Chairman's Award - Team 6909

Print Close

2019 - Team 6909

Team Number

6909

Team Name, Corporate/University Sponsors

BOSCH/Research & Solution Co., Ltd./Chiba Institute of Technology/nulab inc./SCHUNK Intec. K.K./YMIRLINK/???? Progate/D&P media group/SAKURA Internet Inc./Autodesk/CYBERDYNE, INC./NAKAJIMA ALLOY CASTINGS Co.,LTD/Altech Corporation/National Instruments/STEMON&Family/Community

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years

FIRST lets us take chances that are not usually available to ordinary students. We became aware of our individual personalities and learned to make use of them. With this we expanded our interpersonal relationships, which triggered a variety of new ideas. We also gained a global perspective, which allowed us to recognize not only the advantages but also things that were missing in our community. With our new perspective, we work toward improving our community with what we have learned.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

We encourage those people who are interested in STEM to pursue their careers in STEM. We also encourage those people who are not interested in STEM to realize the joy of STEM through our outreach activities. Through those activities, we provide them with much wider choices in their future careers. We change the negative attitude towards STEM in Japan and make STEM more attractive. We met mayors of Chiba and Narashino cities and lead them to understand the merits of FIRST for their communities.

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

We reached 20000+ people in person and 1500000+ through media. We started to host girls-only robot workshops with BOSCH. We also held kids-only tech workshops, ran booths and gave presentations at public events like Maker Faire and school festivals, arranged meetings with mayors of two cities, etc. We break down barriers by providing resources in both Japanese and English, and publishing resources with FIRST Japan. We pursue the best way to teach about FIRST by people we are teaching it to.

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

By sharing our resources with other FIRST teams, we spread our team spirit and missions to them. It has encouraged the other Japanese FRC teams to be more cooperative. By taking the initiative to engage in outreach events in Japan, we have been conveying the importance of outreach to them. Members act with a conscience, a high level of gracious professionalism, and respect for others. This fosters a tight-knit environment where students can work with others to help them succeed and grow.

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

By volunteering and running exhibition booths at FIRST competitions, we teach not only students but adults that anyone can participate in FRC. Last year, we met a team of high school students at an FLL Jr. competition and started Team 7631 with them. We plan to hold an off-season FRC event along with FLL Japan Open Championship in 2020 and FRC Japan Regional every year starting from 2022. On top of these efforts, we are also creating the first girls-only Japanese FRC Team in Osaka.

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

We inspire small children and students to be interested in FIRST by organizing tech workshops for them. We helped a rookie FLL team in presentations and robot-making. Currently, most FLL teams in Japan are based on commercial robotics programs. We plan to increase the number of community-based FLL teams so that more kids will have access to FLL. By exploiting FRC community in creating FLL teams, we embrace the FIRST pathway, which does not exist in Japan.

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

We created FRC Japan Alliance online to provide the environment where people can share their resources and communicate to help each other regularly. As we financially aided Team 7631, we set up a fund for other FIRST teams to alleviate their funding hardships and make it easier for them to participate in FIRST. Through more than 50 outreaches, we also raise awareness of the merits of FIRST among participants in selecting colleges and professions.

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)

As we mentioned above, we mentor FRC Team 7631, and assist a rookie FLL Team. Currently, we are also creating another rookie FRC Team. Due to a lack of FRC-related resources in Japanese, we created detailed manuals for FRC teams in Japanese. Since most FRC teams are far from our city, we regularly help them online. When we support them, we do not make them follow our way. Instead, we help them to create their own way by not being pretentious of our advantages.

Describe your Corporate/University Sponsors

BOSCH, Research & Solution Co., Ltd., Nulab Inc, MISUMI Group Inc., SCHUNK Intec. K.K., YMIRLINK Inc., Aisin Seiki Co., Ltd., Progate, Inc., SAKURA Internet Inc., Autodesk, Inc., CYBERDYNE, INC., NAKAJIMA ALLOY CASTINGS CO., LTD, National Instruments Japan Corporation, Altech Corporation, D&P media group, Chiba Institute of Technology, FIRST Japan, our friends and family, and 100+ anonymous partners. We are proud to be partners with these great sponsors and invite them to be part of our team.

Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years

We refer our assisting companies not as sponsors but as partners since we cooperate with them to achieve our missions. These partners help us with: All of our robot related costs and registration related costs, engineering advice for robot designs, management advice for team structure, and help in finding new partners. We often hold free engineering workshops with them to inspire more people to enjoy STEM. We work together to make more attractive outreach activities, including these workshops.

