

The background is a collage of two photographs. The left photograph shows a group of children in blue school uniforms sitting on the floor, engaged in a hands-on activity with small blue and white containers and sticks. The right photograph shows a young woman in a green and black school uniform looking through a microscope in a classroom setting. Overlaid on these images are several large, semi-transparent geometric shapes in shades of teal and green.

# Opening young minds to new possibilities

QUT's Science and  
Engineering Widening  
Participation Program



“ QUT’s Science and Engineering Widening Participation Program has been vital in setting up our culture as a STEM school. I’ve had many conversations with parents and even grandparents who thanked us for giving their children opportunities they never had. ”

- **Amanda Wiebe,**  
(Head of Science, Burpengary State Secondary College)

“Study has never been on my radar”

“I can’t afford uni even if I was smart enough”

“Uni isn’t for people like me”

This is the cycle we want to break, these are the myths we want to dispel.


Students from low socioeconomic status backgrounds are underrepresented in tertiary study and even more so within STEM (science, technology, engineering and mathematics) fields.

Our primary focus is to counteract financial or social disadvantage and demystify the university experience for students who attend low socioeconomic schools, especially non-metropolitan areas, many of whom would be the first in their family to attend university.

STEM skills are critical to the jobs of the future. We don’t want the cycle of disadvantage to be compounded by a widening skill gap.

When the time comes for students from a low SES background to choose their path in life we want them to understand all of the options that are available and to feel confident in choosing what is right for them.

So how are we  
making a  
difference?

A blue van is shown from the side, featuring the 'extreme science' logo in large white letters. Above the logo is a graphic of a molecular structure with red and orange hexagons. Below the logo, it says 'a university for the real world' and 'QUT'. The van is parked outdoors with trees in the background.

## A strategically targeted program which delivers outstanding results

In seven years, we've delivered more than 2,200 STEM workshops.

We've engaged more than 155,000 students from low SES schools since 2010.

Schools that we have partnered with have doubled their number of science class placements.

QUT's Science and Engineering Widening Participation Program has been recognised as:

- Winner of Peter Dougherty Award for Excellence in STEM Education (2014)
- Winner of QUT Vice Chancellors Excellence Award (2016)

Since 2010, the QUT Science and Engineering Widening Participation Program has exposed thousands of school students to the possibility that science, technology, engineering and mathematics can be part of their future.

Our student ambassadors act as role models to show students from prep to year 12 that there are boundless opportunities available to them, expanding their view of what's possible for them.

In 2017 alone we engaged over 21,000 students in hands-on curriculum aligned workshops, discipline and career specific events and science shows.

Our flagship initiative the Extreme Science Van travels the highway every day of the school year delivering workshops, giving access to equipment and providing role models to underprivileged schools.

We create transformational moments – keeping alive students' love of learning. We reach students at a critical time in their lives where we can affect real change.

The feedback from students, teachers, parents and our ambassadors is overwhelming. We have been able to play a significant role in supporting students, teachers and schools to reach their potential and dream bigger.

Our flagship initiative the Extreme Science Van travels the highway every day of the school year

QUT's Science and Engineering Widening Participation Program helps to support and inspire students at all stages of their learning journey with targeted messaging and experiences.



Years  
P-4

#### **What is Science?**

Encouraging and nurturing students natural curiosity and love of science.

#### **Experiences:**

Experiential learning via hands-on activities;  
Workshops aligned with the curriculum;  
Science shows.

Years  
5-6

#### **Science subjects at high school and university**

General awareness of STEM careers and STEM subjects.

#### **Experiences:**

Experiential learning via hands-on activities;  
Workshops aligned with the curriculum;  
Science shows;  
National science week events;  
Mentoring by student ambassadors.

Years  
7-8

#### **Jobs, learning and me - the connections**

"Everyone is good at something. I create my own future through the choices I make."

#### **Experiences:**

Experiential learning via hands-on, discipline based activities;  
Interaction with student ambassadors and listening to their student experiences;  
Supporting school led STEM initiatives;  
Mentoring by student ambassadors.

Years  
9-10

#### **Making choices, building options and demystifying tertiary study**

"Planning my goals and how to reach them connects me to the future I want."

#### **Experiences:**

Experiential learning via hands-on activities;  
Workshops aligned with the curriculum;  
Full day discipline specific events;  
Interactions with student ambassadors and listening to their student experiences;  
Explore uni workshops;  
Connecting fields of study to career outcomes;  
Mentoring by student ambassadors.

Years  
11-12

#### **Learning skills and pathways, choices and transitions**

"Arming myself with all the information and opportunities available is the best way to make informed choices about my future."

#### **Experiences:**

Connecting fields of study to career outcomes;  
Learning about the breadth and depth of STEM careers;  
Interactions with student ambassadors and listening to their student experiences via in-school STEM Futures days;  
Supporting school-led initiatives;  
Explore uni workshops.





Making a real difference

“ Our year 10 enrolment in chemistry has almost doubled for 2018 and a higher proportion of our students are choosing to study STEM subjects.”

