



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

Girls+ in Engineering

Celebrating 10 years of championing diversity in STEM

CELEBRATING
10
years

"The UWA School of Engineering takes pride in our industry partnerships, and the Girls+ in Engineering outreach program stands as a testament to the power of collaboration. Since launching this joint initiative in 2014, the program has played a pivotal role in increasing female enrolments and enhancing the student experience through initiatives like the Student Ambassador program. We look forward to building on this success with our industry partners as we work towards greater inclusion and equality in engineering."

- Professor Tim Sercombe, Dean and Head of School, UWA School of Engineering

On Noongar Land

The University of Western Australia acknowledges the custodians and traditional owners of land on which any of its campuses are located.

At the main campus, Crawley, where the Girls+ in Engineering office is located we acknowledge the Whadjuk Noongar people as the traditional owners of the land on which it is situated. The Whadjuk Noongar remain the spiritual and cultural custodians of their land, and continue to practise their value, languages, beliefs and knowledge.

We pay our respects to the traditional owners of the lands on which we live and work across Western Australia and Australia.



2024 Program Overview

The UWA Girls+ in Engineering (GiE) outreach program launched in 2014 as a collaboration between The University of Western Australia (UWA) and Rio Tinto. Since then, GiE has made a substantial and lasting impact on school communities across Western Australia (WA) and has strengthened the pipeline of women in STEM. The program's success is driven by a genuine connection between UWA, other Australian universities, school communities, and GiE's industry partners.

GiE seeks to address the gender imbalance in STEM fields beginning at an early age, through the program's three core aims:

1. Demystify what engineering means
2. Challenge stereotypes of women in STEM fields
3. Increase female enrolments in STEM across Western Australia

Since 2014, GiE has reached more than **20,000** school students across WA, supported over **350** UWA Student Ambassadors, and collaborated with more than **300** industry volunteers. The program continues to deliver hands-on learning experiences that showcase diverse STEM studies and pathways to **26** partner schools in both metropolitan and regional WA, actively addressing barriers faced by women considering STEM, including the lack of role models. The GiE Student Ambassadors program for current UWA students also plays an integral role in addressing gender imbalances in STEM across Australia by providing these role models.

Girls+ in Engineering remains committed to collaborating with WA high schools, universities and industry to lead the future of sustainable, innovative and equitable engineering.

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A Decade of Impact

- Engaged a total of **20,634** primary and high school students across all program initiatives since 2014.
- Engaged **14,426** primary and high school students through in-school workshops.
- Welcomed **5,771** students on-campus for Discovery Day and competition events.
- Delivered **710** workshops across **329** unique school visits.
- Organised **84** on-campus and special events for primary and high school students, as well as the community.
- Increased partnerships with metro and regional schools, expanding from **5** schools in 2014 to **26** schools in 2024.
- Developed **6** Engineering and STEM discipline workshops delivered to high school and primary school students in collaboration with industry partners and UWA academics.
- Supported over **350** Student Ambassadors through the Girls+ in Engineering Student Ambassador Program.
- Received more than **1,800** volunteer hours from Student Ambassadors.
- Collected over **650** volunteer hours from more than **300** industry representatives.

“For the past ten years, I’ve had the privilege of supporting a program that connects high school students with industry through hands-on activities, inspiring role models, and immersive campus events. With the steadfast support of Rio Tinto and other dedicated partners, the Girls+ in Engineering program actively challenges gender stereotypes in STEM by introducing students to successful women in industry who openly share their career journeys. As someone who has wrestled with self-doubt about my place in the STEM community, I aim to empower students by showing them they can overcome challenges and find confidence through achievement. This ongoing commitment to Girls+ in Engineering opens pathways into STEM careers, transforming futures and advancing diversity in engineering.”

- Hannah Golding, Rio Tinto

Program Inception

The UWA Girls+ in Engineering (GiE) program was officially launched at The University of Western Australia (UWA) on Tuesday, 18 November 2014, as the first gender-specific STEM outreach initiative in Western Australia. The program aims to inspire the next generation of women+ in STEM. The inaugural event gathered over 160 guests, including industry representatives, along with 75 students and teachers from the program’s initial partner schools.

The program was guided by a Steering Committee composed of representatives from UWA and Rio Tinto. The committee developed the program’s action plan, setting goals, target audiences, and measures of success while designing outreach workshops and a mentoring program for women+ studying engineering at UWA.

