

DAY 1

Short talks: highlights from Arts, Design & Architecture

Wednesday 26 November | 9.30 – 10.30am

UNSW'S
**Education
Festival**

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AI and Blended Learning for Connection: Using Educational Technology to Bring Students Together

Presenters: Dr Sara Mashayekh, Dr Ali Darejeh

Abstract

This presentation will explore strategies for using AI and blended learning to bring students closer together rather than isolating them. Drawing on UNSW teaching examples, it will illustrate how collaborative AI-powered tools, structured online discussion activities, and scaffolded assessments can actively foster student-to-student interaction and build supportive peer communities. Particular attention will be given to the ways these approaches can help reduce disconnection in large and diverse cohorts, where feelings of isolation are often most pronounced.

The session will also highlight practical strategies for embedding inclusion, integrity, and interactivity within course design. Examples will include designing low-barrier opportunities for peer collaboration, using AI to personalise feedback while still encouraging human connection, and creating blended learning structures that support students' sense of agency and belonging including in large lectures.

Participants will leave with concrete, transferable strategies that they can apply in their own teaching contexts to better connect students through technology. In doing so, the presentation directly supports UNSW's impact goals by strengthening student belonging, resilience, and engagement through thoughtful and ethical uses of educational technology.



Dr Sara Mashayekh

Dr Sara Mashayekh specialises in inclusive education, culturally responsive teaching, and preparing teachers to work effectively with diverse and marginalised communities. Her research focuses on how power and inequality shape educational experiences, and how ethical research practices can drive positive change. She also explores how educational technologies, including adaptive learning systems, artificial intelligence (AI), and immersive technologies, can help create more equitable, engaging, and personalised learning environments.



Dr Ali Darejeh

Dr Ali Darejeh is an associate lecturer at UNSW specialising in AR and VR, brain-computer interfaces, serious games and educational technology. His research integrates emerging technologies with psychological and educational theories such as cognitive load, self-determination and constructivism to improve motivation and learning. He designs software for learners with diverse needs and develops innovative e-learning platforms. He also brings many years of industry experience as a UX researcher and gamification designer across several sectors.

Skills as a bridge: Connecting curriculum to societal impact

Presenters: Stephen Doherty, Jennifer Perkins and Josephine Holecek

Abstract

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Prof. Stephen Doherty

Professor Stephen Doherty is a psychologist at UNSW Arts, Design & Architecture and Deputy Dean (Education). He leads the Language Processing Research Lab, bridging psychology, education, and technology. With over \$3M in research funding and \$50M in education projects, he partners widely across sectors. Leading six Schools, 1,000 staff, and 14,000 students, he drives strategic, future-focused educational innovation, fostering inclusive excellence, technology-enhanced learning, and outstanding student experiences across 127 programs.



Jennifer Perkins

Education Excellence Manager and Doctoral Candidate at UNSW's Faculty of Arts, Design & Architecture. With two decades of teaching and leadership experience in the US and Australia, she holds a Master's in Educational Leadership. In her role at UNSW, she drives education strategy, overseeing program design, WIL, and lifelong learning. She focuses on embedding innovation, pedagogical excellence and student-centred outcomes across the Faculty. Her research explores sense of belonging and pedagogy in higher education, and she is passionate about innovation, collaboration, and enhancing the student experience.



Josephine Holecek

Josephine Holecek is the Educational Program Manager for the ADA Skills Passport, a UNSW strategically aligned, Faculty of Arts, Design & Architecture initiative that bridges the gap between learning and employability. She brings over 15 years of experience in higher education, with leadership and management roles spanning operations, project delivery of large – scale initiatives, and strategic change. Her most rewarding contributions have been those that directly enhance the student experience.

