

## Chairman's Award - Team 5943

[Print](#)[Close](#)**2020 - Team 5943****Team Number****5943****Team Name, Corporate/University Sponsors**

PepsiCo, Inc. / Fryer Machine Systems / Hipotronics (Hubbell) Inc. / Insite Engineering / The Ginesin Family / PaySett Corporation & Carmel High School

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

Different team members have been able to explore a number of artistic, technological, social, and management skills in a safe, welcoming environment. We also have a few students on the team who's grades have improved significantly since joining. As a team, our focus is to create a fun environment where people feel free to express themselves, learn, and make new friends.

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

When we started as an FTC team, there were no FIRST programs in our county. Most of the FIRST teams throughout New York were located in NYC. Today, our county has 3 FRC teams, 1 FLL team, and 2 FLL Jr. teams within our district. We are excited to continue to promote the spread of FIRST within the community. To do this, we run several outreach events dedicated to the promotion of STEAM in the community. Our most popular events are Maker Faire, Terrificon, Kids Day, and Kent Community Day.

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

While most of our outreach follows a basic formula of allowing people to drive our robot and make "doodle-bots" and "brush-bots", we also have some creative forms of outreach. We partnered with e-NABLE to create a prototype for a prosthetic hand. In addition to this, we have run two separate FLL Jr. related programs which are aimed towards getting kids interested in STEAM at a young age in a classroom setting. We have also been promoted in the podcast of one of our sponsors, Ratings Pending.

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

To ourselves and others, we accept the fact that we are not perfect. We have discovered that learning from our mistakes is an important part of life and we embrace this concept. We know that we are not perfect, but we believe that in chasing perfection, we are bound to catch excellence. Our team hopes to inspire FIRST teams to reflect on the mistakes they encounter and build upon them.

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

Our team has not only advanced greatly ourselves, we have also taken the initiative to start two FRC teams: Team 7016, the P.V. Shock Bots, and Team 7504, the Cybearbots. We help to facilitate the growth of these teams by giving them access to our team's resources. We share our tools, mentors, workspace, and so much more with these teams in an effort to help them succeed. We provide each mentee team with a robot base so they can learn about the electrical and drive system of an FRC robot.

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

Our team's major focus has been spreading FIRST throughout our county. While we predominantly start FRC teams, we also have started some FLL Jr. teams. We started Team 8959, the Butterfly-Bots, and Team 9276, the Dino-BOTS. It is very important to us that we introduce the children within our community to FIRST and STEAM at a young age. This is because children introduced to STEAM at a young age are more likely to pursue it later in life.

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

Our team ran a six week long after school program in the hopes that it will introduce young children to STEAM. This was also the hope of one of our juniors when she formed a program at our local library during the past two summers. Both programs follow the FLL Jr. curriculum, in the hopes that the students who participate in it will continue in FIRST throughout our school district. We also have several members and alumni who volunteer at FLL events to help promote FIRST to children.

**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)**

In the past, we have organized events to connect our local middle school's FLL team to our FRC team. We organize STEAM events where the students built marshmallow shooters and got to talk to FRC members about FRC. One of our mentors also regularly attends our district's FLL team's competitions to show our support for them. All of these factor into the engagement of kids in STEAM and FIRST early on in life in hopes that they will be inspired to continue in both in the future.

**Describe your Corporate/University Sponsors**

Our main corporate sponsors include PepsiCo, Fryer Machine Systems, Hudson Valley Truck and Trailer, Brewster Glass, Haefely Hipotronics, Ratings Pending, Insite Engineering, SMART Transportation, and Carmel High School. Most of our sponsors, like PepsiCo, provide us with the funds for our robot while sponsors, such as Brewster Glass, provide us with physical materials for us to use on the robot. Then, sponsors like Hipotronics come to our workshop to provide mentorship.

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

Some companies cannot donate much money to the team, but instead visit our workshop to apply their experience in Engineering and give us a better perspective on the year's challenge. Fryer, and Hipotronics also invited us to their work spaces for an inside look at the engineering world. We also have become close with our newest sponsor, Ratings Pending. They take videos of our team at off-season competitions as well as kickoff and are making podcast episodes which follow the story of our team.

