UNSW SYDNEY

UNSW Engineering

Equity, Diversity, and Inclusion (EDI) Strategy 2023-2027 White Paper

Contents

2 Acknowledgement of Country

4 Equity, Diversity & Inclusion at UNSW Engineering

5 Connection to the UNSW Division of Equity, Diversity and Inclusion

6 Our Commitment to Equity, Diversity & Inclusion

7 Our Approach to Equity, Diversity & Inclusion

13 Timeline

14 Get involved

Acknowledgement of Country

UNSW acknowledges Aboriginal and Torres Strait Islander peoples and their knowledges and traditions as the oldest continuing cultures on earth. We pay our respect to Elders both past and present. UNSW is located on the unceded Country of the Bidjigal (Kensington campus), Gadigal (Sydney City and Paddington Campuses) and Ngunnawal peoples (UNSW Canberra) who are the Traditional Custodians of the lands where each campus of UNSW is situated.

Equity, Diversity and Inclusion at UNSW Engineering

A diverse university is one that understands and values the differences of staff and student members, including those who are underrepresented. At UNSW Engineering, we are creating fair access and opportunities for all, and building equity into our processes to remove structural barriers. We are engaging our staff and students in an inclusive culture, where their contributions and opinions are encouraged and valued, giving everyone a sense of belonging.

UNSW Engineering is within the top 50 universities globally. We believe that key to this is establishing an equitable, diverse, and inclusive faculty where all our staff and students can fully participate and succeed. This aspiration is motivated by moral and ethical reasons, and because we recognise that only through embracing diversity, can we truly innovate[1]. Humanity has the right to access healthcare, food, clean water, and energy; our engineering innovations should therefore be accessible to all. By holding the principles of equity, diversity and inclusion at our core, we will influence the quality, suitability, and allocation of our transformational and sustainable solutions, enhancing quality of life in an ethical way. As a global institution that strives to have a positive societal impact, we believe our research is fundamental to enabling change, and our education is key to actioning change.

We are excited and encouraged at the manner with which many within our Faculty, and UNSW more broadly, have already engaged in the development of this strategy and are delighted to present our White Paper: Engineering Equity, Diversity and Inclusion (EDI) Strategy 2023-2027.

Prof Rita Henderson
Deputy Dean
(Societal Impact & Translation)

Prof Stephen Foster
Dean, UNSW Engineering

[1]Parrotta P, Pozzoli D and Pytlikova M, 'The Nexus Between Labor Diversity and firm's Innovation', Journal of Population Economics, first published online 23 October 2013; Jones, G., Chirino Chace, B. and Wright, J. (2020) Impact of diversity on innovation. International Journal of Innovation Science 12(3), 323-343. Wulf. WM.A., "*Ch4. The Importance of Diversity in Engineering*" in Diversity in Engineering: Managing the Workforce of the Future. The National Academies Press, 2002. https://www.nap.edu/read/10377/chapter/4.

Connection to the UNSW Division of Equity, Diversity and Inclusion

UNSW Engineering is proud to support the Division of Equity, Diversity and Inclusion to implement the overall UNSW EDI Strategy 2022-2025 and contribute to achieving the UNSW S2025 Vision for the EDI Theme *To be recognised as an international exemplar in equity, diversity and inclusion. Our success should be built on the diversity and cultural richness of our communities, ensuring our students and staff achieve their full potential*. The UNSW EDI strategy can be found here: edi.unsw.edu.au/about-us/strategy-2025

Of the four strategic pillars within the UNSW EDI Strategy: Access, Equity and Inclusion; Sustainable Development; UNSW Disability Innovation Institute and UNSW Institute for Global Development, Engineering will focus in particularly on supporting Access, Equity and Inclusion, which aims to build a welcoming, diverse UNSW where everyone can participate in a fair, safe and respectful environment, and Sustainable Development which aims to align with, coordinate and promote UNSW's activities in line with the United Nation's (UN) Sustainable Development Goals (SDGs). We look forward to expanding our activities in these two important areas and collaborating closely with the Division of EDI to achieve these goals.

