1 Monitoring	125335	NSW National Parks & Wildlife Service State Government Contract
Tucker, TA, Chaaya, FC, Glamore, W	Campvale Wetland blackwater processes study	27000	Hunter Water Australia Contract Research
Tucker, TA, Chaaya, FC, Glamore, W	Tomago North South Drain tidal flushing feasibility assessment & model	12000	NSW National Parks & Wildlife Service State Government Contract
Tucker, TA, Chan, JW, Harrison, AJ	Muddy Lake - Flushing and water quality assessment	24000	NSW Department of Planning and Environment State Government Contract
Tucker, TA, Glamore, W	Clybucca Wetlands Monitoring Program 2020-2023	30000	North Coast Local Land Services State Government Contract
Tucker, TA, Glamore, W	Woodberry Swamp drainage review	52230	Maitland City Council Local Government Contract
Tucker, TA, Ruprecht J, Glamore, W	Blue Carbon Feasibility Assessment: Pelican Bay Road properties	23200	Hunter Local Land Services State Government Contract
Turner, IL	Nearshore bathymetric inversion from lidars during extreme events -- lidBathy (Fellow - Kevin Martins)	33802	LMD-Centre National de la Recherche Scientifique European Commission - Marie Skłodowska-Curie Individual Fellowships (IF)
Turner, IL, Flocard, FD	Controlling coastlines while generating power	49617	Swinburne University of Technology ARC Linkage Project Shared Grant ARC Linkage Project Collaborating Institution
WRL TOTAL 2022		4,770,288	

CIES: Centre for Infrastructure, Engineering & Safety includes RIIS

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC Industry Transformation Research Hub for Resilient and Intelligent Infrastructure Systems (RIIS) in Urban, Resources and Energy Sectors	415,000	Australian Research Council Industrial Transformation Research Hubs
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC Industrial Transformation Research Hubs (ITRH) - RIIS Industry Partner Contribution	200,050	Kumul Petroleum Holdings Limited
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	50,000	Lindenbaum Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	100,000	Linke & Linke Surveys
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	150,000	Azure Mining Technology Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	10,000	Crypses Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	50,000	Asset Institute Limited
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	25,000	AAM Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	25,000	South East Water
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	15,000	Spatial Vision Innovations Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	50,000	Mincka Engineering Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	50,000	Spatial Information Systems Research (FrontierSI)
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	100,000	Investment NSW NSW RAAP - Co-Investment in Industrial Transformation Research Program (Hubs and Centres)
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	100,000	Emerson Process Management Australia P/L
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	50,000	Hawk Measurement Systems Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	30,000	Rockfield Technologies Australia Pty Ltd

CIES: CENTRE FOR INFRASTRUCTURE, ENGINEERING & SAFETY INCLUDES RIIS CONTINUED

UNSW INVESTIGATORS	PROJECT TITLE	APPORTIONED INCOME 2022	PARTNERS & SPONSORS
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	20,000	Hyquality Construction Pty Ltd
Khalili-Naghadeh, N, Gao, W, Shen, X, Shahbodaghkhan, B, Vahab, M	ARC ITRH -RIIS Industry Partner Contribution	20,000	Sycamore Civil Group Pty Ltd
Khoshghalb, A	Cyclic simple shear tests on tailings samples 1 & 2	26,270	ATC Williams Pty Ltd Contract Research
Kim, T	Self-Healing Concrete for Mitigation of Chloride induced Steel Corrosion	3,500	University of Technology, Sydney (UTS) ARC Discovery Project Shared Grant
Kim, T, Hajimohammadi, A	Decarbonising built environments with hempcrete and green wall technology	7,000	University of Technology, Sydney (UTS) ARC Linkage Project Shared Grant
Makki Alamdari, M	Developing an Advanced Drive-by Bridge Inspection Technology	83,982	Australian Research Council Discovery Early Career Researcher Award (DECRA)
Russell, A	Preventing mining disasters: reducing the risk of tailings dam failure	260,000	Australian Research Council Future Fellowship
Russell, A	Tailings Dams Stage 2 - Methods to incorporate suction in to data interpretation and stability assessment	50,000	BHP Billiton Olympic Dam Corporation Pty Ltd Contract Research
Song, C	Computational fracture analysis of structures and materials	135,000	Australian Research Council Discovery Project
Song, C	Ship response under corrosion, fatigue and complex sea-state environments	95,709	University of Newcastle ARC Linkage Project Shared Grant, DSTG & Pacific ESI Shared Partner Contributors
Vali Pour Goudarzi, HR	Uniaxial static and cyclic(fatigue) compression tests on standard cylinders.	26,241	Wagners EFC Pty Ltd Contract Research
Vali Pour Goudarzi, HR	Testing concrete with chain reinforcement	28,030	Rioflex Pty Ltd Contract Research
Vali Pour Goudarzi, HR	Performance evaluation of one touch couplers under service and ultimate loads	29,525	Onefab Engineering Pty Ltd Contract Research
Vali Pour Goudarzi, HR	Shear and tension testing of the timber-plasterboard joints with mechanical fasteners	33,083	Viridi Group Pty Ltd Contract Research
Vali Pour Goudarzi, HR	Buckling of longitudinal steel bars in columns	10,411	InfraBuild Steel / Contract Research
Vali Pour Goudarzi, HR	Testing of timber-steel composite floor (Strongfloor module)	5,511	Viridi Group Pty Ltd Contract Research
Vali Pour Goudarzi, H, Bradford, MA	Torsion in innovative timber composite floors	110,000	Australian Research Council Discovery Project
Vali Pour Goudarzi, HR, Chang, Z	Testing and analysis of timber I-joists	10,379	GAK Wood Pty Ltd Contract Research
Vali Pour Goudarzi, HR, Foster, SJ	Connections for hybrid steel-timber-concrete structures	110,000	Australian Research Council Discovery Project
CIES TOTAL 2022		4,216,511	



SECTION 4

OUR TEACHING

TEACHING & LEARNING COMMITTEE (TLC)

“The major drive behind the Committee’s agenda is to improve the learning experience of students.”



THE TEACHING AND LEARNING COMMITTEE (TLC) of the School is responsible for all academic matters relating to all undergraduate and postgraduate coursework programs. These involve encouraging teaching quality, providing teaching aids to staff, monitoring courses through student focus group surveys, interaction with student representatives, and setting policy regarding academic aspects of undergraduate and postgraduate examinations and enrolments. The major drive behind the Committee’s agenda is to improve the learning experience of students.

