
Girl  Powered 

THE “TURNING POINT” OF VEX

2496R



Girl Powered?

A term defying the typical image of STEM fields- a “red flag” in VEX Robotics.

2496R: Defying the “red flag”

When hearing the phrase “Girl Powered,” the robotics world is not one that first comes to mind. VEX Robotics itself tends to be a male-dominated program in which girls, if willing, can participate. Beckman 2496 Robotics, initiated in September 2015, is aiming to change that; since the program began, it has recruited more and more female members each year. In our program, we strive to introduce and give girls (and boys) an opportunity to learn more about STEM, take an interest in the field, and apply it to their own life skills later on!

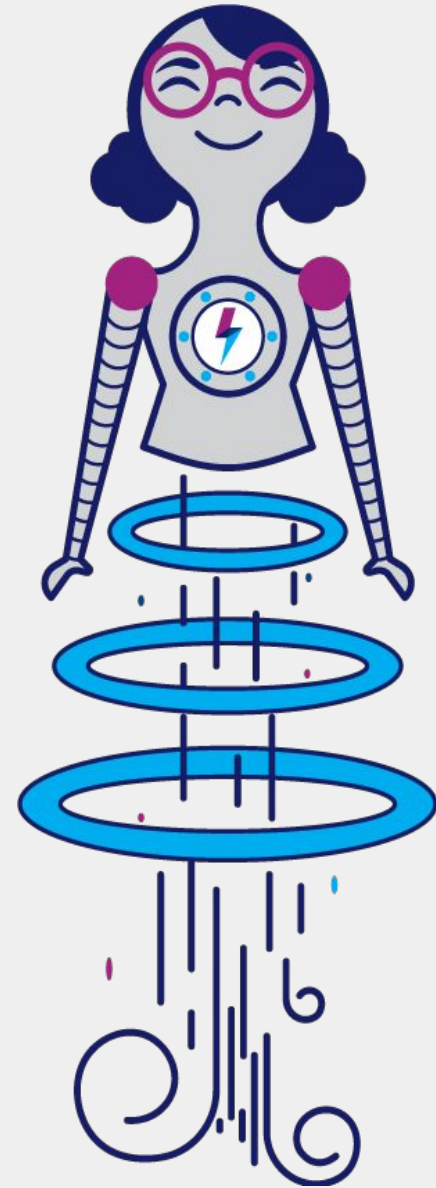


“Platforming” our approach to robotics

takes collaboration, passion, and the hearing of voices
regardless of gender.

“Preloading” Ideas

Our team's approach to robotics is simple- learn while having fun and passion in the field. A commonality between each of our members is that we all joined robotics due to our continued interest in it, and our ability to work with others collaboratively in order to create a successful robot. Each year, there are returning members and new members. At the start of the season, when initially planning out the robot, we have a team discussion in which we collectively plan out the robot's subsystems- the chassis, the lift, and the parts to our first iteration. As a team, we've developed a philosophy in which “every idea is heard, and there are no bad ideas.” Even when an idea is jokingly brought up, our team will take this opportunity to laugh and turn it into an inside joke later on. In this way, our team dynamic improves with each moment that we are working together!

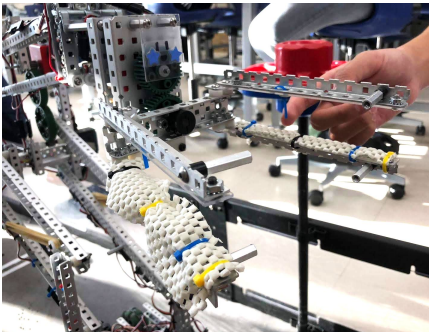


New Perspectives? New Thinking “Cap”!



Robot Design

Considering others' perspectives enables our team to build a robot that maximizes functionality of what we believe will be the most effective design. It's important to have all ideas heard so that the robot can be a combination of everyone's thoughts.



Team Chemistry

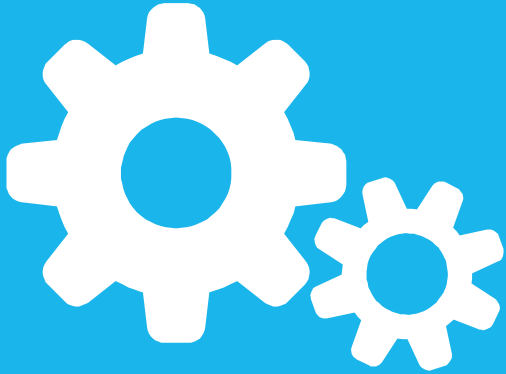
Team chemistry is enhanced when we all learn from each other, through our diversity of perspective. Collectively, ideas are brought together to form a successful robot, and we work together closely to achieve our goals!



