

Chairman's Award - Team 2638

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2020 - Team 2638

Team Number

2638

Team Name, Corporate/University Sponsors

Gold Coast- Lake Success Rotary / Charles Schwab- Stuart Lempert / Google / Bloomberg / Great Neck Alert Fire Department / Great Neck South High School PTSA / Great Neck South High School / Judi Bosworth / GE Pickering Medical Supplies & Great Neck South High School

Briefly describe the impact of the *FIRST* program on team participants within the last five years.

According to collected data, over 95% of team members feel FIRST Robotics expanded their knowledge of STEM. In addition to technical skills, our members learn crucial communication and listening skills during annual leadership seminars; time management and teamwork skills during the build season; and interpersonal and technical problem-solving skills as they fulfill the various missions of FIRST. Students leave 2638 as unique, well-rounded individuals, ready to conquer any challenges that come.

Describe the impact of the *FIRST* program on your community within the last five years.

Over the past three years, 2638 has raised \$32,930 in support of local charities: St. Christopher's Orphanage, Polar Bear Plunge (supporting the Special Olympics), Midnight Run (supporting the homeless), and Sunrise Day Camp, along with the Matthew Fetzer Foundation (supporting those with childhood cancer). Our team also helped package 10,000 meals for needy families in collaboration with the Lake Success-Gold Coast Rotary.

Describe the team's methods for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative.

Our team's social media and website play an active role in promoting FIRST online. In addition to a virtual presence, we also convey our message through a personal approach: collaborating with Eagle Scouts to construct a 9/11 memorial by our trailer, hosting a viewing party of our team competition at Baker Elementary, organizing an Hour of Code event for middle schoolers, and showcasing our robot in our town's street fair. Our team gear, featuring our logo, helps raise public awareness of FIRST.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

In 2019, we introduced a revamped peer mentoring system, partnering 13 team members with 80 new members to allow for better guidance and influence on first-year members. In our charity efforts, 90% of team members agree that we are the face of STEM in our community and that they are motivated to participate in community outreach themselves. Pre- and post-season workshops were created to give new members an opportunity to practice skills and occupy more productive roles during the build season.

Describe the team's initiatives to help start or form other FRC teams

Team 2638 is laying the groundwork for two FRC teams. Our goal is to help our sister school, North High, start an FRC team; we help them develop their FTC team for this reason. We also ready them for FRC by providing technical assistance, donating money/equipment, and developing a collaborative relationship (i.e. co-hosting the FTC event with them this year). A new initiative will help a Girl Scouts troop move towards developing an FRC team, a move that complements our gender equity efforts.

Describe the team's initiatives to help start or form other FIRST teams (including Jr.FLL, FLL, & FTC)

We established 8 FLL teams in local elementary and middle schools, reaching 710 individuals in the past three years, 5 of which were created for the 2019-20 season. Also, a Jr. FLL was created in conjunction with local Cub Scouts. We donated 10 FLL kits to schools in Costa Rica, China, and India, and continue to provide guidance and materials. Our team's growth encouraged the school board to budget money for the creation of 3 new FLL teams and 2 FTC teams in our district for the 2020-21 season.

Describe the team's initiatives on assisting other FIRST teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the FIRST program

Our team established the Gold Coast Alliance (GCA), a network of 14 FRC teams that actively support one another. We mentored FRC Teams 3950, 4567, and 1803 (and welcomed them into the GCA). We hosted teams from Turkey, Canada, China, and Israel in our own robotics lab. Our safety leaders visited Teams 3624 and 7400 to discuss new safety protocols and suggest improvements to their safety practices. Our mentee, Team 5016, won the safety award at the SBPLI Regional as a result of our guidance.

Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (includes Jr.FLL, FLL, FTC, & FRC teams)

We mentor 3 FLL, 2 FTC, and 3 FRC teams. We visit their schools, invite them to our shop, and provide them with team members as "advisors" who assist the students. We hosted FTC Team 4017 at our shop to help them prepare for competition. In 2019, our team developed and provided mentees with CAD modules to guarantee them a stable group of CAD proficient individuals. Mentoring middle schoolers also ensures our stability, developing a pipeline of eager and skilled students who will join 2638.

Describe your Corporate/University Sponsors

In the past three years, we obtained two new corporate sponsors, Google and Bloomberg, resulting in donations of \$13,500. For the past two seasons, Zebra Technologies sponsored our team's trips to the Championship tournament with \$5,000 grants each year. These corporate sponsors join our long-term sponsors of Lake Success-Gold Coast Rotary Club, Charles Schwab, and many grassroots supporters, such as Town Supervisor Judi Bosworth, alumni, the fire department, and local businesses.

Describe the strength of your partnership with your sponsors within the last five years.

