

Chairman's Award - Team 3309

Team Number

3309

Team Name, Corporate/University Sponsors

The Boeing Company/Hamrock/Raytheon/Serra Laser/Disneyland Resort/VXB Bearings/First American Title/Will-Mann/RoboTerra/SoCal Devs/North County Glass/Hyundai Motors/The Stump Family/Reliable Sheet Metal&Servite High School

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2016/2017 year and the preceding two to five years

"FIRST has refocused and placed me on the career path that I am on right now. It has given me all the skills to figure out what I want to do after college." - Kenny Sandon, '16 Alum -95% of alumni pursue STEM careers --Over \$1.1M in merit scholarships --Interns and full time employees at Google, SpaceX, Facebook, Twitter, and Boeing --6 FRC Teams are mentored by 3309 Alumni -1 WFFA Mentor -2 Dean's List Finalists -3 SoCal Regional Robotics Forum Scholarships

Describe the impact of the *FIRST* program on your community with special emphasis on the 2016/2017 year and the preceding two to five years

"It's awesome to watch 3309 share their passion for robotics with the next generation of Friarbots during their camp. 3309's program is both accessible and educational for attendees." - B. Ronan, Director, Servite HS Beach Blitz -1k attendees, 92.5k viewers -25 teams -20 workshops STEM Camp -175 students/3yrs Outreach Demos -45 demos & 20k people in 4yrs Middle School Demos -500 students/season Open House -177 Families Toured 3309 Facility Her Servant's Kitchen -528hrs & 3,000 meals served

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

Video production acts as standard in FIRST -Videos using industry-standard production tools to show robotics to outside audiences -Assist others on media & video (254, 1671, 2052 & FTC-level teams) Use of videos & photos to spread FIRST -Business Rockstars Interview --Streamed up to 40 Million households --1.0 Million Listeners Videography employs unique editing style -Allow outsiders of FRC become interested in robotics -Video comment section alive w/ discussion

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

3309 Boeing Sponsorship for Others -Invite 6 FRC teams to annual Boeing Demo Days -20 mentors in 3yrs Spreading FIRST Nationally -Business Rockstars: 1 Million Listeners -Team Video Production: 27k views Running Events to Help Others -OC Kickoff Event: 400 Students -Beach Blitz: 1000 Students/25 Teams -Friarbots Forum & Movie Night: 400 Students/5 Teams Strong Relationships w/ other FRC Teams -3476+4276: Beach Blitz -2485: FriarLords Exchange Program -8 FRC Teams: Annual CMP Welcome Reception

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

"3309 gave us the opportunity to not only observe the hard work of fellow FRC teams, but also see the ideals promoted by FRC." - Thena Guttieri, Co-Captain, Team 4999 By garnering Google's support of \$5000 to start them, Berkeley High School's newly-formed FRC team will be able to compete in the 2017 STEAMworks Season due to Friarbot aid.

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

FLL Information Night -Invited principals, school representatives, and community parents to 3309 Facility for a presentation by FIRST Senior Mentor Rick Sisk and Friarbot students on how to start FLL teams Six Steps to FLL Success -Pamphlet guiding outsiders on how to start an FLL team handed out at all 3309 demos

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

FLL Team MR Roboto -Presentation given to team members at 3309 Facility -Robot+Project+Core Value assistance given at MR Roboto Facility -Team received Design Award & qualified for Regional CMP Referee Volunteering at FLL Competitions run by Teams 2493, 3476, 5199 Invites FTC Team 542 annually to Boeing Demo Days to gain more mentors

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)

"When I open 3309's emails, I am blown away with gratefulness. Thank you for sharing so much helpful information." - N. Nunns, Lead Mentor, 6554 3309 reached out to Senior Mentor Rick Sisk in 2016 to find new local FRC teams to mentor for the 2017 Season. One team the Friarbots got in contact with was 6554 Phoenixes, and by keeping in contact over email and inviting members to Friarbot facilities, 3309 has guided the Phoenixes in: -Robot Design Strategy -Game Analysis -Building Team Membership

Describe your Corporate/University Sponsors

"Hamrock Inc. remains involved by supporting the Friarbots' enthusiasm to make FIRST loud."-- Mike Mason, Hamrock Employee/Mentor of 3309 Hamrock: 7 years/Fabrication & Mentorship Servite: 7 years/ Location & 50k a year Boeing: 6 years -Regional Registration Fee & Annual Monetary Donations -Demos: --C-17 Open House & Two SoCal Facilities Raytheon: 7 Years/Monetary Will-Mann: 4 years/Fabrication Disney: 1 Year/ Half of Regional Registration Fee RoboTerra: 1 Year/Global Impact Grant