COMMITTEE MEMBERS



STEVEN DAVIS
Chair

RUTH FISHER
Deputy Chair

RICHARD STUETZ
Deputy Head (Education)

ANDREW DANSIE
Co-Year 1 Coord

TAEHWAN KIM
Co-Year 1 Coord

ELENA ATROSHCHENKO
Co-Year 2 Coord

LINLIN GE
Co-Year 2 Coord

EHAB HAMED
Co-Year 3 Coord

DIVYA JAYAKUMAR NAIR
Co-Year 3 Coord

ROBERT HOLDOM
Co-Year 4 Coord

BRUCE HARVEY
Co-Year 4 Coord (Surveying)

STEVE DAVIS
Civil Eng Program Coord

WILL GLAMORE
Enviro Eng Program Coord

ROBERT HOLDOM
Civil with Arch Program Coord

BRUCE HARVEY
Surveying Program Coord

ANDREW DANSIE
HE Program Coord

TOMMY WIEDMANN
Postgrad Coursework

FIONA JOHNSON
Elite Students Coordinator

STEVE DAVIS
Grievance officer

LINLIN GE/JINLING WANG
Industrial Training Coord

ELLIE WILLIAMS/EMMA COTTER
Teaching Support Officers

NABILA NAMIRA
Student Support Officer

CLARISSA WU
Undergrad Rep

TBA
Postgrad Rep



ABOUT OUR DEGREES

The School offers a range of engineering program specialisations in our Engineers Australia accredited degrees.



OUR FLAGSHIP DEGREE, the four-year Bachelor of Engineering (Honours) (Civil Engineering) provides students with strong skills and knowledge to enter the civil engineering industry. We also offer

- Bachelor of Engineering (Honours) (Civil Engineering with Architecture)
- Bachelor of Engineering (Honours) (Environmental Engineering)
- Bachelor of Engineering (Honours) (Surveying)
- Bachelor of Engineering (Honours) (Civil)/ Bachelor of Surveying

In 2022 over 20% of our undergraduate students were enrolled in double degrees, which are five-six years in duration. The majority of those students are enrolled in the Bachelor of Engineering (Honours)/ Bachelor of Commerce. Also available for our students are

- Bachelor of Engineering (Honours)/ Bachelor of Science
- Bachelor of Engineering (Honours)/ Bachelor of Arts
- Bachelor of Engineering (Honours)/ Master of Biomedical Engineering
- Bachelor of Engineering (Honours)/ Bachelor of Computer Science
- Bachelor of Engineering (Hons)/ Bachelor of Engineering Science (this is a combined degree of Civil & Environmental Engineering)

Humanitarian Engineering

Also available within our Civil and Environmental Engineering degrees is the Humanitarian Engineering Minor (ENGGA2) which covers a breadth of humanitarian activities from disaster response and preparedness to long-term sustainable community development within Australia and overseas. It is a complementary skill to existing engineering disciplines and prepares students to work in challenging and diverse situations to help disadvantaged and disempowered communities and individuals.



Postgraduate Coursework Degrees

UNSW Master of Engineering

- Master of Engineering (Civil Engineering)
- Master of Engineering (Environmental Engineering)

The UNSW Master of Engineering in Civil Engineering or Environmental Engineering is a two-year full-time postgraduate degree professionally accredited by Engineers Australia. This degree includes an integrated 60 days industrial training component and courses to develop technical knowledge and skills in engineering management, analysis and design.

Students undertake an extensive research project in a specific area of interest, learning valuable skills in project planning and management and the critical analysis, interpretation and communication of results. The structure of the degree also provides the opportunity for students to specialise in an area of interest such as project and construction management, transport, structural or geotechnical engineering, and water resources and wastewater treatment.

UNSW Master of Engineering Science

The MEngSc is a one-two year postgraduate degree designed for students who have a four-year accredited engineering degree, who wish to enhance their careers through cross-training, re-training or increased specialisation. To enable study by industry professionals, many of our courses are offered in the evening, as short course or partially online (blended learning). The MEngSc offers a diverse range of specialisations and subject areas, including:

- Civil Engineering
- Environmental engineering
- Geotechnical Engineering & Engineering Geology
- Project management
- Structural engineering
- Sustainable Systems
- Transport engineering
- Water engineering - Catchment to Coasts
- Water engineering - Water, Wastewater & Waste Engineering

Graduate Diplomas are also available in Civil Engineering, Environmental Engineering, Geotechnical Engineering and Engineering Geology, Project Management, Structural engineering, Transport Engineering, Water, Wastewater and Waste Engineering, and Water Engineering: Catchments to Coasts.

Some **Graduate Certificates** are also offered.





STUDENT AWARDS

2022 Dean's Awards & Honours List – Civil and Environmental Engineering

The UNSW Engineering Dean's Awards are designed to recognise the Faculty's high-achieving students – for undergraduates those who have a minimum High Distinction average (an overall cumulative myUNSW WAM of 85).

Gois, Jordan Constance	Deans Award
Ha, Christine Kieu Anh	Deans Award
Hunter, Jessica Bridget	Deans Award
Jiang, Daniel	Deans Award
Lu, Clarissa Lan	Deans Award
Ly, Ryan	Deans Award
Salvaris, John William	Deans Award
Sin, Matthew	Deans Award
Sorensen, Kieran Alexander	Deans Award
Tang, Tsz Ling	Deans Award
Wang, Jennifer Jialing	Deans Award
Wijesurendra, Shehan	Deans Award

Above: Members of the TLC at prize giving 2022.
From left, Divya Nair, Robert Holdom, Steve Davis, Bruce Harvey

The Dean's Honours List recognises high achieving undergraduate students in UNSW Engineering programs. Students who have maintained a high-grade average are included on the Dean's Honours List.

Aubourg, Zachary Nathan	Highly Commended
Boen, Sharon	Highly Commended
De Rover, Sanne Yasmin	Highly Commended
Djaidiguna, Dominique	Highly Commended
Harvey-Randev, Philippa Jena	Highly Commended
Iqbal, Maaz	Highly Commended
Luker, Max Henry	Highly Commended
Maselli, Domenic Anthony	Highly Commended
Newton, Angelina Ellen	Highly Commended
Qin, Johnny Zhao Yi	Highly Commended
Ranade, Rutika	Highly Commended
Samonte, Billy Tumbali	Highly Commended
Sutherland, Edward Cameron	Highly Commended
Tran, Aaron Hanh Nguyen	Highly Commended
Wilson, Bella Kathryn	Highly Commended
Xu, Ruishan	Highly Commended

2022 University Medallists

The University medal is one of the most distinguished awards to be bestowed on a UNSW undergraduate. We congratulate our two University Medallists in Civil Engineering **Chang Chen** and **Qi (Zoe) Jiang** on their tremendous achievement.



