

We are Thunder

It's one thing for a meteorologist to predict the storm of the century, it's another for that storm to hit. Woodie Flowers predicted that storm in 2005 when 1511 won International Rookie All-Star. The storm struck twice in 2007 and 2009 with 1511's thunderous regional Chairman's Award wins. Our outreach has expanded throughout FIRST, to new schools, sponsors and other countries. The Thunder keeps getting louder!

Keep the Thunder Rolling

Team 1511 has assisted over 150 FRC teams with everything from programming to team structure. We provide emergency robot support at competitions – over 20 teams every year! Our LabVIEW scouting system is part of our success on the field; we publish the code and share data with teams. On our award-winning website, linked on FIRST's website resources, we share robot code, engineering notebooks and activities with year-round documentation. Our former team leader and founder moved away this year, but is updated on our progress in our online wiki and blog; she visits often! We've smoothly transitioned to a new lead mentor, keeping the thunder rolling.



In 2009, we met 4 times a week with rookie FRC2999, a Rochester city school, to teach and guide them during build season. We provided tools, mentors and a crate helping them finish their robot before our own. This year, we lent our Inventor and structural design expertise to rookie FRC3173 and a student from a nearby county is shadowing us to learn how

to start FRC at his school. Like many before, he's become one of our adopted team members. We also offer our workshop, field and expertise to neighboring FRC1405.

We also contribute to FRC after competition. This year, we are a C++ Beta Test Team. We presented our findings at 2 offseason events, where we used the beta test hardware and software on our robot, and at Kickoff to Rochester and NYC teams. In summer 2008, our team's

biweekly LabVIEW seminars assisted local teams in programming the 2009 robot controller.

1511 has sponsored 38 FLL teams and 6 JFLL teams that 12 of our teammates have mentored. This year we hosted our 5th Rochester Rumble event where FLL students compete in last year's game. Our annual series of summer camps introduces FLL to over 100 students and adults! 1511's coach seminars teach parents how to run a team, program and fundraise. We also provide FLL Grants. In 2009, 2 mentors and our teacher advisor started JFLL in Penfield and 1511 raised funds for them. The school district allocated teacher stipends to support JFLL next year. These efforts have grown FLL and JFLL in our community so much that Rochester has held its own qualifiers (QTs) since 2008.

Over 25 of our members volunteer annually at the Finger Lakes FLL QTs and Championships. In 2009, 1511 supplied 20 volunteers for 2 QTs, with head referees at both events and an MC. At FLFLL Championships, we supplied 6 judges and 80% of the referee staff. We also raised \$3000 for the 2008 FLFLL winners to attend Championships. Two mentors helped run the FTC and FLL tournament at Clarkson University 3 years in a row. Last year, we bought Mindstorm & field kits to start Bahamian FLL teams. This year, we started Team 10474. We're setting up more Bahamian teams and are excited to send 1511 members to organize a competition there.

Thunderous Events

Since 1511's creation, we have run 3 annual FRC events that are featured by local media. Our biggest event, Rah-Cha-Cha Ruckus, is a Halloween-themed offseason competition. Over 20 teams attend each year from as far away as Michigan and Canada. Ruckus allows students a chance to drive robots and get pumped for the upcoming year.



The Rochester Rally is a pre-ship scrimmage where local teams test their robots, refine their designs and engage in friendly competition on our full field. Invited sponsors speak about the importance of technology. In 2009, we handmade 90 moonrocks and our members helped finish robots for 2 rookie teams and a veteran team. After Rally, we drive teams' robots to the drayage facility.

The All Rookie Meet and Greet at Championships lets teams share experiences and play games. We gave last year's ARMAG rookie winners a giant handmade moonrock signed by Dean, Woodie and teams from our regionals. We create a booklet with each year's rookies' accomplishments and provide information on starting FLL teams.

Thunderous Reaction

Thunderous excitement rolls through our community with our various events year-round, which are tracked through Thunderbolts - our term for the many ways we spread the word of FIRST. Our goal is 1511 Thunderbolts by our 10th anniversary. Our efforts earned us recognition by the NY Senate in a 2009 resolution written by Senator James Alesi.

