

Chairman's Award - Team 3309

[Print](#)[Close](#)**2020 - Team 3309****Team Number****3309****Team Name, Corporate/University Sponsors**

The Boeing Company/Hamrock/McLaren/Google/Ganahl Lumber/II-VI Optical Systems/Apple/Raytheon/The Stump Family/Drawer Box Specialties/Vision Miner/First American Title/Reborn Cabinets/Will-Mann/Serra Laser/VXB Bearings/SoCal Devs/Reliable Sheet Metal&Servite High School&Cornelia Connelly School

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

Through FIRST, 3309 students and alumni are motivated to explore STEM fields to pursue majors or careers of their choosing. 2015-19 alumni awarded \$6.2M in merit aid, 4 full-tuition STEM scholarships Alumni work at Google, Amazon, Twitter, Facebook, Vision Miner, Boeing, Apple & Momentus Alumni attend Harvey Mudd, Cal Tech, WPI, Santa Clara, UC:Davis & Irvine, Berkeley, UCLA, Cal Poly SLO, Johns Hopkins, Babson Honors: 5 Dean's List Finalists 2 FIRST Scholarship Recipients 1 WFFA Mentor

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

Ran and hosted Battleship Blast 2017-19: Free 3-day competition & STEM Expo for 66 FRC teams & 165K LA Fleet Week attendees over 3 yrs. In 2018 an ABC7 segment was broadcast to 367K viewers and remains online. In 2017 KTLA promoted our STEM Expo. 72 public demos in 5 yrs. OC Regional: Over 2700 volunteer hours from 3309 parents, mentors & alumni (4 yrs) Beach Blitz Off-season Competition: 2880 volunteer hours; 129 teams 42 workshops, 385 volunteers trained in 4 yrs.

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

In 2018 3309 partnered with its sponsor Boeing & LA Fleet Week to showcase STEM & FIRST via Battleship Blast, 3309's free annual off-season event for SoCal teams to compete, train new drivers & members, network with other teams, and help spread the FIRST message. This event not only supports team sustainability, it also builds the volunteer pool by training students, mentors and parents in key volunteer roles such as Referee, Queue, FTA, CSA and Scorekeeper so they can support FIRST events.

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

In addition to being a resource for parts, tools, programming & bumper help at competitions, 3309 members inspire others through our service, events and community building: OC Kickoff (4yrs) Mock Kickoff for mentored teams & rookies (4yrs) Championship Welcome Event (5yrs) for new & veteran teams to connect (>400 attendees '18 &'19 combined) They also support international teams competing locally with batteries, tools, parts & use of our facility. 6955 & 5512-Chile('18 &'19) 4400-Mexico('20)

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

Team 3309 mentors teams & provides a practice field for scrimmages and testing as well as creates no-cost / low-cost events like Battleship Blast & Beach Blitz and guides new FRC teams to success: Started & Mentored 4414 High-Tide, 5419 Natural Disasters & 7157 MuBotics - OCR Rookie All-Star 2018 Chairman's mentoring: 3476 and 6072 Mentoring Rookie 8135 Legacy Robotics Mentored 6955 Los Chilis - OCR Rookie Inspiration Award 2018 & Finalist Mentored 6554 Phoenix Robotics- OCR Rookie All-Star 2017

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

At each outreach event 3309 aims to connect anyone who demonstrates an interest in FIRST with a local team or the information to create a team by explaining the various FIRST programs. For FLL, 3309 created Six Steps to FLL Success, a pamphlet detailing how to start FLL teams that 3309 hands out at every event. This July, 3309 keynoted a 1.5 hour general session for 500 female educators at the DKG Society International Technology Conference, guiding them through the steps to start a FIRST team.

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

To support local FLL teams 3309 created FLL Preview Night at Friends Christian School for teams to practice their Robot-Project-Core Value presentations and receive feedback. Students from Friends have joined 3309, along with students who have attended its summer camp and off-season events. 3309 often refers interested students to a local age-appropriate FIRST team they can visit to learn more. Each year 3309 invites FTC 542 to Boeing Demo Days to attract mentors and generate interest in FTC.

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)

Beach Blitz, co-hosted with 3476 & 4276, has provided and livestreamed 72 workshops and panel discussions by elite teams (330, 1671, 1678, 2122) and mentors for the benefit of new & returning teams. At Kickoff with 3476, 3309 guides rookies through the Kit of Parts and introduces the WPILib software resource. In 2018, 3309 represented FIRST with 4079 at Disney Imagineering to recruit mentors and volunteers, and in 2017 co-hosted Chairman's mentoring with 971 to serve less-experienced teams.

