Chairman's Award - Team 1676

Team Number

1676

Team Name, Corporate/University Sponsors

Orange and Rockland Electric/Picatinny STEM/Dimensional Communications/Shop Rite-Inserra Supermarkets/Comcast/NBC Universal/The BMW Group/BAE Systems/Crestron/American Machine Specialties&Pascack Valley Regional High School District

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

Leadership Training Seminar & opportunities (CEOs, Project Managers, Division & Sub-Division Leads) Connections with gov. officials (National Advocacy Conference) Develop: technical skills, stress management (Wellness Initiative), & Marketing Skills (Ready Set Speak!, Team/Sponsorship Brochures, sponsors' visits) Volunteering through Outreach/project groups Academic Varsity Letter Members won over $450,000 in FIRST scholarships 100% Graduation rate 90% of graduates pursue STEAM degrees

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

Promoted FIRST and STEAM at parades, fairs, town days, CoderDojo Club, Gifted Child Society, Manhattan College Camp, Hackensack Hospital, Children's Cancer Institute, & Super Science Saturday Children's Events: Fall for STEAM Fair, Arts in STEAM Night Out, LEGOs & a Movie events, library programs WVU robot for non-ambulatory children, presented robot at the Tri-State Wheelchair Games Relay for Life Event Charity: food pantries, Toys for Tots Integrated "My GPS" software into district schools

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

Exchange Programs: India, Nigeria International mentoring: Skype/Zoom Collaboration with Coderina/Sakhikamva Foundation Sharing translated Lily the Learner Trilogy with French Exchange teachers Washington Township TV, ~2000 views, & School Lip Dub, ~32,000 views Streamed FLL event, 344 views FIRST Signing Day/NAC Info cards FIRST Core Values buttons Team/FIRST Display for National Robotics Week Twitter: Arts in STEAM campaign, Safety Initiative

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

Pi-Buddy Program, Pi-Tech Training Academy Team: Project Groups (involve everyone in outreach), Wellness Initiative, leadership seminar Exchange Programs w. India & Nigeria Mentoring: Sharing Rookie Bookie, Animation Guide, mentor 9 FLL teams Demos to Girl/Boy scouts Sharing Safety Seminar Video, Pi-oneer Scouting Network, FRC Playmaker, & Personal Emergency Cards (6 FRC/1 FLL team) inviting FIRST Teams to Pi-Tech & Kickoff. Building WVU for non-ambulatory children Safety kit to 4 FLL teams
Describe the team's initiatives to help start or form other FRC teams

Successfully established 5 FRC teams Successfully help new FRC teams apply for grants- resulted in over $60,000 in sponsorship Promote benefits of FIRST with school administration Speak with community members about FRC Visit sponsors (potential mentors for new FRC teams) Starting 4 FLL & 8 FTC teams to inspire FRC participation

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

Started 1 new FTC team in South Africa & 3 in Nigeria Started 4 local FTC teams $15,000 FTC Grant from NJ DOE to start 4 new FTC teams Established/mentor 4 FLL teams in school district Student Exchange Program with Nigerian FTC team Student Exchange Program with the Choice School in Kochi, India Contacting representatives in Ghana, South Africa, & Nigeria to start FTC programs Weekly Skype sessions with South African and Nigerian teams Sharing FTC Rookie Bookie

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


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)

Mentoring Project Group: assigns veterans to mentor 7 FTC, 4 FRC, 9 FLL Invite teams to Pi-Tech Training/Build Season meetings Host Kickoff event with FTC teams in attendance Skype/mentor 3 FTC teams in Nigeria Assist FTC teams at local competitions Mentor FLL teams in Nigeria through Skype Ran FLL Bergen Qualifying Tournament for the past 11 years Mentored Park Ridge FLL team Assisted FLL team in Closter Car Wash with FLL teams Pre-Rookie Teams at Panda-monium off-season event

Describe your Corporate/University Sponsors


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

Sponsor Appreciation Dinner Sponsors featured on robot, pit, team shirts, website Visit sponsors to present team & give robot demo Assist sponsors with projects Corporate sponsors provide mentors & materials for Outreach events Strong sponsorship retention BOE provides build space & funding BOE granted Academic Varsity Letter Status Recognized by mayor & council in 4 district towns Pi-Parents organize daily Build Season meals/sponsorship/travel arrangements

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

FIRST is a worldwide organization that promotes Science, Technology, Engineering, Arts and Math to young people through hands-on robotics programs. Students in grades K-12 work alongside mentors to build robots, but also become well-rounded students prepared for college and beyond. FIRST is a non-traditional team sport environment, giving STEAM-oriented students the opportunity to engage in a competitive program. The lessons experienced through FIRST inspire students throughout their lives.

