Chairman's Award - Team 2080

Print Close

2021 - Team 2080

Team Number

2080

Team Nickname

Torbotics

Team Location

Hammond, Louisiana - 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.

Over the past 5 yrs, 100% of members have graduated high school & were accepted to college; 98% currently attend college, with one recently enlisting in the Navy to pursue engineering.100% of alumni have acquired STEM-based scholarships & pursue STEM majors. One 2020 alumni were recognized as having earned the highest scholarship in the district last year & it was FIRST-based. 61% of alumni return to mentor FIRST teams.

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

Our school is located in rural southeast LA with minimal access to STEM opportunities for youth. We take pride in having one of the largest engineering facilities in our area. As a result, we are obligated to use what we have to provide STEM opportunities for local elementary & middle schools with limited access. In August 2020, we were asked to join a newly formed coalition to address the need to elevate importance placed on pursuing a STEM education in local African American communities.

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?

Over the past 3 yrs,Torbotics has started 18 FLL Explore teams, 4 FLL teams and 3 FTC teams. We also allowed other teams to use our buildspace for meetings as well as hosting recurring monthly STEM Cafes (now made virtual) & summerly STEM camps for ages 6-12. We utilize feedback surveys after every event hosted. This is the first year that 79% of our incoming engineering students at HHMS have had contact with the team prior to starting school & listed the team as a reason for pursuing HHMS.

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

For the past 3 yrs we have hosted FTC Jump Starts & Regional Qualifiers & volunteered at the State Championships. We have hosted FLL Challenge & Explore Jump Starts to help rookie teams. We hosted our first FLL Invitational in 2020 & provided help at State competitions. We built new robot game tables to use for State Championship & rookie teams. We have presented at FRC jumpstarts & allow FRC teams to use our facilities. We have been asked to present virtual platforms for rookie FRC teams.

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

During 20/21, we've mentored 3 FLL teams (Wolf Bites, Terra Bites, Bayou Builders) & 5 FTC teams (8647, 9661, 10703, 13017, 18658). We started 18658 & restarted 10703. Mentorship is down by 4 FLL Challenge & 3 FLL Explore teams due to COVID. We've received commitment they will restart next season. We continue to directly assist 37 FLL, FTC, & FRC teams thru various means. Over the past yr, we've also increased our published & virtual work to assist primarily FRC (ex: content for FRCtutorials).

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?

We avg 35 events, impacting ~ 30,000 each season over 5 yrs. We accomplish this in STEM Cafes, ASTRO Camps, TangiSTEM, SPARK, social media campaigns, open houses, sponsor showcases, & honoring multiple requests for demos. Efforts went remote this yr with STEMulate, virtual camps, collaborative STEM bell ringers, a STEM poster/branding campaign, & elevating status of our dedicated seniors with portrait banners hanging up at school. 86% of members met the team during outreach prior to joining.

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

We created a partnership with FRC 8027 to create medals & trophies for 40 FLL teams across the U.S. & 17 countries for the 1st FLL Share & Learn Virtual Open. We partnered with the Univ of LA at Monroe to test different UV sanitation methods to keep our shop clean without damaging materials with repeated disinfection spray. We partnered with our school's Child Development dpt to beta test our design. We donated our 1st completed model with a UV wand to ABC Learning Child Development Center.

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

During the past 3 yrs we've made a conscious effort to partner with the HHMS athletics department & other clubs to create fun projects. Thru collaboration we've focused on projects appealing to a broader range of students highlighting STEM. We created a t-shirt cannon for pep rallies last season & created a basketball slinging Showbot to challenge fans to 3-pt & free throw shots at games. We recently formed a coalition w/ area churches to elevate STEM achievement in African American communities.

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

We've maintained a steady influx of new members thru dynamic outreach, increased community recognition, & team branding. In response to a lack of in-person events this yr, we launched a series of team & engineering program Open House videos which are sent to feeder schools & showcased on social media. Our team conducts a community analysis at the start of each season to develop 3 key initiatives to guide our efforts to honor our motto. 3 yrs ago we launched a senior member job shadow program.

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

Last season we engaged sponsors to revamp our donation tier system & received feedback on multiple aspects of sponsor recognition to prompt greater investment. We send sponsors periodic updates, personal notes, & ensure they are listed in all media efforts. We now track media analytics & provide this info to sponsors. We highlight exactly how their investment impacts our team. Our new donation tier system includes custom 3D printed team appreciation gifts. In-kind donations have trended this yr.

