Chairman's Award - Team 2642

2020 - Team 2642

Team Number

2642

Team Name, Corporate/University Sponsors

Solidworks/Pitt County Educational Foundation/Optimist Club of Greenville/North Carolina Museum of Natural Sciences at Greenville/Pfizer/MaynePharma/Weyerhaesuer/Pitt County Development Commission/Suddenlink by Altice/Bill and Ann McClung/Allison and Dr. Thad Wasklewicz/Wayne and Eleanor Allen/The Lindbeck Family/Wazzy Boy Computing/Dan's Machine and Welding/The Patel Family/Bob and Cynthia Moran/Andy and Emily Wasklewicz/Wayne and Susan Meads&Pitt County Schools

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

The FIRST program has exposed our members to new experiences that encourage us to learn STEM skills, make connections, & realize opportunities. 98% of our team pursued STEM careers after graduation over the last five years, and 50% of our current mentors are alumni. Being on the Pitt Pirates allows us to join a family of 35 other like-minded students & collaborate with teams worldwide. We also participated in FIRST NC's advocacy day to learn how to use our voice in the state's capitol.

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

Our team works in the community by donating to various charitable efforts such as St. Jude, the American Cancer Society, & the Humane Society. We have spread awareness of FIRST by participating in various parades, festivals & 2 halftime shows for ECU basketball games. Our team is involved in inspiring kids with STEM activities at 5 Boys & Girls Clubs & 3rd Street Academy by starting engineering clubs. Our week long summer camps at A Time For Science introduce kids to the FIRST core values.

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

The Pitt Pirates' unique RoboxSumo program was made to provide a low-cost method to spread STEM and foster creative thinking skills in all ages. These robots are very versatile; they’ve traveled across NC and the world to 8 countries, been the focus of STEM competitions, and are regularly driven by excited crowds at festivals and at over 20 STEM day events in Eastern NC. ECU Science Education Department is now using this program to focus on NGSS engineering standards to foster innovation.

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

Every new season, we work with the new members on our team, keeping past triumphs & mistakes in mind. Throughout the year, members are encouraged to mingle with & provide support to other teams. We model responsibility through leadership positions & volunteer work. In the past two years, we have volunteered over 4700 hours at 190 events. 100% of our returning members were recognized with the President's Volunteer Service Award. At competitions, we're always willing to lend a hand to others.
Describe the team's initiatives to help start or form other FRC teams

Due to a growing amount of interest in robotics in the Pitt County area, in the 2014 season, we established FRC team 2682 Boneyard Robotics. Both Pitt County robotics teams share funds. Last year, we also encouraged the creation of Team 7715 Robo-Banditos in Elizabeth City where we were awarded the FIRST NC TEAMS grant. We mentor this amazing team at least once a week during the robotics season to assist them in robot design, programming, engineering, and marketing strategies.

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

Over the past 5 years, we have started 37 FIRST teams including this year the FLL Jr. Teams 20756 LEGO Boyz at 3rd Street Academy, 20990, 19634, and 19721. We also have a start-up grant program where teams can apply on our website. This grant is for interested teams in Pitt County Schools to start a FIRST team in their school. The PiRates, for example, are a Pitt County FTC team we started with this grant and have continued to support financially.

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

This past fall, we held our 2nd annual FLL scrimmage to help teams prior to the FLL competition. We hosted & run FLL tournaments since 2013 & FLL Jr. Expos for the past 3 years. We offer weekly Coffee with Coaches Clinics to help new coaches with FIRST strategies. East Of 95 (EON) is our practice half-field we build for FRC teams. We have presented at the World Championships and FIRST conferences to assist teams on technical & marketing topics. We have helped 73 teams over the past 5 years.

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)

Pitt Pirates have mentored for 2 years FRC team 7715 Robo Banditos & for 3 years FTC 13735 PiRates. This year we also had the opportunity to mentor FIRST Global teams Fiji & Italy. We have also mentored 45 teams since 2012. This year, we mentored for 13 weeks our FLL Jr. team Lego Boyz. We provided these disadvantaged students an opportunity to experience STEM through the FIRST program. We also partnered with the National Society of Black Engineers to give the LEGO Boyz role models to emulate.

Describe your Corporate/University Sponsors

Our sponsors include the Pitt County Schools, Pitt County Educational Foundation, Greenville Optimists Club, A Time For Science, Bray Hollow Foundation, Weyerhaeuser, Suddenlink by Altice, Fresh Market, Mayne Pharma, and individuals in our community. In February, we are partnering with Thermo Fisher Scientific to run an all girls robotics camp at a local Boys and Girls Club. We have relied on our grassroots sponsorships to keep us sustainable for the past 13 years.