Over the past three years, we raised a total of \$16,600 for our team at an annual fundraising social held with the Gold Coast-Lake Success Rotary Club. With help from donations of merchandise and services from local businesses, this year's social raised \$7,000. Google employees set up a viewing party in order to watch our team perform at competitions. In addition, the Great Neck Alert Firehouse donates safety materials to our team and provides members with certification opportunities.

Describe how your team would explain what FIRST is to someone who has never heard of it

FIRST is about developing a community of individuals who value expanding their technical, interpersonal, and citizenship knowledge, as well as forming everlasting bonds with other participants from all around the world. FIRST makes us ambassadors for spreading the message that STEM skills are critical in the 21st century. As the world continues to evolve, STEM will undoubtedly play a key role in this growth. As a result of our participation in FIRST, we have become a force for change.

Briefly describe other matters of interest to the FIRST judges, if any

This year, 2638 was invited to host an FTC event with our sister school's FTC team, reaching 550 individuals and 40 teams. Our mentee from North High made playoffs for the first time and ultimately won the competition. Our FTC mentee's success and the start of 5 new FLL teams and a Jr. FLL team exemplify our goal to create a flourishing platform of FIRST in our district. We aim to inspire bright individuals to discover their full potential and hope this will aid them beyond FIRST participation.

For FRC teams older than 5 years, briefly describe your team's broader impact from its inception.

Our team's committees offer students exposure to varied skill areas (fundraising, team gear, outreach) besides the strictly technical areas commonly associated with robotics. While not all of the students on the team will pursue a career in the STEM field, their participation on the team, as members as well as advocates, heightens their awareness of the impact of technology. That knowledge will, no doubt, become enmeshed in whatever field of study they pursue.

Team Captain/Student Representative that has double-checked this submission.

Alice Zhang

Essay

Team 2638's mission is to act as a force for change and growth in the STEM arena, both in our community and in the world at large. Hence, our team adopted the motto "changing the culture one nut and bolt at a time." Our internal and external efforts advance our team and increase awareness of STEM in our world. Since our modest start in 2007, with only 10 members, we have diversified our breadth of activities and increased our membership by 1,200%. Inspiring, mentoring, and promoting diversity are the strategies that we use to accomplish our mission.

EDUCATION - Our team develops members with unique skills and integrates STEM into our community. Our team's strength is attributed to members who possess a blend of technical and interpersonal skills. Cultivating individuals with leadership skills is critical to our team's success; our seminars instruct students on leadership styles, organizational dynamics, and communication skills.

We arrange meetings in September to give new members an opportunity to learn from older members about FIRST via tours of the workshop and basic equipment. Leaders teach new members how to prototype, use CAD to virtually replicate parts, and handle machinery. Female members are encouraged to join Girls Who Code (founded by two team members), a club focused on careers in computer science, a vastly male-dominated field.

Our philosophy centers around responsible conduct and safety. In collaboration with the Great Neck Alert Fire Company, we ensure that every team member is certified in CPR, AED, and First Aid. A safety test is required to handle machinery and tools, and we mandate the use of safety glasses at all times. Due to safety's importance to our team, we have incorporated it into fundraising efforts by selling safety kits. In light of recent school safety issues, our team has embraced B-Con training standards.

Apart from internal efforts to embrace safety, we extend our measures into local and FIRST communities. To keep our school district safe, representatives attend a monthly district-wide safety conference and spread safety education in elementary and middle schools. One Disney-sponsored initiative was The Red Cross Pillowcase Project, dedicated to preparing youngsters for disasters and emergencies. To urge mental health awareness, our team conducts member surveys (measuring stress levels and personal habits such as sleep time) and puts up posters in school to lessen the stigma behind mental illness and foster healthy discussion. In the FIRST community, we host an annual CPR/AED/First Aid Certification event for our mentees. At competitions, we embody safety by creating an evacuation plan, equipping our pit with devices and instructions to prevent and handle accidents, and instructing other teams on safety procedures. We express gracious professionalism by gifting a wall equipped with safety devices and issuing safety awards to others at regional/championship competitors.

2638 brings STEM to the community in many ways. During our annual Engineering Inspiration Month, we showcase robots and display a slideshow of technological inventions. We speak about robots at many local schools and volunteer at numerous events. In 2019, we showcased our robot in our town's street fair to over 3,000 attendees. We also help Boy Scouts complete their Pinewood Derby cars and hosted FRC and FTC teams in our shop to develop their teams and tackle safety issues. We designate one Friday every month to increase FIRST awareness in our school by wearing our team shirts, and we consistently hold bake sales and pizza sales to fundraise. 2638 appeared in an interview segment on a local television show to discuss FIRST, our team, and our robot.