In its first year, GiE established partnerships with five metropolitan schools: Ballajura Community College, Belmont City College, Governor Stirling Senior High School, La Salle College, and Ellenbrook Secondary College. Through in-school workshops, the program engaged 281 students in Years 8–10, while 13 female UWA engineering students participated as mentors.

Following the launch, 75 students took part in the program’s first on-campus Discovery Day, which featured hands-on activities and tours. Highlights included demonstrations of autonomous underwater vehicles, the Swan River Model, wind tunnel experiments, and a Rubik’s Cube problem-solving challenge, all facilitated by UWA student associations, academics, and industry partners.

Celebrating 10 years of Girls+ in Engineering, the program has evolved from these foundational steps into a dynamic initiative that continues to inspire young women to pursue their passions in STEM.



Highlights and Achievements



- Rio Tinto has been an active foundational partner since the program's inception, and the initiative has successfully secured significant external funding from industry supporters, including Newmont Australia and SLB.
- In 2014, Rio Tinto delivered the problem-solving Rubik's Cube Challenge at the first Year 7 and 8 Discovery Day, and it has remained a featured activity since.
- The program was a finalist for the Chamber of Minerals and Energy Women in Resources Awards in 2017.
- In 2018, GiE completed its first regional tour, engaging 317 students at Broome Senior High School in the Kimberley region.
- Also in 2018, the program expanded its outreach to the Pilbara region in collaboration with Aspire UWA, working with schools such as Karratha Senior High School, Roebourne District High School, and St Luke's College.
- The first industry site visit with Student Ambassadors occurred in 2018 at Rio Tinto's Perth Operations Centre.
- The program reached the finals for the Eureka Prize for STEM Inclusion in 2019.
- The first regional industry field trip for Student Ambassadors took place in 2022 at Rio Tinto's Marandoo Iron Ore operations in the Pilbara. It was attended by eight Student Ambassadors, along with staff from GiE and Rio Tinto's Talent Acquisition team.
- In 2022, GiE hosted the WA chapter of the National University STEM Collaboration workshop at UWA Crawley campus.
- The program also launched "Brunch & Learn" networking events in 2022, providing industry partners and Student Ambassadors with opportunities to connect on-campus, learn about industry trends, and hear from inspiring female leaders.
- In 2022, GiE expanded its outreach to the Great Southern region, partnering with four regional high schools: Albany Senior High School, Denmark Senior High School, Mount Barker Community College, and North Albany Senior High School.
- The program was recognised as a finalist in the Australian Financial Review Higher Education Awards for Industry Engagement in 2022.
- In 2023, GiE was a finalist for the Western Australia Premier's Science Awards in the Science Initiative of the Year category.
- GiE's outreach initiatives now reach 26 Western Australian schools, including regional, remote, and low-SES areas in Perth, Pilbara, and the Great Southern regions. Additionally, the program engages 43 low-SES Aspire UWA partner schools in Perth and Peel.

“My involvement with the initiative has been one of the highlights of my university experience. GiE+ not just recruits ambassadors to promote STEM to high school students, but it also provides incredible benefits to the ambassadors. I initially joined the program because of my passion for both promoting STEM to young women and my enjoyment of teaching. Throughout my time with GiE+, I have had so many opportunities for my own personal development. Through this program I feel empowered, my confidence has grown, I have made countless friends, felt supported by the team, had employment opportunities both with the university and with industry and overall feel a sense of purpose.”

- Georgia Gould, GiE Student Ambassador

“As a student ambassador for GiE, I’ve been privileged to witness the program’s transformative influence on every participant. The collaborative effort of influential individuals united by GiE never ceases to inspire and has reinforced my commitment to breaking barriers and championing gender diversity within Engineering. The impact GiE has had on my life, perspective on education, and dedication to advancing women in STEM is immeasurable. GiE embodies the values of authentic community engagement, equity, and empowerment and has left an indelible mark on my life and the lives of the students it serves.”

- Ulani Hayter-Otaola, GiE Student Ambassador



Student Ambassadors



The Girls+ in Engineering (GiE) Student Ambassador Program enhances the student experience by fostering connections between students and industry, offering professional development workshops, and providing formal work experiences. Female and non-binary students are connected with a cohort of like-minded peers in STEM fields where women+ are underrepresented, directly addressing the career progression barrier posed by the lack of role models.

Within the program, current UWA students volunteer as role models and mentors for in-school workshops and on-campus events, showcasing diverse STEM careers and pathways. The program supports UWA students with regional travel opportunities, networking with industry partners, professional development events, recognition of volunteer hours on their academic records, and casual paid employment.