Message from Associate Professor Bruce Watson, Deputy Vice-Chancellor Equity, Diversity and Inclusion (Acting), UNSW

UNSW Engineering has engaged with and contributed enthusiastically to UNSW's Equity Diversity and Inclusion aspirations and goals from their inception in 2016. The faculty is building on initiatives and commitments prior to 2016 with Women in Engineering and the Humanitarian Engineering Committee, both of which have evolved and grown to be exemplars in the sector. It has developed many programs to progress EDI since then and has contributed enormously and successfully to broader university equity work with for example, Prof Laura Poole-Warren (Biomedical Engineering) followed by Prof Lucy Marshall (Civil and Environmental Engineering) as the initial chairs of the Science in Australia Gender Equity (SAGE) Athena SWAN Self-Assessment Team (SAT). Their work led to UNSW attaining Bronze and now moving to apply for Silver in the national Athena SWAN program. There are numerous other examples of Engineering achieving marvellous social justice and SDG outcomes like increasing the enrolment of women in Engineering by 78%, the increase by 60% of women in senior Engineering academic roles, courses in Humanitarian Engineering and the Global Water Institute's ground-breaking work in partnership with the Aboriginal community in Walgett.

This new EDI strategy embeds Engineering's continuing commitment to an 'equitable, diverse, and inclusive university where all our staff and students can fully participate and succeed' in its teaching, research, and industry partnerships. It is founded in deep engagement and consultation with UNSW Engineering's community of staff and students.

The strategy's four pillars of Creating an equitable and diverse workplace, Providing underrepresented students with equitable opportunities, Achieving global impact in EDI, and Supporting and engaging in an inclusive and safe culture, provide Engineering with a robust framework in which to achieve and measure its EDI goals and outcomes.

It is energising and exciting to see Engineering instilling EDI into its life and work. I'm delighted to be partnering with the faculty in its ambition to contribute to the SDGs and a more just society and value greatly the enthusiastic support of the Dean, Prof Stephen Foster and his leadership team and congratulate Prof Rita Henderson, Deputy Dean (Societal Impact & Translation) on this fine strategy.

Our Commitment to Equity, Diversity, and Inclusion

The last 8 years have seen the introduction of new governance arrangements and initiatives, both in our faculty and university-wide, specifically developed to achieve positive change in relation to equity, diversity, and inclusion (EDI). Key initiatives marking the commencement of our EDI journey were the beginning of our Women in Engineering (WIE) Program in 2014, and then, coinciding with the launch of the UNSW S2025+ strategy in 2015, the first faculty-wide study into gender equity amongst its academic staff, completed in 2016. The latter was followed by the formation of Engineering's EDI Committee in 2017. Our first Associate Dean Equity and Diversity, Professor Lucy Marshall, was appointed in 2019, who then formed our Gender Equity Working Group to address gender imbalance within the faculty.

The WIE Program is going strong following huge success, with a dedicated WIE Program Manager implementing successful schemes, including the WIE scholarships (since 2015), the Girls in Engineering Club for Years 7-12 (since 2019), and most recently the Girls in Engineering Faculty of Engineering Admissions Scheme (FEAS) Program (2022). The success of this program has seen women student first year enrolments increase by 78% since 2013, with 24% commencing during 2022. Developing this pipeline is critical to increasing the proportion of women in our staff, and in turn, in senior positions. Indeed, since 2017, we have seen a rise in the proportion of women in senior academic positions (Levels D & E) of more than 60%, spurred by initiatives including a substantial Carer's Award, Level Up scheme to support women going for promotion, and the ENABLE mentoring scheme.