INSPIRATION - Inspiring others is vital to our team mission; one way we do this is by pursuing charitable efforts. Over the past three years, our annual Lunch with Santa event raised \$10,167 for local charities; this year, earnings went toward a scholarship fund in honor of a late faculty member. We engage in 5 Midnight Runs each year, collecting and distributing supplies to the homeless in NYC. We packaged 10,000 meals for the needy in conjunction with the Rotary Club and are planning to do so again in the spring. Many team members shave their heads to raise money for St. Baldrick's, a charity supporting childhood cancer research, raising \$33,912 over the past three years.

We brought our robot to the Saratoga Family Inn, a housing facility for homeless families, in order to expose less fortunate children to STEM. We have an ongoing collaboration with Sunrise Day Camp: team members bring multilevel STEM activities to children with cancer and their siblings. We attend their biannual Family Fun Day and run activities at their STEM Shack, such as building challenges, sink-or-float experiments, and opportunities to drive our robot.

To bring STEM into our community, we visited the Cohen Children's Medical Center to exhibit our robot and build mini-robots with the children, and we collaborated with Boy Scouts to develop a piece of land at our school for a team trailer location and a 9/11 memorial. We created a pathway paved with bricks that were engraved with messages from our supporters.

The award-winning novel *Ungifted* by Gordon Korman was inspired by and dedicated to 2638. It has been published in English, Spanish, Korean, Japanese, and Turkish.

MENTORSHIP - 2638's priority is to assist and mentor other FIRST teams. We also mentor 8 FLL and 1 FTC teams in our district, supplementing the extensive robotics curricula that is presently offered in lower-level schools. We have also initiated and will be running a Jr. FLL team in collaboration with the Cub Scouts.

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We attend the Half Hollow Hills off-season event, giving younger members a glimpse of FIRST before build season. In 2018, we shared our robot with a new FRC team from Mineola High School to give them practice competing with an FRC robot. Moreover, we formed the Gold Coast Alliance, consisting of 14 FRC teams that regularly share resources and support. We currently mentor FRC Teams 3950, 4567 and 1803 (whose advisor is a 2638 alumnus, denoting the impact that 2638 and FIRST have on alumni).

Our team was honored to have been invited to host an FTC event in January with our sister school's FTC team, with 40 teams and 550 attendees present. Sixty-six team members performed a variety of roles over the two-day event: field resetters, judge's advisors, food vendors, and fundraising associates (raffles and team gear). We conducted a raffle and gifted safety kits to each of the 40 teams. Responses to a feedback survey recognized the pivotal role that we played in making the event a success.

As a three-time international safety award winner, we want to elevate our alliance's safety standards. Due to our guidance, the Huntington High School team went on to win a regional safety award. Our alliance members have also begun to sell safety kits. We also wish to develop and collaboratively nurture new FRC teams. A partnership with North Shore Hebrew Academy presents onsite robotics experience to students who have no such resources in their school. Education outreach efforts are our team's focus in promoting STEM awareness and assisting other FIRST teams. We partnered with the HeYuan XiaoXue Elementary School in Guangzhou, China and the Costa Rica International Academy in Brasilito, Costa Rica. The goal is to help them, via Skype sessions and robotics kits/materials, establish formal STEM curricula and FRC teams. A team member went to Hyderabad, India, as part of the Global Encounters Program to better underprivileged children's quality of life. We collected educational supplies and clothing to provide them with the tools needed for long-term development.

SUSTAINABILITY - Our growth called for a restructuring in our club's organization and communication to ensure our team's sustainability and continued progress.

We work with the middle school, creating relationships with younger students to ensure our team's sustainability. We send experienced team members to the middle school to help their FLL team with their robot. During Computer Science Week, we hosted an Hour of Code event, introducing middle schoolers to programming and inspiring future generations of 2638 coders. There were 48 attendees, and 9 team members supervised the event.

In 2018, we discontinued a hierarchical leadership structure in favor of 12 distinct committees, including building, fundraising, outreach, programming, and safety. This is more welcoming to new members and allows for the pursuit of personal interests. As a result of information culled from a new-member feedback group, we introduced a peer mentoring program in 2019. Thirteen veteran members were matched with 80 new members to ease them onto the team and provide them with ongoing support and guidance.

We embraced a gender-equity initiative to offer female members more leadership positions and chances to connect with STEM professionals. As of the 2019-20 season, females account for 43% of leadership positions (a 23% increase from 2018). 13 female representatives attended Day of Discovery career awareness events sponsored by the Skanska Women's Network and the Thornton Tomasetti Women@TT Group. They visited major NYC construction sites and spoke with female engineers and architects.

Good communication is crucial to any organization. We developed new strategies to improve team discussion. Discord is our primary communication tool; it allows us to connect in a more organized fashion. We also use Facebook and Instagram to post announcements and updates to our supporters and members. Our revamped website makes team updates and donor information more accessible and increases transparency.

Since its barebones beginnings, Team 2638 has persisted to build both more efficient robots and a greater STEM presence in our local and global communities. To be a force for change one nut and bolt at a time.