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

As our team grows, it's become apparent more team mentorship is needed. While we've retained technical mentorship the past 5 years, these 3 mentors have become extremely busy & relegated their participation to remote only due to COVID & changes in work hrs. Having additional in-person mentorship would greatly assist our lead mentors ensuring everyone is provided assistance, as needed, throughout meetings. We've added this need to our marketing campaign & reached out to families of new members.

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

#putSTEMFIRST is our motto, our guide to pursue the shift needed to elevate perceptions & interest in STEM through FIRST. At the start of each season, we meet as a team to plan the yr's initiatives to promote our motto based on student interest & changing needs. This yr's initiatives are to #reiTORateSTEM (reinvent ways to safely ignite STEM opportunities for youth), #resTORetheForce (finding ways to restore the momentum of FIRST teams), & to celebrate our #innovaTORs & first responders.

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.

Over the summer, we created face shields for our school's choir to promote safety, sewed face masks for local first responders, 3-D printed ear savers for teachers & students, created handsfree sanitation stations for school & a local skatepark, & created dividers to accommodate students during lunch. We designed & cut candle ornaments to present to frontline workers in appreciation of their dedication to our community. We launched TORs to Open Doors, Hurricane Laura emergency relief.

Essay

Essay
It has been a year since the whole world shifted. So much is different in our lives and routines now in response to the pandemic. The impact this has had on every aspect of our lives has been profound. It's made us reflect on who we are and who we want to be. How would we respond when we didn't exactly get that school year and season we had so long anticipated? How would we still embrace our community's need for quality meaningful connections while still keeping everyone safe?

Over the past 15 years, Team 2080, Torbotics has become a platform driven to change the lives of students throughout our region. By putting STEM FIRST, we've been able to leverage FIRST as a way to spread the importance of STEM education in the largely rural and underserved communities that define us regionally. This has become the blueprint for Torbotics aimed at changing our region's perceptions on the importance of STEM. We believe STEM is transformative. STEM can change lives. But STEM opportunities are not accessible to all. The systemic challenges encapsulating this disparity have compounded exponentially over the past year in response to the global pandemic.

In order to live up to our motto during the 2020-2021 season, Torbotics undertook the challenge to adopt a new set of initiatives for community & team development; for safety. We had to acknowledge & embrace our new normal in response to the pandemic. We had to take a hard look at our existing blueprint, look deep within the heart of what it means to be a member of 2080, and kindle a more dynamic approach to sustainable, systemic regional investment in STEM. Searching deep into the core of what this means, Torbotics had to restructure and reiterate our blueprint.

#putSTEMFIRST
Four years ago, Torbotics launched an initiative that has since become our motto, our guide to pursuing the culture shift necessary to elevate perceptions and interest in STEM through FIRST programs. Put STEM FIRST is our motto. Yet, what does it mean? Quite simply, FIRST robotics is our catalyst to explore and bring to others the incredible possibilities that science, technology, engineering, and math offers. By putting STEM FIRST, we can engineer & discover possibilities no one thought imaginable. Throughout this journey, 2080 has transformed itself into an innovative, reliable ambassador for STEM; averaging 35 events directly impacting approximately 30,000 youth & families each season in the 4 years pre-COVID. How would we continue to address this need amid a world now altered? These are the moments that define us.

#ReiTORateSTEM
First, we had to reiterate our approach to connecting with others through STEM. When we can't meet in person, we go remote starting with regular team meetings on Zoom during quarantines. Our annual summer camps went remote. We hosted 3 full weeks of ASTRO Camps last summer, directly serving close to 200 families. We were asked by NASA to present the lessons we learned in this new medium to other NASA HEO programs throughout the country and South America. Creating an interactive website for each week of camp, including the development of 47 team-led activity videos, we hyped up the anticipation to launch the Mars 2020 rover. As our school district worked to enhance its virtual elementary and middle school science programs, we were honored to have our district choose to implement our virtual camps throughout the K-8 parish curriculum greatly expanding our impact.

In place of our participation in monthly regional STEM Cafes, we launched STEMulate - a series of monthly virtual STEM Cafes, helping local churches, youth groups, elementary schools, and afterschool programs. It was even promoted on the district website. Highlighting 4 activities each month, we focused on developing fun ways to deepen our understanding of different STEM concepts. Recognizing that we were physically losing a way to serve as role models for younger students, this prompted a partnership to develop fun, engaging bell ringers for teachers to use in class with specific grade levels focused on basic physics understanding, math, engineering design, and some limited technology. We also developed a series of posters for local elementary schools and our campus seeking to normalize and elevate the image of STEM, along with Torbotics branding.

