

Chairman's Award - Team 245

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2017 - Team 245

Team Number

245

Team Name, Corporate/University Sponsors

GM Global Product Operations/FCA Foundation/R & G Drummer/Department of Defense STEM (DoDSTEM)/State of MI FRC Grant/Valeo Thermal Systems/Magna Powertrain/TEK PROS TODAY/Friends & Family of the Adambots/Thyssenkrupp System Engineering Inc./Doolin and Haddad Dentistry&Rochester Adams 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

Team 245's members strive to make the *FIRST* experience life changing. Our team, structured as a network of apprenticeships, teaches skills by partnering students with inspiring professionals. We use the *FIRST* game and team workshops to develop expertise in STEAM, Gracious Professionalism™, Coopertition™, safety, communication, and program management. Our 95% member retention rate evidences how our students realize their potential, and become members of a lifelong learning community.

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

The AdamBots value good citizenship that extends beyond our high school. Our community influence is shown via our participation in eight non-robotics related projects. One is Greater Rochester's Relay For Life for which we are the top team fundraiser, having raised over \$80,000 to date. We contributed over 2,250 service hours this school year, which illustrates our dedication to the community. Our mayor awarded us the Community First Award in 2013, which has inspired us to continue giving back.

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

We spread the *FIRST* message through our newsletters and social media platforms like Facebook, Twitter, Snapchat, Instagram, and YouTube. Our regular demonstrations of *FIRST* robots at science fairs and schools inspire interest in STEAM and in joining a *FIRST* team. Our open houses are used to spread the message to parents, school administrators, sponsors, and dignitaries. We join with two other FRC teams to showcase *FIRST* robotics in an annual Christmas parade, viewed by over 80,000 spectators.

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

Last year, we created unique core values that are aligned with those of *FIRST*. This year our team emphasized incorporating them in the operation of our 14 subteams. The core values define the cultural framework of our team that emphasizes role-model behavior. As a result, we mentor or support teams in our community, state, and other countries. AdamBots also mentor students at every grade in our school district. Additionally, we openly share our knowledge and resources on our website.

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

In 2014, we created Team 5436, the CyberCats, based out of our sister high school Stoney Creek. The CyberCats shared our build space, tools, supplies, and experience for their first two years. This past year, they have secured their own build space and doubled in membership size. We continue to provide them with business and engineering assistance and workshops, enabling their independence to ensure their stability long term, similar to how we helped form Team 3478, the LamBots, in 2012.

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

We created one FLL team and support 3 VEX teams (formerly FTC). Aside from starting or forming teams, we believe sustaining them is equally important. *FIRST* inspired us to take initiative and create five BASES classes, after school classes that teach elementary school students STEAM concepts. The positive student-to-student interaction inspires kids to participate in *FIRST* programs down the road. We share this initiative with the CyberCats, who now mentor five schools that feed their team.

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

With our guidance, the LamBots have become successful in *FIRST*. They have won Engineering Inspiration twice - once at World's. We continue to collaborate with them as well as with the East English Village Bulldogs, and recently team 6121 the Robo Vikes, through weekly video chats. Our work with the CyberCats has also been successful,

illustrated by their 2015 Rookie All-Star Award from the Troy District. We also provide programming support within our build space to Team 8872, the RoboGeeks.

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)

One of our key initiatives is to assist other teams, and we have started and/or mentored 13 *FIRST* teams with students of all age levels over the past several years. Not only do we teach the teams technical skills, but we also instill the values of *FIRST* within them. We invited the RoboGeeks to work alongside us at our workspace for their weekly robot practices, and they were later recognized at a 2015 Thunderquest tournament for their demonstration of Gracious Professionalism™.

Describe your Corporate/University Sponsors

R&G Drummer and corporate sponsors; GM, FCA, DoDSTEM, ThyssenKrupp, Magna, TEK PROS, and Valeo, as well as alumni's families and the State of Michigan fund our team. Additionally, Rochester Community Schools, Rochester Advanced Dentistry, and the public support our team's parking lot business.

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

We strive to show our sponsors the impact of their contributions, and actively seek opportunities to interact with them. We demonstrated our robot at GM and FCA and displayed our robot for FCA's SAE program. To keep our sponsors engaged, we send out monthly newsletters during the *FIRST* season and invite them to attend our annual "Meet the AdamBots Day." Several of our alumni have received jobs and/or internships through our sponsors in part due to their involvement in *FIRST*.