Above left: University Medallists in Civil Engineering Chang Chen and Qi (zoe) Jiang.

Above right: Clarissa LU Crawford Munro prize with Richard Stuetz

Student Undergraduate Prizes 2022

The School congratulates all our 2022 prize winners.

The Alexander Wargon Prize (E2K60U)

For the best performance in the Structures Discipline in the Bachelor of Engineering in Civil Engineering degree program.
2022 Winner: Chang Chen

The Australian Steel Institute Undergraduate Steel Design Award (E2K63U)

For the best performance in CVEN3301 Structural Analysis and Modelling and CVEN3302 Structural Behaviour and Design.
2022 Winner: Clarissa Lu



Yijian Liu prizes with Vicki Tester Board BOSSI

The Bossi Medal (E0953U)

For the most outstanding performance in the final year of the Bachelor of Surveying and Spatial Information Systems.
2022 Winner: Yijian Liu

The Crawford Munro Memorial Prize (E2K77E)

For the best performance in CVEN3501 Water Resources Engineering.
2022 Winner: Clarissa Lu

The EGM Memorial Prize (E0954U)

For outstanding performance in GIS courses.
2022 Winner: Yijian Liu

Engineers Australia Civil and Structural Engineering Prize (E2K66U)

For the best performance in structural design in the final year of the degree.
2022 Winner: Han Zhang

The Full Time Class of 1962 Civil Engineering and Surveying Alumni Prize (S0478E)

For the highest WAM at the end of 3rd Year to a local female in the School of Civil and Environmental Engineering.
2022 Winner: Clarissa Lu

The Jacob N Frenkel Prize (E2K62U)

For the best achievement in Civil Engineering for a first year student.
2022 Winner: Sharon Boen

The JK Geotechnics Prize (E0179U)

For the best performance in CVEN3202 Soil Mechanics.
2022 Winner: Tsz Ling Tang

The R Mather Memorial Prize (E0219U)

For outstanding performance in Geodesy courses in the Bachelor of Engineering in Surveying and Spatial Information Systems program.
2022 Winner: Jeremy Liu



Noah Coppola with Associate Professor Mohsen Kalantari

The Maurice Maughan Prize (E2K80E)

For the best student with the best total marks in GMAT2500 and GMAT2550.
2022 Winner: Noah Coppola

The Geospatial Council of Australia (previously the Surveying and Spatial Sciences Institute) Prize (E0210U)

For the best performance in remote sensing and Photogrammetry courses in the Bachelor of Engineering in Surveying and Spatial Information Systems program.
2022 Winner: Finley Phan

The Welding Technology institute of Australia Prize (E0182U)

For the best performance in CVEN3303 Steel Structures
2022 Winner: Shehan Wijesurendra

Industry-Sponsored CVEN Final Year Prize Winners - 2022

At the annual Fourth Year dinner, the following Prizes were awarded to outstanding fourth or final year students.

The Civil and Environmental Engineering Water Discipline Prize

Royal Haskoning-DHV
2022 Winner Andy Lu

The Civil and Environmental Engineering Practice Prize

Keller
2022 Winner Claire Noh

The Civil and Environmental Engineering Construction Management Discipline Prize

Beca
2022 Winner Ethan James

The Civil and Environmental Engineering Civil with Architecture Discipline Prize

ARUP
2022 Winner Sara Haider

The Civil and Environmental Engineering Environmental Discipline Prize

JACOBS
2022 Winner Sarah Lay

The Civil and Environmental Engineering Geotechnical Discipline Prize

Pells Sullivan Meynink
2022 Winner Kate Edwards

The Civil and Environmental Engineering Surveying Discipline Prize

RPS
2022 Winner Yijian Liu

The Civil and Environmental Engineering Structures Discipline Prize

Aurecon
2022 Winner Frankie Willis

The Civil and Environmental Engineering Transport Discipline Prize

Turnbull Engineering
2022 Winner Rebecca Zhao

Pride in Engineering Morning Tea

On Thursday 27th October 2022, the CEVSOC Diversity and Inclusion team hosted our annual multidisciplinary Pride in Engineering Morning Tea where students were able to connect with industry leaders over the diverse stories of LGBTQIA+ experiences within engineering. We are very proud to have brought this event in person this year in collaboration with UNSW Queer Students in STEM, UNSW Mechatronics Society, UNSW Computer Science and Engineering Society (CSESoc), ELSOC UNSW, and with the support of the UNSW Faculty of Engineering EDI Committee.

We want to thank all industry representatives who attended for taking the time to share their thoughts, experiences and



greatest lessons regarding embracing sexuality and gender identity within the workplace. We would also like to thank to all students who came to celebrate and support the LGBTQIA+ community within engineering.



CEVSOC REPORT 2022
'STUDENTS KNOW WHAT STUDENTS WANT BEST'

CEVSOC is the undergraduate student society for the School of Civil and Environmental Engineering. As a student-run organisation, we believe that students know what students want best. We provide a platform for students to interact, socialise and develop themselves both personally and professionally by hosting a wide range of events throughout the year.

2022 WAS AN IMPORTANT YEAR FOR CEVSOC as it marked the well-awaited return of classes and university life on campus. CEVSOC's primary goal in 2022 was to rebuild our School's student community post-COVID. Our aim was to help students transition back to face-to-face classes and provide ample opportunities to socialise and make friends, something that many students missed out on during the pandemic.

This year, our team was made up of 37 subcommittee members and 12 camp coordinators. These roles were recruited for over four recruitment drives across the year, with first-year subcommittee applications reaching an all-time high and doubling compared to last year's numbers. Holding a position on the committee, subcommittee or as a camp coordinator provides an excellent opportunity to develop interpersonal skills such as leadership, teamwork, and communication.