Trailblazing Collaboration: Embedding Circularity and ESG into Environmental Management Education

Presenters: Tania Leimbach and Tracy Tran

Abstract

Our presentation highlights how UNSW is operationalising collaboration through a course uplift in the Master of Environmental Management (HAL/ADA), delivered in partnership with the Trailblazer for Recycling and Circular Economy (TRaCE). In this session, we'll share practical insights into co-designing elements of the curriculum for IEST5021 Corporations, Capitalism and Transforming Environments. The 2025 course uplift process featured meaningful engagement opportunities with the TRaCE team and the UNSW SMaRT Centre to enhance student learning and impact, and the development of an industry-aligned assessment.

Established by the Australian Department of Education, TRaCE builds research capability and accelerates translation and commercialisation in priority areas of the Modern Manufacturing Strategy. Led by UNSW and the University of Newcastle, TRaCE fast-tracks research to market to meet net-zero demands, including co-developing educational experiences with industry to build workforce capacity in recycling and clean energy.



Dr Tania Leimbach

Tania is a member of the Environment & Society Group (HAL/ADA) and convenes courses in the Master of Environmental Management, nurturing future change-makers. Her work focuses on youth-led climate solutions, educator capacity-building and innovative climate change pedagogy. With a PhD from UTS's Institute for Sustainable Futures, Tania's transdisciplinary research and teaching is informed by systems thinking and broadly spans renewable energy, circular economy and regenerative agriculture. She continues to bridge research, teaching, and public engagement to advance transformative climate and sustainability education.



Tracy Tran

Tracy Tran is a Program Manager at the Trailblazer for Recycling and Clean Energy (TRaCE) and Student Equity. She is passionate about diversity, equity and inclusion in tertiary education and has held multiple roles at UNSW and Torrens University. Her focus is on improving access, participation and success for students from underrepresented backgrounds through establishing and maintaining equity pathways at UNSW, including Recognition of Prior Learning (RPL) and VET pathways.

DAY 1

UN SDGs in education in action

Wednesday 26 November | 11.00am – 12.00pm

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Data Storytelling and the SDGs

Presenter: Dr Poon Leung

Abstract

How can Data Storytelling be used to inspire meaningful change? In this presentation, Poon shares how embedding the UN Sustainable Development Goals (SDGs) into COMM2501: Data Visualisation and Communication challenges students to rethink how they use data. Instead of simply presenting the results of analysis, students learn to craft compelling, purpose-driven stories that advocate for sustainability. By anchoring their work in an SDG of personal relevance, students connect emotionally with global issues, build evidence-based narratives, and propose actionable solutions. The result? A new generation of professionals who use data not just to describe the world, but to change it.

The presentation will highlight pedagogical design, student outcomes, and how this model fosters intrinsic motivation and sustainability-oriented thinking in future professionals.



Dr Poon Leung

Poon is based in the School of Risk and Actuarial Studies (RAS) in the UNSW Business School. He has a keen interest in helping students get a head start on their future careers through data storytelling. He is also currently exploring Competency Based Assessment.

UN SDG Challenge for 1st years

Presenters: Dr Natalie Oh and Ms. Ritu Patel

Abstract

The UN SDG Challenge empowers first-year students to address global issues, supporting UNSW's "Progress for All" through purpose-driven education. As a cocurricular initiative, it employs a tripartite teaching model connecting community groups, student societies, and industry. Participants address real-world SDG challenges for community organisations while developing consulting and problem-solving skills with guidance from peers and industry mentors. This approach bridges theory and practice, fosters empathy, and enriches the first-year experience. By enhancing engagement and providing insights for industry and community partners, the Challenge strengthens students' academic journeys and elevates the overall university experience—an essential priority for UNSW.



Dr Natalie Oh

Natalie is a finance academic at UNSW's School of Banking and Finance, with a strong focus on education and social impact. Committed to 'education for all,' she develops inclusive financial programs addressing challenges such as the gender gap, empowering diverse and marginalised groups. Her research, published in leading international finance journals, translates academic insights into practical financial education. Her contributions have been recognised with the award of Senior Fellow of the Higher Education Academy (SFHEA).



