

FIRST Impact Award - Team 5089

2023 - Team 5089
Team Number
5089
Team Nickname
Robo-Nerds
Team Location
Los Angeles, CA - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.
This year we have reached out to our alumni through a survey and 100% were eager to participate in a Webinar to talk about their experience in the team. 100% are pursuing higher education whether it is bachelor's, master's or a doctorate's degree. Multiple of them have also volunteered and continue to mentor our team. All of our seniors are guaranteed to graduate and plan to pursue a STEM major in the future. Our team members enthusiastically continue to mentor other FIRST teams.
Describe your community along with how your team addresses its unique opportunities and circumstances.
Highland Park is an intersection of different ethnicities .Our school as well as our neighborhood is majority BIPOC and is made up of minority groups. Our team embodies our community by placing our concentration on groups that are underrepresented in the STEM field. One of the FTC teams we mentor, FTC Team 20519, consists of English Learners who are given the resources to explore STEM opportunities because we believe the language barrier shouldn't stop anyone from learning technical skills.
Describe the team's methods, with emphasis on the past 3 years, for spreading the FIRST message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?
We have focused on spreading the FIRST message through partnerships in our local community and nearby FIRST community. Our team annually volunteers to other FRC teams' FLL scrimmages and competitions (FRC Team 589 & 2429). This year our team helped the LAUSD FTC competitions by hosting and running a scrimmage, an LAUSD Qualifying Competition, and volunteering at other ones. Connecting with other FIRST teams, we've helped over 80 teams in our city, providing them with a great STEM experience.
Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years.

Our team has continuously invested in mentoring FLL and FTC teams including ones outside of our district. Through volunteering at various tournaments, we have been able to develop our leadership skills and build up confidence in the work we are doing. Additionally, the school supplies drive we host annually invites people who are not part of our program to become involved. These actions are what motivate us to march a mile for the NELA Christmas Parade and present our team to the community.

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

We make ourselves available to assist other FRC teams whether it is for teaching technical lessons or assisting at an event by being a referee or judge. We continuously mentor FLL team 25623 with their robot design, motivating middle school students to be curious about the STEM field. We started and still mentor FTC teams 20519 and 20520 with their robot design and team management. This year, we were able to assist 5 FTC teams through a scrimmage that helped us host and run an FTC tournament.

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

Since establishing our administrative departments, our team has been able to effectively reach out to our community to promote STEM in schools. During the 2021 offseason, we hosted a Hispanics in STEM Webinar to empower students in our community to see their potential through other Hispanics in the field. Additionally, we reached out to homeless elementary school students and donated school supplies to them through our Robo Drive to provide them with the resources they need to excel in school.

Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years

During the summer of 2022, we continued our partnership with FRC team 5810 by attending Go Baby Go events hosted by the Boys and Girls Club. This season we supported our school district by hosting, assisting, and running an FTC Scrimmage and the LAUSD FTC Qualifiers, providing over 40 teams – some being their first time- with a great experience . Also, we always welcome nearby teams (FRC team 4964,6658,etc) to our workspace to assist them.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

In 2021, we started FTC team 20519, an all girls team to increase female participation in STEM in our community. Now the young women are part of our team resulting in the majority of our leads and 40% of our members to be female. Also, the female members talked about their experiences during a Neighborhood Council meeting. Wanting to reach more underrepresented groups, our team decided to establish FTC team 20519 as an English Learners team this year to see their potential in the STEM field.

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

Through the middle schoolers we mentored for FLL and the students we mentored for FTC, our main goal has always been to leave them with the impression that robotics is more than just robots. Highlighting team structure and exposing experiences gained from FRC, members are inspired to continue this path. Workshops prepare students for FRC and guide them to become future role models

that will inspire others. Our succession plan implements investment into mentoring, improving programs every year.

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years

This year, we designed a sponsor packet to guide them to the process as many businesses in our local community have never funded a FRC team. We also apply for corporate grants and send emails to companies who are not in our immediate reach. For consistent connection, we send sponsors a thank you video, give team presentations with robot demonstrations, and invite them to our outreach events. We emphasize our gratitude to them by displaying their logos in our t-shirt, website, and robot.

Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.