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

5-years on the FIRST National Advocacy Conference Organizational Committee 56% female leaders Retained 79% of rookies Gave robot demo, donated LEGO, Lily the Learner to immigrant children Won Safety Award at all 5 2017-18 season competitions 2019 World Champ Safety Award Finalist/Innovation in Control 2018 World Champ Industrial Safety 2018 World Champ Advocacy Conference presenter 2017 CMP Entrepreneurship Translated "Ready, Set, Speak!" to Spanish Combining Awning & myGPS software

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

Improved female team participation (0.5% → 42%) Advanced FIRST locally/internationally-Bergen/Rockland counties, 4 district towns, Nigeria, South Africa Drove district's technology curriculum Featured in district's profile for League of Innovative Schools Inspiration for administrators from local school districts Educated students/faculty about STEAM Inspired the next generation of STEAM innovators Developed confident college students/employees with technical & non-technical

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

Elizabeth Masyukova
Essay

According to the Law of Conservation of Energy, energy cannot be created nor destroyed, but it can be transformed. The Pasack Pi-oneers are a renewable energy source, converting our "potential", our knowledge, experience, & passion, into the "kinetic" energy of action.

International Outreach
This year, we started 3 FTC teams in Nigeria & mentor them weekly through our partnership with Ade Ajayi, the founder of Coderina- a non-profit promoting STEM. We met with Ade over the summer to discuss creating FTC teams. Inspired by the our India Exchange Program in 2017, we organized the Nigerian Student Exchange Program with Ade. A mentor & 4 FTC students visited us in February for 2 weeks, learning skills alongside Pi-oneers & attending an FTC competition. To further assist their teams, we added 50 new mechanical & programming pages to the Rookie Bookie. We also hold bi-weekly early morning Skype sessions with 4 Nigerian FLL teams, guiding them to sustainability.
For the past 3 years, we maintained a partnership with Fatima Jakoet, founder of the Sakhikama Foundation. We helped their students progress from Arduinos to FTC, & started & mentored rookie Team 17955 Astrovos through weekly Zoom calls. We met Fatima over the summer, providing her team with electronics & our Rookie Bookie guide.
Last season, we assisted FRC Team 7567 from Brazil with their business plan & arrangements for transportation of their supplies to the Las Vegas Regional.

Team Structure
We prepare our rookies for Build Season through Pi-tech, a 7 week program where Sub-Division leaders teach their rookies the specialized skills for build-season. Ensuring every new member feels welcome, each veteran, or Pi-Buddy, is assigned with guiding a rookie through Pi-tech. Friendships made through Pi-buddies motivate rookies to return; we retained 79% of our rookies from last year!
Team 1676 offers leadership opportunities: Sub-Division leaders, Project Managers, & CEOs. 56% of our leaders are female. Student leaders hold Performance Reviews- individual meetings with team members to compliment their strengths & encourage them to improve on weaknesses. To involve everyone in outreach, we assign veterans to one of four outreach Project Groups (FIRST Mentoring, Community Outreach, International Outreach, & the West Virginia University Robot).

Local Outreach
We created the Fall for STEAM Fair this past October! There were 30 tables of fun activities to promote STEAM. Team members & school clubs ran the booths, & the event reached more than 200 K-8 students & parents!
Inspiring children to appreciate STEAM, we created & continue to run several children's events. Our annual Arts in STEAM Night Out features STEAM experiments combining art & science. During LEGOs & a Movie, children build with LEGOs, connect with Pi-oneers, & watch a STEAM-themed movie. Last year, we created Destination: Space, a LEGOs & a Movie event referencing the FRC game. As part of National Computer Science Week, we incorporated coding into LEGOs & a Movie Girls Who Build to peak their interest in STEAM. All of our outreach events end with a robot demonstration & an opportunity to drive the robot.
We have a strong presence in our communities, impacting the lives of our neighbors. We visited Nellie Parker Middle School, demonstrating our robot to a class of 4th graders who had recently immigrated to America. We also annually visit the Children's Cancer Institute at Hackensack Hospital, connecting with the children by reading our book "Lily the Learner", & giving a robot demo. This year, Hackensack University Medical Center invited us to watch a live surgery by a remote-controlled robot & discuss the implementation of robotics in the medical field. We've also raised $10,000+ for the American Cancer Society, as our robot "walks" with the Pi-oneers in the district "Relay for Life" event. Representing FIRST, we participate in Ridgewood Super Science Saturday & the River Vale Science Fair, & attend 4 Town Days, 3 Street Fairs, & the Memorial Day Parade every year. To keep track of outreach events, we created the Book of Pi-Projects, a meticulous record of all schedules & requirements for each event.

School Support
Our team has a strong presence in our schools as well. We have a permanent display in our schools' lobby & appeared in the Pasack Valley Lip Dub, which received over 31,000 views. On Pi-Day, all the STEM faculty wear our team shirts. Our team coaches were advisors for the district's new robotics class' curriculum & our InfoTech Sub-Division helped create the new dashboard for PVHS. We also host the website for Camp Raspberry, a program where high school students provide a fun & safe environment for children with special needs. The Pi-oneers present & demonstrate the robot at PV's Senior Citizen Day for the past 5 years. To thank our school district for being our biggest sponsor & giving us $20,000 a year, we host our annual Sponsor Appreciation Night annually, serving dinner, presenting team updates, & demonstrating our robot.