Our Humanitarian Engineering (HE) Committee, first formed in 2014, has also gone from strength to strength, becoming the Humanitarian Engineering Champions in 2018, with representatives from every school within the faculty. Key accomplishments include the development of two new courses teaching humanitarian engineering principles as well as the introduction of a Minor in Humanitarian Engineering and a Minor in Humanitarian Science and Technology in 2020. It has also been successful in bringing in over $370k in The Department of Foreign Affairs and Trade New Columbo Plan Funding, engaging more than 115 students. From 2022, the HE Minor was also be offered to Faculty of Arts, Design and Architecture (ADA) students undertaking the Bachelor of International Studies as we engage more closely with ADA, recognising the importance of this collaboration to understand how to solve society's challenges.

We also actively participate in UNSW Division of EDI-led activities, including the UNSW Gateway Admission Pathway and Program (GAPP) to support the increased access of students from low socio-economic status backgrounds, which has complemented our own Faculty of Engineering Admissions Scheme, and Nura Gili's Indigenous Pre-program, with the intention of further diversifying our student intake. Since 2016, we have also engaged in the SAGE Athena SWAN Self-Assessment Team, led initially by Prof Laura Poole-Warren of Biomedical Engineering (2015-2018) and then by Prof Lucy Marshall of Civil and Environmental Engineering (2018-2021).

While it is only possible to highlight a few of the many EDI-related activities with which we have engaged in recent years, we hope that this short summary demonstrates the strong commitment by our faculty to EDI that this strategy builds upon. We look forward to implementing our 5-year 2023-2027 plan that will continue our EDI journey.

Our Approach to EDI

This strategy in the development of our 5-year EDI Plan falls within the domain of the Faculty's leadership in Societal Impact and Translation, forming one of its three core pillars: Equity Diversity and Inclusion, The Pacific and South Asia; and A Humane World.

It was undertaken via a consultation process that included extensive strategy workshops with both staff and students with an interest in EDI during October 2021, and the Faculty Leadership Team during December 2021, and feedback on a Green Paper through the latter half of 2022. In consideration of both the overarching UNSW EDI strategy, as well as the specific needs of our Faculty of Engineering, the following four fundamental pillars were agreed as pivotal in delivering our Vision:

1. **Creating an equitable and diverse workplace**
2. **Providing underrepresented students with equitable opportunities**
3. **Achieving global impact in EDI**
4. **Supporting and engaging in an inclusive and safe culture**

VISION: We embrace and enhance the diversity and cultural richness of our engineering communities to create a collaborative and supportive environment that empowers our students and staff to become scholars, leaders, professionals, and global citizens

- Pillar #1 focuses on staff and the workplace.
- Pillar #2 on the student community.
- Pillar #3 is outward facing, in consideration of the impact that our staff and students have globally in relation to EDI.
- Pillar #4 provides the foundations of inclusivity and community participation for each of the other pillars.

There is necessarily a degree of overlap both in the pillars and with the goals of the faculty's research, education, and international portfolios. It is therefore planned that the objectives in each of these pillars will be delivered through extensive inter-faculty collaboration and consultation, in addition to collaboration across faculties, and with the Division of Equity Diversity & Inclusion and Nura Gili.

Pillar 1: Creating an equitable and diverse workplace

Aim & Objectives

Acknowledging the diversity already present, our aim is to continue to build diversity in our engineering staff and teams, maintaining a focus on achieving gender parity, and extending this to engage those from low and middle income countries, and to create an equitable environment where all staff have fair access to opportunities and advancement in their careers. We will foster an environment where staff diversity is not only valued but viewed as a core strength. The objectives of Pillar #1 are to:

a. Drive diversity
b. Provide equitable opportunities and advancement for all
c. Provide mentorship and support to empower our staff

Execution

The table identifies the key activities that will be undertaken to meet the objectives identified for Pillar #1. It is important to remember that these new initiatives do not replace those already established but seek to build on what has already been successful in staff equity and diversity.

