

## Chairman's Award - Team 932

[Print](#)[Close](#)

2019 - Team 932

### Team Number

932

### Team Name, Corporate/University Sponsors

TD Williamson/AEP-PSO/DOD STEM/RTI/SISU Engineering/Allied Fence Company of Tulsa/Delta Lodge #425/Oklahoma Science & Engineering Foundation/Tulsa Engineering Foundation/Memorial Robotics Booster Club&Memorial Hs

### Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years

Last year our team's high school had a 79% graduation rate and 16% university acceptance rate. Because of FIRST, FRC932 can boast 100% in both categories for over 5 years! FRC932 alumni are becoming engineers, computer scientists, and doctors. Team members learn about career options, collaboration, deadlines, and solving complex problems. Being part of FIRST motivates us to take additional math, science, and introductory engineering courses. FIRST inspires us to achieve, to lead, to succeed!

### Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

Say "FIRST" in our community and people think FRC932. Groups running STEM events contact us to participate, including area schools, special events, Tulsa Regional STEM Alliance, FabLab Tulsa, University of Tulsa Basketball, Drillers Baseball, and Tulsa Engineering Foundation. Last fall, we partnered with the Tulsa Air and Space Museum to run 4 events showcasing FIRST. A charter middle school opened 3 years ago in a low-income neighborhood whose goal is to feed students into our program.

### Team's innovative or creative method to spread the *FIRST* message

FRC932 uses a multi-tier marketing technique to spread the FIRST message. We start, train and support other FIRST teams to become sustainable. We then prepare these 1st-tier teams with tools and strategies to start teams of their own. Teams started by FRC932 in 2005 have reached at least 5th tier, while teams started, mentored and supported in the past 5 years reach 3rd tier. If the 120 teams we have formed start just 2 teams each, and those start 2 teams, FIRST will have grown by 840 teams.

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

FRC932 develops our team members to be Gracious Professionals and public speakers who can inspire others to "be like us." We are a "go-to" resource for other teams needing assistance, the group to ask on how to sustain a team with fundraising and community support, the team asked before any other to attend an organization's STEM event. We share what we do and how we do it in order to give other teams the tools to improve their programs and become motivated to start new teams.

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

FRC932 received a grant in partnership with Oklahoma Science & Engineering Foundation to start and fund 8 FRC teams for the 2020 season. We are identifying the new coaches who will attend the 2019 Oklahoma Regional. In July, we will run a week-long workshop to prepare the coaches with knowledge and skills to start their teams in the fall. We will run three 1-day team trainings in the fall. The grant pays for entry fees, materials, and stipends. In the last 5 years, we have formed 3 FRC teams.

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

Our team raises funds to start 2 teams per year. In the last 5 years, we have started 1 FTC, 1 FLL-JR, & 8 FLL teams, while assisting with the formation of 10 FTC, 26 FLL, and 10 FLL-JR teams. Our team mentors FLL-JR12511 and FLL39732. We recruit and train coaches for new teams as well as assist them with team registration, organization, and fundraising. We offer many support mechanisms (see essay for complete details) to keep these new teams strong and sustainable.

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

We have observed that kids, not teams, usually progress through *FIRST*. Our initiative for progression is INCLUSION. At events we run, host, or attend, we include multiple programs to expose younger kids to the older programs. Examples include a combined FLL/FTC kickoff, FLL/FLL-JR Day at Tulsa Air and Space Museum, and the 2016 FLL Championship with FLL-JR Expo and FTC Qualifier. We then grow teams at each level to progress kids 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)**

FRC932 has a strong partnership with FTC11354, mentoring 3 FLL teams in northeastern Oklahoma and supporting FLL teams in hurricane-ravaged Puerto Rico. We worked together to run FLL/FLL-JR Day at the Tulsa Air and Space Museum. We run FLL Charge-Up sessions in which we work with a team to help them improve programming and/or presentation skills. We also partnered with veteran FRC teams 31 and 3179 to help 3507 (rookie coach) and 7744 (rookie team) get their seasons off to a strong start.

**Describe your Corporate/University Sponsors**

FRC932's multi-year funding sponsors are TD Williamson (a world-wide company in pipeline services), American Electric Power (energy), and Department of Defense - STEM division. Our in-kind sponsors are RTI (refractory systems), Allied Fence Co. of Tulsa, and SISU Energy & Environmental (heat transfer equipment and emissions reduction). Our fundraising sponsors are Delta Lodge #425 (pancake breakfast) and Oklahoma Science & Engineering Foundation (FLL qualifier and championship).

**Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years**

RTI and SISU, in addition to providing materials, provide key mentors for our team. Our local sponsors provide guest speakers and corporate tours to provide us with a stronger understanding of careers within their companies. We participate in TD Williamson's Make a Difference Day and AEP's Take Your Kid to Work Day. AEP plans to include our team in a community-relations commercial. Non-profit Delta Lodge #425 runs a pancake breakfast 2x/year. Local sponsors attend our end-of-year banquet.