Ms Ritu Patel

Ritu Patel is a final-year Information Systems (Co-op) (Honours) student at UNSW Business School and President of the Global Consulting Group UNSW. Passionate about sustainability and experiential learning, she and her team at GCG have helped organise the UN SDG Challenge for First Years, which engages students in developing innovative business solutions aligned with the UN Sustainable Development Goals. Ritu aspires to continue creating opportunities that empower others and advance sustainable innovation.

DAY 1

Short presentation

Wednesday 26 November | 12.00 – 12.15pm

Developing Critical Thinking on Social License Through Assessment

Presenters: A/Prof. Simit Raval, Celine Gironda

Abstract

Rationale: Engineering students often perceive social aspects of their discipline as peripheral. Yet, these dimensions require critical thinking—essential for analysing and synthesising qualitative information that contrasts with engineering’s quantitative focus. Conventional assessments typically prioritise logical reasoning and closed-form problem-solving, limiting opportunities to develop broader competencies such as ethical reasoning, social awareness, and understanding of engineering’s societal context.

Teaching Action (Raval): To address this gap, assessment methods were redesigned in two non-numerical mining engineering courses: MINE390 (Socio-Environmental Aspects of Mining, undergraduate) and MINE8780 (Environmental Management for the Mining Industry, postgraduate). The updated approach aimed to prepare students for real-world challenges with community impact. Key features included enhanced feedback loops, greater opportunities to demonstrate understanding, support for autonomous learning, and an emphasis on collaborative environments.

Learning Reflection (Gironda): Student reflections indicated that the new assessment structure—though unconventional for engineering—was highly effective in reinforcing learning outcomes. Tasks were broad in scope yet intellectually demanding, encouraging fostering critical thinking beyond technical content, and supporting both independent inquiry and teamwork. Students reported gaining competencies that extended beyond technical expertise, including a deeper recognition of the social dimensions of engineering and their influence on professional judgement.



A/Prof. Simit Raval

A/Prof. Simit Raval is a passionate advocate for technology-enabled learning and teaching, recognised through six teaching awards, including the International Tim Shaw Award for Innovation in Teaching and Learning (2018) and the UNSW Vice-Chancellor’s Award for Outstanding Contributions to Student Learning (2020). He specialises in the integration of smart sensing technologies and leads the Laboratory for Imaging of the Mining Environment (LIME) at UNSW.



Celine Gironda

Celine Gironda is a 4th Year Mining Engineering student currently completing her Honours thesis. Since 2021, Celine has worked part-time across several sites within the mining industry, gaining invaluable first-hand experience which complements her academic studies. Celine enjoys applying what she learns throughout her course to her professional work as she develops her career in the mining industry.

DAY 1

New cross-school societal impact challenge projects in Science

Wednesday 26 November | 1.00 – 2.00pm

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Welcome and Introduction to Faculty of Science Societal Challenges

Introduction to Faculty of Science Societal Challenges themes and launch of the 'cross-school Science challenges'

Plans for Faculty of Science Societal Challenges: lessons learnt and ways forward

Presenters: A/Prof. Scott Mooney, A/Prof. Rebecca LeBard, Dr Ben Montet, Prof Angela Moles

Abstract

This series of short presentations represents the introduction and close of the Faculty of Science (FoS) talks at the 2025 Edu Fest. The presentations introduce the UNSW Science Strategy 2035, which is built around the university-wide Progress for All plan, and aims to address global societal challenges through science, leveraging our unique strengths to contribute to a more sustainable, prosperous and equitable future. In this session we highlight several educational initiatives within the FoS that fall within UNSW strategic pillars and the Societal Impact Framework. The session concludes with a panel discussion which will focus on our 2026+ plans to continue to transform education within these spheres at UNSW Science.