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

We send hand-written thank-you cards to our sponsors and invite them to attend our robot reveal. Our sponsors also get featured on our website, t-shirts, promotional materials, and social media. Suddenlink by Altice is now offering mentors to help our team. We are so grateful that A Time For Science has allowed us to run STEM camps at their facility for the past three years. The Greenville Optimist Club allows us to work their concession stand at ECU football games to raise money for our team.

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

FIRST is a program dedicated to creating the motivated, responsible, and inspirational leaders of the future. It gives students opportunities to learn, grow, and teach others. While building a functioning competition robot is a daunting task, inspiring the world is the real challenge. FIRST works to give all its members a chance to contribute to the ultimate goal—spreading STEM across the galaxy!

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

Pitt Pirates support girls in STEM. As #FIRSTLikeAGirl NC ambassadors, we have access to a platform that allows us to help inspire girls in engineering. We are encouraging all NC teams to join this movement by providing supplies to hand out at events. This fall we co-hosted & ran Doyenne Inspiration, the first all-girls FRC off season competition in NC. This year we started our STEM Treasures initiative in which we assemble & send STEM kits as resources to teams and kids around the world.

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

In 2013, we started to create programs to introduce STEM to kids in the community. After seeing the impacts of RoboSumo, we needed to do more. We expanded our initiative to bring STEM to those with monetary & technical hardships locally & globally. We introduced our curriculum to groups like the Boys & Girls Club & 3rd Street Academy. With partnerships like Wonder Connection, we can spread our initiative to pediatric patients who don't have access to STEM education through our STEM Treasures.

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

Keenan Wasklewicz
The Pitt Pirates are charged to inspire future generations by bringing STEM to everyone, everywhere, in every walk of life. Although we have global connections, such as through our FIRST Global Challenge mentoring and RoboxSumo program, we feel that the need for STEM in NC is so tremendous that our activities in places like the local Boys & Girls Clubs and 3rd Street Academy have been even more impactful. Many of the kids we reach through these programs have not heard of STEM or the opportunities it provides. To quote one of the galaxy’s best pilots, Poe Dameron, "We are the spark that will light the fire...". We aim to ignite these sparks in the children in our community, to light a fire and passion for STEM inside of them that will never go out.

This journey to provide inspiration has spanned over 13 years. Team 2642 began in the 2007 competition season with only 15 students at South Central High School. We are now a Pirate crew 35 strong from five public high schools in Pitt County committed to STEM education.

HELPING OTHER TEAMS

In 2013, we saw the need for a local FLL tournament because the closest regional was nearly two hours away. We hoped that hosting an event in the area would eliminate this barrier & promote the creation of new teams. We have hosted & run the competition every year since. Our members set up the venue and volunteer as referees & in other positions. For the past three years, we have also held an FLL Jr. Expo simultaneously. We provide STEM stations for FLL & FLL Jr. participants to keep them engaged during downtime. In 2018, we created an annual FLL scrimmage for local teams. We run this event, serving as referees & judges to help the kids test their programs & troubleshoot.

Through the Pitt County Educational Foundation and individual sponsors, we provide startup grants to teams in Pitt County. FLL Jr, FLL, & FTC teams can submit applications found on our website. Eligible teams are granted $250, $1000, $2600, or $5000 worth of supplies & funding based on the FIRST program. Through this grant, we have started 37 teams over the past five years.

In the 2013 season, the Pitt Pirates also created the East of 95 (EON) practice half-field. We invite other FRC teams to our shop and field to collaborate and help improve our robots. We are particularly focused on assisting teams east of the Research Triangle where teams may not have as much funding and facilities. EON has helped us provide technical assistance & support to Eastern NC teams as well as build relationships in our FIRST community.

STEM AROUND THE WORLD

Pioneered in 2013, our trademark program RoboxSumo has been shared throughout NC and in 8 different countries, reaching about 11,000 children around the world. Many of our own members were introduced to robotics through middle school RoboxSumo teams. These little cardboard robots are completely customizable to inspire creativity but are also affordable and simple to make. Our RoboxSumo program is published online at http://roboxsumo.com/ where others can find instructions & links to parts to create their own. RoboxSumos are used at special events and in our outreach. For example, in summer 2019, we ran RoboxSumo stations at ECU & Roanoke-Chowan Community College. Last April, we presented RoboxSumo at the world competition in Houston as well as at NC State Science & FIRST Conferences. We used this opportunity to show other teams how to utilize the versatility of RoboxSumo to promote STEM education.

This past fall, we were invited to mentor a robotics team in Fiji as a part of FIRST Global Challenge. Our team members and mentors held weekly Skype calls with the team to check on how they were doing, offer advice about robot design and building, and answer any questions. After being recognized for our work with Team Fiji, we were asked to mentor another team, this one from Italy. We assisted them with creating an engineering notebook, presenting their ideas, and talking with judges about their outreach and initiatives.