Describe your Corporate/University Sponsors

3309's sponsors provide our team with financial support, mentors, or in-kind donations: Hamrock, Inc.: 10 yrs/Fab. & Mentor. Servite: 9 yrs/ Location & 50k/year. Boeing: 8 yrs Regional Fee & Annual Donations + 6 demos at Boeing Facilities. Raytheon: 10 Yrs/grant. WillMann: 6 yrs/Fabrication. Apple: 3 yr/ Regional Fee. Google: 2 yr/ \$5k donation. McLaren: 2yr/ \$4k. Airgas: 1yr/Monetary, Mentoring, Supply Donation, Drawer Box Specialty (field element manufacture) AWFS: Mentor

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

3309's sponsor partnerships include: Hamrock, Inc.: mentor, fab. & powder-coating services Servite: Provides 3 buildings for facilities & 4 STEM faculty. Feature 3309 in admissions videos & materials Boeing: 3 mentors. Alumni internships Blizzard Entertainment: Software mentor & meeting space Vision Miner: Internships for students and alumni. Beach Blitz sponsor and exhibitor. Featured 3309 robot in a commercial McLaren: Brought car to Kickoff to showcase engineering opportunities for students

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

FIRST is a competition that is not about winning; it's about learning. Through FIRST, students of all ages have the opportunity to engage with peers and professionals to learn real-world programming, design, and manufacturing STEM skills along with leadership, teamwork and communication. FIRST is a worldwide volunteer community breaking barriers and creating pathways to spread STEM education among youth and inspire the next wave of leaders and innovators to pursue STEM majors and careers.

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

At corporate demos targeting mentor recruitment, 3309 brings its student-created STEM Kit to show what FIRST teams can do. 3309 uses a custom power control board manufactured overseas, several electronic components and 3D-printed parts to teach others about circuits, programming, and soldering. This kit is part of 3309's Summer Camp and will also be used for the Family Resource Center STEM Program, an initiative to bring STEM training to low-resource communities in OC.

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

Team 3309 students challenge themselves to excel academically and build robots that compete at a world-class level. This year 3309 built a robot in a month for use at admissions events that prospective students can operate with no prior experience. They used engineering skills they acquired to design and deliver a product quickly. That is a real-life application that speaks to the impact of 3309 on their school and community over the last 10 years. -Jon Spencer, Dir. of Admissions, Servite HS

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

Adrian Machado

Essay

What is at the heart of the FIRST experience?

Team 3309 believes it is a dedication to the betterment of its members, mentors, and community by encouraging young people to explore the world of robotics and STEM. The Friarbots exemplify this dedication in a variety of activities that reach millions of people. Team 3309's motto is "We rise by lifting others".

To accomplish this goal, Team 3309 started OCRA, the Orange County Robotics Alliance, in 2012 to empower STEM initiatives in Orange County. OCRA was recently incorporated into a nonprofit organization that coordinates off-season FRC events and uses the proceeds to provide funding to local teams and students. In 2020, OCRA will award scholarships to selected students competing at the Orange County Regional (OCR) to help them pursue STEM in college. In 2019, OCRA awarded a total of \$2000 to three teams at Beach Blitz, Orange County's premier off-season tournament, to help them lift their FRC programs to a higher level. Team 3309 works with Teams 3476 and 4276 in hosting Beach Blitz. The three-day event, at 1/16th the cost of a regional, includes workshops where mentors, alumni, and team members provide their knowledge to the next generation of engineers, business leaders, technicians, and educators. FRC teams have the opportunity to get regional-caliber competition experience in a relaxed atmosphere. Also, over the past four years, Beach Blitz has hosted 42 workshops educating over 500 students and mentors. Since 2018, the number of teams attending the event has exceeded the originally planned capacity. The Friarbots recognized there was a greater demand for off-season FRC events in Orange County. Accordingly, Team 3309 partnered with LA Fleet Week to host additional off-season events for other teams to develop their members, interact with the public and promote FIRST.

Team 3309's flagship tournament at LA Fleet Week, Battleship Blast, has expanded to include 66 other teams over the past three years. Battleship Blast has reached over 165,000 attendees - including students, school groups, parents, business owners and members of the military - by providing an environment similar to an FRC Regional at no cost. It has grown from an informal five-team demo to three structured one-day competitions complete with referees, scoring and blue banners. The STEM Expo in the event hall featured a full regulation FIRST field, team pits, and front row public viewing areas. Visitors were able to interact with teams, find out about FIRST programs, watch the competition, and see firsthand the uplifting influence of robotics on local high school students. Team 3309 invests its resources into Battleship Blast to connect local FIRST teams with their community and provide meaningful competition experience for new students just joining teams, while also training students, mentors, and parents in key volunteer roles such as Referee, Queuer, and FTA, so they can support FIRST events.

In addition to off-season events, Team 3309 supports the OC Regional and an official FRC season Kickoff event (which the team runs and hosts at their facility). The Friarbots have supported the Orange County Regional all four years since its 2016 inaugural event. Friarbots mentors, parents and alumni have provided over 2700 hours of service through volunteering in key positions, such as Planning Committee Chair and Members, Volunteer Coordinator, Referee, Game Announcer, and Webcaster. At Kickoff, Team 3309 distributes the kit of parts and serves breakfast to attending teams. After the webcast is complete, Team 3309 creates and provides a rules quiz that is unique for that year's game. Since 2017, these quizzes have been accessed more than 3400 times by over 112 teams to prepare young and rookie teams for the upcoming season. In conjunction with Kickoff, the Friarbots provide a practice field to FRC teams. Team 3309 enjoys mentoring teams lifting them through their rookie season: from Mock Kickoff to assistance in the pits, Team 3309 advised OC's Team 7157 Mubotics (Rookie All-Star 2018), and Team 6554 Phoenix Robotics (Rookie All-Star 2017) all the way to World Championships in Houston.

