

Chairman's Award - Team 2642

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2021 - Team 2642

Team Number

2642

Team Nickname

Pitt Pirates

Team Location

Greenville, North Carolina - USA

Describe the impact of the *FIRST* 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 *FIRST* programs as mentors/sponsors.

Our team members graduate having acquired new friends, life skills, & a passion for STEM. In the past 3 years, 100% of our members have gone on to graduate high school & attend college. Of those, 96% are pursuing a STEM career. 59% of current team mentors are alumni. Our alumni continue to volunteer in the community & advocate for FIRST. Many of our members are inspired to start their own initiatives for underserved students like after-school programs at 3rd Street Academy & A Time for Science.

Describe your community along with how your team addresses its unique opportunities and circumstances.

Greenville is a unique place with a thriving college town within a rural community. Pre-COVID, you would find 2642 at various NC festivals and Freeboot Fridays. We've addressed issues in our community such as food insecurity by donating funds to various charities. This year, we donated \$1000 to the food bank and various sundries to the Purple Pantry at ECU. We raised over \$2000 for St. Jude and the American Cancer Society, and held a trivia night raising \$500 for Wonder Connection.

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 measure successes by the numbers of students impacted through our programs. In addition to our RoboXSumo program, which has reached over 11,000 kids in 4 states & 7 countries, last season, we supplied 260 STEM Treasure kits to homeschool groups and Wonder Connection. These programs act as a hook to engage students with the basics of design, engineering, and FIRST core values to inspire many to join FIRST teams. We've had a 75% increase in new members that have participated in FIRST programs.

Please provide specific examples of how your team members act as role models within the *FIRST* community with emphasis on the past 3 years.

We've hosted FLL scrimmages for the past 4 years to help prepare local teams for our FLL Challenge (FLLC) tournaments. We've held FLL Explore (FLLE) Expos concurrently with the FLLC tournaments. Team members lead the way in set-up, take-down, & volunteering as refs & judges. This year, mentors & students assisted with remote FLLC & FIRST Global tournaments. 8 served as FRC ambassadors at NC & World FRC events. Last year, we co-hosted and ran the off-season Doyenne Inspiration event with 5190.

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

Over the years we realized the importance of creating grants to fund new teams. Through this initiative we were able to start 37 FIRST teams in ENC. At last year's kickoff, we assisted 4 teams in the quick build & later invited them to our shop for fabrication & testing before competition. We were awarded a FIRST NC Teams Grant allowing us to continue mentoring FRC Team 7715 that strengthened our relationship. Working with 3rd Street Academy last year led to the creation of FLLE LEGO Boyz.

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 2017 we have offered summer camps based on FLL & FTC concepts at A Time For Science (ATFS). Two years ago, we began engineering clubs at all 5 Boys & Girls Clubs in Pitt County. In Fall 2019, we also started our free "3 to the E" program at 3rd Street Academy, a school for disadvantaged boys, to teach the students about FIRST through STEM. We offered summer camp sessions based on the physics of rocketry and buoyancy. Our STEM Treasure kits focus on engineering skills that engage kids.

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

Our mission could not be achieved without local partnerships we've created. Pitt County Educational Foundation has allowed us to provide FIRST grants to local schools. 2 organizations at ECU, NSBE & SWE, provided role models to assist with our programs at 3rd St and the Boys & Girls Club. Over \$7000 has been raised at the annual SWE Gala to fund STEM outreach at the Boys & Girls Club. Combining our efforts with ThermoFisher we held an all-girls camp & created STEM Carts for all local clubs.

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

Last year, we started STEM clubs at 5 Boys & Girls Clubs. With the help of SWE's local chapter, we inspired girls to pursue engineering and STEM careers. With NSBE's help, we provide positive role models for the FLLE team, LEGOBoyz, who were excited to present at the FLLE Expo. As NC #FIRSTLikeAGirl ambassador, we sent teams #FIRSTLikeAGirl swag to distribute at outreach events. For our efforts to promote inclusion & diversity, we were presented the Distinguished Inclusive Community Award.

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

New members are paired with veterans at the start of our season to learn about our initiatives & causes. During the fall, we set up training sessions to teach new skills needed for the upcoming season. We recruit FIRST alumni to come back & mentor providing new technical skills. Parents who can provide knowledge & experience are welcomed as mentors. Our team created manuals to ensure that the initiatives we started will continue on for years to come & for the next generation of Pirates.

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

We reach out to local companies asking for donations, big or small. Our students and mentors reach out to their families, their families' businesses, and their professional connections. These sponsors donate time, money, and resources. In return, we put their names on the robot, welcome them to our shop to see the robot, & invite them to our yearly robot reveal. We make sure to send them handwritten thank you notes, signed by all the students and mentors as a token of our appreciation.