A/Prof. Scott Mooney

Scott is a UNSW Nexus Fellow and Associate Professor and Deputy Head of School in the School of Biological, Earth & Environmental Sciences. While research active (with a focus on past climate and fire activity in eastern Australia) he has maintained a focus on teaching and learning and academic administration. Scott is currently co-leading the Faculty of Science Working Group which is incorporating societal challenges into our education portfolio. He is a Fellow of the Institute of Australian Geographers (FIAG, 2012) and a Senior Fellow of the Higher Education Academy (SFHEA, 2022).



A/Prof. Rebecca LeBard

Rebecca is Associate Dean Education, Innovation and Student Experience for the Faculty of Science, and Director of First Year in the School of Biotechnology and Biomolecular Sciences. She is a Fellow of the UNSW Scientia Education Academy and Senior Fellow of Advance HE and has a record of teaching excellent recognised by an Australian University Teaching Award for Contributions to Student Learning and UNSW Vice Chancellor's Award for Teaching Excellence. Her discipline contribution was most recently recognised with an Australian Society for Microbiology Distinguished Service Award (2024).



Dr Ben Montet

Ben Montet is a Scientia Senior Lecturer in the School of Physics at UNSW and leads the NEarby Worlds and Their Stars (NEWTS) group. Ben's research involves the detection and characterisation of planets orbiting stars other than the Sun, and developing new methods to better understand the evolution of stellar magnetic activity. Ben was involved in the development of SCIF2001 Level 2 Research Skills and is the Course Convener for its inaugural (T3 2025) offering.



Prof. Angela Moles

Professor in the School of Biological, Earth & Environmental Sciences

Cross-school Science challenges with the School of Biotechnology and Biomolecular Sciences (BABS) SINC Challenge

Presenters: Dr Dominic Glover, Dr Gee Chong Ling

Abstract

The **Science Innovation Next-Gen Creator (SINC) Challenge** is a collaborative, student-led initiative designed to foster research-integrated learning. In 2025, a team of seven undergraduate students embarked on an ambitious project to address the growing environmental issue of microplastics. Working closely with three BABS academics and PhD candidates as mentors, the team explored advanced concepts in synthetic biology, including DNA modification, protein expression, and enzyme activity characterisation.

Their innovative goal was to engineer *Shewanella oneidensis*, a naturally occurring marine bacterium, to express two key enzymes – PETase and MHETase – known for their ability to break down polyethylene terephthalate (PET) plastics. By introducing these enzymes into the bacterium, the team aimed to create a dual-function organism capable of degrading microplastics while simultaneously generating electricity through its native electrogenic properties.

This project not only showcases the power of interdisciplinary collaboration and student-driven research, but also highlights the potential of synthetic biology in developing sustainable solutions to global environmental challenges.



Dr Dominic Glover

Dom's research harnesses synthetic biology to engineer proteins into structured, functional biomaterials. By designing ultrastable protein building blocks that self-assemble into precise nanostructures, his work enables applications in biosensing, enzyme catalysis, metabolic engineering, and regenerative medicine. With advances in protein folding prediction, Dom creates materials with atomic-level accuracy, opening new frontiers in biofabrication.



Dr Gee Chong Ling

Dr Gee Chong Ling is a Senior Lecturer at UNSW's School of Biotechnology and Biomolecular Sciences. A microbiologist by training, he teaches Biochemistry, Genetics, and Molecular Biology. His research focuses on microbial biofilms, surface interactions, and antimicrobial resistance in marine environments. Passionate about educational innovation, he embeds Students as Partners into his teaching, co-designing learning experiences with students through a five-step process that fosters empowerment, reflection, and community building.