Describe the strength of your partnership with your sponsors with special emphasis on the 2016/2017 year and the preceding two to five years

Boeing -Regional Registration Fee & \$15,000/year -Alumni Interns -2 Mentors totaling 14,000 hrs -Printed Award/Sponsor/Field-side Banners for Beach Blitz Hamrock, Inc -Gracious use of powdercoating & laser cutting machines -Company welded 2016 Robot Superstructure -Been with 3309 since 2009 Alumni & Families: -Fundraiser Events raise for the past three years: --End of the Year Banquet \$30,000 --Christmas Party \$30,000 --Kickoff Breakfast \$3,000

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

Team 3309 could tell you that FIRST is just a techie sports league, but it's so much more. At the end of each competition, what matters isn't what awards the teams won, but what lessons they learned. FIRST also teaches students what is known as Gracious Professionalism, a way of competing without putting teams down, but instead, lending a helping hand. Even though FIRST is a robotics competition, it also is a way of learning sportsmanship, and preparing students for a future STEM career.

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

"The Friarbots have been a great help for our new team. They've graciously let us use their facility & answered any questions we have had. I know my team is very grateful for them!" - Maggie Laton, President, VRC Team 1846C Team 3309's facility is used by their two sister school's VRC teams, Rosary Royal Engineering and Connelly Coders, throughout the year. By doing so, the Friarbots' facility becomes a second home for other robotics program students to share the same resources and mentorship.

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

Jon Logrippo

Essay

For FRC Team 3309, the 2017 FIRST Robotics season started in December of 2016, as the team began month-long preparations to host the official Orange County Kickoff Event. On the morning of January 7th, 2017, an energized gathering of over 400 robotics enthusiasts from all over Orange County poured into Team 3309's host school's theatre. Mentors looked on with pride, overwhelmed by the sight of robotics students from 32 SoCal FRC teams coming to Servite to watch the official Kickoff Broadcast. Never before had the official OC Kickoff Event unified and prepared FIRST teams like it did in 2017 at Servite High School. Once the broadcast concluded, team representatives picked up their Kits of Parts while the remaining students and mentors moved on to Team 3309's Robodome, where they toured a wooden version of the STEAMworks competition field built by Team 3309 and Team 3476: Code Orange. The efforts of this collaboration, along with the setting, the preparation, and the sheer magnitude of the event was uniquely impactful for all who attended. While hundreds of volunteer hours had gone into hosting the 2017 OC Kickoff Event, it was seven years of dedication and tens of thousands of volunteer hours that led up to this inspirational moment. In October 2016, three months prior to their OC Kickoff, Team 3309 made FIRST loud to over 1,000,000 entrepreneurs through an interview with TV host Pat O'Brien on radio and television platform Business Rockstars. After meeting the founder of Business Rockstars, Steve Lehman, at a demonstration in LA, Team 3309's members came onto the show to discuss the impact of STEM education on themselves, their high school, and on students around the world. Promoting and broadcasting FIRST's mission on a national platform like Business Rockstars has been a goal of the Friarbots since their inception, and by acting as ambassadors on behalf of both OC FIRST and FIRST across the nation through the

show's 150 radio stations and 40,000,000 potential household viewers, this goal has not merely been met, but exceeded.

Along with large-scale STEM promotion, the Friarbots sought to create an off-season event for SoCal teams. Two weeks before their interview on Business Rockstars, Team 3309's dream became a reality when they collaborated with Team 3476 and Team 4276: Surf City Vikings to host and run Beach Blitz, a competition that prepares FRC Teams for the official season. This event featured an official Stronghold field, full field management set-up, and workshops hosted by experts designed to train and educate OC FIRST teams in topics ranging from driver strategy to award submission. Each participating robot was guaranteed twelve qualification matches with other competitive teams, which caused many to feel that they were competing at a regional-level event at sub-district event prices. The fee for Beach Blitz was \$300, allowing teams to participate at a cost sixteen times cheaper than regional events and eight times cheaper than district events. This new event also trained 70 volunteers on the ins and outs of running competitions, thereby preparing the way for California to more easily transition to the District System in the near future.