Our team is made up of students who have multiple responsibilities; academics, family, and robotics. Therefore there is an ongoing lack of involvement in our team as they still try to find the balance of their time. We are addressing this issue by separating tasks we can do digitally on our own and tasks we can do in our workspace. This ensures that every member is accountable and our teamwork will keep growing.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

The NERDSnet signifies our mission to connect with Los Angeles FIRST teams (FRC teams 597,589,5802,5810,and 2429) promote STEM to more people. Through participating in each other's events such as Go Baby Go, FLL and FTC Competitions, and other outreach activities we are able to spread the word that FIRST is more than robots. With the knowledge we've learned from our teams, we are able to organize and share the experience in our local community through our Robo-Drive and hosting FTC competitions.

Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.

Our team is set in a low income community that makes it more complex to get consistent funding..The sustainability of our team is at a greater risk than others. But our team has decided to pass through this issue and focus on our strengths; that we are a student-driven team. With the resources that we're able to gather, we are able to provide mentorship and assistance to other teams. We greatly depend on the support that our school administration gives and actively communicate with them.

Essay

OUR MISSION The general public has characterized a nerd as someone who is incredibly smart, wears glasses, and is socially awkward. This standard has been set within everyone's mind ever since early 2000s movies popularized these cliches and social cliques. Times have changed since then but strangely enough, the negative stigma surrounding the word "nerd" hasn't. We are Team 5089, the Robo-Nerds and our mission is to transcend stereotype borders to create our own definition of what it means to be a nerd. We have recognized this stereotype within our own community and are working earnestly to commission our values to a populace unfamiliar with our program. Before our team was established, it was rare to see STEM-based organizations in our low-income community and even rarer to see women of color in our community pursuing a career in engineering or entrepreneurship. We were able to offer willing students the opportunity to explore these fields, allowing them to absorb a plethora of knowledge and develop skills with the support of our mentors who teach the principles of FIRST. NERDSNET We have defined our philosophy, NERDSnet: Networking and Educating through Robotics to Develop STEM. Our mission became a cycle. By connecting with other FIRST teams in the Los Angeles area, we are able to educate ourselves while supporting other team's own outreach activities. We then share this knowledge with others in various ways through initiatives that make STEM rewarding and exciting. As our own events started to grow, we began to invite other FIRST teams to take part in them. Through our actions, we leave the message that being categorized as a nerd means being part of a group of people who motivate each other. **NETWORK** Ever since 2017, we've had a close partnership with FRC team 589, Falkon Robotics. They consistently invite us to participate in their outreach activities: they share their space at the Montrose Farmers market and the Crescenta Valley County Fair to demonstrate our robot to people of all ages. The team also graciously taught our team how to program in Java, letting us relay this information to FRC Team 5810, the Xbots in a workshop setting. We recognized that maintaining the connections we've created with other teams are vital in our mission to expand the perspective of STEM. In 2020, we assisted the Xbots with a program called Go Baby Go. We modified ride-on cars for children with disabilities, providing them with the ability to move independently. In the summer of 2022, we continued this partnership by guiding over 100 Boys and Girls Club participants to build their own cars that were given to over 20 children. With this experience, we not only helped physically impaired children but also shared the significance of volunteering by teaching others. **EDUCATING** Ever since our team was created, we've put great emphasis on supporting FIRST teams to establish themselves. We assisted several FRC teams including the Torobots (5765), Los STEMateros (5802), and Eagle Rockbotics (6658). We welcome other FRC teams to our workspace to help them troubleshoot their robot during the season. We've been advising FRC team 4964, Rough Riders Robotics, as they try to restart their team by teaching them the basics of the robot foundation and Java programming. Furthermore, during the 2022 season, we were able to connect with FRC team 8006, The Phantoms, and invited them into our space to help them wire their robot. Viewing the results of our efforts, we discovered the great momentum our team had developed through helping other FRC teams. We took on the challenge of doing the same for FLL teams allowing us to create an impact on students who are earlier in their journey of finding their interests. We helped establish FLL team 13006 from Buchanan St. Elementary School, team 18854 from Humphreys Ave Elementary and team 21527 from Luther Burbank Middle School. In 2016 we started FLL team 25623 from Franklin Dual Language Academy, a middle school adjacent to our campus. The team has been entirely Robo-Nerds led for the past five years. Every year, we've been able to mentor the team in all aspects while also improving in our ways of teaching. As a result we are able to coach them in robot strategy, design, and research and presentation skills. We provided a way for their ideas to thrive, earning them a spot in the Los Angeles Championships in 2017 and 2019. Additionally, the students have developed an interest in STEM and continue this passion, resulting in many being part of our own team and taking lead positions. In the fall