“Our aim was to help students transition back to face-to-face classes and provide ample opportunities to socialise and make friends”

“ To encourage students to meet and form long-lasting connections with their peers, we delivered over 37 events and initiatives this year. ”

To encourage students to meet and form long-lasting connections with their peers, we delivered over 37 events and initiatives this year. A few key highlights include the return of annual CEVSOC traditions such as our Professional Development Camp, Final Year Graduation Dinner, and Industry Soccer Cup, a sold out First Year Camp to orientate first year students to university and the civil engineering field, and a merchandise drop of the first ever CEVSOC tote bags and new hoodies.

We also delivered two successful programs; our CEVSOC Industry Mentoring Program which helped students develop their career and employability skills, and CEVBuddy Peer Mentoring Program which helped first year students transition from high school to university.

Sign-ups to the CEVBuddy Program this year even reached a record breaking high, showcasing the successful growth of our community.

Other new events include our AutoCAD Workshop, Inter-Uni Coastal Walk, Happy Hour with Industry Networking Night and Cocktail Night.

Another key objective for the year was to take the lessons learnt from two years of online university and improve our online presence. To achieve this, we ran online and hybrid events at the start of the year to facilitate a smooth transition back to face-to-face, we continued our diversity podcast series presenting on the topics of international students and mental health in engineering, and we launched our new website which is now live at cevsoc.com!

Through all these events and initiatives, CEVSOC was able to successfully deliver on our vision to provide as many Civil, Surveying and Environmental Engineering students as possible with the best university experience. Whether it was personal, academic, or career development, we were able to offer something for everyone.



Our successes accumulated to being awarded multiple UNSW Arc Awards at the end of the year including the:

- People's Choice Arc Club Merchandise Award for our hoodies and tote bags;
- People's Choice Arc Club Promotional Material Award for our First Year Camp cover photo;
- Arc Club Development Program Award, Highly Commended for our CEVSOC Industry Mentoring Program; and
- Arc Club Online Activity Award, Highly Commended for our MECHSOC x CEVSOC Trivia Night.

2022 was an incredible year of challenges and successes. We are grateful to have had the opportunity to serve and be the voice of our student body this year. Thank you to the School and our industry partners for your endless support of our events and initiatives.

A huge thank you also to all students involved in CEVSOC in 2022. Our events would not be possible without your attendance and we hope to continue to see you at our events in the future!

2022 CEVSOC COMMITTEE



CHRISTINE HA
President

FREDA HAN
Diversity and Inclusion Events Manager

CLARISSA LU
Learning and Development Events Manager

HENRY ZHANG
Marketing Manager

SANNE DE ROVER
Programs Manager

ANNIKKA BURGE
Social (External) Events Manager

MADDIE CLACY
Social (Internal) Events Manager

LACHLAN HO
Sports and Charity Events Manager

ALEX VORSTERMANS
Vice President

VANESSA NGUYEN
Treasurer

NIKITA SETHI
Arc Delegate

VAISHNAVI RAGIPANI
Secretary and Public Relations Manager

RUTIKA RANADE
Career Development Events Manager



SECTION 5

OUR COMMUNITY

INDUSTRY ADVISORY COMMITTEE



IAN MCINTYRE
Chair, CVEN Industry Advisory Committee
and Director at Ian McIntyre & Associates
Pty Ltd

A consultant for more than three decades (for Evans & Peck and Advisian), Ian has advised on a wide range of infrastructure, building and systems integration projects throughout Australia and Asia. He is frequently retained in “trouble shooting”, independent review and due diligence roles and has considerable experience in analysis of the reasons for project delivery problems. He is graded as an Arbitrator and is an experienced expert witness, presenter and facilitator. He is a member of four Dispute Boards on major projects and is a member of the Board in Region 3 (Australasia) of the Dispute Resolution Board Foundation.



GREG BOWYER
Manager, GHD Western Sydney,
Principal, GHD Senior Technical Director /
Infrastructure Project Director

With a background in the Australian Army, Greg specialises in managing consulting projects in the transport, energy and resources, water and property markets. He is passionate about creating leadership opportunities for junior engineers. Greg is currently driving GHD's Western Sydney community and growth, looking to integrate innovative architectural and engineering thinking, property owners, investment options, thought leadership and alternate client futures to build new and lasting communities in Western Sydney.



ANDREW JOHNSON
Principal at Arup, Structures Leader
NSW/ACT

Andrew is a structural engineer with a passion for design philosophies combining innovation with efficiency in holistic building or structural solutions. Creating elegant and functional spaces with appropriate material selection and effective direct load paths minimising material use and embodied carbon are a constant goal. His expertise includes tall buildings, hybrid structures, long-term serviceability of structures, seismic analysis and design, and long-span lightweight roof structures. He leads an integrated multi-disciplinary buildings design team in Arup's Sydney office.



LUCAS JORDAN
Senior Advisor at E3 Advisory

Lucas has 15 years' experience in the development, procurement and delivery of major infrastructure and building projects, covering both the private and public sectors. Having held key delivery roles during his time at the Sydney Ports Corporation and Evans & Peck, Lucas now specialises in commercial advisory services for major project delivery and in contractual disputes.



JESSICA QIU
Major Project Executive,
WSP in Australia

Jessica Qiu is a project executive with international charterships. She is a highly experienced project management professional with extensive experience in the conceptualisation, planning, design, management and construction of large infrastructure projects, focusing on transport, development and social infrastructure sectors. She was the president of Engineers Australia Sydney during 2020-2021 and has led various industry initiatives such as the Innovation Network, the Western Sydney Initiative, Education Support – Cradle to Graduation, Migrant Engineer Support etc.



DES SINOVICH
Head of Careers and Pathways,
St Andrew's Cathedral School.

Des Sinovich, a Careers Counsellor, has worked in several education sectors in Australia and abroad in various roles including teaching, development and leadership. He has a particular interest in curriculum relevance.



GARETH SWARBRICK
Principal Geotechnical Engineer, PSM

Moving from academia to industry, Gareth's expertise centres on tailings dam design and operation, assessment and management of mine subsidence impacts and numerical analysis. Signature projects include protection of the Upper Canal and Hume Highway during undermining, prediction of steam pressures at Lihir Gold Mine, numerical analysis of hydromechanical coupling at Olympic Dam, Brisbane Airport Link tunnel design and investigation of the Lane Cove Tunnel collapse. He is currently a Visiting Fellow with the UNSW Water Research Laboratory.