Success!

So far in the season, our diversity of perspective, collaboration, and teamwork have contributed to various awards: an Excellence Award, and a Design Award!





“Role(r)s” on the Team

There are no strict roles, but through further introduction and exposure to interests, team members are able to find their passions.

“Intaking” New Members-

and how passions are discovered throughout the season...

Emma



Emma is one of the two sophomores. This is her first year in Beckman Robotics. In the first competition, she explored new roles by being the coach on the drive team. Now, upperclassmen team members are teaching her to build subsystems of the robot!

VanAnh



VanAnh is one of the two sophomores. This is her second year in Beckman Robotics. In the first competition of the season, she drove the robot on the drive team. Currently, upperclassmen team members are teaching her how to manage the log for the future!

Kelly



Kelly is the only freshman on the team! However, this is her third year in competitive robotics. So far, upperclassmen members have been teaching her how to use the 3D CAD modeling software, and how to program the robot!

The “Key” to Success-

girl-powered upperclassmen members...

Jessica



Jessica is one of the three seniors, and this is her third year in Beckman Robotics. She is also known as the “Matriarch,” and helps in logging, designing, building, wiring, and sketching!

Kaelyn



Kaelyn is one of the two juniors, and this is her third year in Beckman Robotics. She is the primary programmer for the team. When she is not programming, she assists in building and designing the robot!

Other “Brains” Behind the Robot

featuring the upperclassmen supporters...

Devin



David



Alan



By introducing skills to younger female team members,

we hope to break the barrier of male-domination in STEM and involve more girls into robotics-related interests.

Successes and failures don't define us...

...through the highs
(poles) and lows (poles),
our team continues to
be a
family!

The Science in STEM: Team Chemistry! (and inclusion!)

Our team chemistry derives not only from collaboration, but from the way we all treat each other like family. Each member can learn something new from another, and accept these strengths with open arms. Similar to the close relationship that we have with our family, 2496R has welcomed every member, considered everyone's ideas, and treated each person with extreme kindness. In addition to maintaining a strong team dynamic, we volunteer at middle schools, host fundraisers, and talk to our friends about robotics in order to increase awareness of STEM.

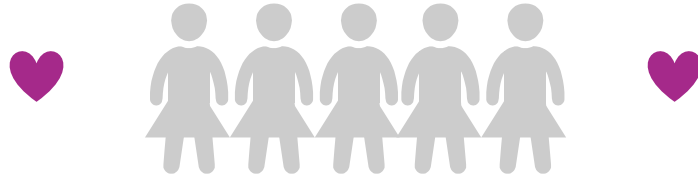




Featuring Mrs. Williams!

A role model, a leader, and an inspiration.

Extending the “Expansion Zone”



Mrs. Williams is our STEM role model. Contributing largely towards our school district, her role is a Teacher on Special Assignment (TOSA), who develops and supports opportunities for students across the school district to learn and apply skills related to coding, engineering, and other STEM-related fields. After beginning her career in science education, she developed an interest in STEM fields and founded a district-wide robotics program starting with 12 teams from 6 middle schools. Five years later, the number of total teams has exceeded to over a hundred in a variety of grade levels. When helping to mentor teams, Mrs. Williams emphasizes on strategies that empower every team member, especially girls, to communicate and collaborate for their voices to be heard and respected. She inspires us to become future female leaders and take initiative toward following our passions for STEM.

“It is my hope that as a female leader in STEM education, I serve as a role model for the female students in robotics and other STEM classes. In the least, they are able to visualize a female who is good at technology, programming, and engineering and this might enable them to see themselves as being good in these fields as well.”

-Mrs. Williams

The percentage of girls in our program has increased year to year...

➡ 19%
2016-2017 Season

➡ 38%
2017-2018 Season

➡ 44%
2018-2019 Season



...and we are striving to increase this percentage in the upcoming years of the program.

The Girl Powered movement is one of many steps taken to change the participation of girls in robotics and STEM activities.

In the future, will there be a “turning point”?

The End!

Credits!

Entrant- VanAnh Nguyen

Team Number- 2496R

Title of Submission- Girl Powered: The
“Turning Point” of VEX

Other Team Members- David Seo, Devin
Ho, Jessica Duong, Kaelyn Pieter, Alan
Onuma, Emma Jung, and Kelly Zhou

