

Chairman's Award - Team 2723

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2020 - Team 2723

Team Number

2723

Team Name, Corporate/University Sponsors

The Yale Theater/The Boeing Company/DoD STEM/Continental Resources/Intuitive Foundation/Yale Oil Association/Catholic Foundation of Oklahoma/Giovanni&Mt St Mary High School

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

"It has allowed me to act on my passions a lot more frequently. I can expand on my passions through mentorship and networking opportunities." -- E. (junior) "As someone that had no connections with anyone in the past, Thanks to FIRST I now have a humongous group of friends and I can be able to take part of a passion that I love, which I didn't have access to in the past"-- I. (junior) "FIRST has helped me get out of my comfort zone and has helped me learn new things" -- N. (freshman)

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

We have a multi-layer approach, spending over 6400 hours representing FIRST in the last 5 years. We bring new students to our school community through mentoring at feeder schools. We give back to our city, serving the need and taking part in community events. We represent FIRST through high-impact demonstrations (we planned and ran a huge robotics exhibit at the 1st, 2nd & 3rd annual Tinkerfests with over 25,000 attendees, among many others) and appear on local media.

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

Team Rocket's creative method to spread FIRST's message is to catch students while they are young to train and evolve them to be future STEM leaders. We use our catchy theme to connect pop culture (Pokemon's Team Rocket) with the excitement of STEM. Many of our demonstrations, workshops, and school outreach are geared to the younger generations to start them off early in FIRST progression of programs so it is not something they just discover during high school or not at all.

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

Team Rocket puts others first, especially in leadership. In the last 5 years we have had 4 separate FRC and FTC Dean's List Finalists and one winner. These role models, along with other leaders, show new members how to do technical work as well as how to become better people. Team members step up to take on various roles in mentorship for FIRST teams of all levels. Rookies are welcomed with open arms and leaders inspire others to grow and to reach out to the community.

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

We have not started any FRC teams. However, our strategic plan, FIRST Launchpad, is the foundation for starting many new teams in the underserved Oklahoma City area. With the issues in Oklahoma of budget cuts for STEM programs and lack of resources, our efforts will prevent these issues from happening to teams. With our new facility in the Capital Hill area, it will be used as a hub for resources and materials that many FRC teams need to start and be sustained.

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

Over the last 5 years, we paid the entry fee to sustain cumulatively 18 FTC teams. Current students on our team started an FLL / FLL Jr. program at St. Charles Borromeo School 9 years ago, with 24 FLL and 21 FLL Jr. teams during that time period. This first FLL team in our school system inspired new programs and classes at 8 more schools since then, all due to the efforts of current team members. We started 3 FLL Jr. teams for children of adults taking ESL evening classes at our high school.

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

In the past five years, we have volunteered at over 40 FIRST competitions or training sessions. We ran 5 FLL Qualifiers, hosting over 120 FLL/Jr. FLL teams. We ran FLL and FTC kickoff events the last four years for over 150 teams (1,500+ people). We presented workshops for over 120 FTC teams at six separate events the last five seasons. Our Youtube series to help FTC teams learn how to program has over 24,300 views. We provided assistance to over 20 FRC teams at competition last year as well.

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 are building a pipeline of talent through mentoring to sustain Team Rocket and help build up other FIRST teams for years to come. In the past five years, we have mentored 24 FTC teams, 22 FLL teams, 15 Jr. FLL teams, and 2 FRC teams. We make frequent visits or host them at our workspace. This year one of these FTC teams and two FLL teams qualified for the Oklahoma Championship. We mentored Team St. Kitts and Nevis for the inaugural FIRST Global competition in 2017 and Team Guinea in 2019.

Describe your Corporate/University Sponsors

Our founding sponsors were Boeing and ITT Technical Institute. In 2014, we had just one sponsor, but after six years of student led grant-writing and personal networking efforts, our primary sponsors consist of Mount St. Mary High School, The Yale Theater, Boeing, DODSTEM, Continental Resources, Intuitive Foundation, and several others. This continues to be a student led initiative to this day. Our budget has increased from \$6,000 in 2014 to about \$60,000 in 2020.

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

We have very strong relationships with our sponsors. Our connections with Boeing have resulted in mentors and funding for our team. It has also given us several internship opportunities. The Yale Theater has offered us our new workshop as we help to build up the STEM opportunities in the low income neighborhood in which it is located. DODSTEM is our oldest sponsor, and we do several outreach events with them each year including in underserved communities.