Web Projects
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This year, we partnered with Awning, an app offering stress management tools to students, therapists, & educators. They contacted us to create their website, & integrate "My GPS" (Generate My Project Schedule), our web app designed to help students manage their schedules, into their software.

For the past 4 years, we appeared on Washington Township TV, explaining the opportunities of FIRST, the development of our robot, & our outreach. Our segment of the show received the greatest number of views (~ 2000) in the history of the show!

At competitions, we provide FIRST teams with the Pi-oneer Scouting Network, a collaborative data-sharing website. Our FRC Playmaker enables teams to strategize matches with a field simulation. Moreover, we extend written & digital manuals to our mentored teams, such as the Rookie Bookie, a guide for Rookie FTC teams, & the Animation Guide, a guide for maintaining an Animation Sub-Division.

Ready, Set, Speak!
This year, we translated "Ready, Set, Speak", a project we adopted from our FLL team, into Spanish. Designed to improve the verbal communication of individuals with autism or apraxia of speech, the website uses a mirror function to imitate mouth movements. We currently have 40 active users & 57 lessons.

Advocacy
We are a 5-year member of the Organizational Committee for the FIRST National Advocacy Conference (NAC), speaking directly with gov. officials to increase funding toward STEAM programs. Our team designed NAC's logo & distributes info cards at every competition. Inspired to bring this mission to NJ, we held the NJ Advocacy Conference in 2016, resulting in the $15,000 grant from the NJ Department of Education to start 4 new FTC teams. We also advocate for Team Appreciate 2468 & FIRST Signing Day at every competition.

Mentorship
Our mission is to help all levels of FIRST, on & off the field. We mentor 5 local FLL teams, including 4 we started: Montvale, River Vale, Hillsdale, Woodcliff Lake. New this year, we mentor Park Ridge & assist the Closter FLL Team. We include these FLL teams in our annual Car Wash, to help them raise funds while bonding with one another. As a result of our continuous FLL mentoring, 55% of our current members come from FLL - a 9% increase from last year.

In addition to our 4 international FTC teams, we mentor 5 local FTC teams. In 2016, the NJ Department of Education awarded us a $15,000 grant to start & mentor four FTC teams (Bectobots 13617, RoboRams 13615, Spartans 12309, & the WallyWatts) in underserved districts. We developed strong bonds with three of these teams & continue to mentor them. We also mentor the RoboRebels 14450 & The Frisch CouGears 15762.

Committed to expanding FRC, we started the Don Bosco Ironmen FRC Team 4653 in 2013. We also collaborated with 4122 O-Bots to start the 6401 8-Bit Rams, 6911 So Bots & 6969 Cyborgs. We continue to assist & collaborate with: 223 Xtreme Heat, 1672 T-Birds, 2614 MARS, 3314 Mechanical Mustangs, & 4653 Don Bosco Ironmen.

Running FIRST Events:
We are bringing back Pascack Panda-monium, an off-season FRC competition, with the help of past & present Pi-oneers. After attending many off-season events, we are excited to host our FIRST friends in the only North-Jersey event! We invited colleges & corporate sponsors to host tables, & FLL & FTC teams we mentor will be demonstrating their robots.

New this year, we streamed our Bergen Brickfest FLL Qualifying Event on Youtube & reached 344 people. We have run the event for the past 11 years. We include other teams in our FRC Kickoff event, which has over 200 attendees & features a human player game demo & collaborative brainstorm sessions.

Safety Initiative
New this year, the Safety Sub-Division collaborated with FRC Team 75 to provide a first aid kit to every FIRST Mid Atlantic team. We customized & printed Personal Emergency Cards for FRC Teams 75, 223, 1672, 3314, 6401, 6911, 6969, created a Twitter account (@Team1676Safety), & developed an online "Safety Seminar" video series to train teams on machine safety & certification.

WVU
In 2012, we began to work with the West Virginia University Adaptive Physical Education Program to build a robot that kicks a soccer ball & enables non-ambulatory children to participate in Gym. After many revisions, we delivered the robot in 2017 & were moved by the joy it created! Our team presented the robot at the National Consortium for Physical Education for Individuals with Disabilities in 2018. This past summer, we held a booth & demonstrated the robot at the Tri-state Wheelchair Ambulatory Games in Hillsdale. We are now making a more interactive 2nd version that will be available as a buildable kit.

Like an object accelerating toward the Earth, we gain momentum the longer we are in the air. After 15 years, we are only getting faster, making an impact on our community & the world with the mighty FIRST force pushing us to the future.