**- Charmaine Keal**  
(Head of Science,  
Tullawong State High School)

“ 67 QTAC offers were made to our 2016 cohort. Of these 29 were in STEM fields such as Engineering, Science and Health. Our numbers of students applying for higher education are growing and particularly in STEM careers.”

**- Sharon Cordiner**  
(Deputy Principal, Murrumbidgee State Secondary College)

## We are part of the bigger picture

The funding to carry out the work we do is provided through the Higher Education Participation and Partnerships Program (HEPPP). As part of this National program we have contributed to:

A 55% increase in low SES undergraduate student enrolments from 90,467 (2008) 140,462 (2016).

An 89% growth in indigenous undergraduate student enrolments from 7,038 (2008) to 13,320 (2016).

Enrolments of students from regional and remote areas have increased from 110,124 (2008) to 163,292 (2016), a growth of 48 per cent. (Department of Education and Training, Higher Education Student Statistics)

Whilst the initiatives are working, funding remains uncertain and the requests from schools on our program exceed our current reach.



“ We have seen an enhancement in our students scientific literacy, higher order thinking skills and achievement in STEM subjects over the past three years.”

**- Sharon Cordiner**  
(Deputy Principal, Murrumbidgee State Secondary College)

“These exciting opportunities are certainly expanding horizons”.

As part of the program we continue to build sustainable partnerships with teachers and schools.

“QUT’s Science and Engineering Widening Participation Program lets our students gain exposure to STEM careers they did not even know existed, and their direct contact with university students has let them learn about university life.

With the limited exposure students in rural areas have to STEM careers, the value of this regional context cannot be underestimated.

The enthusiastic presentation of the programs has been highly effective in engaging and inspiring students. It has also provided valuable opportunities for them to improve their higher order and critical thinking skills.

The Extreme Science team was also instrumental in making it possible for us to pursue a quite complex robotics project. In fact, it’s unlikely we would have considered such an ambitious project without the team’s support.

I even received a call from the mother of a student, expressing her gratitude for the team, who she said had boosted her daughter’s confidence and self-belief, in turn, encouraging her to pursue science subjects in senior.”

**- Steven Langton**  
(Head of Science, Kingaroy State High School)

“ These programs are incredibly important for regional schools like ours.”

**- Steven Langton**  
(Head of Science, Kingaroy State High School)







## The Student Ambassador Experience

Each year we employ over 50 student ambassadors from all disciplines of STEM to deliver our program.

"I'd always been interested in science and maths, but I hadn't thought about where they could take me. Then I experienced the QUT Extreme Science Van.

I was in Year 9 at Morayfield High, and attended a STEM camp in Mapleton. A highlight was a visit by QUT's Extreme Science ambassadors.

After doing a bridge-building workshop and talking to the ambassadors, I was totally convinced I wanted to be an engineer.

"It's fun, it's engaging, and I like to think we inspire students to consider STEM as a real option."

But then, through my senior years, I became more interested in the theoretical aspects of maths and science, rather than the application, so I decided to study a double degree in mathematics and physics at QUT.

I'm now in my fourth year of study, and in my free time, I work as an ambassador for the QUT Extreme Science Van. It allows me to share my passion for science and maths with students of all ages.

I tell them it's not all about textbooks, but that it's about cool experiments and seeking to understand what the results mean.

Our workshops are designed so that students need to think about what's actually happening in front of them."

**- Matthew Bradford**  
(QUT Student Ambassador)



## How you could help us meet a significant and genuine need.

The need is great. The demand is growing.  
The opportunities to make a difference are many.  
Here are a few examples:

**\$2000**

would fund consumables used by thousands of students each year.

**\$5000**

would replace or upgrade valuable workshop equipment.

**\$10,000**

would allow the purchase of more specialised equipment - giving young people the chance to experience an aspect of real world STEM study that is genuinely exciting.

**\$30,000**

would allow the purchase of a new Extreme Science Van, which would take our program to many more school students.







## Might you help us achieve even greater things?

QUT's Science and Engineering Widening Participation Program is bringing to life one of the Australian Government's key imperatives for the future: to inspire more young people to take up the study of STEM, and ultimately establish their careers in the field.

But there is much more to be done. The only way we can maintain our incredible momentum is if people like you are willing to step up and support our quest.

Could you see yourself providing a gift to allow the upgrade of vital equipment for our remarkable Extreme Science Van workshops?

Would you consider funding the purchase of a new van so we could extend the program into the future?

Would you like to donate an amount which could empower us to take the program to more under-resourced schools in new areas, reaching many more children?

Or would you consider providing ongoing support through regular giving?

But there is much more to be done. The only way we can maintain our incredible momentum is if people like you are willing to step up and support our quest.

These are just some of the ways you can support the remarkable work of a dedicated, passionate team of educators, in one of Australia's most visionary STEM institutions. Every gift, large and small, is highly valued. Every dollar will make a difference. So please give generously.

For more information please contact  
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