Chairman's Award - Team 1718

Team Number

1718

Team Name, Corporate/University Sponsors

Department of Defense/Richmond Rotary/FCA Foundation/NuStep, Inc/The Schember Family/ABB Robotics/PMMI Foundation/Armada Rubber Manufacturing Company/CTR Electronics/The Armada Fair&Macomb Academy of Arts & Science

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

Team 1718 allows students to flourish within & beyond FIRST. We ran 36 off-season workshops on Mechanics, Controls, CAD, Media and Outreach, allowing students to gain hands on time management, creativity, problem solving, manufacturing & mechanical skills, valuable to students in the workplace. Our team has a 100% graduation rate, 99% attend college & 88% pursue a STEM course of study. Our alumni have been offered over $4 million in scholarships & credit their success to these opportunities.

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

We host FLL camps, participate in school STEAM nights, demonstrate at fairs, libraries, parades & school board meetings. Realizing the benefits to students, our school created a Maker's Space allowing students to utilize modern manufacturing equipment. Our team expands engagement in STEM beyond our community: demonstrating at Henry Ford's Maker Faire(200k att/yr), Starbase, Muscular Dystrophy Camp(130 youth/att), Royal Family Foster Camp, Camp Skyline(140 youth/att) & Ann Arbor Hands-on-Museum.

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

Annually, we run and host our Michigan Advocacy Conference, the first student-run advocacy conference in the nation. Over 100 attendees from 12 teams spoke to elected officials on the importance of continuous STEM program funding. We demonstrate at the Armada Fair (60k att/yr), accumulating 400 work hours, one-sixth of our current team members joined from these demonstrations. We demonstrate at the Selfridge ANGB Air Show (200k att), Special Forces Association and to local scout groups.

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

We hosted and ran 31 seminars over 7 years at the Michigan State Championship, inviting 15 teams to present alongside us, educating students on over 20 STEM & business topics. We have hosted chairman's, 5 leadership bootcamps & a leadership seminar at Team 4810's charity event, equipping teams with 21st century skills. We presented for the FIRST State Advocacy Summit, participated in a panel at the Macomb County FIRST Robotics Showcase, & assisted in the creation of a Macomb Robotics Alliance.
Describe the team’s initiatives to help start or form other FRC teams

We have assisted teams: 4130, 2604, 3539, 4810, 6120, 7247, 5707, 201 & 4384, including teams from Mumbai, India & Shoham, Israel, with our publications, financial insight on sponsors, practice field visits & creation of newsletters. We visit schools of prospective & current teams, invite them to our build space & give presentations to administration & staff on the advantages of maintaining a FIRST program. We have started 8 FRC teams & provided them with the resources needed for sustainability.

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

We ran an FLL Jr. practice Expo, resulting in 42% of students at St. Peter’s School in Richmond joining 2 new FLL teams. Our members attend FLL formation meetings, run FLL camps and give presentations at our elementary school to engage young students in STEM programs. We have started, mentored and assisted 2 FTC, 5 FLL and 4 FLL Jr. teams. This past year, we started an FTC team in our local middle school, achieving all 4 levels of FIRST at our local school district.

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

For 6 years, our Infinite Possibilities Grant has financially assisted 2nd and 3rd year FRC and FTC teams. Our student-financed grant is funded through events at Wendy’s, Mod Pizza, Village Cafe, Weingartz, Noodles and Company, graduation flower sales and bottle drives. We have awarded 8 grants, totaling $4500. We host and run our annual district qualifying FLL tournament, Armada Automation and FLL Jr. expo, giving our students the opportunity to act as role models for younger FIRST students.

Describe how your team works with other FIRST teams to serve as mentors to younger or less experienced FIRST teams (including Jr.FLL, FLL, FTC, & FRC teams)

Our students mentor and assist all levels of FIRST. One-quarter of our students are mentors to FLL Jr, FLL and FTC teams. We provide these teams with the knowledge and skills to be successful, helping young students gain FIRST and STEM experience. We host and run summer FLL camps, teaching students about basic mechanics and the principles of building a robot, affording over 20 students per year: kids to learn skills before the FLL season.

Describe your Corporate/University Sponsors

We are thankful for our new and long-term sponsors: ABB, FCA Foundation, Serra Buick, GMC, and Cadillac, Ajax Paving Industries Inc., Special Forces Association, Lamair Systems, NDIA, Armada Fair, Classic Design, CTR Electronics, DCS Water Jet Cutting Inc, Department of Defense, FCA, Flex-N-Gate, Berville and Armada Lions Club, Macomb County Planning and Econ Development, Martinrea International Inc, Michigan Department of Education, Nustep, Printall, Prototech Laser Inc and Richmond Rotary.