Drive diversity	**1. Visiting Academic Program for under-represented academics**	Kickstart the former Visiting Women Academic Program, with the expansion to other underrepresented groups, including academics from low/middle-income countries.
Opportunity	**2. Revisiting ROPE**	Improve understanding and deliberation of Research Opportunity and Performance Evidence (ROPE) in all aspects of appointments, promotions and grant opportunities. Incentivise social engagement, global impact and leadership, increasing recognition of this 3rd academic pillar.
Support	**3. Carer's Award**	Further develop and expand our successful Carer's Award process to enhance reach and impact, making sure that all staff whose lives are impacted by carer responsibilities receive support that assists in sustaining their career momentum during this time.
	4. Re-ENABLE mentoring	ENABLE was originally operated during 2018-2020 to provide targeted mentorship to our workforce. This initiative will redevelop and reactivate mentoring in a sustainable way.
	5. Level-Up program	Level-Up supports academic progression, providing advice on expectations, writing ROPE cases, and the promotion process. This activity will continue to grow Level-Up, supporting a larger and more diverse cohort.

Metrics

To track the degree to which these objectives are achieved, the following metrics will be established:

1. % staff who are women
2. # and % women promoted
3. Cumulative # participants in the revised Visiting Academic Program
4. # Participants and % satisfaction in Level-Up scheme
5. # Participants and % satisfaction in the mentoring scheme

Pillar 2: Providing underrepresented students with equitable opportunities

Aim & Objectives

The aim of Pillar #2 is to provide equitable access to our potential future students, thereby increasing diversity in our student cohort, while facilitating current students to fully participate and succeed. The objectives of Pillar #2 are to:

a. Identify and remove barriers to student access and participation
b. Empower our students to fully participate in student life and succeed

Execution

The table identifies the key activities that will be undertaken to meet the objectives identified for Pillar #2. It seeks to build on and complement those initiatives already underway in this area, including the well-established Women in Engineering Program, and contributions to UNSW's Gateway Admissions Pathway Program and Indigenous Pre-program, to enhance equity and diversity within our student community.

Access and participation	1. **Indigenous student engagement plan**	In collaboration with Nura Gili and our First Nations students, develop and action an Indigenous-led Indigenous Engagement plan that takes its lead from the UNSW Indigenous Strategy, with the aim of increasing Indigenous student participation and sense of belonging in our programs.
	2. **Boost outreach to women, low SES, remote and rural students**	Increase participation by students from underrepresented cohorts, including women, low SES backgrounds and remote and rural areas. These activities may include developing pre-packaged outreach activities and developing strategic relationships with nominated high schools. This will be achieved through working closely with the Division EDI's Access, Equity and Inclusion, Future Student Recruitment and Women in Engineering Program to maximise reach and outputs.
	3. **Access via alternative pathways**	Working closely with the Division of EDI and the Engineering Education team, this activity will increase our intake of students from underrepresented groups through already established access pathways (GAPP and Science and Engineering Indigenous Pre-program), and to consider and develop additional alternative pathways made possible through other initiatives, for example, the Western Sydney University Partnership or UNSW Global opportunities.

Continued next page >

Pillar 2: Providing underrepresented students with equitable opportunities

	4.	**Mentoring and tutoring student support**	Develop targeted mentoring and tutoring for students who need assistance in transitioning to university, and in succeeding in their early years. This might include early intervention, building a support network and creating a sense of belonging. We will complement and collaborate with existing schemes to ensure help reaches all students who need it.
Empowering our students	5.	**Equitable Learning Plan (ELP) uptake**	Increase awareness of the purpose of ELPs to better support those students with disability, and in doing so increase uptake of ELPs among our undergraduate cohort.
	6.	**Student societies EDI support**	Targeted support for societies to encourage activities that address EDI issues and/or support underrepresented student groups.
	7.	**Technology access scheme**	The rapid shift to increased online learning during the COVID-19 pandemic demonstrated inequality in technology access between students. This scheme will provide laptop loans, an Engineering-wide Virtual lab to provide remote access to specialised software, and other technology access needs as identified.

Metrics

To track the degree to which these objectives are achieved, the following metrics will be established:

1. % Students graduating from target equity cohorts (women, low SES, remote and rural, Indigenous students)
2. # Participants in structured mentoring and tutoring program(s)
3. # Students with ELPs and associated retention rate
4. # Student society EDI-related events supported
5. # Students participating in the Technology Access Scheme.

