

February Newsletter

The Build is ON! Kickoff January 9th.

January 9 was the highly anticipated 2016 FRC season kickoff! The whole team was very excited about it, and it did not disappoint. We all drove to Kennedy High School, where, with many other teams from the region, we watched the reveal video for the 2016 season. This year's game is Stronghold, where teams must break through obstacles and capture the opponent's tower. This game offers many different challenges for our robot and team, including assorted defenses and a tower that should be climbed.

Immediately after kickoff, the team rushed back to the high school to read the game manual and discuss our upcoming strategy through our three step process. First, the students took a rule test to confirm their knowledge of the game's components. Once everyone passed, the team discussed our upcoming strategy and how we should apply it to the robot. The next day, the team finalized the requirements for our robot and then worked on how we could accomplish our strategy. It was a busy weekend but lots of ideas came out of it and we are working hard in build season right now. The team has split into some prototyping teams for the different needed mechanisms. Currently, we have finished the drivebase and are beginning to test the robot and its various mechanisms.

Announcing Our Sponsors for 2016

We are proud to recognize our 2016 sponsors! So far, we've raised \$105,000 out of our target of \$159,000. We are still accepting sponsorships and donations. To get more information on making a donation or becoming a sponsor, you can reach us at www.citruscircuits.org or frc1678@gmail.com.

Jupiter (\$10,000+)

- DJUSD
- UCDavis
- Nvidia
- Schilling Robotics/FMC Technologies
- DMG Mori

Saturn (\$5,000-\$9,999)

- Sunpower

Neptune (\$2,500-\$4,999)

- Martin's Metals
- Aerometals
- GitHub
- Solidworks

Venus (\$1,000-\$2,499)

- Fastenal
- Far Western Anthropological Services, Inc.
- First St. Realty
- Greenbotics

- HDR
 - Velox CNC
- Mercury (\$500-\$999)
- Aerojet Rocketdyne

Visit Our New Website!

We are proud to announce the debut of our new website, now hosted on Weebly. This new website is now compatible with mobile devices, and is one of the first major changes we've made in several years. You can find it right here: www.citruscircuits.org.

Order a Team Shirt to Show Your Support

Want a Citrus Circuits t-shirt? It's not too late to get one! Currently, we are selling ***t-shirts, sweatshirts, snapbacks, beanies, and lanyards with our 1678 logo***, with prices ranging from \$2 to \$25. Click here for the t-shirt/sweatshirt form: <https://goo.gl/VHcA1x>, and here for the hats and lanyard forms: <https://goo.gl/Gwuncs>. Checks can be made out to the Blue & White Foundation, with robotics on the memo line.

We are also selling ***World Championship Alliance t-shirts***, which are \$20 each. Here is the order form: <http://goo.gl/forms/7UAxXIMmvW>. Please make checks out to Richard McCann.

All order forms are due on February 5th.

Open House Saturday February 27

Calling all kids! Are you interested in checking out our workshop? Come to our open house on February 27th at 1 PM for an awesome preview of our robot for the upcoming season. There will be snacks, and we're looking forward to seeing you there! The open house will be located at Davis Senior High School in the M-1 Building.

See How Our Shop Has Grown

Last year, we moved into our new mechanical shop, which gives us room for the tools and machines to support our growing team. The entire shop layout was completely changed to incorporate the seven new machines we bought over the course of the summer. We added in three mills, two lathes (one for large parts and another for small parts), a chopsaw with many personal modifications, and our prized CNC router.

Sponsored by Sunpower, the CNC router was acquired in Los Angeles and brought back to the shop at Davis Senior High School, where we made many modifications. One example of our modifications is the different toolholders at separate spindles, which allow the usage of different tools without calibrating each individual tool every time.

Another dramatic change is the addition of drop-down air and power hoses. These new hoses improve safety, visibility, and efficiency by removing potential tripping hazards and being able to conveniently extend to the other classroom.

The students put tremendous amounts of effort into setting-up, cleaning, and modifying the five largest machines, and it proved to be a valuable experience for all of them.

Devin Castellucci, a long-time mentor of the mechanical team, is very supportive of all the students. He explains the significance of the addition of the shop “[The mechanical shop has] been instrumental in training this year because it allows us to give the students more time to train with the machines. Last year, it was four kids with two machines with about two hours each. This year, we had enough people trained to work with students alongside our mentors, and they had the whole four hour block to work with the machine they were on. It’s been nice because the students can become more specialized with the machines, get more CNC training, and go over different ways of using our lathes.”

Student Interview: Henry Zhang, Mechanical Subteam

Henry Zhang is a senior and in his fourth year at Citrus Circuits, where he works on the mill in the mechanical fabrication subteam.

What is your favorite part of being on the team?

There's something intensely satisfying about working together with others to make something as complex as an FRC robot, especially since, as a machinist, I'm able to see very clearly how the work I do fits in with the work other members of the team do with electronics and programming. Competition is also an amazing experience because you get to see the fruits of your labor in action.

How has being on the team changed you?

Since I joined the team, I feel like I've become a much better leader and learned to be more assertive in what I do. It's also helped me gain an interest in mechanical engineering when I wasn't really sure what I wanted to do before.

What is the biggest challenge that you have faced so far this year?

During the summer I led an internship with UCD to build an apple-harvesting robot. We didn't have a whole lot of people on the internship team, and there were a few things that didn't quite go as planned, but we pulled through and got the robot basically completed.

Do you have any advice for new members?

Robotics is a lot like any other activity in that you're only going to get as much as you put into it. Dedication and hard work are rewarded with some of the greatest feelings of achievement when you see the robot come to life at competition.