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

FIRST is "More Than Robots"; It's not just about robotics. It's about understanding and interacting with your community. It's a coopertition instead of a competition. Its open-door policy allows you to live in a bias-free environment. It is hard to be on your own, but FIRST lets you experience the hardest fun you'll ever get. At FIRST, you will connect with people from different walks of life, whom you wouldn't elsewhere. You will expand your knowledge and be aware of your hidden potential.

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

We would like to emphasize how difficult it is to participate in FRC in Japan. For example: No tax breaks under Japanese tax laws for supporting FRC, difficult team building due to lack of and prejudice against women in engineering, bad timing of FRC schedule (the infamous university entrance exams in February, and the end of fiscal year in March), lack of recognition of FIRST, and overloaded class schedules at high schools. We are proud of our achievements despite all these difficulties.

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

Kanon Nakajima

Essay

FIRST Team 6909 SAKURA Tempesta strives to change the face of science, technology, engineering, and math (STEM) by inspiring youths in Japan to reach for new heights, develop their limitless potential, and pursue their dreams. We show that anyone can follow their interests and become well-versed in STEM. For this purpose, we set forward the following team missions:

- to provide more people with free opportunities to learn engineering, no matter what circumstances they are under, or who they are,
- to encourage high school students, especially young women, to be more interested in STEM and to create a future where anyone can foster their skills in STEM, and
- to increase the number of Japanese FRC Teams in order to hold an FRC Regional in Japan.

Under those missions, we have engaged in numerous outreach efforts, generating more than 1400 student-hours of community service in the past year alone. After the efforts and struggles of each and every one of our team members, we were able to teach 20,000+ people in person and 1,500,000+ through media about FIRST.

First, we would like to talk about the current face of STEM, especially that of technology and engineering, in Japan. Many people believe that children in Japan can learn engineering from a young age since there are many global automobile and consumer electronics companies from Japan. However, this is nothing more than a stereotype and does not reflect reality. In Japan, unless you go to a technical high school, there are hardly opportunities to learn engineering. If you want to learn it prior to college, the only way to learn it is to participate in a private robotics program where you are required to pay an expensive fee. Therefore, in most cases, students are not able to learn it at all until college. To improve this situation, we welcome whoever wants to participate in FIRST, taking advantage of a community-based FRC team. We also provide children with free opportunities to learn robotics. For example, last summer we held a workshop, "Let's make a fan just for you!", at Fujitsu Solution Square for kindergarten and elementary school students. At the workshop, we taught students not only how to make a fan from scratch, but how they work by showing them the differences in their performance with different propeller shapes and materials. All the kids were very excited and delighted to make the best fan they could.

So far, we talked about providing free opportunities to learn engineering. But there are more problems that we need to solve. The gap between genders in STEM fields is also a big issue in Japan. According to a global survey conducted by the Organisation for Economic Co-operation and Development (OECD), only 16.7% of female students in Japan indicated interest in pursuing careers in STEM fields whereas in western countries 43.6% of them did. Behind this fact, there are many social and cultural differences in addition to the lack of free access to real STEM experiences. For example, not many adults recommend female students to pursue careers in STEM. Because more than 50% of our team is female and girls hold 50% of the team's leadership roles, we can be a role model to show that girls are good at engineering and inspire more girls to take the first step to join this very exciting STEM world. Furthermore, with one of our sponsors, BOSCH Japan, we ran a free robotics workshop for female students. This workshop was also a part of "Rikochare (STEM Challenge)", a program lead by the Japanese government to encourage more girls to pursue STEM careers. Surprisingly, there were more than twice as many girls as the capacity who applied to the workshop from all over Japan and even abroad. This shows that many girls are actually interested in STEM and just seeking for opportunities to foster their skills. Even though more than 95% of the participants did not have prior knowledge in robotics, they all said that they became more interested in robotics after the workshop. This is just an example of our outreach events, through which we inspire people of all ages, from little children to the elderly, to become involved in STEM. We inspire female students not only in Japan but all over the world by promoting girls in STEM as one of the #FIRSTLikeAGirl team ambassadors.