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

FIRST is an organization which seeks to develop a relationship between youth and STEM. FIRST is about inspiring the youth of today to become the pioneers of tomorrow by creating a fun sports-like atmosphere where kids can compete using their brain power. Focusing on the basic tenets of maintaining gracious professionalism, coopertition, and the hardest fun you'll ever have, FIRST works to give young people the tools for success both in and out of the workplace.

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

2723 has recognized the importance of getting local and state governments involved in STEM education. In the last year and a half we have advocated civic leaders to increase funding and attention for STEM programs. Team Rocket has met with the mayor of OKC to discuss STEM education, spoken in front of the OKC Council about the importance of after school robotics programs, and teamed up with other Oklahoma teams to speak to State Congressmen about reinstating a \$100,000 grant for FIRST teams.

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

Being one of the oldest FRC teams in Oklahoma, 2723 has stayed involved on all levels of FIRST since its inception. We hosted many of the first FTC events in 2010-2013 to help it get started in our state, and created some of the first FLL Jr. teams in Oklahoma. Each year, we have volunteered at, and host FLL tournaments. In the last five years, we have become the go-to FRC team in central Oklahoma for all things FIRST, helping the Regional Director do everything from mentor teams to run events.

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

Brianna Smith

Essay

FIRST Robotics is not just an after school activity. It's a culture, community, movement, and family. Our mission is to build science and technology leaders in Oklahoma and worldwide. We are a starting point for FIRST in Oklahoma through our FIRST Launchpad initiative, planning and executing numerous large outreach events, workshops, competitions for younger FIRSTers, summer camps, after school activities and mentoring to make a big impact in our school, community, and state.

History

FRC 2723 was founded in 2008 as "Atomic Shock." There was much enthusiasm, with 20 students attending the 2009 Oklahoma City Regional. With little success in awards or in the robot game and a lack of mentorship and organization, interest in the team waned. The loss of experienced team members, mentors, and sponsors coupled with no plan for sustainability left 2723 with only one member attending the 2014 Regional. Morale was at an all-time low.

For the 2015 season, that lone, determined member helped recruit new students and mentors who arrived with several years of FLL experience. We went from one core member to five and started planning how to grow and sustain the team so 2014 wouldn't happen again. In late 2015, Atomic Shock was reborn as Team Rocket, creating a new name and a fresh start. This is where our story begins.

Evolution

Since then, we've evolved quickly with our outreach, team growth, mentors and sponsors. We've grown from those 5 members in 2015 to 32 contributing student members (2020). Those members have over 6400 hours of service representing FIRST through running events, helping other teams, and sharing FIRST in our community over 300 days in less than five years. These connections helped grow our budget from sponsorships from \$6,000 in 2014 to about \$60,000 in 2020, and made a huge impact on our school, student members and community.

FIRST Launchpad - our initiative to grow FIRST

We have spent time talking one on one with thousands of interested individuals in the community and have spread the word about FIRST to many people. The biggest challenge is converting interest in FIRST into actual teams and programs. However, once robotics teams are formed in Oklahoma, there are always issues with budget cuts, a shortage of trained mentors and lack of other resources that cause issues with sustainability. We have created a strategic plan, FIRST Launchpad, to construct foundation for the FIRST program in Oklahoma and help turn the growing interest for STEM into a pool of sustainable robotics teams. Through this plan we start with growth within the community of Oklahoma City and spread outward into the state of Oklahoma and beyond.

FIRST Launchpad - Impacts on our team and school

Our FIRST Launchpad initiative starts from inside our team, and from the community immediately surrounding it. We first work on building our team numbers and experience. To recruit new members, we built a pipeline of young kids in FIRST. We have several K-8 feeder schools to our high school, and we reach out to their students through summer camps, demonstrations, FLL sign-up sessions and mentoring. Through our leadership, eight of our feeder schools have STEM programs and it continues to grow as more teams attend our competitions and camps that we host for the younger students. We demonstrate at the high school Open House and Freshmen Orientation and help mentor FIRST teams from our feeder schools to get them interested.

On our team, we also encourage female and other underrepresented groups to take leadership roles by ensuring all have an equal chance to learn and express their ideas. The team captain role has been held by a female the last five years, and women hold other key roles. We sponsor and mentor both all-girls FTC and FLL teams each year to encourage girls to join FRC in the future.

Our success in creating STEM leaders has allowed us to be competitive for grants and sponsorships that have helped not only our team but also our school. In the last year we have added a CNC machine, a laser cutter, 3D printers, and a new 1700 square foot workshop near campus to replace our cramped classroom workspace. Our team has influenced our school to add Computer Aided Design and AP Computer Science classes to the curriculum in recent years as well.

