Chairman's Award - Team 1923

Print Close

2016 - Team 1923

Team Number

1923

Team Name, Corporate/University Sponsors

Bloomberg / Goldman Sachs / NRG / Bristol Myers Squibb / Citibank / United Therapeutics / SolidWorks / Friends & Families of 1923 / Michael Baker International & Wwindsor Plainsboro North & Wwindsor Plainsboro South

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2015/2016 year and the preceding two to five years

-Past 3 yrs. 100% of team graduates went into STEM majors -Strong FIRST family network demonstrated by alumni volunteering & mentoring FIRST teams -Increase in acceptances into internships & summer programs in engineering/business (4-5/yr) -MidKnightU: Hands-on experience in technical & non-technical subjects -Leadership development: 2 Dean's List Finalists and 1 Dean's List Winner -31% of team have previous experience in our pipeline of MidKnight programs -29% of 1923 students are STEM tutors

Describe the impact of the *FIRST* program on your community with special emphasis on the 2015/2016 year and the preceding two to five years

-Outreach programs reach > 4000/yr -Increased interest in robotics: Started 4 FLL Jr, 3 FLL, 4 FLL Jr, 1 FTC, Mentored 2 FLL, 3 FTC & 2 FRC in 2015-16 -Showcase FIRST programs via 350+ tours of build site, Open Houses, science fairs, & community demos -Ran FIRST competitions at every program level (over 1500 attendees '15-'16) -Students/mentors teach robotics, java and CAD classes -Partner with 3 community groups & non-profits -Teach the Robotics Merit Badge at Boy Scout Merit Badge Fair

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

-> 100,000 hits on digital/TV media of team event highlighting STEM education -MKI Global Initiative:Travel to India/Switzerland/S. Africa to start teams -Introduced FIRST to new engineering firms(Japan/India/Singapore/Brazil) -JumpStart: Form new teams/provide mentors to others interested in starting teams -CONNECT: Match 100 students/yr with FIRST > 10 community events & showcases per year -Advocated funding for after-school programs in underserved districts with Congressmen & Senators

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

-Responsibility: Volunteerism beyond team events at all FIRST levels -Leadership: 2014 Championship Dean's List Winner & 2015 Dean's List Finalist -Cycle of Mentorship: Students are mentors & coaches for rookie & veteran FLL Jr., FLL & FTC teams -Teaching: Prepare/deliver MidKnightU seminars to share knowledge with teams & new students -Continuity: Adopt > 1 FRC rookie team/yr & continue support -Established the Srinivasan Memorial Scholarship Fund; created to inspire involvement in robotics

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

-Started 1 FRC team -Offer free registration & practice robots to rookie and pre-rookie teams at our off-season event, MidKnight Mayhem -JumpStart Program & MKI Global Initiative presentations to groups interested in forming a team -Coach future FRC rookies in our best practices, share MidKnight U & build resources

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

-Started 6 FLL Jr, 7 FLL, and 3 FTC teams -JumpStart: Presentation to schools & community to introduce FIRST programs;offer support through first season -MKI Global Initiative:FIRST education/assisted forming teams in India/Switzerland/S.Africa -Started & mentor FLL team in India - Sherlock Ohms, connected with sponsors -Mentor an FTC team in India -CONNECT: Help students find teams to join/organize new teams at all levels of FIRST -Open House: Showcase FIRST programs/access to JumpStart (1/yr)

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

-Assisted 9 FLL, 1 FTC, 10 FRC teams -Assist 50 teams with MidKnightU, approx. 300 downloads of individual presentations -Outreach/scrimmages/tool certification to other FTC & FRC teams, >100 students 2015-16 season -

Recruited FLL students into 2 rookie FTC teams -Led sessions with rookie teams on robot design/strategy -Provided safety training for teams (>150 students) -Adopt newly-formed FRC teams throughout their first build season, open build site to them & collaborate on ideas

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)

-Mentored 7 FLL Jr., 7 FLL, 2 FTC, 2 FRC team -FRC students mentor MidKnight Family teams -Provide 1923 mentors to community teams -Ran FTC & FLL scrimmages, NJ FTC -Invitational Rookie Meet -Provide mentors for NJ FTC Scrimmages/JAVA workshops (4) -Girl Scout Fair: Share resources/robot designs -Weekly conferences with 2 MKI Global Initiative teams -Solidworks CAD tutorials-30 students

Describe your Corporate/University Sponsors

-Corporate Sponsors: Bloomberg, Goldman Sachs, Bristol Myers Squibb, United Therapeutics, Merrill Lynch, NRG, Citi, Bank of New York -STEM/Research Sponsors: Princeton Plasma Physics Lab, SRI International, Lockheed Martin -University Mentors: Princeton University, Rutgers University, Stevens Institute of Technology, Harvard University, Case Western Reserve University, Clarkson University, Northeastern University, Worcester Polytechnic Institute, Drexel University