- Since 2014, GiE has provided **43** Student Ambassadors with regional travel opportunities, supporting outreach in the Pilbara and Great Southern regions.
- The program has facilitated **16** industry site visits in collaboration with partners, including trips to Rio Tinto’s Marandoo and Brockman operations

in the Pilbara, as well as Newmont Australia’s Boddington Gold Mine in Peel.

- GiE has hosted three female UWA Engineering students for Work Integrated Learning (WIL) placements through the McCusker Centre for Citizenship, volunteering **300** hours.
- Since 2022, GiE has delivered five “Brunch & Learn” events, providing Student Ambassadors and industry representatives with networking and professional development opportunities.
- Since 2014 the program has provided over **50** students with casual employment contacts and accumulated over **1,800** volunteer hours contributed by over **350** Student Ambassadors.



“This partnership has not only enriched our students but has also reinforced the relationship between our school and the University of Western Australia, particularly by fostering local connections with the UWA Albany Campus. This connection is invaluable, as it helps our young people understand the study options available to them right in their own backyard, removing barriers to higher education and career development.”

- Nina Goodwin, Career Practitioner, Albany Senior High School

“The UWA Girls+ in Engineering team visits to Denmark Senior High School to present their workshops are a fantastic opportunity for our female students to gain an insight into engineering and consider this as a possible career pathway. This type of outreach work is vital in a school like DSHS as we are located so far from Perth that opportunities for incursions like this are rare. All of our students enjoyed the experience and participated enthusiastically.”