FIRST Launchpad - FIRST Growth in OKC

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We are developing strong partnerships with major players in STEM education in the 1.2 million person Oklahoma City metro area - where there is a huge opportunity for the growth of FIRST teams. We pioneered the robotics demonstrations at Science Museum Oklahoma's Tinkerfest three years ago, bringing 30 robots each year to the event that serves 8-10,000 people annually - and more FIRST teams join us each year. We have worked with the OKC Dodgers AAA baseball team the past two years to run the robotics demonstration at their STEM MVP day, a day dedicated to making STEM exciting for third and fourth grade students, especially in rural areas near OKC. This day has become a highlight for these kids, where they can have the opportunity to interact with technology that they may not have access to. This fall, we shot an advertisement featuring our robot playing with the Dodgers' mascot Brix on the baseball field for use in a big advertising campaign for 2020. Over the summer, we worked with many other FIRST teams to run a large FIRST demonstration at the Star Spangled Salute air show for 100,000 people. Along with these other demonstrations we've held hands-on demonstrations and workshops at Barnes and Noble, Boeing, the Career Tech Summer Conference, a tech-oriented Vacation Bible School at a large church, OK Women in STEM Conference and the Oklahoma City Zoo.

We have run STEM summer camps for K-8 students the last several years that serve as a fundraising opportunity for our team and introduce kids to the basics of FIRST robotics. There are 50-100 kids in attendance each summer. As a result, the Westerman Foundation awarded us a \$10,000 grant to purchase new educational robotics kits to help us reach even more kids. Three of our team members were recognized for their experience with teaching younger students, being awarded with jobs working for a private STEM education company.

Because of our work in the community, we've been given several opportunities to share FIRST in the local media including multiple stories in the Oklahoman (a major newspaper) and TV news stories on KWTW, KAUT, and KFOR TV news broadcasts. The audience for these stories exceeded over 1,200,000 people.

This year, we have begun to advocate with OKC leadership to help create opportunities for FIRST growth in the city, meeting with the mayor of OKC to discuss STEM education and speaking in front of the City Council about the importance of after school robotics programs. We've invited other local teams to help, with FRC 2395 joining us in this endeavor.

FIRST Launchpad - Strengthening Oklahoma FIRST

FIRST Launchpad then expands outward into the whole state of Oklahoma, where Team Rocket mentors and provides education opportunities for FIRST teams statewide. We have annually hosted kickoff and training sessions for FLL and FTC teams the last five years running. We volunteer at the Oklahoma FIRST Lego League state championships and even helped Central Kansas start their first FLL Championship in 2018-19.

This year, we teamed up with FTC 11354 and FRC 932 to advocate with several state congress members about reinstating a \$100,000 grant for FIRST teams. We have recently invited some state legislators to visit our school to learn more about the FIRST program and see the importance of STEM education firsthand.

FIRST Launchpad - To Infinity and Beyond

Our impact reaches beyond the local area of our team. We are involved not only statewide, but nationwide and globally. Three years ago, we joined the FIRST Global STEM Corps. This has led us to mentoring two FIRST Global Challenge teams, from St. Kitts and Nevis and Guinea. We also worked with the Argosy Foundation to design and build a robot for a FIRST VISTA working to bring FIRST robotics to students in underserved areas of Milwaukee, Wisconsin. In 2016, we collaborated with FTC team 8498 "Evil Purple Sox" from Virginia on their project with other FIRST teams around the world to collect and donate over 3000 pairs of socks for the homeless in various communities. This year, we discussed the impacts of FIRST at the Mercy Educators Conference for 20 international visitors and offered our guidance on helping start teams in their countries.

FIRST Launchpad -- A Bright Future

Our new shop and resources have presented us with the opportunity to expand our impact on our community. Not only do we have a larger place to work, we are also able to host other FIRST teams at our facility to practice and learn from each other. Because of our location, we have the unique chance to work with the local library, which was built to help underprivileged families in our area. We plan on running various robotics and STEM camps here throughout the year. We are also reaching out to Capitol Hill Middle School, which is just a stone's throw from our shop, to start FIRST teams there. Lastly, we plan to continue to start and sustain FLL teams at middle schools around our area to continue to provide a consistent and excited student base for FIRST in Oklahoma.

Conclusion

Team Rocket has launched into orbit! We've developed sustainability for the long term by creating a strong base of FLL/FLL Jr. teams and getting kids excited about STEM careers. We're building a strong foundation for ourselves and developing strategies to help other teams avoid our mistakes and sustain themselves. We're increasing awareness of FIRST in our community through our high visibility, and are the go-to team in Central Oklahoma when teams need help. We are not even close to being done, and cannot wait to do more for our community!