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

We have the goal of becoming more actively involved with other teams in our FIRST community. Last year, we had the opportunity to have a social with team 3737 RotoRaptors, having lunch and participating in cooperative games. In October 2019, we partnered with Green Hope Falcons to host the first all-girls FRC competition, Doyenne Inspiration. We hope that our EON field will continue to be a place where teams can practice for competition without having to travel too far out of their way.

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

Our goal is to reach out to people who would not have otherwise had the ability to participate in FIRST and STEM opportunities as well as increase a diverse culture. We've introduced FIRST/STEM to kids of all backgrounds through our Girl Scout Robotics Innovation Day, engineering sessions at the Boys & Girls Club, and children in our community. Globally, we have mentored FIRST Global teams Fiji and Italy, and we presented our RoboXSumo program at the FIRST World Championship in Houston in 2019.

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.

This year has been a challenging one all FIRST teams. It has made us think outside the box in planning our outreach, meetings, and fundraising for 2020. Through the #FIRSTLikeAGirl initiative, we created a webinar series called Get the G.I.S.T. (Girls in Science and Technology) where we encouraged girls to apply for the NCWIT award and shared best practices on how to run Girl scout fundraising events. Through the Get the G.I.S.T. series 7 of our girls were recognized this year for NCWIT.

Essay

Although the past year has brought unexpected challenges, the Pitt Pirates' mission remains the same: to spread STEM to everyone, everywhere, and in every walk of life. We have had to adapt to a new normal, but we continue to pursue our mission with passion and determination.

STEM IN OUR COMMUNITY

A critical part of ensuring that STEM flourishes is supporting our own FIRST community. In 2013, we began to host a local FLL Challenge tournament with the hope that an event in the area would promote the creation of new teams. Since then, we have seen 27 new FLLC teams in Eastern NC. During competitions, our members set up the venue and serve as referees and volunteers. Four years ago, we began to hold an FLL Explore Expo simultaneously. We provide STEM stations to keep the FLL & FLLE participants engaged during downtime. In 2018, we created an annual FLL scrimmage to help local teams prepare for competition. Although we couldn't host an event this year, 6 of our members were happy to assist with the virtual FLL experience.

Our team is also dedicated to spreading the message of FIRST throughout NC by helping assist, mentor, and start over 90 FIRST teams. In Fall 2019, we offered weekly Coffee with Coaches Clinics to help new coaches with FIRST strategies. This year, Coffee with Coaches continued through emails and Zoom meetings. We have mentored a total of 46 FIRST teams. Last season, we also mentored 2 robotics teams in Fiji and Italy for 6 weeks as a part of FIRST Global Challenge. Furthermore, we have provided start-up grants to teams through the Pitt County Educational Foundation and individual sponsors. Through this grant, we have started 27 FLLE, FLLC, FTC, and FRC teams.

The Pitt Pirates are determined to spread an appreciation for STEM to kids who do not know about FIRST. During football season, we run a booth at Freeboot Friday where we display our robot, talk with the public about FIRST opportunities, and let them drive RoboSumos. Additionally, we have participated in over 20 STEM day events at local schools. We have brought attention to FIRST by participating in local parades and festivals. This December, we had some fun as we showcased our 2020 robot and festive walking robot in Greenville's reverse parade.

Three years ago, we began our "3 to the E" program at 3rd Street Academy, a school for underprivileged elementary-aged boys, where we have provided free STEM summer camp sessions for 2 years. Last year, we expanded our program by implementing an engineering club and FLL Jr. team. We started the "LEGO Boyz" and mentored them every Wednesday for 13 weeks. The boys were excited to participate in the FLL Jr. Expo and watch the FLL competition. Although we couldn't host our camps at 3rd Street this summer, we donated school supplies and ten circuit boards built by our students to help the children with virtual learning.

Two years ago, we started engineering clubs at the five Boys & Girls Clubs in Pitt County. We used activities such as RoboSumos, Doodlebots, LEGO WeDo and our STEM Treasure kits to introduce the children to STEM. Last season, we collaborated with Thermofisher to provide STEM activities at the Grady-White location for 4 weeks. In total, we have hosted 33 club sessions at the Boys & Girls Clubs.

While we enjoyed hosting our clubs and camps, the pandemic has prevented our team members from safely hosting in-person activities for the kids this year. We rose to the challenge to create our newest initiative, STEM Maker Carts. Our members designed and built 7 STEM Maker Carts to deliver to 3rd Street Academy, 5 Boys & Girls Clubs, and the NC Museum of Natural Sciences where the STEM Maker Cart will be available to the general public. Each cart is filled with fun and challenging activities such as Snap Circuits, LEGOs, and Geoboards that can be completed and taken home or wiped clean for further use. While providing practice for our new team members, these STEM Carts will spread a love for STEM, even when we're not present.