of 2021, our team opened up the opportunity for an all-girls FTC team to be instituted. Through FTC, critical skills such as taking initiative, organization, asking questions, etc. were taught as an introduction to FIRST and allowed the girls to build their confidence. This idea proved to be successful as the girls from FTC Team 20519, previously the BlazinNerds, joined FRC Team 5089. They were eager to continue their FTC journey, this time mentoring both of our FTC teams. Team 20519, now NERDbotics, reinvented itself and became a team composed of individuals from underrepresented groups. This year, the team consisted of English Learners who despite their challenges, won the LAUSD FTC Qualification Match as Alliance Captains and were awarded the Motivate and Connect Award. The judges were moved by how these students were able to convey their enthusiasm for the program even when met with a language barrier. Their enthusiasm would also reach the people in the audience, including the district coordinator of LAUSD, who pointed out to other event directors: "Franklin had a team of two, an Iranian hijabi female and a Latino male. Both are non-English speakers. They worked together and were apart of the winning alliance...Today's event shows the importance of these programs." In addition, we also mentor FTC team 20520, Nerds-R-Us. We taught the team about robot strategy, document organization, and team management. The team was able to win the Inspire Award because of their dedication to documenting their build process and the hard work they put into their presentation. Their accomplishments remind us of the impact we can make through mentorship, sharing our knowledge and resources to provide an enriching learning environment for those who often aren't presented with the opportunity. OUR GROWTH This notion does not only apply to the teams we mentor, as we were able to do the same for over 20 teams by hosting and running an FTC Scrimmage and the LAUSD FTC Qualifying Competition. Annually, our team volunteers in the FLL competitions hosted and run by the La Canada Engineering Club which houses FRC Team 2429. With the experience we've gathered from helping, our members have worked hard in researching, organizing, and staffing the event so it would run smoothly for the teams participating. For us, hosting these tournaments wasn't just about providing the venue. We made the attending teams our top priority; we assisted them with their robots if they were having any technical issues, prepared them in any way we could for the impromptu judges' interviews, and arranged extra supplies in case they didn't have access to them. We were also able to lead by example, enabling our 2 FTC teams to support their peers whether that be lending them a spare servo controller or talking about strategies, even if they would face each other as opponents in the next match. This qualification tournament is the first of its kind in Highland Park. An open high school function that is centered around STEM has allowed us to garner support from the people in our community and the district to push our initiative even further. Beyond collaborating with FIRST teams, we started our own initiative focused on community impact. In honor of Hispanic Heritage Month, our outreach team facilitated a webinar that consisted of Hispanic professionals in STEM in 2021. In hopes to inspire, we invited our school and local community to listen to people who, despite being underrepresented in STEM, thrive in the field. When we were able to do in-person activities, our team collected and raised funds for school supplies in our event titled, "Robo-Drive for School Supplies". We donated the resources we gathered to disadvantaged elementary school students to ensure that they had the necessary materials to excel in school. Throughout the process, we raised awareness for programs like ours, demonstrating that we did more than build robots. EMBRACING NERD-NESS As we refine and expand this cycle, our team promotes the idea that being a nerd is much more than its dictionary term. By connecting with over 90 FIRST teams from all three programs, we have displayed that being a nerd means to be part of a community that helps and educates each other. People who have experienced our program have left with the confidence to reach their potential. All seven of our seniors plan to pursue a STEM major in a 4 year college. From the alumni we were able to reach out to, 100% of them are studying for their bachelor's, master's, and doctorate's degree. Now, it is much more common to find people in our community who have a passion for STEM. Each year, our NERDSnet continues to develop into a much more efficient system, creating

more connections every year. Nearing our 10 years as a team, we don't plan on stopping. Our goal is to empower as many students as possible, giving them the opportunity to see their potential in STEM regardless of their background. We want to inspire students to embrace their nerd-ness. ;