ATHENA VENIOS
Managing Director, Keller Australia

Athena is the Managing Director of Keller Australia, a leading ground engineering contractor. She is a civil engineer with over 25 years of experience in developing, designing and delivering numerous complex infrastructure projects, working both for government and in the private sector. In 2016 Athena was awarded the Judy Raper Award for Leadership in Engineering, in recognition of her sustained and significant contribution through demonstrated leadership within the profession in Australia.



NICOLE WATERMAN
Technical Leader at Laing O'Rourke

Nicole brings more than 20 years of experience in delivering complex multidisciplinary infrastructure engineering projects across Australia, Europe, the Middle East and Asia in a range of sectors including rail, commercial, cultural and civic, sports, and the water and wastewater industries. She was the Project Technical Lead for Central Station Metro working with Sydney Metro, and is a Committee Member of EA's Sydney Division.

EXTERNAL RELATIONS COMMITTEE

“
ERC members
organise the
promotion and
representation of
the School at many
presentations and
functions on and
off campus
”

ERC

THE STRATEGIC OBJECTIVES of the External Relations Committee (ERC) of the School of Civil & Environmental Engineering (CVEN) include the development of effective outreach and profile-raising programs, coordinating a suite of undergraduate student-industry annual events, as well as building and maintaining strong relationships with our external communities.

COMMITTEE MEMBERS



KURT DOUGLAS
Chair

CRAIG ROBERTS
Deputy Chair

KRISTEN SPLINTER
WRL

ALI KASHANI
CIES

ADEMIR PRATA
WRC

MEEAD SABERI KALAE
rCITI

JOHNSON SHEN
CIES

ROBERT HOLDOM
Scholarships

ERC members organise the promotion and representation of the School at many presentations and functions on and off campus. These include Engineering Information Days, UNSW’s annual Open Day, High School visits on and off campus, Women in Engineering events, participation and support at UNSW Nura Gili Indigenous Winter School, the Honeywell Engineering Summer School, and the NSW Careers Advisors Annual Conference. The Committee works closely with Faculty of Engineering at UNSW on all their external engagement endeavours. The ERC also liaises with the CVEN Industry Advisory Committee (IAC) on many projects.

In 2022, the annual Year 10 work experience week was held in September, when 90 high school students joined CVEN academics and industry partners on various sites around Sydney to experience the great world of civil and environmental engineering. The week was designed and organised by the School’s external relations and industry advisory committees, approved by the NSW Department of Education and Communities, and co-ordinated by Ms Tricia Tesoriero. 2022 marked the thirteenth year of this invaluable outreach activity.



“
The ERC also works
with the School’s
Teaching and
Learning Committee
and student society
CEVSOC to facilitate
various functions
that bring our
industry partners
”

With the end of lockdowns and pandemic precautions, the ERC returned in 2022 to its many undergraduate student-industry annual events including the highly regarded annual Elite Student/Industry Partner Breakfast, Industry prizes awarded at the CVEN 4th year dinner, and the Industry Partners Careers Market. Much of this industry partner liaison is carried out by Tamara Rouse, who also provides support to the quarterly IAC meetings.

The Committee is responsible for the management of the CVEN Primary School Maths prize, administered by Tricia Tesoriero. The ERC also works with the School’s Teaching and Learning Committee and student society CEVSOC to facilitate various functions that bring our industry partners and supporters onto campus to enhance our undergraduates’ understanding of the engineering profession.

Social media success

In 2022 the ERC continued to develop the School’s relationship with our graduates, industry and academia through our social media and e-newsletters. The introduction of the School’s LinkedIn and Twitter accounts in late 2021 was a major initiative by the ERC Chair Dr Kurt Douglas and Professor Ian Turner, Deputy Head of School (Industry & Innovation) and has been extraordinarily successful. By October 2022, our LinkedIn account had 2,549 followers and under the skilled management of Anna Blacka, our new Digital Communications Officer, regularly shares our staff and student successes, achievements and calls to action. Dr Mary O’Connell manages news and story content for our websites.

For further information on external relations, the IAC and our Industry Partnership Program contact Dr Kurt Douglas, k.douglas@unsw.edu.au.



ERC

INDUSTRY PARTNERS

The School has substantial and active university-industry partnerships, focusing our teaching and research on real-world applications. As part of our commitment to maintaining these strong links, we invite companies and organisations to join our Industry Partners Program (IPP).

“
The IPP helps fund our outreach programs with potential future students, raising the profile of the profession and its work to students in primary and high schools.
”



THE IPP HELPS FUND OUR OUTREACH PROGRAMS with potential future students, raising the profile of the profession and its work to students in primary and high schools. This includes our very successful Primary School Maths Prize and Year 10 Engineering Work Experience Week. Funds are also used to run events that link our undergraduates with our Industry Partners, such as the Industry Partners Careers day and our Elite Student Breakfast.

In 2022 the School of Civil & Environmental Engineering was delighted to welcome eight new industry partners - advisory, design and engineering consultancy Beca, Geotechnical engineering firm Douglas Partners, integrated services provider Downer, Dreyfus Advisory, surveying and planning consultancy LandPartners, Northrop Consulting Engineering Services, management consultancy firm PMO Pro, and civil & environmental engineering contractor Ward Civil to the IPP.

We are hopeful that our new and continuing industry connections will prove fruitful for our students, both current and future.

Industry Partnersin 2022

- ARUP
- Aurecon
- Beca
- CMS Surveyors
- Douglas Partners
- Downer
- Dreyfus Advisory
- E3 Advisory
- Laing O'Rourke
- LandPartners
- LTS – Registered Surveyors
- Northrop Consulting Engineering Services
- Pells Sullivan Meynink Pty Ltd
- PMO Pro
- SMEC Australia
- Taylor Thomson Whitting (TTW)
- Ward Civil
- Witt Consulting

For further information on the Industry Partners Program please contact Dr Kurt Douglas at k.douglas@unsw.edu.au



Industry Partners Careers Event 2022

Nearly 400 UNSW civil engineering, environmental engineering and surveying students registered for the 2022 annual School's Industry Partners Careers Market held at UNSW in March 2022, after two years of COVID lockdowns.

This annual event provides a wonderful opportunity for our industry partners to meet with students, identifying likely candidates for industrial training placements or graduate employment.

Our students always welcome the opportunity to talk to industry about what it's like out there, and how to get there!