In December 2019, Cat Normoyle, an Assistant Professor at the ECU School of Art & Design, approached us to participate in her ongoing drawing robot research project that began in 2015 with the goal of using technology to foster collaboration in art. Normoyle invited us to a workshop to build, program, and experiment with the functions of her Raspberry Pi-controlled drawing robots. Normoyle has presented her findings on remote design collaboration in research papers and professional settings. The results of her research with our team have been submitted in a publication for the 2020 Design Research Society Conference in Australia this August.

GIRLS IN STEM
In 2015, Pitt County Robotics established the original FIRST SWENext chapter to empower female students in the pursuit of technological careers. This past season, our SWENext chapter hosted our second annual Girl Scouts Robotics Innovation Day. During the event, we ran stations that included programming, design, & engineering activities to introduce young girls to STEM and awarded them with badges at the end. We partnered with the local ECU SWE chapter to raise funds to create engineering clubs in our community.

2019 was also our first year as an NC ambassador for hall-of-fame team Exploding Bacon's #FIRSTLikeAGirl initiative. #FIRSTLikeAGirl aims to empower FIRST females by providing inspiring stories of role models & creating an atmosphere of support. We use this platform to promote girls in STEM through news representation, female leadership, and social media. Our buttons, boards, and banners can be seen in our outreach and at competitions.

In October 2019, we expanded on this effort by co-hosting Doyenne Inspiration, the first all-girls competition in NC. Fifteen teams from across NC & Virginia came together to experience an off-season competition complete with alliance selection and awards. Male members of our team served as volunteers, doing everything from field reset and scoring to manning the safety glasses table.

STEM IN OUR COMMUNITY

Pirates have brought attention to FIRST and its programs through participation in the Farmville, Greenville, and Winterville parades, Ayden Collard Festival, Aurora Fossil Festival, and PirateFest. During football season, we run a booth at Freeboot Friday where we talk with the public about FIRST opportunities and let them drive RoboxSumos. We have participated in over 20 STEM day events at local schools.

"3 to the E" is our program at 3rd Street Academy, a school for underprivileged elementary-aged boys in Greenville. In our endeavor to spread STEM education, we provided free camp sessions during the summer for the past two years. We use building activities and science experiments to explore topics such as rockets & buoyancy. This fall, we also started an engineering club & FLL Jr. team which met every Wednesday for 13 weeks. "The LEGO Boyz" were so inspired after participating in the Expo and watching the FLL competition, that they now want to program EV3.

We started engineering clubs at five local Boys & Girls Clubs, holding weekly sessions for a month then repeated for a second year. We use activities such as RoboxSumos, Doodlebots and our STEM Treasures to expose the children to STEM. Their smiles make it all worth it!

A Time For Science is an independent nonprofit dedicated to enhancing science education-- making it a perfect partner to spread STEM! Since 2017, ATFS has allowed us to use their facility to offer Lego robotics camps for local children in kindergarten through 8th grade. With our variety of STEM curricula, we spread the word about FIRST. This is a great fundraiser for us as well as a way to inspire children in our community. We utilize Mindstorm & WeDo 2.0 kits to introduce the kids to engineering and programming through FIRST Core Values. This past summer, we led three weeks of camps each focused on a different skill level. In our advanced camps, the kids also experimented with more advanced forms of programming such as Arduinos.

STEM Treasures is our newest initiative. STEM Treasure kits include parts like popsicle sticks, plastic wheels, and specific visual instructions to build a STEM creation. These mini engineering wonders have already proven to be a success in our outreach, alighting children's curiosity and providing us with talking points on physics and reasoning skills. We are sending the kits to places around the world that do not have access to STEM materials. We have also partnered with the Wonder Connection to provide 50 kits to pediatric patients.

LEADING BY EXAMPLE

The Pitt Pirates participate in charity work, raising $8,000 over the last five years, to give back to our community. By helping to organize events such as Bark For Life and participating in Making Strides, we raised money for cancer research. During the off-season, we raised $300 for St Jude and wore yellow shirts to spread awareness of children's cancer. We have also donated supplies to the homeless shelter, Ronald McDonald House, and the Hope Lodge, which provides cancer patients a place to stay. Last Valentine's, we sent cards and gift bags to nursing home residents to brighten their day. We help animals through the Canine Crawl and donations to our local shelter. We also prepared 55 "hurricane buckets" to be distributed through UMCOR, donating a total of $3300 in supplies & funds for hurricane relief.

Our Pirates have volunteered over 4,700 hours in 190 events in the past two years. Last year, we became a certifying organization for the President's Volunteer Service Award. Each of our veterans volunteered 50-250+ hours through robotics to earn recognition this December. While we appreciate this distinction, our greatest reward is seeing the impact of STEM on young lives.

Through our outreach, we kindle the sparks in our community--and in places far, far away. As such, we hope we've left behind a legacy of greatness and love for all things STEM.