We have promoted FIRST by holding over 140 demos at festivals, career fairs, schools, science centers and more! The 2008 Imagine RIT festival, attended by 17,000 people, included innovative technology groups. We represented FIRST! One of our favorite demos this year was at a local supermarket Halloween party for 800 kids and parents! At the Simcona Electronics Trade Show we brought FIRST to over 25 companies. 1511 also demoed at our county and NYS fairs.



Since April our students logged 265 hours of community service. We sort medical supplies for third-world countries at InterVol and helped with their Haiti relief effort. We've delivered over 1200 Thanksgiving baskets to needy families with the Rochester Small Business Council since 2008. We visit senior citizens several times a year, participate in the

local animal shelter's annual walk-a-thon, get our hands dirty at Penfield Clean-Up Day and hold biannual blood drives, saving hundreds of lives. We also support charities in which our team members have a personal awareness, such as Multiple Sclerosis, Autism Speaks and Cystic Fibrosis Foundation.

Our biggest fundraiser, the Patron Drive, is another way we spread the Thunder to the community. Annually, students meet with over 150 local businesses and raise over \$9,000! We send 70 sponsors monthly updates and FIRST literature, do demos at their sites and thank them with an annual picnic. We invite our sponsors and the rest of the community to all of our events where we wear our team uniforms. No one can miss our red camouflage!

When Storms Collide

Our main sponsor, Harris RF, provides us with year-round support, 11 invaluable mentors and our lead mentor. Mentors teach students technical skills that allow them to work independently. Student-designed parts are manufactured at Harris. Mentors act as a review board in our school's Engineering Design & Development classes and give Harris tours. We also exhibit the robot at Harris events and female 1511 members attended Females in Engineering Day. To show our appreciation for 5 years of support, students presented plaques to staff including the division president and engineering VP. Harris' newsletter featured this meeting and over 20 articles on our team. Due to the economy, Harris had to cut charitable funding this year, but chose to keep supporting FIRST.

We also have 15 community mentors, most with science and technology backgrounds, some who introduce students to non-engineering fields. Mentors, who know students on personal and professional levels, write recommendations for college and scholarships. They also provide homework help as our policy is school comes FIRST!

We receive continuous support from Penfield High School and the Board of Education. Before this year's school renovations, our input was sought in designing the tech wing. Our work area has nearly tripled! We have 3 new teacher advisors and the assistant principal attends our competitions, including Championships! Two school display cases are devoted to our awards and team updates. We have built friendships with school staff who love to see our progress, attend our events and join our team meals.

Our strongest partnership is among our members. In team surveys, students requested more preseason robot building experience. In response, to prepare our 28 new students, we held a 5-week Mock Build Season. We divided into 2 teams, built VEX robots and held a competition. This helped more than double last year's student retention rate, expanding our family! Parents cook meals and mentors bring breakfast that we eat together. Students help each other grow, learn teamwork and build friendships and robots. Understanding the loss of a student, we collected \$500 for FRC3125's Habitat for Humanity memorial.



Thunder Leading the Way

FIRST is not only about building a robot, but also about building future leaders. A team alumnus said it best in the 2009 Rochester Business Journal, "Growing without being aware of it is what FIRST does best." Maturing students have emerged to develop a student-led team. Our Leadership Bootcamp includes speeches, presentations, developing strengths and teamwork. Student leaders are selected through interviews, speeches and team vote, earning positions such as school and public relations or meeting coordinator. Nine subteams are each led by a student and mentor. In build season, student leaders collaborate at Integration Meetings to discuss progress and issues and devise solutions. Students organize all our demos, service, fundraising and fun activities. We promote opportunities for every student to be a leader.

Like rolling thunder, our team has a lasting effect on everyone involved. Over 80% of our alumni are pursuing science or technology careers. They come back to mentor, share their knowledge with students, travel with us to regionals and attend our annual team picnic. Several alumni are mentoring other teams as well; one alumnus mentors all-deaf rookie team FRC3126.

The Harris, Penfield High School, Rochester and FIRST communities merge together to make 1511 a fun and inspiring experience for us and everyone we meet. Our team is like thunder; it doesn't affect just those who hear it, it creates a sound so loud and powerful that it can be felt miles away.