Student co-presenters: Lilla Irwin, Jennifer Liana, Viina Kalyani, Holly Smith

Student participation in authentic research projects: SCIF2001 Level 2 Research Skills

Presenters: Dr Ben Montet, A/Prof. Scott Mooney

Abstract

SCIF2001 Level 2 Research Skills is a new initiative in the Faculty of Science, and it has been offered for the first time in T3 this year. The course was specifically designed for the involvement of Advanced Science (Honours) (Program 3962) students in the rich research environment that occurs within the Faculty of Science. In this presentation we will discuss the CLO for SCIF2001 and student participation in authentic research projects more broadly. Students in SCIF2001 in T3 2025 have participated in a variety of group projects, which were either disciplinary or interdisciplinary, and many addressed UNSW Societal Impact foci or Science challenges. The presentation includes a panel of SCIF2001 student ambassadors to discuss their projects and reflect on their learning in the course.



Dr Ben Montet

Ben Montet is a Scientia Senior Lecturer in the School of Physics at UNSW and leads the NEarby Worlds and Their Stars (NEWTS) group. Ben's research involves the detection and characterisation of planets orbiting stars other than the Sun, and developing new methods to better understand the evolution of stellar magnetic activity. Ben was involved in the development of SCIF2001 Level 2 Research Skills and is the Course Convener for its inaugural (T3 2025) offering.



A/Prof. Scott Mooney

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Student co-presenters: Angelique Nguy, Jianing Mao, Aysha Ayoubi, Angelina Lu

DAY 1

**Resilience, Security and Cohesion Through Innovation
and Education | Hosted by UNSW Canberra
Wednesday 26 November | 2.00 – 3.00pm**

Head in the clouds – geographic digital twinning to promote digital innovation and equity in physical geography

Presenters: Dr Alissa Flatley

Abstract

This presentation presents a progress report from a Geographic Digital Twinning project that has embedded emerging technologies to promote digital innovation and equity in physical geography. At UNSW Canberra we are in the process of developing digital twins and virtual reality experiences to achieve two key aims: The first is to improve the digital representation of geomorphic phenomena to provide realistic and high-tech access to field experiences through VR digital twinning technology. The second purpose is to further embed these emerging spatial technologies within physical geography modules to provide experiential learning opportunities for students to undertake high-precision terrestrial-based mapping. This project provides benefits to UNSW Canberra's geography curriculum by updating the practical elements of several physical geography modules, whilst providing complementary digital exercises to improve parity in the discipline. This project uses mobile handheld terrestrial laser scanner to scan sites at high resolution to create a dense point cloud that is used to create a digital twin of these spaces for integration into VR headsets. This workflow recreates an exact scene for the end user to interact with in virtual reality, providing students with a realistic experience of fieldwork allowing them to visualise geomorphic processes in an engaging way.



Dr Alissa Flatley

Dr Alissa Flatley is a lecturer in physical geography at UNSW, Canberra. She is interested in the integration of digital tools for improved visualisation and understanding of landscape processes. In previous teaching roles she has drawn on digital twinning technology to provide virtual experiences for students. In 2025, she was a successful recipient of the UNSW Canberra Education innovation grant to develop new approaches to addressing educational challenges.

Secure Escape: AI-Resilient Cybersecurity Education Through Interactive Assessment Rooms

Presenter: Dr Fida Hasan

Abstract

Cybersecurity governance and policy courses often face a pedagogical challenge: students perceive them as less engaging than the hands-on, technical courses that dominate cybersecurity education. To address this, Secure Escape introduces an innovative, immersive learning environment designed to enhance engagement while safeguarding academic integrity in the age of Generative AI (Gen-AI). Developed in Unity 3D, this virtual escape-room-style assessment transforms traditional formative and summative tasks into interactive problem-solving experiences. Students navigate real-world governance and policy challenges, applying theoretical knowledge in a simulated cybersecurity office setting.

The project exemplifies UNSW's Progress for All strategy, advancing societal resilience and security through accessible education, leading research, and collaborative innovation. Early implementation in ZSPS2116 Enterprise Cybersecurity Governance and Policy has shown strong student engagement and positive learning outcomes. Scholarly outputs include acceptance at ISSOTL 2025 (New Zealand) and a forthcoming journal submission.