Describe the strength of your partnership with your sponsors with special emphasis on the 2015/2016 year and the preceding two to five years

-Sponsor Recognition: Tiered benefits, VIP invitations to 1923 events, booths at offseason events -Sponsors offer mentors with technical expertise & guidance -Team engages in company demos & STEM Fairs, >5/yr -Corporations pass on MidKnightU & JumpStart workshops to another 10 FLL Jr., 35 FLL, 30 FTC, 45 FRC teams -Universities support & accommodate team alumni and mentors w/ course credit -Sponsors supply money/mentors/in-kind resources & offer 1923 students internships

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

FIRST is a family of robotics programs that help students tap into interests they may or may not know they have. Teaming students with mentors to tackle real-world challenges, FIRST creates an environment where participants become problem solvers while having fun. FIRST strives to create a culture that encourages an excitement for STEM. FIRST takes the academic brain of robotics & hard wires it to the heart of student-mentor relationships, forming a body of individuals passionate about STEM.

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

Team 1923 has made a concerted effort over the past 4 years to strengthen its relationships with both the school district & the community. The results have been spectacular & include a dedicated school engineering lab, multiple robotics classes, and a remarkable team growth of >250%, plus a MidKnight family of 12 additional FIRST teams. 1923's growth prompted implementation of a sound, robust business plan targeting team sustainability and increased growth over the next 5 years.

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

Vandana Gollarhalli

Essay

11 years ago, Team 1923, The MidKnight Inventors, was founded. From the start, our team committed to one mission: the creation of a culture that encourages students to become leaders in the fields of science, technology, engineering & math. Throughout our tenure as a team, The MidKnight Inventors have imparted real changes to our community & our school district.

We have grown from 4 students in a parent's garage to a membership of 110 with strong school & community ties. Our sizable membership contributes to our active alumni network, many of whom move on to mentor other FIRST teams. The momentum we have gained is a direct result of the team's effort to change our community's perceptions of STEM. The MidKnight Inventors' impact reaches beyond a student's four years: 100% of our graduates in 2014 & 2015 enrolled in universities as STEM majors and our entire class of 2016 plans to pursue STEM as well. The team has brought FIRST's pipeline of programs to all 10 schools in our district, enabling all West Windsor-Plainsboro students to be involved in robotics.

Team 1923 has worked hard to progress the STEM curriculum in our school district, which now recognizes us as a co-curricular activity in line with their mission. As a result of our efforts to initiate & design STEM courses, dedicated engineering labs are under construction & a total of 8 robotics & programming classes have been implemented at both high schools.

Our team aims to start 4-5 new FIRST teams each year across all levels. We have developed a series of programs that allow us to give all students an opportunity to experience FIRST. JumpStart, CONNECT and MKI Global Initiative are all used to reach potential coaches, mentors & students interested in FIRST. Over the past 5 years, these programs have

helped us start 6 FLL Jr., 7 FLL, 3 FTC teams, & 1 FRC team.
JumpStart is our program detailing how to start a FIRST team including resources, costs & best practices. Guidance comes from presentations, shop visits, and coaching by experienced students. We always make sure a team has sustaining support to help them stay competitive throughout their lifespan. To date, JumpStart has helped more than 750 prospective coaches, mentors, & students starting their FIRST journey.
CONNECT is a program committed to finding a FIRST team for an interested student, teacher or mentor anywhere in the world. Anyone interested in joining a team can contact us via email, phone, social media or any of our many outreach events. We then utilize our database & resources to find or start a team that is perfect for them. Through this program, The MidKnight Inventors have "CONNECT"-ed over 100 people per year with FIRST in their community.
The MKI Global Initiative is a workshop designed by 1923 students, taken to schools in Europe & Asia without FIRST programs. We work closely with the India STEM Foundation to identify schools, then present our workshop in-person to interested teachers and students; introducing FIRST and helping them establish their teams. Travels have taken us to India, Switzerland, & South Africa, & we have reached 46 schools in those countries. In the 2015 season, we started our first Global Initiative FLL team, The Sherlock Ohms from Hyderabad, India. In 2016, we added an FTC team in India to mentor, Team Dashavatar.
Once a team is formed, Team 1923 follows up by leading the new team through registration & financially supporting them. We provide student mentors, coach our global teams through Skype & help with fundraising, outreach & technical expertise. Since 2012, Team 1923 has assisted 9 FLL, 1 FTC, & 10 FRC teams & directly mentored 7 FLL Jr., 7 FLL, 2 FTC, & 2 FRC teams. Our current family of "MidKnight" teams includes the MidKnight Minis with 4 FLL Jr. teams, MidKnight Minions with 6 FLL teams, & MidKnight Magic with 2 FTC teams.
Through a collaboration between student leaders & mentors, a series of interactive workshops focused in technical, business & media skills have been developed into our MidKnightU program. Team members attend the classes during the fall & make the workshops accessible to other teams online. MidKnightU programs have been shared directly with more than 50 FRC teams, & our individual lessons have been downloaded over 300 times from our website. We also offer a Tool Certification program for local teams to learn the basic use & safety rules of shop tools. This year alone, 130 MidKnight family students as well as other FRC & FTC teams were certified in 1923's shop by our experienced team members & mentors.
Our year-long calendar of outreach events & exhibitions are used to introduce potential students & mentors to FIRST. Most recently, we participated in Lead India 2020, an initiative celebrating STEM education. We showcased FIRST & our robot, as well as MidKnight FLL & FTC teams to more than 500 attendees in addition to the event's telecast viewers. Our FRC team was interviewed for television & digital media, which has now reached over 100,000 people in several countries.
The MidKnight Inventors are also advocates for both state and federal legislation. Team 1923 was honored in the NJ Congress with a STEM Resolution sponsored by Senator Linda Greenstein. The team has also been active in the Federal government, advocating for the funding of after-school programs in underserved schools which will help grow FIRST across the country.
In order to support the extensive growth of FIRST in our community & sustain our programs, we established a business plan that not only assists in development of FIRST, but also promotes it to external communities. This plan includes running & hosting events for all FIRST programs. For FLL, we run an annual scrimmage, MidKnight Robot Attack, for 16 local teams, as well as Minion Mayhem, a 26-team State Qualifier - which includes an FLL Jr. Expo. With FTC, we host an official Meet, Cookie Carnage, in our high school, and run both a scrimmage & a Rookie Invitational Meet, Magic Mayhem. Our FRC off-season event, MidKnight Mayhem, attracts over 35 teams from six east coast states annually.