In an effort to reiterate our work in the community and throughout school, we started an initiative to design, CAD and cut custom signs for a small fee and were honored to be asked to CAD and cut medals awarded weekly at Hammond High to recognize teachers and students in an effort to boost school morale. By reiterating STEM in our community, Torbotics illustrates the message of FIRST.

#ResTORetheForce

2020 marked a true disturbance in the force for so many FIRST teams as they worked to respond to the loss of normalcy while also keeping everyone's well-being a priority. Recognizing the profound impact of this, our 2nd initiative this year has been to Restore the Force that is FIRST robotics in our area. For FRC this resulted in us creating several training guides that have been featured on websites like FRC Tutorials, created & operated by the FRC team - The Droids. We were also invited to participate in several panel discussions on different media platforms to assist rookie teams, including one moderated by FIRST Updates Now (FUN).

For FTC we restored the force by providing the means to restart one team & creating a new team in response to increased community and school interest. We currently have 5 FTC teams that rotate to meet at our shop & receive weekly mentorship thru 2080. We have also opened our field for teams across the region to schedule use, as needed for practice & to run official remote robot matches.

For FLL Challenge & Explore teams we wanted to restore the excitement of in-person competitions, while also providing direct mentorship when possible & safe. While we lost 3 FLL teams this season that we previously mentored, we were able to support the start of 2 new teams in Loranger with game tables, LEGOs, & direct weekly mentorship. We have also gained written endorsement from the principals at 5 local elementary/middle schools that they will commit to either start or restart an FLL program at their schools with our help in the fall. To start this process, we have delivered a complete City Shapers mission model set & mat to each school along with an assortment of LEGOs. For FLL Explore, we are working to create the medals and trophies used at the upcoming State Expo. In response to the abrupt end to the 2020 season for these teams, Torbotics was honored to be asked to assist in developing the trophies and medals for the FLL Share & Learn Virtual Open Invitational. We were assigned to support the majority of international teams, creating an opportunity for us to make connections with FLL teams in Brazil, Argentina, France, Greece, Croatia, Jordan, India, and Australia.

To restore our force, we developed a thorough COVID-safety protocol plan, revamped our PPE, and partnered with our school's basketball team during the off-season to create our basketball shooting Show Bot to use in future events. We also started planning ways to maintain a connection with our members virtually to accommodate quarantines. We developed videos about our engineering program and FIRST robotics to send to feeder schools for virtual Open Houses.

#InnovaTORs
Our final initiative this year has been to recognize and celebrate local innovators and first responders. In the months before the start of school, Torbotics created face shields for our school's choir to promote the safe practice, sewed face masks for local first responders throughout our community, 3-D printed ear savers for cloth face masks for teachers and students, created handsfree sanitation stations, and dividers to accommodate students eating in classrooms for lunch. We partnered with the University of Louisiana at Monroe to test different UV sanitation methods to work on keeping our shop clean without damaging materials with repeated disinfection spray. This led to the creation of a UV sanitizing barrel, to disinfect small items like LEGOs with a UV light. We partnered with our school's Food & Nutrition/Child Development department to beta test our design and made initial modifications. We donated our first completed model along with a UV wand to ABC Learning Child Development Center as a thank you for their long-time sponsorship and to support their efforts to safely remain open for working parents. In recognition of our nursing and respiratory staff during the holiday season, we designed and cut candle ornaments to present to frontline workers as our appreciation for their dedication to serving hope for our community. To honor our 2021 seniors, we launched a new tradition this year to honor & showcase them for their years of dedication to Torbotics and elevating STEM with senior portrait banners which hang up in the halls at our school.

Purple Print of Torbotics
A good blueprint is responsive to its constituents and dynamically changes as needs change. In life, we will always be given a series of opportunities uniquely disguised as problems & challenges. Through reiterating our STEM outreach, focus on restoring the force of FIRST robotics and STEM, and celebrating local innovators and front-line workers, Torbotics has continued on its path to "Put STEM FIRST" in a safe and meaningful way. Our new Purple-print is our guide to put STEM FIRST straight from the heart of who we are to ensure meaningful change. Through putting STEM FIRST, we have learned so much more than how to put together robots. We have developed grit, determination, and resilience. #putSTEMFIRST is our Perseverance!