Future work focuses on evaluating the pedagogical impact of immersive, game-based learning through mixed-methods research, expanding to fully immersive (VR-based) assessments, and building partnerships with defence, government, and industry to scale AI-resilient cybersecurity education.



Dr Fida Hasan

Dr Fida Hasan is an Academic in Cyber Security at UNSW Canberra. He is a Fellow of the Higher Education Academy (UK) and Harvard (UNSW) certified academic in Higher Education. He currently focuses on enterprise cyber governance, post-quantum cryptography, and trustworthy AI. Passionate about impactful learning and industry collaboration, Dr Hasan combines technical expertise with educational leadership. A 2025 UNSW Education Innovation Fund recipient, he leads the 3D Cyber Escape Room project, advancing generative-AI-resistant learning and Progress for All.

Drop-in centre for collaborative learning

Presenter: Dr Tristan Reekie

Abstract

Students within the Bachelor of Science program only spend a limited time within the school. They may enter our buildings to come to a lab session or speak to a lecturer, but most teaching spaces are centralised and separate to the individual schools. This means that a science community amongst our undergraduates is lacking, as we don't provide any spaces or resources for those in the science degree to study. This makes a significant change to what most of our students are familiar with having come from a high school environment which generally has a well-established community. This makes the change from high school significant and can lead to students struggling. This is even more exacerbated at UNSW Canberra, given the nature of our undergraduate cohort which has the strong divisional community tied to the military, but not for their degree.

This presentation will detail how we established a drop-in centre within the School of Science, some of the pitfalls and challenges associated with its establishment and the successes.



Dr Tristan Reekie

Tristan is a teaching and research academic at UNSW Canberra where he serves as Chemistry discipline coordinator and first-year coordinator. In 2024 he received the Education innovation grant to establish a Science drop-in centre to engage students in learning and help build a community amongst the undergraduate cohort. He has a strong interest in research led teaching and engaging students in education.

DAY 1

Workshop: Program-level thinking & embedding

Indigenous Knowledges in Curriculum

Wednesday 26 November | 3.15 – 4.00pm

Embedding First Nations Knowledge Systems: Redesigning Assessment from Program and Programmatic Perspectives

Hosted by UNSW Medicine & Health Nexus in collaboration with Blakcademy

Abstract

This interactive workshop explores how Indigenous epistemologies of relationality, reciprocity, and shared responsibility can guide program-level and programmatic approaches to curriculum design in health and beyond. Participants will engage in yarning-based reflection and collaborative mapping to integrate Indigenous Knowledges, inclusion, and integrity within assessment and capability-building frameworks that enable societal impact and cultural responsiveness.

Presenters

The UNSW Medicine & Health Nexus team leads innovation in education by fostering academic–professional collaboration to enhance program coherence, assessment design and student experience. The team advances program-level and programmatic assessment approaches aligned with Faculty education strategy, integrating evidence-informed practice, capability development and cultural responsiveness to strengthen learning and teaching across disciplines. The Nexus team, Diana Turnip, A/Prof. Priya Khanna Pathak, Dr Daniela Castro de Jong and Prof. Patsie Polly, are enthusiastic advocates for program-level and programmatic approaches that build coherence, belonging and impact across curricula at UNSW Medicine & Health.

The Blakcademy is the Academy of First Nations Health Education and Research at UNSW Medicine & Health. It is a place of strength, truth, and knowledge-sharing that amplifies First Nations voices, advances self-determined health education and research, and cultivates culturally safe, relational, and reciprocal practices that transform curriculum, assessment, and governance across the faculty. The Blakcademy team, led by A/Prof. Melody Muscat, includes Anthony Nicholls, Miriam Cavanagh, David Meharg, John Towney, Lauren Carr and Karen Hielscher, who work collaboratively to embed First Nations Knowledge Systems in teaching, learning and assessment across UNSW Medicine & Health.