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

FIRST is a program that inspires through mentor-based experimental STEAM education. Students from elementary to high school design and build robots that compete in a sports-like atmosphere, possibly leading to the World Championship. *FIRST* also teaches students other skills such as presentation, time management, Gracious Professionalism™, Coopertition™, teamwork, leadership, and problem solving. Most importantly, students apply their education in a real world setting while having fun.

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

We participate in the Oakland County Competitive Robotics Association (OCCRA) in the fall and have won the Foundation Award (OCCRA's Chairman's Award) numerous times. During the off-season, we participate in 4 *FIRST* events. For two years, we've had a team building event focused on our core values. Students earn a robotics varsity letter if they meet specific criteria. Our student-led team has more than one mentor for every two students, and 21 of our 40 mentors don't have children on the team.

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

Anoushka Gulati

Essay

Introduction

The AdamBots are much more than our 551 square foot build space at Rochester Adams High School. Through a fun working environment, we provide strong educational opportunities in STEAM and business that allow for personal growth. Our team structure models an apprenticeship with various sub-teams led by students and supported by mentors. As a model *FIRST* team, our goal is to inspire others with a competitive robot and passionate students. We believe in giving back to our community through several service projects and outreach programs. We also mentor FLL, FTC, and FRC teams, and teach after school science-based classes to spark interest in robotics causing children to proceed through the levels of *FIRST*.

Team Culture

As a team of 72 students and 42 mentors, the AdamBots are a family. Our mentors are dedicated professionals that love the team, and enjoy coming back every year, as shown by our 95% retention rate. They give up much of their time to help us, and we could not be more thankful. We have over one mentor for every two students, 25 mentors without students on the team, and five AdamBots alumni who have returned as mentors. These figures illustrate our mentors' passion for *FIRST* and for the AdamBots.

For incoming freshmen, we hold engineering and safety workshops in the fall the next year that fully prepare students for the *FIRST* season. For example, the past two years we have conducted our AdamBots team building event focused on our core values. Our yearly event and other enjoyable team building exercises help develop internal team relationships.

Our structure includes nine engineering and five business sub-teams in which student leaders work alongside mentors to develop their skills and accomplish team goals. This set-up ensures that each member finds his/her personal niche. For freshmen members, we have a buddy system that helps them navigate the team and meet current students.

Most of our graduates go to college and pursue STEAM degrees. In 2016, and in most recent years, all of our seniors went to college or received trade internships. Being an AdamBot lays the foundation for alumni who attend schools such as Harvard, UC Berkeley, MIT, Michigan State, Michigan Tech, Kettering University, and the University of Michigan. AdamBots college graduates are employed at places like NASA, Apple, and the Army Robotics Command. Each year, alumni return to visit us, volunteer at competitions, and even mentor the team. Many say being an AdamBot was the best experience they had in high school.

Spreading the Message of FIRST

The AdamBots prioritize activities that spread the message of FIRST. For example, our team posts weekly videos and updates via social media such as Twitter (over 1,250 followers), Facebook (over 650 likes), Instagram (about 400 followers), Snapchat (over 50 followers) and YouTube (over 100 subscribers). We supply resources for other FIRST teams on our website, such as our Executive Summary, Business Plan, programming examples, and safety resources. The message of FIRST is also shown through our personal demonstrations of Gracious Professionalism™ and Cooperitition™ and our team's custom shirts worn in and out of robotics.

Every year we host the "Meet the AdamBots" event, an open house for our sponsors, parents, other FIRST teams, school administration, and the community to promote and spread awareness of our team and the FIRST program. During this event, students prepare and give presentations explaining our organization and the benefits of being involved in FIRST. We give tours of our build space and subteams in action as well as demonstrate our past robots. Our team also has interactive demonstrations of past robots at four school science fairs and four sponsor events. Seeing students' faces light up in excitement never gets old, and we look forward to these science fairs all year round. We have also promoted FIRST at Rochester Community Schools' Council STEAM Career Exploration Fair. Mentors on our team were asked to work with the Rochester Community Schools Career and Technical Education (CTE) Advisory Committee last year and continue to do so. They help review and develop STEAM and business-based curriculum in our school district. Since starting this collaboration two years ago, the school has added robotics and programming classes, and has purchased VEX kits specifically to enhance STEAM based education.