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Our outreach efforts, including demonstrations, science fairs, community events & camps are in line with our mission to change the societal view of STEM. We also focus on bringing the FIRST Family of Programs together to learn from each other at our annual Open House: a large public showcase in our community drawing 150 visitors per year, which features FRC robots & all MidKnight Family teams.
Through these events, we reach over 4,000 people per year, with a combined total of more than 6,500 student outreach hours. Additionally, 1923 engages another 8,000 people through social & news media platforms, with 1,700 Twitter & 630 Facebook followers, 2,800 website hits & 3,000 views on our YouTube channel.
Other keys to our community impact are our corporate & local sponsors. We work hard to maintain meaningful relationships with corporations & local businesses through tiered benefits, ads at events we run, and invitations to our competitions. This ensures our sponsors are engaged with us and in return we support their efforts with demonstrations or workshops. We work with Princeton Plasma Physics Lab to develop Boy & Girl Scout STEM Fairs and a Young Women's Exhibition event that encourages high school women to pursue STEM careers. Our sponsors share MidKnightU presentations with their network of teams, letting us reach an additional 10 FLL Jr., 35 FLL, 30 FTC & 45 FRC teams. We have also used our connections to present FIRST to additional firms in Japan, Australia and Singapore.
Team 1923 prioritizes becoming a part of the greater landscape; partnering with community service organizations such as Plainsboro Food Pantry to collect over 1200 lbs of food, & highlighting Attitudes in Reverse, for mental health awareness, & the WW-P Alliance for Drug & Alcohol Abuse at our hosted events. Partnerships with these organizations establish our team in the community & allows us to make an impact beyond STEM.
We are most proud of our sense of family. From the students, to the mentors, parents, & sponsors, our entire team is united in our mission. We work to design our outreach & education programs, not only to help others, but also to

develop leadership skills for MidKnight Inventors. In addition to MidKnightU & mentoring younger FIRST teams, students can be found teaching FLL classes at the library and YWCA in spring & summer. Inspiring the next generation to pursue FIRST not only helps our team grow, but gives current students experience in leadership. With 2 Dean's List Finalists, 1 Dean's List Winner, and a Woodie Flowers Finalist in our ranks, our team has created an environment where individuals with passion & enthusiasm can grow into their full potential.

Our MidKnight family extends far beyond robotics. No matter what our team encounters, we work through it as a family in support of each other. This year, we lost Aditya Srinivasan, a student team member who had been active on our FIRST teams for over 7 years. Aditya was a leader and served as a mentor for FLLJr. As a way to honor his life & celebrate his passion for robotics, the team worked with his family and established the Aditya Srinivasan Memorial Scholarship. The committed scholarship funds will sustain the award honoring two MidKnight Inventors per year, for a minimum of the next 10 years.

We are passionate and inspired to change culture locally & globally. Through partnerships with community, family and sponsors, The MidKnight Inventors have been able to embrace the mission of FIRST and spread enthusiasm for STEM across town & across the world. Founding new teams, establishing outreach programs, and giving FIRST a spotlight through events & media are a key part of our identity as a team. FIRST has been an incredible vehicle to inspire our own students; and our team has carefully modeled itself to pay that inspiration forward.

2016 - Team 1923

Picture 1

2016 - Team 1923

Picture 2