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

We view our sponsors as partners. We give presentations to their businesses, volunteer at the Veteran Olympics, road/trail cleanups and volunteer 100+ hours in the Armada Lions and Richmond Rotary food booths during the weeklong Armada Fair. We issue monthly newsletters to keep our sponsors updated on our recent activities and we invite parents, school board members and sponsors to our annual open house. We acknowledge our sponsors by displaying their logos on our shirts, banners, and website.

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

FIRST is a program that allows students to learn new skills with hands-on experience through building a robot. Students develop a plethora of 21st century skills: innovative problem solving, time-management and collaboration on both the build and business sides of their teams. This program improves student performance in school, productivity, initiative and self confidence. Current students and alumni gain leadership experience, useful in FIRST and their future endeavors.

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

We effectively advocate for STEM funding at the Local, State and National levels; we assisted Team 4810 in creating the Macomb Local Advocacy Conference. Our students present at the FIRST Championship on advocacy alongside teams from New Jersey, New York, Minnesota and Virginia. Our students attended the International Day of Women and Girls in Science forum at the United Nations to speak on women in STEM.

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

Our students are challenged to develop mechanical, electrical, computer science, business & engineering skills by building robots. Our alumni are leaders & innovators in their fields; gaining apprenticeships & management positions, creating businesses & pursuing skilled trades, crediting FIRST for their successes. Our mentors and alumni remain in the FIRST community as volunteers, judges & mentors. The accomplishments of our members & alumni allow our team to be a driving force in FIRST & STEM.

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

Courtney Barr
Team 1718, The Fighting Pi, drives the growth of STEM beyond our community. From rural Armada, Michigan, we extend the impact of FIRST, emphasizing the infinite possibilities that STEM offers. Growing from 15 students & two mentors in 2006, our team is comprised of 35 students & 19 mentors. 34% of our team & half of our leadership is female, teaching young women to overcome adversity in future endeavors. We sustain our broad influence to progress our network of future leaders in STEM, improving social development & citizenship in our community, state, nation & world.

We reach beyond our immediate communities to foster a more informed culture in STEM skills, heightening awareness of FIRST programs. For the 3rd consecutive year, we hosted & ran our Michigan Advocacy Conference (MAC), the first student-led advocacy conference in the nation. Over 100 attendees from 12 teams gathered in our state capitol to speak to senators, representatives & policy advisors on the importance of STEM program funding. Our students attended the National Advocacy Conference, in Washington DC, for four years, meeting with Education Secretary Betsy DeVos, Senator Debbie Stabenow & Senator Gary Peters to emphasize the importance of ESSA Title 4 Part A & Perkins Act.

We supported the formation of two new advocacy efforts this year, including the Local Advocacy Conference in Macomb County, & FIRST State Advocacy Summit on the FIRST Updates Now Twitch Channel. Here, we spoke about the process of creating our state advocacy conference, MAC, & participated in a live chat to answer questions from teams across the nation. We present at the FIRST World Championship Advocacy Seminar, teaching other teams how to start an advocacy conference to make FIRST & STEM programs more sustainable along with teams from Virginia, Minnesota, New York & New Jersey. Our collaboration with other FIRST teams allows us to promote funding & youth accessibility of STEM.

We are known in our community. We participate in the Romeo Peach Festival, Armada-geddon, Richmond Good Ole Days & Armada Holly Days parades, spreading awareness of FIRST to our surrounding communities. To engage youth, we demonstrated to school boards, at local libraries, fairs, to scout groups & participate in school STEAM nights, gaining recognition from our local school district. This resulted in the addition of a Maker's Space to our build area, allowing Armada students to develop the same skills FIRST offered to our team. We hosted 36 workshops during the offseason to prepare our students for the upcoming season & give hands-on learning experience to high school students who cannot participate in FIRST.

We run demonstrations at the Armada Fair, with 60 thousand annual attendees, Starbase, The Henry Ford Maker Faire, Special Forces Association, & Selfridge ANGB, reaching 200,000 annual attendees, encouraging STEM involvement in our rural area. At the Armada Fair, we connect students with FIRST teams in their community & had four teams present alongside us. To engage youth, we volunteer at the Muscular Dystrophy Association (MDA) Camp, Ann Arbor Hands-on Museum, Veteran Olympics, Royal Family Foster Camp & Camp Skyline. We join our student with Muscular Dystrophy at the MDA Camp to provide students with similar disabilities the opportunity to drive the robot & give them an interactive demonstration, educating them on the possibilities FIRST & STEM programs can offer.

Our team maintains a strong connection with our community & local businesses to ensure our sustainability. We continue to build strong relationships with our 62 sponsors through volunteering over 100 hours in their food booths, participating in their field-cleanups, inviting them to open houses, our awards banquet & giving presentations at their businesses, volunteering at the Veteran Olympics, & sending out weekly newsletters. Our relationships with sponsors leads them to offer our students internships & eventually hire them as employees. We visit homebound veterans, thanking them for their service & enriching their day. Our team's dedication to assisting our sponsors resulted in the Special Forces Association awarding our team a grant for build supplies.