Giving Back

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The AdamBots have a huge impact on our community, supporting a variety of causes and providing over 2,250 hours of total community outreach and service annually. We participate in service projects for our local community such as the Hunger Walk for Rochester Neighborhood House to support those in need of food, and the Halloween Hoot Cleanup, to raise money for a local nature preserve. We also walk with robots in the televised Rochester Hometown Christmas Parade, which is viewed by over 80,000 people. During the holiday season, we purchased gifts for the Rochester Neighborhood House Gift Tree and baked cookies for homebound seniors living at a local low-income, assisted living facility. The national causes we contribute to are the Make a Wish Foundation by providing assistance at an annual Rubber Ducky Race, and Relay for Life for the American Cancer Society by fundraising, as cancer has afflicted several of our team members. At Relay for Life, our team has been awarded the top team fundraiser trophy by the American Cancer Society for the past two years and we've raised over \$80,000 overall. We have had such a notable impact on our community that our mayor awarded us the Community First Award for making, "a notable effort to improve the quality of life of those around" us (rochesterhills.org).

Through our "Art and Apples" Parking Lot Business, community service, demonstrations, open houses, sponsor presentations, and assemblies, we strive to reach and enrich the lives of everyone in our community.

Sponsor Relations

We maintain strong partnerships with all of our sponsors. They include General Motors, the FCA Foundation, DoDSTEM, ThyssenKrupp, Valeo, R&G Drummer, Magna, TEK PRO, Rochester Advanced Dentistry, families, and the State of Michigan. Our sponsors contribute to the growth of our engineering and business sub-teams by their support and financial aid. Many of our alumni have received jobs and/or internships with our sponsors. In recent years, we have gone to General Motors, Valeo, and the FCA Foundation's SAE program to exhibit our robot. To show our appreciation for our sponsors, we invite them to competitions so they can see our robot and team, and we send monthly newsletters to update and thank them for their continuous support.

In 2010, General Motors requested us to help a rookie team, 3478 Team LamBot, with their design. We have since developed a strong relationship with Team LamBot and we continue to collaborate with them through weekly video chats as well as ongoing Facebook chats. They won the Rookie All-Star Award their first year and the Engineering Inspiration Award multiple times since then, including at the World Championship. Due to our success, General Motors has asked us to help Team 3096 East English Village Bulldogs in Detroit. We continue to be dedicated mentors for both teams to date.

Partnerships Within FIRST

Our team assists FIRST teams because we want to spread our enthusiasm for STEAM and the FIRST program with children of all ages. We currently mentor and have provided financial support to one FLL team, the RoboGeeks. A group of eight AdamBots meet for 10 weeks to teach them. We send students to help two FTC teams (the Blades of Thunder, and the E-Bots). We use technology to mentor and connect with FRC teams: East English Village Preparatory

Academy Robotics, and the LamBots, from San Luis Potosí, Mexico, through weekly video chats. After years of campaigning, we created the CyberCats, at our sister school, Stoney Creek High School last year. We assisted them financially and provided them with build space, tools, supplies, and business and engineering workshops. We have now reached our goal of helping them become an independent team and maintain a strong partnership between both teams. Members on the AdamBots have also supported FIRST in Michigan by helping with their website, merit badge program, and competitions and events, even those we do not attend.

Additional information

During the off season, 13 veterans of our 72 member team participate in OCCRA, the Oakland County Competitive Robotics Association. Since OCCRA robots are built without mentor involvement, only AdamBot veterans can participate..

Each September, we operate a parking lot business at the Rochester Community Schools building during the local arts festival, Art & Apples. We do so to supplement team funds, develop entrepreneurial skills, and increase the AdamBots' visibility in the community.

Conclusion

The AdamBots strive to spread the culture of FIRST within our team, community, sponsors, and other teams. We keep our partnerships strong with ongoing support through our mentors and sponsors. Our mission is to endorse the message of FIRST locally, nationally, and internationally, inspiring communities around the globe.