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

*FIRST* uses robots as a vehicle to motivate students' interest in science and technology while developing many skills. Participants learn teamwork, leadership, communication, problem-solving, programming, computer-aided design, safety, tool use, and gracious professionalism. *FIRST* is the largest K-12 robotics competition in the world, offers millions in scholarships, and even improves a student's odds of college acceptance. Participants often find their passion for their future through *FIRST*.

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

Our team is leading the effort to have a *FIRST* Regional in Tulsa in March 2020. Our team President and mentors are members of the group recruiting sponsors for the Regional. The group submitted a proposal to *FIRST* Headquarters in January. Our team President and members of 2 other FRC teams have formed a presentation team to pitch sponsorship of the Regional to area businesses. The three were interviewed for a story in Tulsa Kids Magazine. Our President was also interviewed by a local TV station.

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

Chase Parker

## Essay

Dean Kamen tells us FIRST "isn't a robot." In keeping with this year's theme of Destination: Deep Space, we considered another entity with a multi-generational fan base, Star Trek, and why it is not the Enterprise that makes Star Trek such a hit more than fifty years after it first aired. Sure, the technology is spectacular, but what makes Star Trek an iconic franchise, transforming our society in more ways than even William Shatner can count, is the relationships between people. FRC932 also builds relationships - with other FIRST teams, our community, sponsors, and government officials - to fulfill FIRST's goal of transforming culture.

FRC932's "original series" began in 2002, working out of our coaches' garage. Three years later, our team provided the critical mass to start an Engineering Academy magnet at our school. In 2007, our school was remodeled and former athletic facilities were overhauled into our robotics lab. Beginning in 2005, FRC932 worked with FRC476 to form 25 FRC teams in Oklahoma, leading to the Oklahoma Regional in 2008. Our team started building the game field for the Oklahoma Regional in 2009, a tradition we continue. From 2009 to 2014, FRC932 started 10 FLL teams, providing funds and mentoring. Our team also assisted in the formation of 5 FTC, 18 FLL, and 3 FLL-JR teams. The "original" FRC932's visibility in our community influenced local non-profits to create the Tulsa Regional STEM Alliance, Tulsa's mayor to create an Aerospace Academy through Tulsa Technology Center, and our district to obtain bond funds for a STEM center.

As the "next generation" of FRC932, we are building upon our team's history of growing FIRST. In the last 5 years, we have started 1 FTC, 1 FLL-JR, & 8 FLL teams, while assisting the formation of 3 FRC, 10 FTC, 26 FLL, and 10 FLL-JR teams. We are coaching FLL-JR12511 and FLL39732 and partnering with FTC11354.

To create a scalable and sustainable model for additional FIRST growth and spreading the FIRST message, we use a multi-tier marketing approach (e.g., Avon and Tupperware). Our method can be summarized in three steps: Leaders, Teams, Expansion. By developing new team leaders who share FIRST values, we can teach them to start and/or form new teams just as we have, growing FIRST exponentially.

Our first step is to recruit, train, and mentor new coaches at all four levels through our FIRST Open Houses, summer camps, workshops, and Charge-Up Sessions. At every community event FRC932 attends, our coaches have trained us to look for opportunities to build relationships with adults whom we can inspire to become new FIRST coaches. These adults are invited to our yearly Open House to learn more about FIRST and get assistance with registering and building their teams. Over the summer, we offer week-long training sessions for coaches of FLL and FRC, preparing them to run successful teams. We also have a one-day session for FLL-JR coaches. We created a Facebook page for FLL coaches to ask questions anytime. While anyone can respond to the posts, we provide answers within 24 hours. Our 932 Charge-Up sessions during the school year are another opportunity for coaches and mentors to ask questions and get support. FLL & FLL-JR Charge-Up sessions involve one team at a time, allowing both coaches and teams to receive focused help. We've helped 27 teams so far. Our 2 FRC Charge-Up sessions are open to all teams. The Brainstorming Charge-Up (Tuesday after kickoff) helps coaches and teams understand the rules and ask as many questions as needed. The Pre-Inspection Charge-Up (Saturday before Stop Build Day) gives coaches and teams advance notice of what might need to be fixed to pass inspection at their first event.

Once new coaches are in place, FRC932 provides opportunities for teams. We have run a double FLL Qualifier each year since 2009. Our team members are involved in every aspect of these events, from planning to set-up, volunteering, and clean up. Because the number of area teams has outgrown our capacity, we have trained 4 other FRC teams to run their own qualifiers. We also ran the Oklahoma FLL Championship in 2015-2016 and will again in 2019-2020. Since 2014, FRC932 has run an FLL kickoff, explaining the details of each mission. Since 2010, we have run 2 weeks of summer camps. Week 1 is Motion Mania, teaching children to make a LEGO robot move. Week 2 is Sensor Sensation, teaching the campers to use 4 different sensors. Participants of these camps either come from an FLL team or join one later. This year we started and coached an FLL team with kids from last summer's camps.

