Women in Engineering

in Australia

Only 18% of engineering students (2018)

- Female: 18%
- Male: 82%

Only 12% of engineering professionals (2018)

- Female: 12%
- Male: 88%
From a total cohort of 407 first-year students enrolled in 2021 at MQ School of Engineering, Only 34 are women!
Why so FEW of us?

The myth of the “male math brain”...

a. Number Processing Network

\[
\begin{align*}
&x = 4, \\ &z \approx 2, \\
&t(17) > 4.04, \text{FDR corrected } p < 0.05
\end{align*}
\]

b. Gender Similarities in Number Network

\[
\begin{align*}
\text{Proportion Correct} \\
\text{Informal} &\quad \text{Formal}
\end{align*}
\]
Women in Engineering

The myth of the girl’s lack of interest!
Why so FEW of us?
The stereotypes shaped by the society..
Why so FEW of us?
The stereotypes shaped by the society..

"I didn’t know how to use the tools...I felt all the boys knew how to use everything. I caught up eventually, but it was so new to me."

Female engineering student, MQ University 2021

"Boys have an accepted place at university, studying engineering. They belong there. Girls need to find a place to fit in."

Female engineering student, MQ University 2021
Why we need more?

A world built for men...

Women are **47% more likely** to be seriously injured in a car crash and **17% more likely to die** compared to men!

The most commonly used dummy is 1.77m tall and weighs 76kg!
What to do?

WE ARE BIASED!!

If you have a brain, you have bias
What to do?

The wrong image of “Engineer”
What to do?

Avoid gender biased language...

“Nursing is down the hall, this is engineering classroom!”

“Humankind” instead of “Mankind”!

Representative instead of Salesman and Businessman!

“Don’t cry like a girl! Fight like a man!”

“You’re not like other girls! You are different! You are cool!”

“Everybody” or “Class”, or “Team” instead of “Guys”

“Chair” instead of “Chairman”!

When a guy says, "You're not like other girls," he's admitting that he has a generally low regard for your entire gender but is willing to make an exception for you. This is not a compliment. Girl, run.
What to do?

Break down gender stereotypes...

"Imagine you are working as an engineer in a company and your direct manager asks you to design ... how can you assure her that you are...."

"When you graduate, you will be working in big engineering companies and your boss will expect you do provide her with ...."

"These are the skills you need to develop in order to convince Dr Bronwyn Evans, the CEO of Engineers Australia that you are a professional engineer!"

"The CEO of General Motors company, Marry Barra, was the first engineer who lead the company's adoption of advanced automotive technologies...

"When Gwynne Shotwell, president and COO of SpaceX led this project, .....she advised her team to...."
We will know that **INCLUSIVE EDUCATION** has really become **EMBEDDED IN OUR CULTURE** when the term becomes obsolete.