Like all FRC teams, we must also address the issue of fundraising. In Japan, unlike the US, companies can receive tax relief by supporting organizations only if the organizations are government-approved non-profit organizations (NPOs). Only about 1,000 out of 50,000+ NPOs have been approved. Therefore, companies hardly support normal high school students like us, and it is unheard of in Japan that high school students do fundraise. Also, Japanese teams are not eligible for FRC Rookie Grants. We work towards our goals with firm determination despite the challenging circumstances. Through nationwide exposure on newspapers, radio, TV, and our social media, we encourage more and more adults to support youths who put the greatest effort possible in pursuing their dreams. Not only that, we set up a foundation for rookie FRC teams in Japan, which provides them with 100,000 yen (~ $910) in their rookie year. This season, we donated 100,000 yen to our rookie team, FRC team 7631 Cool Guy.

Essay - page 2

Recently, the FIRST community has been growing rapidly in Japan. In particular, FLL and FLL Jr. have shown tremendous growth in the past few years. We, SAKURA Tempesta, volunteer at competitions to make sure that every child who wants to participate in existing FIRST programs can participate in them. We volunteer not only at the competitions in Tokyo but also at local ones such as FLL Jr. International Open Japan in Nagoya. This season, we also assisted a rookie FLL Team with their presentations and robot-makings.

In addition to supporting existing FIRST programs in Japan, we have been working to bring FRC to Japan. At FIRST Championship Detroit last April, we had a meeting with Mitsuhiro Wada, then Consul General of Japan in Detroit, Don Bossi, President of FIRST, and Takahiro Kondo, a representative of FIRST Japan. In the meeting, we discussed the hardships which Japanese FRC teams face and how we can bring FRC to Japan. After the meeting, we were also able to meet Dean Kamen, the founder of FIRST, and Don Bossi to discuss how exactly we can grow FRC in Japan. Currently, two of our mentors, Mr. Kawamoto and Mr. Sakuma, and the founder and a member of our team, Kanon Nakajima, are working as initial members of FRC committee at FIRST Japan. We prepare to run an off-season FRC event along with FIRST Lego League Japan Open Championship in 2020 and FRC Japan Regionals every year starting from 2022. Thus far, we created an entire web page on FRC in FIRST Japan's official website where there had been no information about FRC, and a Japanese subtitle for an FIRST video "What's FIRST Robotics Competition FRC full version." We even published a translated version of an FIRST brochure "What's FIRST?" with permission from FIRST and FIRST Japan. We are currently creating more publicity materials about FRC for FIRST Japan.

Last year, there were only two active FRC teams in Japan. However, we started and have been mentoring a rookie team, FRC Team 7631 Cool Guy located in Aichi prefecture. Cool Guy is also the first-ever FRC team in Chubu Region (Central Region), which encompasses nine prefectures. In order to strengthen the FRC community in Japan, we make it easier for the other Japanese FRC teams to participate in FRC by providing them with our published resources such as marketing materials and translated safety manuals. We also made a workspace "FRC Japan Alliance" online where FRC alumni in Japan and all Japanese FRC teams can communicate and help each other on daily basis. Currently, we are working on creating the first Japanese girls-only FRC team in Osaka.

Participating in FIRST has been an eye-opening experience for Japanese students who often tend to be more passive than people from foreign countries. One of our seniors, Rinna Ogita, said "It is really scary to jump into something new alone, like a field in which I never had any interests. However, by doing that as a team, I became confident enough to challenge new things." We all believe that participating in FIRST allows us to discover and foster essential skills required to pursue our dreams pragmatically in the future.

The cozy community at FIRST helped us to build a strong team spirit in spite of the fact that this is only our second season. SAKURA Tempesta builds upon the old proverb of "each one teach one." It starts with our mentors and members, and their love of FIRST: "I am so grateful to have such a supportive environment where I can ask any questions at any time. It may seem too common, but it's actually hard to find that kind of environment since we don't have it at school. This environment allows me to take immediate actions when I have something I'm interested in." said our co-captain, Kaoru Maeda. Juniors and seniors together create a culture where each person teaches newer members what they know. We apply this same adage when we support other teams and when we participate in outreach events such as robotics workshops. Through this supportive and cooperative spirit, we build the sustainability and strength of FIRST programs beyond our team.

SAKURA Tempesta invests in building brighter future. Through collaboration and mutual efforts across diverse boundaries, we further strengthen our community, generate the innovators of tomorrow, expand the reach of FIRST in our city and beyond, and plan to grow a tree of FRC with just three flowers into a tree in full bloom. We are changing the face of STEM, elevating diversity and inclusion, and building the future generation of leaders. SAKURA Tempesta dedicates ourselves to these values because we commit that "Together we build a future as spectacular as cherry blossoms."