Elite Student Industry Breakfast

Forty of our top students attended the 2022 annual Elite Student Industry Breakfast held in the Botanic Garden Restaurant, joined by representatives from many of the School's industry partners. It was a great event, and as usual industry representatives were impressed with the quality of our students. The room was buzzing! Thanks to Professor Denis O'Carroll for his warm welcome, and Tamara Rouse and Dr Kurt Douglas for their brilliant organising.

Big thanks to all our partners in attendance - Arup, Aurecon, Beca, CMS Surveyors, Dreyfus Advisory, Douglas Partners Pty Ltd, Downer, E3 Advisory, Laing O'Rourke, LandPartners, LTS, Northrop Consulting Engineers, PMO PRO PTY LTD, PSM (Pells Sullivan Meynink), SMEC, Taylor Thomson Whitting (TTW), Ward Civil & Environmental Engineering, Witt Consulting, and WSP.

Let the hands do the talking!





YEAR 10 WORK EXPERIENCE WEEK 2022

AN AMAZING AND EDUCATIVE EXPERIENCE



In September 2022, ninety high school students joined CVEN academics and industry partners on various sites around Sydney to experience the great world of civil and environmental engineering.

Above: Year 10 students at the Schools Water Research Laboratory

“In keeping with our aims of inclusivity and diversity, the program reached out to students from regional NSW as well as local Sydney schools.”

THE SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING'S outreach program for the Year 10 work experience week has been operating for 12 years. In keeping with our aims of inclusivity and diversity, the program reached out to students from regional NSW as well as local Sydney schools. We welcomed students from the Blue Mountains, Bowral, Central Coast, Cowra, Grafton, Illawarra, Lithgow, Lisarow, Maclean, Moree, Newcastle, Orange, Parkes, Tamworth, Wagga Wagga, and Yamba. One third of the students were girls.

The students appreciated visiting a wide variety of civil engineering sites – in progress, accomplished and still in creative development – including Barangaroo, Centennial Parklands, Richards Crookes Construction at Redfern, John Holland project at Rozelle Interchange Westconnex, Laing O'Rourke's 'Innovation Space' at North Sydney, Martin Place Metro (Arup), Multiplex New Sydney Fish Markets, Seacliff Bridge, Stanwell Tops, Sydney Gateway Project at Mascot, Sydney Harbour Bridge, Sydney Opera House, Transport for NSW, UNSW Driving Simulator Transport Lab, and laboratories at UNSW Chemical Engineering, Electrical Engineering, and UNSW Water Research Laboratory at Manly Vale.

A big shout out to our industry and event partners and their staff who opened their worlds to the enthusiastic and appreciative youngsters. As well as the

companies mentioned above, our thanks must go to City of Sydney Surveyors, CPB, LendLease and PSM for their support. You all had a remarkable impact and will have influenced many new career paths and choices. At the very least, the week increased the students' understanding of the myriad of opportunities and uses offered by a career in civil and environmental engineering.

The week was not just about viewing engineering sites or listening to brief expert lectures but required the students to engage in many group and individual exercises, as well as daily report writing. It was as one young student said, 'an amazing and educative experience.'

'The program allowed me to gain a profound insight into civil and environmental engineering and it has provided me with the information and understanding required to make definitive decisions regarding my future career.'

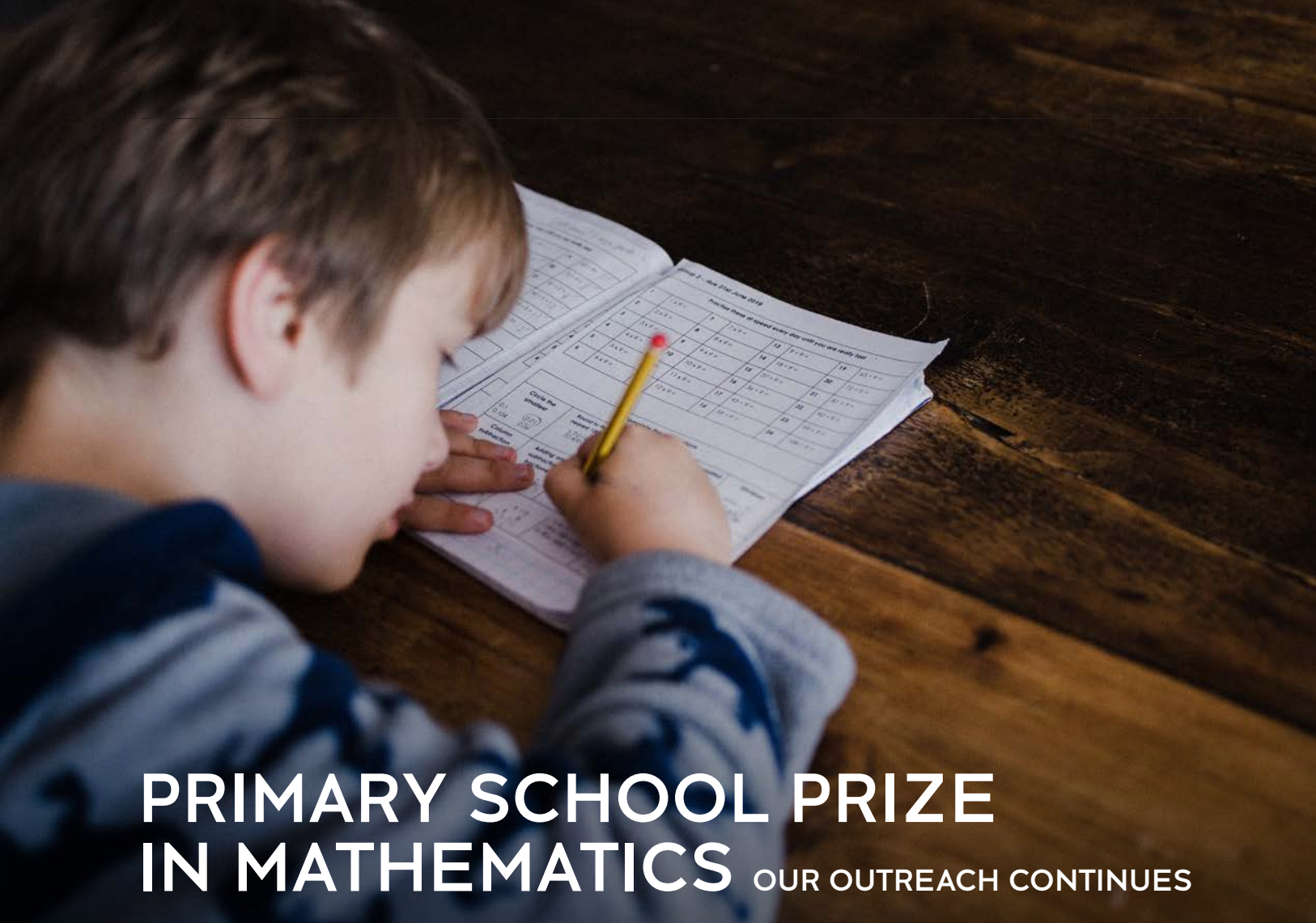
Thanks to the generous support from all our School industry partners -- whose funding makes this annual event possible.

