

Girl Powered Essay

Team 2988A - Chatswood, Australia

Written by Mia and edited by Hero

Growing up, I have always had a passion for STEM. One of my fondest memories was a school excursion to Macquarie University when I was 8 years old. On this excursion, I built a small cardboard plane with a circuit that powered the plane's propeller. I remember triumphantly holding up the plane and the satisfaction of completing the challenging task. Three years after building that plane, and the next time I returned to Macquarie University, I was 11 years old and competing in the First Lego League Competition. I recall noticing how a lot of the other teams were made up of only or mostly boys. As I immersed myself into the STEM world through participation in conferences and holiday camps, I quickly realised that, in fact, females like me were thought not to be as interested or as good at STEM as males.

In our current society, this prejudice can be clearly seen everywhere. I remember watching movies such as Iron Man and The Avengers, and wondering why the smartest superheroes, such as Tony Stark and Bruce Banner, were predominantly males. We see this imbalance in representation in many important areas where females still are not as sufficiently represented as males. For example, just over a third of the people in politics are women and only 26.5% of film writers are female. It is therefore no wonder that females are not portrayed as equals.



Tony Stark and Bruce Banner (Iron Man and the Incredible Hulk) from Marvel Avengers.

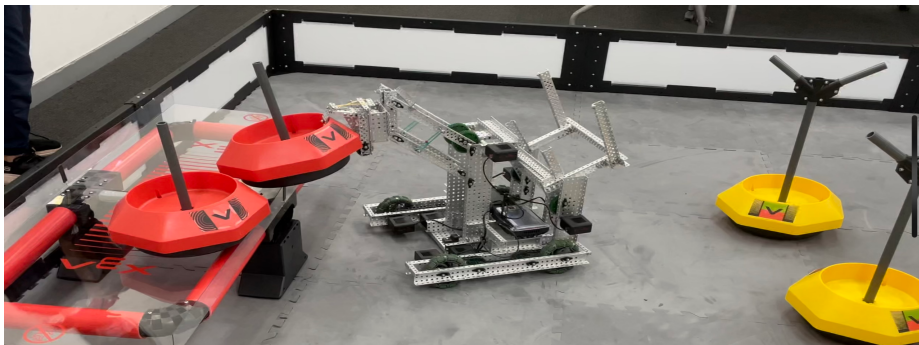
Smartest people in movies and TV are usually male.

When I first heard the term “Girl Powered”, I brushed it off as a thrown-around buzzword that was weakly aimed at making some STEM projects look more politically correct. However, I believe that this initiative has really motivated our teachers and members to become more inclusive as well as to strive to inspire girls such as myself to pursue their passion in STEM. I am lucky enough to be placed in what I now realise to be truly a “girl-powered” team as three out of our five members are girls.



Our team comprises of students from diverse backgrounds. We come from four different schools and have diverse interests. From posting videos on social media platforms, to reading, playing electronic games, sports, and dancing, our team has a varied mix of passions. Having different hobbies and skills have definitely helped our team. For example, I believe that my background in ballet contributed to building the robot with a greater understanding of balance and movement. Our driver who frequently plays video games contributes to the team through his faster strategic abilities, reaction time and precise hand-eye coordination.

We are fortunate that 2988A works together, with every member having an equal voice and job. Although we have a leader to help coordinate our efforts and provide motivation when it is needed, we operate as a team with everyone giving their opinions and casting our votes when necessary to resolve disagreements. We also tried our hands in the different roles to see what suited each individual and continue to mix-and-match roles to see which combination works best. Collectively, we want to ensure that every team member has tried out different parts of robotics and gets a fair go at every aspect within the program. This has really helped us figure out the individual strengths and weaknesses, and the best way we can work together to solve a problem or achieve a goal. I believe that our gender balance has helped team chemistry and made us a strong team, as evidenced by our recent win in the regional VEX V5 Live Remote Tournament.



Our award winning robot: EVE

Having a good proportion of girls in our team has enabled our team to have different approaches to problem-solving. When our VRC software failed to run our autonomous program in our earliest competition, it was a female team member who read the fine print of the rulebook and had the idea of writing an appeal to the referee asking for another turn which was approved. I believe this shows that girls are generally more willing to pay attention to detail and sometimes offer more mature ideas.

Today's society has a serious shortage of female role models in STEM. There is truly a need to balance the Elon Musks, Jeff Bezos, and Mark Zuckerbergs of the world. There still are, however, truly inspirational females in the world of STEM. One example was Marie Curie. When I think of "Girl Power", I think of her astounding achievements. Marie Curie was the first woman to win a Nobel Prize, and the first person and only one of four people ever to win two Nobel Prizes. She and her husband researched radiation and even discovered two new radioactive elements. The Curies' research has revolutionised the world of STEM and the world would be a different place without Marie Curie.



Marie Curie

While researching women in STEM, I came across another example of a female who has made a huge contribution to the STEM world. Crystal Chao is Chief Scientist at the Global Lead of Robotics Projects. In 2012, she won the Outstanding Doctoral Paper Award, for her PhD in Georgia Tech. She won this award because she built an architecture (called CADENCE) for social human-robot interaction, which allows a robot to communicate fluently with a person. Although Chao is not as well-known as Marie Curie, I truly believe that her contribution and research will also transform the STEM world and help trailblaze the way to the future. Both persons were strong independent women who did not allow gender to stand in their way and I look up to them as role models and the personification of "Girl Power".

Working in our team has made me realise that the boys also play a critical role in the mix of the team. In fact, rather than being "Girl Powered", diversity is the key. In fact, an article in The Guardian stated that teams of workers come up with the most innovative ideas if they are made up of even proportions of men and women. Therefore, although it is important today to correct the gender imbalance, I look forward to a future where initiatives such as Girl Powered will not be needed anymore.

I am extremely grateful to our mentor and my fellow teammates. Being in this team has shown me that "Girl Powered" is not just a political buzzword, but proof that humankind can and wants to change for the better. In support of the Girl Powered Initiative, and a "girl-powered future", our team has named our robot EVE, after the female robot from the movie "WALL-E".

Citations:

The Nobel Prize in Physics 1903 2022, [NobelPrize.org](https://www.nobelprize.org/prizes/physics/1903/marie-curie/biographical/), viewed 7 January 2022, <<https://www.nobelprize.org/prizes/physics/1903/marie-curie/biographical/>>.

<https://www.facebook.com/RECFoundation> 2019, *Why Girl Powered?* | *REC Foundation*, REC Foundation, viewed 6 January 2022

Priya Dialani 2020, *Top 10 Women in Robotics Industry*, [Analyticsinsight.net](https://www.analyticsinsight.net), viewed 7 January 2022, <<https://www.analyticsinsight.net/top-10-women-in-robotics-industry/>>.

Maira Rayner *'Public Discourse and the Power of Women*'* – *Parliament of Australia* 2022, [Aph.gov.au](https://www.aph.gov.au), viewed 8 January 2022, <https://www.aph.gov.au/About_Parliament/Senate/Powers_practice_n_procedures/pops/pop41/rayner>.

Ward, L & Carvel, J 2007, *Best ideas come from work teams mixing men and women*, the Guardian, The Guardian, viewed 9 January 2022, <<https://www.theguardian.com/uk/2007/nov/01/gender.world>>.

The Impact of Gender Diversity on the Performance of Business Teams: Evidence from a Field Experiment | *Gender Action Portal* 2021, [Harvard.edu](https://gap.hks.harvard.edu), viewed 9 January 2022, <<https://gap.hks.harvard.edu/impact-gender-diversity-performance-business-teams-evidence-field-experiment>>.