In Fall 2019, we began our STEM Treasure kit initiative. Each kit includes the necessary parts and visual instructions to build a STEM creation. These mini engineering wonders have been a success in our outreach, sparking children's curiosity and providing talking points on physics and reasoning skills. These travel-sized kits have proven even more applicable during COVID since we cannot meet in person. They have been utilized in North Carolina and Virginia in homeschools and Girl Scout events.

We have also continued our partnership with Wonder Connection, an organization dedicated to promoting joy, well-being, and self-confidence in hospitalized children and teens through the wonders of science. Last season, we supplied them with over 200 STEM Treasure kits. They have sent word that the kits were well received, and we look forward to continuing spreading joy among the patients! This fall, we hosted a trivia night via Zoom to raise \$500 for the organization, enabling Wonder Connection to provide more science education and projects to the children at the UNC Medical Center.

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We have also promoted STEAM through our work with Dr. Cat Normoyle's ongoing drawing robot research project to use technology to foster collaboration in art. We participated in a workshop to build, program, and experiment with the functions of her Raspberry Pi-controlled drawing robots. The results of her research with our team were submitted in a publication for the 2020 Design Research Society Conference hosted from Australia this past August.

DIVERSE AUDIENCES

One goal of our outreach is to increase female representation in STEM. In 2015, Pitt County Robotics established the original FIRST SWENext chapter to empower female students in the pursuit of technological careers. In the past 3 years, our SWENext chapter has hosted three Girl Scouts Robotics Innovation Days. During the events, we ran programming, design, and engineering stations, showcased our FRC robot and FIRST programs, while celebrating the girls' hard work with STEM badges. We also partnered with the local ECU SWE chapter to raise funds to start engineering clubs at the Boys & Girls Club. During COVID, we continued SWENext meetings online to create an atmosphere of support for girls in STEM.

In October 2019, we supported girls in STEM by co-hosting Doyenne Inspiration, the first all-girls off-season FRC competition in NC. 15 teams from across NC and Virginia came together to experience a 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.

As #FIRSTLikeAGirl NC ambassadors, we have access to a platform that allows us to inspire and encourage girls in STEM through news representation, female leadership, and social media. Our buttons, boards, and banners are prominent in our outreach and at competitions. Even COVID couldn't prevent us from furthering this cause. This past fall, we created "Get the G.I.S.T (Girls In Science and Technology)" webinars for females in robotics. So far, our girls have hosted webinars on how to partner with the Girl Scouts to organize a fundraising event and how to apply for the NCWIT Aspirations in Computing Award.

COVID OUTREACH

Though our main focus is STEM, we must take the time to address the elephant in the room: COVID and our community in need. Working as a team through COVID provided a unique set of challenges to face. One of our first projects was creating a safety PSA on COVID protocols to help teach about safety precautions during the pandemic. Our members collaborated by filming individual segments of the PSA, which were edited and posted on social media to make a larger impact. We continue these efforts by posting weekly safety tips used during the pandemic. We have been fortunate to have a large enough workspace to comply with government directives. We implemented necessary safety procedures such as a COVID symptom questionnaire, social distancing, temperature checks, and a mask mandate.

Like many FIRST teams, we felt that it was our duty to give back to our community during this crisis. When COVID hit, it restricted access to essentials such as food and supplies. In April, we donated funds to the Food Bank of Central and Eastern NC to provide 4,000 meals to Pitt County residents. We also contributed two carloads full of sundries to the Purple Pantry, a resource for students at ECU who were unable to buy necessary items. With a shortage in healthcare supplies, we stepped up to provide ear-savers and over 350 homemade masks to Vidant Hospital and other community members. As a learning project, our engineering and design teams conversed with a medical department dean and a respiratory specialist to understand how ventilators work. With this newfound knowledge, our team designed and built a working ventilator using spare robot parts.

Pitt Pirates also wanted to share some cheer with our community to combat the sense of distress of COVID fatigue. With an abnormal end to the school year, our team created signs to express our gratitude and appreciation for our graduating class of 2020. While everyone was still getting used to online learning, our members aided local students by tutoring them in math. We didn't miss the opportunity to spread a little hope this fall, either. This September, we safely gathered to walk for St. Jude's Research Hospital and raised \$1,700 in the process! We celebrated Halloween by raising \$340 in a Making Strides Against Cancer walk to support the American Cancer Society's fight against breast cancer.

Although this year has been difficult, it has allowed us to become game changers in FIRST, in our community, and within ourselves. We have learned new ways to spread STEM safely, affect change through new mediums, and embody the values of FIRST—all from 6 feet away.