Grateful thanks also to all the UNSW staff who dedicated their time to showcase an area of engineering – Faculty and School academics, researchers, professional and laboratory staff who were on, or supporting the outreach team, ready to guide, take care of and inspire the Year 10s!

And finally, a very special thanks to the coordinator of it all – School of Civil & Environmental Engineering Special Projects Manager Tricia Tesoriero - who in the midst of all the work and whirl, texted back to the office - 'Having a great week, the kids are brilliant and beautiful.'

Above: Year 10 students at Laing O'Rourke's innovation space

“The program allowed me to gain a profound insight into civil and environmental engineering”



PRIMARY SCHOOL PRIZE IN MATHEMATICS

OUR OUTREACH CONTINUES

The School encourages a lifelong interest in mathematics, as one of the key requirements for a rewarding, fulfilling and socially useful engineering career. The UNSW Civil and Environmental Engineering Primary School Prize in Mathematics is an initiative of the Industry Advisory Committee, developed by the School's External Relations team, and brilliantly managed by Ms Tricia Tesoriero.

“
Every year,
more NSW schools
participate in our
Maths Prize, and we
give prizes to more
than 250 students.
”

THE AIM OF THE PRIZE is to address the problem of falling numbers and interest in maths and science in the early high school years. We wanted to communicate the practical value of maths and science to students prior to that period. The School has been a significant contributor to the growing awareness on the part of schools, politicians and journalists of the mathematics crisis facing Australia.

Every year, more NSW schools participate in our Maths Prize, (currently 85) and we give prizes to more than 250 students. Selection criteria emphasise applications and creativity as well as class projects and test results.

Staff or alumni hand over the Prize at our end-of-year presentation. It gives students and parents a chance to meet a real-life engineer and talk to them about the field's opportunities and rewards.