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

As one of our seniors, Josie, put it, "FIRST Robotics is an opportunity to bring people of all different backgrounds to a new world and bond over something they all have in common". Since many people within our community have not heard of FIRST Robotics, we have to explain it quite often. Our descriptions can be anything from an intensive engineering competition to a chance to make new friends. Although, each answer has one thing in common; our team is a family.

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

One of our proudest accomplishments as a team is our diversity factor. We are pleased to say that 68% of our members are minorities in STEAM. 26% of our team members are of a minority race and 32% of our team is female. 10% of our team members are special needs, and another 23% is part of the LGBTQIA+ community. One of our mentors started a program called GirlsNGear, in which all of our female team members are an active part of. GirlsNGear provides opportunities to females in STEAM.

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

When we started as a team, we did a lot of community outreach where we drove around our robot and talked to the public about FIRST. However, over the past five years, we have shifted towards hands-on community outreach. Hands-on community outreach allows children to explore STEAM for themselves, which, in turn provides a higher chance of further exploration. We hope to engage the children of today and inspire them to become the innovators of tomorrow.

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

Kathleen O'Sullivan

## Essay

The world around us is changing each and every day. It is our job as human beings to monitor this change and ensure the world is adapting to its new sets of challenges. Many people may believe that one small group of teenagers out of seven billion people cannot have a real impact on the world. This could not be farther from the truth. Every action, no matter how small, has the potential to change the world. This concept is especially prevalent in a close-knit bunch of students located in the small town of Carmel, New York. Here on Team 5943, The Bad News Gears, we are living proof that the world has the potential to change; and that our generation is the key to that change. As students, we learn more than just how to build a robot; we learn how to help people, and we persevere even when things seem impossible. We learn that our disadvantages are not obstacles that keep us from winning, but they are what make us who we are. Our team, just like everything else in life, has faced its ups and downs in our short five years together. We began as a rag-tag group of students who were interested in STEAM, and wanted to explore technological projects after school with their teacher. After a few years of individual projects, we received the 2008 National Science Foundation Grant. The purpose of this grant was to bring students together in an FTC team. The FTC team started as an un-official club that was focused on the spread of FIRST within our community.

After years of doing FTC, our team craved a new challenge. We decided to expand the FIRST program in our school by starting an FRC team. In 2016 we received a \$6,000 grant from New York Tech Valley FIRST which allowed us to become the first FTCteam in Putnam County. We were awarded this grant, however our school did not recognize us as an official club due to an on-going dispute between the board of education and the teachers. After months of persuasion they eventually agreed to make robotics an official school club.

With determination and inspiration from our most recent success, we applied for a \$4000 FIRST Rookie Grant and won it! At our first regional, New York Tech Valley, we struggled through the competition with a barely functioning base and persevered to win the Rookie Inspiration award. Fast forward to the 2019 season, after many years of continuous dedication to FIRST, we achieved our goal of making it to the Detroit Championship by winning the Engineering Inspiration Award at the NY Tech Valley Regional.

Along with teaching the FTC course at our High School, the team has introduced the FLL Jr. challenge to the students at a local elementary school. This program ran every Tuesday for six weeks in the fall for the past two years. Along with following the FLL Jr. challenge, the students in these programs were allowed to drive our team's FRC robot. This outreach program is aimed towards introducing children to the world of STEAM at a young age and inspiring them to continue exploring STEAM and FIRST as they grow into the innovators of tomorrow.

This year we decided to take the spread of STEAM and FIRST to the next level. Our school is now offering a Robotics course taught by our coach, Mr. Saldicco. The class follows a curriculum based around the FTC season, in which, the students are learning to make a robot that successfully completes this year's FTC Challenge. Our school offers two of these robotics classes, and there are 33 students between the two classes increasing the reach of robotics to more than just a club. The classes consist partially of students from our FRC team who assist in the facilitation of different activities. These students utilize their experience to provide a deeper insight to FIRST. This class, unlike many other classes in our school, is open to all grades. A majority of these students are freshmen. This class is also one of the reasons that we received so many new members this year. The robotics class gave the students a chance to be introduced to FIRST in a classroom environment which ignited a passion for STEAM in them that burns eternal.