- Steven Bergmann, Science Teacher, Denmark Senior High School



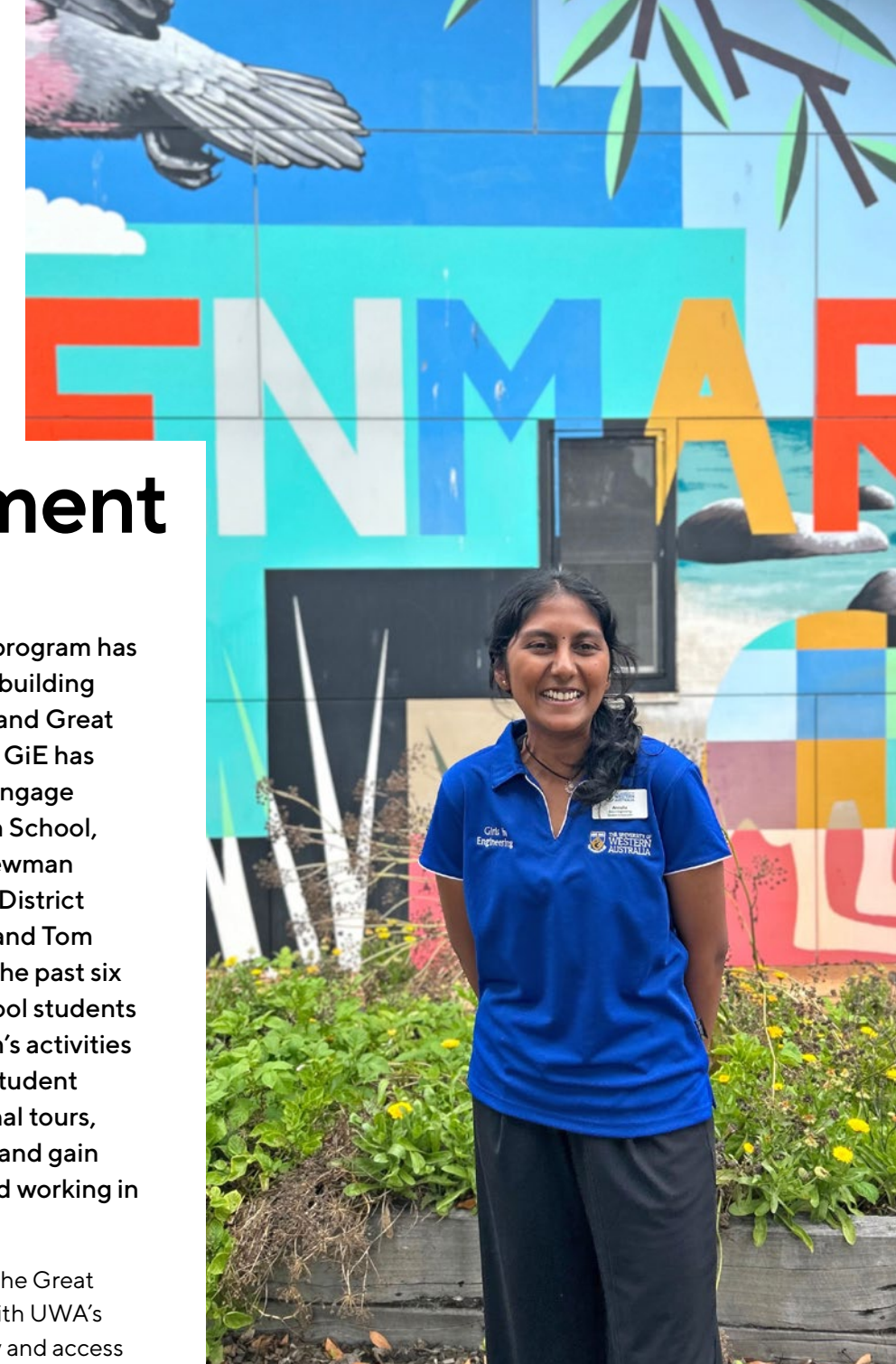
Regional Engagement

The Girls+ in Engineering (GiE) program has expanded its regional outreach, building a strong presence in the Pilbara and Great Southern regions. In the Pilbara, GiE has partnered with Aspire UWA to engage six schools: Hedland Senior High School, Karratha Senior High School, Newman Senior High School, Roebourne District High School, St Luke's College, and Tom Price Senior High School. Over the past six years, more than **1,700** high school students have participated in the program's activities in the regions. Additionally, **43** Student Ambassadors have joined regional tours, where they facilitate workshops and gain firsthand experience of living and working in regional Western Australia.

The program extended its reach to the Great Southern region in 2022, aligning with UWA's Regional Strategy to improve equity and access for rural, regional, and remote communities.

The inaugural tour reached **413** high school students across Albany Senior High School, Denmark Senior High School, Mount Barker Community College, and North Albany Senior High School. Since then, GiE has engaged a total of **1,375** students in the region and provided support to STEM teachers through professional development initiatives. The program also collaborates with Children's University UWA and UWA Albany campus to strengthen community events and enhance STEM education in the area.

Over the years, industry collaborations have grown, leading to the establishment of annual site visits for GiE Student Ambassadors to gain practical engineering experience. Since 2021, the program has completed 6 regional industry site visits with partners such as Rio Tinto and Newmont Australia, including trips to Rio Tinto's Marandoo Iron Ore mine, Dampier Salt and Newmont Australia's Boddington mine. These initiatives have enabled **38** Student Ambassadors to gain hands-on experience on site, along with networking events and cultural awareness training for the participants.





On-Campus Events and Collaborations

Girls+ in Engineering Discovery Days at the UWA Crawley campus serve as the flagship event, building upon previous in-school GiE sessions and allowing students to experience our vibrant university campus and research facilities. Participants engage in hands-on activities and interact with current UWA STEM students, academics, and industry professionals from our partner organisations. Keynote speakers and alumni share their stories, highlighting the social impact of engineering in improving our world and emphasising the importance of diversity in STEM fields.

The program's annual Year 7 and 8 Discovery Day remains the largest event on the GiE calendar, welcoming over **120** students on campus each year for this one-day event. Students participate in a circuit of engineering and broader STEM activities hosted by industry partners, UWA academics, and student associations. Since 2022, GiE has also delivered an impactful physics-themed event for Year 9 and 10 students, prompted by the concerning trend of declining female enrolment in Year 11/12 physics courses within GiE partner schools. GiE has surveyed **173** students at the conclusion of this event (from 2022 to 2024), and **39.5%** reported that they are now more likely to consider studying physics in senior school.

GiE continues to support STEM outreach and events across the university. Each year, the program collaborates with UWA schools, academics, and students to foster aspirations and pathways in STEM while showcasing the importance of a diverse STEM workforce. Since the program began, GiE has collaborated with:

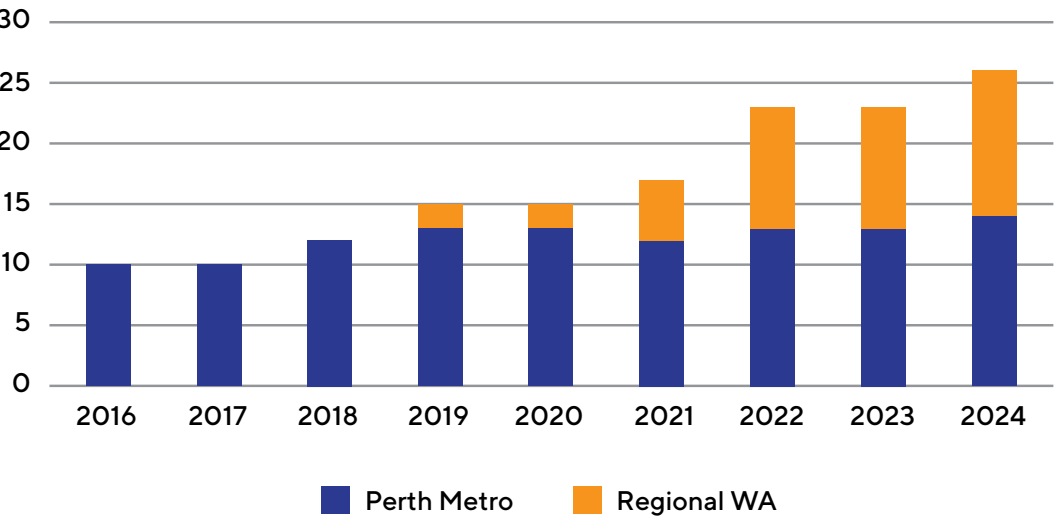
- Aspire UWA and UWA's School of Indigenous Studies to deliver annual regional outreach to six partner schools in the Pilbara.
- OceanWorks to host the annual Emerging Engineers Competition, open to female students in Years 2-10 across WA, where groups tackle engineering challenges to find solutions.
- The International Centre of Radio Astronomy (ICRAR) to deliver their STAR Girls STEM camp, facilitating workshops for high school students in the week-long program.
- The School of Engineering to conduct Teacher Professional Development workshops at the It Takes a Spark Conference and the Science Teachers Association of Western Australia Future Science Conference.
- The Harding Miller Education Foundation, hosting WA scholarship recipients for annual on-campus immersion events.



School partnerships 2014 – 2024

- Albany Senior High School (2022 – 2024)
- Ballajura Community College (2014 – 2024)
- Belmont City College (2014 – 2024)
- Broome Senior High School* (2018)
- Denmark Senior High School (2022 – 2024)
- Duncraig Senior High School (2022 – 2024)
- Governor Stirling Senior High School (2014 – 2024)
- Harrisdale Senior High School (2024)
- Hedland Senior High School* (2022 – 2024)
- John Wollaston Anglican Community School (2014 – 2021)
- Karratha SHS* (2018 – 2024)
- La Salle College (2014 – 2022)
- Methodist Ladies College (2014 – 2024)
- Mt Barker Community College (2022 – 2024)
- Newman Senior High School* (2021 – 2024)
- North Albany Senior High School (2022 – 2024)
- Penrhos College (2014 – 2024)
- Perth College (2014 – 2024)
- Presbyterian Ladies College (2022 – 2024)
- Roebourne District High School* (2021 – 2024)
- Santa Maria College (2019 – 2024)
- Shenton College (2018 – 2024)
- St Hilda’s Anglican School for Girls (2014 – 2024)
- St Luke’s College* (2018 – 2024)
- St Mary’s Anglican Girls College (2014 – 2024)

* Pilbara partner schools visited under Aspire UWA partnership.



“ The Girls+ in Engineering Program has been powerful in engaging and building confidence in our capable female students and has also raised awareness among male students of the benefits of diverse STEM workplaces. The in-school activities and days on campus are looked forward to by our students, and the links to real-world workplaces and women in STEM provide excellent role-modelling and build aspirations. Several girls who have picked Physics, Chemistry and Mathematics Methods at ATAR level have commented that the Girls+ in Engineering program assisted them in choosing these subjects. Belmont City College looks forward to continuing to participate in the program for many years to come.”

- Robin Byrne, Head of Department Science and AEP Coordinator, Belmont City College.

Thank you

Thank you to our volunteers for your invaluable support of the Girls+ in Engineering program. The GiE engagement framework centres on role models, and your dedication helps us connect women in industry with our Student Ambassadors and schools, allowing role models to engage directly with girls at a pivotal moment in their decision-making process. Thank you not only the time you volunteer but also your genuine care and passion for what you do.

Thank you to the program champions at UWA and Rio Tinto for your persisting belief in early intervention and support of GiE, and to GiE's partner schools for your ongoing service to the WA community and trusting us with your students.

Thank you to Foundational Partner, Rio Tinto, as well as our 2024 Principal Partners, Newmont Australia and SLB, and all philanthropic donors for their generous support throughout the years. Your contributions are instrumental in sustaining our initiatives and enabling us to continue our vital work.

We look forward to the next 10 years.

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