FRC932 runs an FLL-JR Expo in which we partner with community volunteers as Reviewers to celebrate their season. In previous years, the Expo was held with the FLL qualifier. This year, we held a separate Expo at the Tulsa Air and Space Museum which motivated 4 teams to travel over 4 hours to attend. We also organized FLL/FLL-JR Day at the museum, arranging for 41 teams to tour the museum and attend a planetarium show for free. Through a grant from the Tulsa Engineering Foundation, we included an astronaut helmet make-and-take activity.

We have partnered with FTC11354 to host an FTC Qualifier in 2016 in conjunction with the FLL Championship and Expo. At 103 teams, the event is the largest FIRST competition held in Oklahoma. We have also worked with FTC11354 to host the FTC local kickoff, a Tulsa League event and an Invitational off-season event this year.

**Essay - page 2**

In addition to the FRC Charge-Ups discussed earlier, we teach LabView to teams, bring struggling teams to our site for extra help, and offer wood for bumpers to teams coming from outside the US. (We learned they cannot bring wood into the country.) We hold discussion sessions on improving team safety, applying for Chairman's, and strategies for successful fundraising.

FRC932 has partnered with Oklahoma Science and Engineering Foundation to implement a \$75,000 grant to fund 8 new FRC teams in 2020. The new coaches begin training in March of 2019 by attending the Oklahoma Regional. In July, we will run a week-long workshop in which they will build a kitbot. Next fall, we will offer three 1-day sessions for their teams.

After we start, train and support other FIRST teams to become sustainable organizations, we provide our "tier 1" teams (and any other teams we can inspire) with tools and strategies to start new teams of their own. The power of multi-tier marketing is the exponential growth due to new teams forming additional teams. Building relationships with teams is our foundational principle.

Much like Star Trek, our team's mission is to "seek out" and "boldly go." In honor of FIRST Launch, FRC932 sought a partnership with the Tulsa Air and Space Museum and FTC11354 to demonstrate our respective robots at a special military aircraft event attended by 504 visitors. FRC932 continued our 10-year partnership with the Tulsa Regional STEM Alliance by demonstrating our robot and offering a hands-on activity at their STEM Expo (1347 attendees this year), 11 Days of AweSTEM (October Tulsa County Fair), and Space in the Community Night (285 attendees). Our 8-year partnership with the Tulsa Engineering Foundation involves running concessions and an activity booth + robot demo at their Tulsa Engineering Challenge (1300+ attendees/year). For 3 years, FRC932 has coordinated 6 FRC & 2 FTC teams at FabLab Tulsa's Maker Faire by creating the schedule and emceeing demonstrations. Within our district, we have demonstrated our robot at 8 STEM-related events and are actively engaging 3rd-5th grade students at a Title I elementary, which will result in new FLL teams next year. Another partnership made this year is with Neighbors Along the Line, who run events for children with no exposure to STEM. And, we are working with a vlogger who posts videos of American STEM education in China.

When the Society of Women Engineers held a conference in Tulsa, FRC932 applied to present "Inspiring Girls' Interest in STEM through FIRST Robotics." Four female team members shared their stories of being in FIRST and the impact of having a woman mentor. We displayed FLL, FTC, & FRC robots.

Three years ago, FRC932 ran BasebALL STEM Day at a Drillers game to showcase STEM in our community. We arranged for two dozen exhibits along the concourse, including a flight simulator, 3D scanning and printing, Tulsa Police bomb squad robot, and FLL/FTC/FRC robots. We will repeat the event this spring. The University of Tulsa duplicated the idea at their Backboards and Blackboards event, which we attended twice.

Budget cuts in Oklahoma have slashed education spending drastically. Money earmarked for FIRST teams was also cut. We want to help sustain Oklahoma teams. FRC932 was gifted 20000 battery-free flashlights. For 3 years, we have implemented the Flashlights for FIRST campaign, donating 12087 flashlights to 146 teams, both rookie and veteran, at all 4 levels. If each flashlight was sold for \$5, then these teams raised a collective \$61685. For 2 years, FRC932 and FTC11354 have written letters to Oklahoma's state representatives to request reinstatement of the FIRST grants that were canceled. We also did Dean's Homework to support the Christa McAuliffe coin.

FRC932 believes in helping others. We provided 5544 flashlights to the non-profit Joy in the Cause to include in backpacks that First Responders give to children in crisis. When the Oklahoma FLL partner asked us in 12/2017 to help Puerto Rican FLL teams have a season after Hurricane Maria, our answer was YES. We provided 7 field kits, bought the trophies, and sent flashlights, t-shirts, hats, pins, and puzzles. We continue to follow their progress and keep in touch with their FLL partner.

Our "next generation" team continues to build strong relationships with teams, companies, and organizations; grow and sustain FIRST teams through our inclusive, multi-tier marketing; and make an impact in our ever-expanding community.