Pillar 3: Achieving global impact in Equity, Diversity and Inclusion

Aim & Objectives

We aim to have an impact globally in EDI, whether through engineering research to enable change, such as providing the transformational solutions to address the Sustainable Development Goals (SDGs) and humanitarian engineering challenges, or through our alumni as they take the skills learned and experience gained in our programs to action change and/or advocate for the disadvantaged. The objectives of Pillar #3 are therefore to:

a. To embed the SDGs and humanitarian engineering as core to our educational and research agendas
b. Build capability and capacity that furthers the SDGs in the Pacific-region
c. A more sustainable UNSW Engineering

Execution

The table identifies the key activities that will be undertaken to meet the objectives identified for Pillar #3, building on the work already undertaken by our Humanitarian Engineering Champions.

Embedding	**SDG mapping**	Assess the current state-of-play of our educational and research areas of strength to showcase, build upon and inform our SDG agenda
	Academic integration of SDG and humanitarian engineering principles	A systematic assessment of program and course content to ensure that no student graduates without exposure to SDG and humanitarian engineering as part of their education. Uptake of the SDG ToolBox will be encouraged to facilitate inclusion of this content.
	Translational research to address the SDGs	Increase engagement of our researchers in activities that contribute to the SDGs. It will include targeted internal research funding, in particularly for ECRs, to incentivize SDG-related research and activities that encourage collaboration and knowledge sharing both internally and externally.
Capacity building	**Pacific partnerships**	With a focus on the Pacific-region, this aims to establish and maintain sustainable partnerships and structured engagement with national agencies, regional programs, social enterprises, local universities and communities to enable the co-creation of solutions to advance the SDGs.
	Building local capability and capacity	Through working with national agencies, regional programs, social enterprises, local universities and communities in the Pacific-region, this initiative aims to build local capability and capacity, enabling local leadership and sustainable project outcomes. It will feature two-way visiting positions, student exchange opportunities, guest lectures, sharing of curriculum and lecture content through sustained partnership with local universities.
Environmental Sustainability	**A Faculty Sustainability Plan**	Engagement with the UNSW Environmental Sustainability team to reduce faculty carbon footprint through the development and implementation of a Faculty Sustainability Plan.

Metrics

To track the degree to which these objectives are achieved, the following metrics will be established:

1. # Programs/courses incorporating SDGs or humanitarian engineering
2. # Academics supported in SDG and humanitarian engineering related endeavours
3. # External partnerships co-developed with those in the Pacific-region
4. # visits for both students and academics to and from the Pacific-region
5. Faculty Sustainability Plan developed and implemented

Pillar 4: Supporting and engaging in an inclusive and safe culture

Aim & Objectives

Our aim is to embed an inclusive culture in which our staff and students feel a sense of belonging, are safe, and where their diverse contributions and opinions are respected, encouraged, and valued. This foundational pillar underpins all others. The objectives of Pillar #4 are to:

a. Develop an inclusive and safe culture and amongst our staff and students
b. Embrace EDI values and principles in all our activities

Execution

The table identifies the key activities that will be undertaken to meet the objectives identified for Pillar #4.