Since the Friarbots started competing in FIRST over ten years ago, Team 3309 alumni have innovated and inspired across the nation. Friarbot graduates utilize the critical skills gained through FIRST experience to further inspire others. They start and mentor teams in their local areas, such as Team 4414, started by alumni Kenny Sandon '16 and James Carr '12. Friarbot alumnus Nicolas Machado '18, a student at Worcester Polytechnic Institute, collaborates with the FIRST enterprise team developing WPILib, a programming library used by all FRC Teams. Another alumnus, Jon Logrippo '18, used his Friarbot skills to start a company as a college freshman. The bonds formed during the FIRST experience on Team 3309 continue in relationships that benefit both alumni and their communities.

Since Team 3309's inception, the Friarbots have been blessed with a facility provided by their oldest sponsor: Servite High School. The team's relationship with Servite has greatly advanced the school's STEM curriculum. Team 3309's success influenced Servite and its sister schools Rosary and Connelly to establish a STEM-forward culture for a new generation of engineers by establishing their own robotics programs. Traditionally an athletics school, Servite expanded its engineering program to include additional faculty members, three after-school robotics programs, 4 Computer Science courses and Intro to Engineering Design. In 2018, the Friarbots launched FIRST Signing Day, where Team 3309's graduating seniors declare their college by signing a letter of intent and then receiving an official Servite varsity letter elevating them to the stature of star athletes.

The Friarbots work closely with Servite's admissions department to raise interest in STEM. Since 2016, when robotics was established as a shadowing option at the school, over 500 shadows have experienced Robotics and more than 21% of them have listed Robotics as an interest. Friarbots were selected for the Servite Ambassador Program, and, to support this effort, Team 3309 created two small-scale demonstration robots. These robots have since been featured at more than 60 school recruitment events, in front of over 2000 prospective students and their families in the past two years. Events like these inspire young children to pursue STEM while increasing interest in Team 3309 and FIRST.

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Since 2013, the Friarbots have refined an original curriculum for the annual robotics summer camp for 6th-8th graders. From student-created circuit boards to a new focus on 3D printing and soldering, Team 3309 created this activity to inspire potential members. The 4-week curriculum (which covered CAD modeling, 3D printing, programming, and electronics) culminated in a final project. Over the past 5 years, 120 campers have created projects with 3D printed cases, light shades, and Friarbot-designed circuit boards where they soldered, wired, and programmed their own LED light bases. The summer robotics camp became the inspiration for the Family Resource Center program, which provides underprivileged youth the chance to practice engineering at no cost. The Friarbots will assign a unique local FIRST team to each center and equip them with a 3D printer, filament, a laptop, and CAD software.

Team 3309 delivered FIRST to the Anaheim Marketplace in 2019, where they demonstrated their robot before 65 kids from grades 1 through 5 during the Marketplace's Summer Camp. Most of these kids have not had the opportunity to be exposed to or involved with STEM, so the Friarbots demo was their first experience with the world of robotics and FIRST. Also, Team 3309 has participated in the Science Showtime event at Goldenwest College since 2013. The Friarbots invited Team 4276 to Science Showtime to educate and interact with nearly 2000 kids and parents annually in technology and robotics demonstrations.

Team 3309 has connected with other organizations to spread the message far beyond Servite and Orange County. Internationally, the Friarbots will assist Team 4400 Cerbotics from Torreon, Mexico (2019 Laguna Regional Chairman's Winner) by providing parts, tools, and use of our facilities while they compete in California. In addition, Team 3309 keynoted the general session for the DKG Society International Technology Conference in July 2019. Friarbots members presented the process and benefits of bringing STEM and FIRST to students to nearly 500 key women educators from nations in the southwestern hemisphere, such as Japan, the Philippines, Mexico, and Central America. Team 3309 continues to be a resource for these educators as they explore starting FIRST programs at their schools.

Within the United States, Houston residents woke up and turned on their TVs to see Team 3309's robot live from the studio of KRIV FOX 26. Students and mentors shared the excitement of the 2019 FIRST World Championship and the impact of STEM programs while demonstrating the robot. The segment was shared across FOX 26's social media platforms and website which have over 2.2 million followers. This January, Team 3309 joined five other FRC teams on the set of the hit TV show Black-ish. The Friarbots worked to share FIRST with the show's 2.6 million audience as part of the episode's storyline. Team 3309 and the Black-ish crew alike were amazed by one another's technologies; the Friarbots wondered how the cameras and cranes moved in tandem, while the crew was fascinated by the complex robots built by high schoolers.

What is at the heart of the FIRST Experience?

Is it making over 5 million people aware of STEM opportunities? Assisting more than 400 FRC teams? Volunteering 7,000 team hours to run our events? Training over 385 key volunteers to support regionals and the world championships? This is the heart of the FIRST Experience: Rising by lifting others.