



## Code Red Robotics Wins Buckeye Regional

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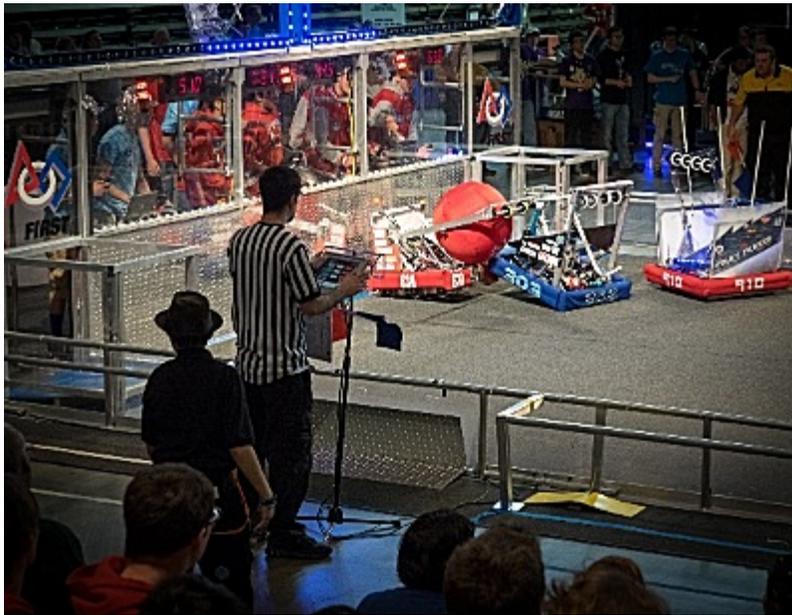
Last month Ithaca High School's FIRST Robotics Team 639, Code Red Robotics, successfully defended its 2013 Buckeye Regional Championship title in Cleveland, Ohio, amongst 54 teams from across North America. The team has now qualified for the International Championships in St. Louis from April 24-26, for the third consecutive year, where less than one percent of FIRST teams worldwide compete.

"It's the most stressful, infuriating, exhausting, and greatest weekend of my life," says Wade Engelhart, a Code Red senior and four year veteran.

FIRST (For Inspiration and Recognition of Science and Technology) is an organization committed to educating and motivating the next generation of engineers, scientists, and leaders. FRC (FIRST Robotics Competition), to which Code Red belongs, is the highest level of a number of programs, all designed to introduce students of all ages to science and technology.

Code Red has done well at past competitions. In 2004, 2005, and 2013, Code Red won Regional Competitions. In 2012, the team had the honor of receiving the Engineering Inspiration Award at the Finger Lakes Regional, an award that qualified them to attend the world championships in St. Louis. The team also attended last year, after winning the 2013 Buckeye Regional.

Code Red's path to the 2014 Buckeye finals was not without challenges. After 99 round-robin qualification matches the team had a 5-6 record and were positioned 39th and a long-shot to be selected as part of eight three-team alliances in the elimination round. With the final selection, #1 seed Team 910, The Foley Freeze (Madison Heights, Michigan), chose Code Red to join them and Team 846, The Funky Monkeys (San Jose, California). This alliance, nicknamed RedFunkyFreeze, won two out of three quarterfinal matches and two semi-final contests before sweeping an all-Ohio alliance in the finals.



Team 639 needs to raise \$20,000 in three weeks to cover the cost of participation in International Championships, doubling the annual support already provided by generous supporters: Rheonix, BAE Systems, BorgWarner Morse TEC, Cayuga Medical Center, CBORD, Cognitive TPG, Cayuga Family Medicine, Datapoint Labs, Tetra Tech, Vector Magnetics, NASA Glenn Research Center, Tompkins Trust Company, U-Haul of Ithaca, AccuFab, Incodema, Innovative Metal Works, Ithaca City School District, ICSD Board of Education and Ithaca High School, IPEI, and Ithaca STEM Advocates. Many individuals and businesses have already come forward to help and the team is half way to its goal.

The team again honed its skills at the Finger Lakes Regional, Gordon Field House of Rochester Institute of Technology (RIT) Campus, March 27 – 29. More than 70 Ithaca students participated.

The team has been preparing for these competitions for the past four months. Six of those weeks comprise Code Red's 'build season', the time frame in which FIRST teams consider the game challenge and then design, prototype, and fabricate the robot. This year's robot, named The Red Hippo, was finished on time and ready to ship out to competitions, and is promising to be a successful contender in this year's game challenge: Aerial Assist.

Aerial Assist is a game that revolves around the use of two feet diameter, inflatable 'exercise balls'. Each team creates a robot that can successfully shoot balls into two targets – one just off the floor, and one about seven feet high. The higher the target, the more points awarded to the team. The team can also gain points if the robot can either pass the ball between alliance partners or over an approximately six feet high truss which spans the center of the field. The match goes for two minutes and 30 seconds. The first ten seconds of the match are known as the autonomous period, where the robot functions only on pre-programmed instructions.



Over 40 teams come with their robots, team members, and mentors. Each member is clad in its team's apparel, not to mention striking dyed hairstyles, costumes, and buttons. There is a constant buzz of energy and excitement as thousands of people file into and around the stadium.

"We see our work pay off as we compete as hard as we can," says team President Rishi Verma.

Directly adjacent to the competition fields lie the pits, the area where teams have a small space in which to make adjustments to their robots. Students and mentors are not only working on their own robots, but also interacting with members from other teams. The pits are teeming with a wide variety of people with similar interests and goals, but different ways of achieving those goals.

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