We constantly work to find creative methods for fundraising, establishing a strong basis for our team to grow. We do fundraisers at MOD Pizza, Wendy's, Village Cafe, Noodles & Company, Creek Center, & a Tennis BWAC Concession Stand, ensuring our financial stability. Our students gave a two-day demonstration at MDEX & spoke to industry professionals on FIRST programs, engaging them as potential sponsors.

Realizing the financial struggles of FIRST teams we awarded our annual Infinite Possibilities Grants to 2nd & 3rd year FRC & FTC teams in Michigan for the past four years. These grants are entirely student-financed through Bottle Drives & a Weingartz Hot-Dog fundraiser. Last year, we expanded our grants to include FTC teams, we awarded eleven grants, totaling $4500. Our help to other teams ensures their future sustainability & student success.

Our team started eight FRC Teams, giving them resources needed for sustainability. We demonstrated to administration at Warren Woods Tower High School, teachers at Merritt Academy & a teacher at Lutheran High North High School at our open house, showcasing the advantages that FIRST programs offer. We assisted nine teams, including teams from Shoham, Israel & Mumbai, India, offering them insight on finances, publications, newsletters, & outreach, strengthening our relation with international FIRST teams & their communities.

To continuously maintain & improve the skill sets of our students, we attend the Lapeer Robocon, Michigan Robotics Invitational, & Michigan Advanced Robotics offseason Competitions. These events engage our current & prospective students, enabling them to try new areas of the team & gain experience in FIRST prior to the start of the season. We build future leaders for the advancement of FIRST & STEM. Our students develop 21st century skills to succeed in future workplaces at our annual Leadership & Chairman's bootcamps. Here, students from five teams learn how to improve skills in public speaking, time management, self-confidence, & leadership. We spoke at team 4810’s charity event on leadership, to encourage local FIRST students to improve skill sets before the season.
Our students are mentors in all four levels of FIRST, promoting gracious professionalism & acting as role models for younger students to emulate. We taught the skills of programming, CAD, teamwork, robot design, creativity & 3D printing to FRC team 6120, FTC teams 14706, 13450, FLL teams 24890, 28429, 29082, 29052, 33189, 38429,18111, 17018 & FLL Jr. team 16912, inspiring students to gain interest in STEM topics. In our local district, we hold presentations for elementary students & attend annual FLL formation meetings, confirming our dedication to mentoring FLL & FLL Jr. teams.

We presented to parents at St. Peter's Lutheran School in Richmond & held an FLL Jr Expo, resulting in the formation of an FLL team and three additional FLL teams, involving 42 percent of their students. We started an FTC club at our local middle school that grew into an FTC team in 2018. Our encouragement of youth involvement in STEM led us to start two FTC teams, five FLL teams & four FLL Jr. teams. Our students host FLL camps each summer to provide these young students with FIRST experience.

Our team extends the opportunity for FIRST students to gain new STEM & business skills at our Michigan State Championship Seminars. We invited 15 teams to present alongside us in our 31 seminars, including 22 topics ranging from Intro to CAD, Business Plan, LabView, Chairman's, Strategy & Expanding FIRST. Our inclusion of teams from across the nation in our seminars enables us to diversify our set of topics, bettering the education of FIRST students on STEM. We connect with & support local teams at the Macomb County Robotics Alliance, where our students & mentors worked to advise & shape the goals of the alliance. One of our students participated in a panel at the Macomb Robotics Showcase to encourage youth participation in FIRST programs. Our efforts at these events help to sustain new & experienced FIRST teams throughout the county & develop youth interest in STEM.

We involve young students in FIRST programs by running & hosting our annual state qualification event & FLL Jr. Expo, Armada Automation. This event provides 24 FLL & five FLL Jr. teams each year with opportunities for discovery, innovation and competition. Near 100 percent of our students, mentors & alumni volunteer at this event as judges, tabulators, referees, judge assistants & student ambassadors, acting as role models for younger students & showcasing the value of youth interest in STEM programs. Our student leadership at this event allows our members to improve their leadership skills.

We extend FIRST's impact beyond our team, while we continue to embody a positive influence on the growing culture of STEM. Our 100 alumni were offered over four million dollars in scholarships, internships for high paying businesses, management positions, patents for their innovative ideas, & are continuously involved in STEM advocacy effort & volunteer in FIRST competitions. Two of our alumni joined Steve Hyer in running the National Advocacy Conference, enabling other states to create their own advocacy conferences. Two of our students were invited to speak on equality of women in STEM at the United Nations for the International Day Of Women & Girls in Science Event. This event encouraged young women to overcome implicit bias in the workplace & was broadcast in national news stations. Understanding the challenges that come from being in a rural town, our team promotes STEM to transform the culture of our community, allowing our students to engage in the Infinite Possibilities FIRST & STEM provide.