Behind the scenes, the Friarbots were responsible for designing and fabricating the Beach Blitz aluminum trophies on their mill, working with Boeing to print the event's award banners, and designing Beach Blitz volunteer and official spectator shirts, in addition to having mentors and students serve on the planning committee. The Friarbots' work on Beach Blitz contributed greatly to making the competition feel welcoming and captivating to all who attended. After accomplishing their goal of starting an off-season, Team 3309 and Beach Blitz' numerous attendees are excited to ride out the wave of competition again in 2017.

Without genuine first hand experience, events such as Team 3309's Beach Blitz would not be successful. For the Friarbots, the inaugural Orange County Regional(OCR) served as the source of valuable experience. A strong volunteer base was required to make OCR fun and sensational, and this prompted Team 3309 to step up and help as soon as possible. Friarbot parents and mentors got busy filling key volunteer positions, such as Volunteer Coordinator and Robot Inspector, while Friarbot students developed the OC Regional Mobile App to better streamline part lending and match queueing. In 2017, Orange County's Planning Committee has four new 3309 mentors fulfilling key roles in an effort to build upon OCR's initial success during the Stronghold season.

As Team 3309's experience has grown, so has its capability to educate the community about hands-on STEM education. One of the best examples of such educational opportunities is the Friarbots' annual STEM Summer Camp, where 175 students in the past three years have learned how to 3D print parts, solder a circuit board, and program FLL robots. Team 3309's inspiration of young students has encouraged Servite High School's administration to expand their relationship with the robotics team. In Fall 2016 alone, a total of 19 eighth grade students looking to attend Servite asked the administration to shadow Friarbot students instead of athletes. Now, members of the Friarbots are school representatives to prospective families who have seen the team at one of its many middle school demonstrations or featured on Servite's website. This increasing demand for FIRST has led to an unprecedented 10% of Servite High School's incoming freshman class committing to Team 3309 for the 2017 season.

Year after year, FIRST Robotics has not only enabled Team 3309's students to build a robot, but also to become inspired to pursue a career in STEM fields. For Friarbot alumni, the effects of FIRST never leave them after graduating. Currently, former students are attending schools such as UC Berkeley, UCLA, Johns Hopkins, Embry-Riddle, and USC. Several founding students of Team 3309 have returned to mentor the next generation of Friarbot students, while other graduates have gone on to mentor FRC Teams 971, 973, 1646, 2486, and 5499 in addition to 3309. The passion for FIRST given by Team 3309 enables its alumni to be leaders and educators for high school students throughout the United States while working at top companies like Google, Facebook, and Boeing.

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One of the first and longest-lasting outreach initiatives of the Friarbots began in 2012 with the creation of the Orange County Robotics Alliance (OCRA). In collaboration with Team 3476, the Friarbots created a framework led by students in charge of managing an email list of eight FRC teams in OC. However, OCRA quickly become more than just an email list. OCRA teams unified to host events, community demonstrations, and workshops. For Team 3309, this organization provided a conduit for running both a movie night and a public forum event with Boeing's former CTO in 2015, and hosting an event called OC-Rage for students to participate in team-building games and educational breakout sessions. In recent years, the Orange County Robotics Alliance's unification of FRC teams in OC has led to the coordination of 2016's Beach Blitz and Orange County Regional, as well as 2017's Season Kickoff at Servite.

Next year, the Friarbots intend to secure official support for STEM programs at the high school level by working with local and state government representatives. At Servite High School, Team 3309 has been extremely lucky to afford a STEM facility with a well-equipped prototyping workspace, a full-sized practice field, and a stocked machine shop with a CNC mill, TIG welder, and a powder-coating machine. By achieving governmental support for FIRST and STEM, the Friarbots aim to bring Servite's support of engineering to as many high-schools as possible to help others succeed. Although they did not know it at the time, the act of starting OCRA carried out in the fall of 2012 by Team 3309 would lead to FIRST in OC becoming a unified and organized community of teams constantly looking to cooperate with one another year-round. From 2009 to 2017, FRC Team 3309 has donated time, effort, and experience to growing the robotics programs of the high schools of Orange County in addition to their own. The 2016 Season alone saw Friarbot members spend 5,830 hours of volunteerism to reach out and affect 1,030,000 people through demonstrations, off-

season events, and televised interviews. Their ability to successfully educate and inspire OC's citizens has propelled team members to seek new ways to promote FIRST on a larger scale.

On January 7th, 2017, the home of the Friarbots hosted more than just a kickoff event. For Team 3309, the sight of 400 robotics students from 32 FRC teams including all of OCRA's original members was a re-affirmation of their team's mission: to unify their community.