2022 Primary Maths Prize Winners

Alexandria Park Community School

Jason Guan
Charles Humphreys
Felix McMonigal
Archie Yang

Annandale North Public School

Anna Cermack
Damon Koo
Hannah Koskie
Edward Thomas

Armidale City Public School

Subha Naomi Hoque
Lachlan Macmullen
Clara Szacsvey-Smith
Tristan Todd

Arncliffe Public School

Joshua Parker
Eashan Sampath

Australian International Academy of Education Ltd

Taym Abdulaziz
Eshan Adel
Jasmine Itaoui
Parisa Zannat

Balgowlah Heights Public School

Xiao Hong Liu
Edward Shen

Balgowlah North Public School

Noah Bardzhamian

Bankstown West Public School

Amar Achrakie
Tony Lam
Lucas Ngo
Johnny Phan

Barramurra Public School

Aadrik Prajeev
Gunveer Singh

Beaumont Hills Public School

Noyule Je
Troy Sutton

Beauty Point Public School

Jet Louie
Kabir Patel
William Scott
Matilda Sheehan
Albert Ton-That

Beecroft Public School

Isabella Choi
Lachlan Ge

Bellevue Hill Public School

Harley Blumenow
Poppy Edwards
Alon Gudes
Dylan Hall

Belrose Public School

Emily Adcock
Daniel Clegg
Zoe Davis
Ava Scicluna

Berrima Public School

Honour Behr
Lucas Shih

Blackheath Public School

Hoekstra
Jones

Blacktown West Public School

Kingsley Huang
Zulqernain Jawed
Shorya Shah
Hikmatullah Wakili

Bondi Beach Public School

Ilan Pilosof

Bondi Public School

Angus Dawson
Jacob Forwood

Bronte Public School

Luca McCarthy

Canterbury South Public School

Mariella Lee
Henry Shimada

Carlingford Public School

Archer Ha

Carlton Public School

Budmai Batzaya
Mary Chen
Aayush Ghotane
James Stepniewski

Casula Public School

Arvin Hasan
Ameera Hossain
Yu Chen Yang
Sayaan Zaman

Chifley Public School

Kingsley Grover
Luke Mitchell

Claremont College

Taka Maven

Clovelly Public School

Tamsin O'Hara

Cowra Public School

Kate Chambers
Braxton Williams

Croydon Public School

Jina Park

Daceyville Public School

Jemima Evangeline Ali Budiman
Lenny Allen

Double Bay Public School

Milla Brereton
Charles Clark
Bastien Dowlut
Jimena Garcia Acedo

Earlwood Public School

Jaden Male
Dylan Nguyen

Eastlakes Public School

Afnan Ahmed
Rebecca Lukman
Aydin Mollah
Tithi Nath

Engadine Public School

Phoebe Blissenden
Oliver Fuary
Jay Gorman
Logan Mitchell

Epping North Public School

Henry Chen
Raul Saldanha

Ermington Public School

Yvonne Lee
Evelyn Min
Rohan Pillai
Zion Widodo

Ermington West Public School

Francis Chai
Rachel Gardiner
James Lee
Joshua Visagie

Ferncourt Public School

Ari Gotleib Taylor
Tobias Ho
Xanthe Knights
Georgia Moor

Glenhaven Public School

Ryan Ballinger

Harbord Public School

Anika Humphreys
Alex Lindqvist
Frederick Saunders
David Tran

Illawong Public School

Hayden Gu
Joshua Peel
Mitchell Van Ryn

Jaspar Road Public School

Jenna Chang
Charlie Du
Eason Gu
Ethan Zou

Kambora Public School

Archie McGregor
Angus Woerlee

Kensington Public School

George Kourdis
Anton Schubert
Louis Tisdell
Jeffrey Zhang

Lawson Public School

Shane Paterson
Arlo Rassaby

Lugarno Public School

Arlington Hasse
Lexie Lin
Richelle Lin
Chelsea Wang

Manly West Public School

Rebecca Maharajan

Maroubra Junction Public School

Jeremy Bie
Thomas Doran
Evelyn Widjaja
Joseph Wong
Masada College
Daniel Lovkiy

Matraville Public School

Justin Wang

Middle Harbour Public School

James Allen
Yan Tin Chiu

Mosman Public School

Toby Cay
Maksim Kireev

Mount Colah Public School

Cameron Hooker
Eric Huang
Bodhi Rich
Alex Zhao

Mount Druitt Public School

Travis Celeban-Smith
Sneha Chandra
Georgia Peterson
Gideon Villasis

Narrabeen North Public School

Jack Beard

Niagara Park Public School

Francis Calisin
Samimal Hamim

North Haven Public School

Savannah Byrnes
Noah Crabtree
Evie Dent
Bayden Sargent

North Sydney Public School

Zade El Bakri
Billy Jones
Tori Wright
Zac Yates

Northmead Public School

Matthew Kelly
Henry Le Messurier
Natalie Merefield
Jayden Zhou

Our Lady of the Rosary Primary School

Zachary Chow
Melinda Dong
Kingsley Liong
Bryan Yaw

Pagewood Public School

Jessie Jia
Xavier Okoko
Eamon Soo
Lucas Zhang

Parramatta North Public School

Aryan Rajput
Vansh Suvarna

Picnic Point Public School

Alex Li
Joshua Lin
Lilac Suleiman
Kellan Zhang

Pitt Town Public School

Carter Chapman
Jaxson Nye
Dakota Wallace
Jordan Xuereb

Rainbow Street Public School

Liam Murray
Mingmei Zhu

Randwick Public School

Hartley Dixon-Holden

Roselea Public School

Matthew Folland
Hannah Kim

South Coogee Public School

Will Anderson
Niyati Barak
Georgie Goldsmith
Pele Kenney

St Aloysius Catholic Primary School

Flynn Coady
Patrick Hughes
Kate Middlemiss
Joshua Owens
Isla Whitford

St Declan's Primary School

Remy Argent
Kavya Khadka
Henry Moore
Zara Oh

St John Bosco Catholic Primary School

Jack Derrig

St Joseph's Primary School

Elihah Brennan
Charlotte Day
Ryan Howard
William Newman

St Spyridon College

Vasilios Katsiaras

Sylvania Heights Public School

Will Chen
Theodore Leris
Noah Mahmoud
Angelo Tokitsis

Toongabbie Public School

William Burke
Henry Naing

Toongabbie West Public School

Hannah Cho
Adithya Saale

Turramurra Public School

Harry Birtles
Lucy Chen
Chloe Lee
Lachlan Smith

Ulladulla Public School

Liam Clarkson

Ultimo Public School

Charles Hau
Skyler Phoon

Warrawee Public School

James Boardman
Connor Chung
Christopher Lee
Tammy She

West Pennant Hills Public School

Miles Jia
David Mo
Jayden Shi
Ray Zhang

West Ryde Public School

Sonam Hattangadi
Henry Orton
Katelyn Sirimat
Collin Wu

Wheeler Heights Public School

Cameron Howard
Zardi Lebmeier
Taj Timosevski
Millicent Welburn

Wollondilly Anglican College

Vivian Hearne
Hayley Waites

Woollahra Public School

Aritya Arjunan
Aidan Kamal
Allegra Kennedy-Scott
Shafayat Khan

DIAMOND OR GOLDEN

THEY ARE STILL PRECIOUS TO US!

In May 2022, two groups of loyal alumni hosted their reunions on campus.

“
Two groups
of loyal
alumni hosted
their reunions
on campus.
”



OUR 1962 ALUMNI celebrated their 60th anniversary with lunch at the UNSW Lounge. They were joined by the Dean of Engineering Professor Stephen Foster, whose father Doug had taught many of them, and CVEN surveying academic Dr Bruce Harvey.

The group have enjoyed interesting and varied careers. Over the course of their working lives, the alumni have seen and experienced so many changes – as Mal Dennet noted, ‘in surveying from simple theodolite, level, staff and chain to satellites and GPS; and in design from slide rule, drawing pens and T square to super-fast computers, design programs, CAD.’

Later that month, a Golden Jubilee reunion of members of our surveying Class of ’72 celebrated with a lunch at the UNSW Lounge, attended by 23 alumni, five with partners, three former surveying academic staff (Len Berlin, Dr Tony Robinson, and Emeritus Professor John Trinder) and the Head of School of Civil & Environmental Engineering Professor Nasser Khalili.

A PowerPoint display shown at the lunch included photos contributed by several alumni of various staff and student activities during their time of study, many from adventurous survey camps (including one seemingly spent primarily panning for gold!)

The group was then provided with a guided tour of the Civil and Environmental Engineering Building, with Dr Bruce Harvey also giving alumni a brief overview of the present courses available to our students.

Congrats to all our alumni and thank you for coming back to campus!

ALUMNI



Top image: 50th Anniversary Reunion of the 1972 Class of Surveying Graduates at UNSW on 24 May 2022 - Lunch in 'The Lounge', UNSW Front Row (L to R): Event Organiser Ron Lister (1972), Len Berlin (retired Surveying Lecturer), Emeritus Professor John Trinder (retired Surveying Lecturer), Dr Tony Robinson (1962 alumnus & retired Surveying Lecturer) & Ian Lloyd (1972)
Rear (L to R): Bill Pigg (1972), Geoff Meers (1972), David Loomes (1972), Phillip Smith (1972), Bob Hanna (1972), Robert Hanger (1973), John O'Keefe (1972) (partially obscured), Bob Harrison (1973), Grahame Kelly (1972), Dennis Clarke, co- event organiser (1972), Malcolm Drummond (1972), Dennis Daly (1972) (partially obscured), Rick Dunstan (1972), Jim Steed (1972), Terry Cooke (1973), Joe Blicharz (1972) & Ken Sullivan (1972) (partially obscured)
Absent from photo: Peter Friedmann (1973), Ian Jones (1972) & Jim Ollis (1973)

Lower image: L-R: Dr Bruce Harvey from CVEN Surveying, Ron Benjamin, Tom Crow, Bruce Christian, Mal Dennett, John Moran, Prof Stephen Foster Dean of UNSW Engineering, Ian Hope, Tony Robinson.

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