We believe that the impact that FIRST has on our students is unique and would like to spread that throughout our community. Our team has been instrumental in helping to create two new FRC teams over the last three years. The PV shock bots (7016), and The Cybearbots (7504) from neighboring school districts. We share our experiences, previous robot, and collaborate to help get the new team off the ground while creating a network between our teams that we can grow and learn from each others expertise. In an effort to grow Team 7016, we partnered them with an engineer from one of our own sponsors, Globalfoundries. This partnership was to help mentor and led to their team receiving a \$6000 grant. The second FRC team that we started was Team 7504, the Cybearbots. Just like Team 7016, we allowed them to leverage our machines and mentors to help develop their team. In addition, we helped them receive the NASA Rookie grant their first year which provided them the funding to sustain themselves as a team. During the 2019 season, we had a team member visit Team 7504 once a week to answer any questions and assist them in scouting, strategy, and anything else they needed. We are proud to say that they ranked 12th at Hudson Valley Regional (HVR) last year and will be competing again in 2020. Every kickoff we invite both teams to our woodshop to go through the game manual together. We have also started 2 FLL jr. teams 8959 the Butterfly-Bots, and Team 9276 the Dino-BOTS.

In the past, our team has worked with a non-profit organization called e-NABLE. e-NABLE works with volunteers to produce prosthetic hands for people within our community. We have made a prototype of an e-NABLE hand which we have the CAD to continue this project in the future. We also re-made the joystick of an electric wheelchair for an alumni of Carmel High School who is a paraplegic.

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Our team has done approximately 1257 hours of community outreach in the past 5 years between all of our team members. This breaks down to about 60 hours of community outreach for core team members. Our outreach events are unique in that we allow children of all ages to drive the robot as well as create their own "doodle bots" and "brush bots". This form of outreach encourages the exploration of STEAM in a creative environment. One of our favorite community outreaches is Carmel High School's Kids Day which takes place each year during the holiday season. Children are given the opportunity to drive our robot and use their creativity to build both doodle and brush bots. We have done this outreach for the last 4 years and every year we enjoy it as much as the community does. We have many people come back year after year because they found our hands on community outreach to be so impactful. We also participated in the 2018 and 2019 New York Maker Faires and Terrificon. At both Maker Faire and Terrificon, our booth was a platform to promote the spread of STEAM using hands on activities.

During the summers of 2018 and 2019, one of our team's Juniors organized a summer program for the students in our community that focused on the FLL Jr. challenge. The program was held at our local library and was six weeks long. Like many of our outreach events, it focused on introducing the kids to STEAM and FIRST alike. We also had a member of the team organize an assembly at a local intermediate school where she gave a presentation about inventing to help promote the school's Invention Fair. This presentation was given to over 400 people and talked about creating inventions. We are very proud to say that 68% of our team members are a minority within the STEAM field. 10% of our team members have special needs. 26% of our team members are also of a minority race. 23% of our team is part of the LGBTQA+ community and 32% of our team is female. We believe that our high number of females is due to a program founded by our mentor called GirlsNGear. The purpose of this program is to provide support, networks, and resources for women in STEAM. GirlsNGear enlists girls from K-12 and provides networking opportunities with programs such as NCWIT (National Center for Women and Information Technology), SWE (Society of Women Engineers), Girls Who Code, and EngineerGirl. One of the team's alumni went through the GirlsNGear program and now has a job as the Vice President of the Mid-Hudson Valley SWE chapter. Two of our team members also won the NCWIT Aspiration Regional Award, and one of them won the NCWIT Honorable Mention on the national level.

The majority of our alumni went to college for STEAM related subjects. They attend colleges such as MIT, WPI, RPI, Pace University, Buffalo State College, University at Buffalo, and NYIT for various degrees relating to STEAM. Besides serving as mentors to our team, our alumni also volunteer at FIRST events. Our mentors make up 27% of the HVR planning committee. Some of our alumni have also led programs that have brought FIRST to underprivileged children in Poughkeepsie, NY as well as frequently volunteering in FLL Championships.

Looking back upon the last five years, we realize that we prospered in ways we never thought possible. FIRST is thriving in our county; a feat that we are extremely proud of. When we look to the future we see a world where the power of FIRST knows no limits, we see a world full of problem solvers and innovators ready to take on tomorrow's unknown challenges. This is the world that we, Team 5943, The Bad News Gears, have been fighting for since the beginning. What we did not know then was that besides gaining knowledge in innovating and problem solving, we also gained something never expected; a family among strangers.