Develop	1.	**EDI comms**	Increased communication through a website and newsletter to a) raise awareness of EDI and associated activities, b) report progress against our EDI strategy, and c) communicate opportunities to get involved. It is anticipated that by highlighting our initiatives and achievements, the benefit of EDI engagement will be apparent which will increase enthusiasm, cohesiveness, and participation.
	2.	**Pulse survey**	Ensure staff and students are surveyed regularly to assess perceptions of EDI matters in our faculty, either as part of larger faculty and UNSW surveys, or independently as needed. This will enable benchmarking to assess the success of the ongoing and new initiatives.
	3.	**Closing the loop**	Ensure the actions identified in this strategy are communicated and visibly delivered on. This may be achieved through a range of channels, including the EDI newsletter, website, through EDI Officers and through school meetings, and Town Hall avenues. It will also include the development of an EDI metrics dashboard for communication of progress both to leaders and other stakeholders.
Embrace	4.	**EDI event series**	This series will be designed primarily to improve our understanding of EDI matters but will also serve to celebrate and showcase the achievements of those in our equity cohorts. The event series will largely follow the calendar of EDI awareness days
	5.	**EDI training**	Build awareness of the training available for both staff and students and encourage uptake. This will improve awareness and understanding of EDI matters across our staff and student cohorts.
	6.	**Embedding EDI principles in our courses**	Our students as leaders in EDI in engineering in the workplace. This activity will examine our programs and determine ways in which EDI principles can be embedded throughout, ensuring our students leave their degree with an understanding of the importance of EDI principles in relation to their discipline and future career.
	7.	**Safety through an EDI lens**	Encourage a culture of safety with an EDI lens, including considerations of gendered violence and psychosocial safety, by increasing training opportunities for staff and students, such mental health first aid training and first response training; raising awareness and visibility of UNSW campaigns through our student programs and staff meetings and engaging with student societies.

Metrics

To track the degree to which these objectives are achieved, the following metrics will be established:

1. Survey analysis
2. # articles published per annum
3. # EDI events held either by faculty (or supported by faculty) and cumulative participation
4. % Staff and student completions of EDI-related training
5. # Programs in which students are formally taught EDI principles

Timeline

The timeline below indicates the year in which the activity will be developed and initiated. After this period, the implemented activity will be actively monitored, and feedback received will be used to refine as required. A review of this strategy is planned for 2025.

Pillar	Activity	2023	2024	2025	2026	2027
Creating an equitable and diverse workplace	Visiting Academic Program for underrepresented academics	●				
	Revisiting ROPE		●			
	Carer's Award	●				
	Re-ENABLE mentoring	●	●			
	Level-Up program	●	●			
Providing under-represented students with equitable opportunity	Indigenous student engagement plan	●	●	●		
	Boost outreach to women, low SES, remote and rural students		●	●		
	Access via alternative pathways			●	●	
	Mentoring and tutoring student support		●	●		
	Equitable Learning Plan (ELP) uptake		●			
	Student societies EDI support	●				
	Technology access scheme	●	●	●		
Achieving global impact in EDI	SDG mapping	●	●			
	Academic integration of SDG and humanitarian engineering principles		●	●		
	Translational research to address the SDGs	●	●	●		
	Pacific partnerships	●	●	●	●	
	Building local capacity and capability			●	●	●
	A Faculty Sustainability Plan	●	●			
Engaging in an inclusive and safe culture	EDI comms	●	●			
	Pulse survey	●	●	●	●	
	Closing the loop	●	●	●		
	EDI event series	●	●			
	EDI training		●	●		
	Embedding EDI principles in our courses		●	●	●	
	Safety through an EDI lens	●	●	●		

Get Involved

We encourage everyone in our faculty to actively get involved in EDI. You can do this by undergoing training, participating in our events, joining our EDI Committee or one of our working groups, or engaging in EDI activities within your own school. Each school has an EDI Officer who can give you more information. If you are not sure who your EDI Officer is, please check our internal EDI webpage via ENGage under Governance & Committees, or go to unsw.edu.au/engineering/about-us/equity-diversity-inclusion.

Key Contacts and Useful Web Links

- Deputy Dean (Societal Impact & Translation), Professor Rita Henderson, r.henderson@unsw.edu.au
- Faculty EDI on ENGage: unsw.sharepoint.com/sites/ENG/committees-site/faculty-equity-diversity-and-inclusion
- Division of EDI: edi.unsw.edu.au
- Access, Equity and Inclusion: access.unsw.edu.au

Learn more

- Diversity Council of Australia: dca.org.au
- National Centre for Student Equity in Higher Education: ncsehe.edu.au
- Engineers Australia: Diversity and Inclusion: engineersaustralia.org.au/Diversity-and-Inclusion

UNSW

CRICOS Provider Code 00098G