

Roaring Reporter

Applegate teen leads robotics team in pursuit of championship

BY TOM CARSTENS

One snowy January morning I walked into a St. Mary's High School lab bursting with teenagers. It was eerily quiet. Everywhere I looked, young people were poring over data, working on software, or fine-tuning electrical components. And then, right out of an Isaac Asimov novel, I spied four crazy contraptions that looked like aliens from outer space. Could these be the offspring of NASA's famous Martian explorer, the indefatigable "Rover"? Turns out, these were robots starring in an international tournament known as "FIRST Tech Challenge."

The goal of the competition, which started in 1989, was to attract young people to science, technology, engineering, and mathematics (STEM). Through this program, kids from all over the world, working in two-team alliances, "are challenged to design, build, program, and operate robots to compete in a head-to-head challenge." According to FIRST Tech Challenge, the idea is to "practice engineering principles, while realizing the value of hard work, innovation, and working as a

team." Participants are encouraged to apply for college scholarships available through the program.

Applegater Margaux Quady was just 12 when she caught the "robot bug." She's now a senior at St. Mary's High School and the Robotics Drive Coach for her 13-member team, "Trial N Terror" (TNT). One of three teams from St. Mary's, TNT has been advancing in the regional robotic championships in which teams from all over Oregon compete for the chance to go on to the world championship matches, held this year in Houston.

TNT has just completed its fifth season. Twice the team has made it all the way to the world championships. This year, the team advanced to the state competition, where they finished 11th out of 208 teams in Oregon. In the state finals, the team took first place for Robot Design and finished third for the coveted Control Award. The team has recently been selected as an alternate for the world championship. All in all, Trial N Terror has the third highest tournament average in Oregon and the fourth highest score for all matches played in Oregon. Unbelievably, TNT has the 39th highest tournament average in the world—out of approximately 5,800 teams!

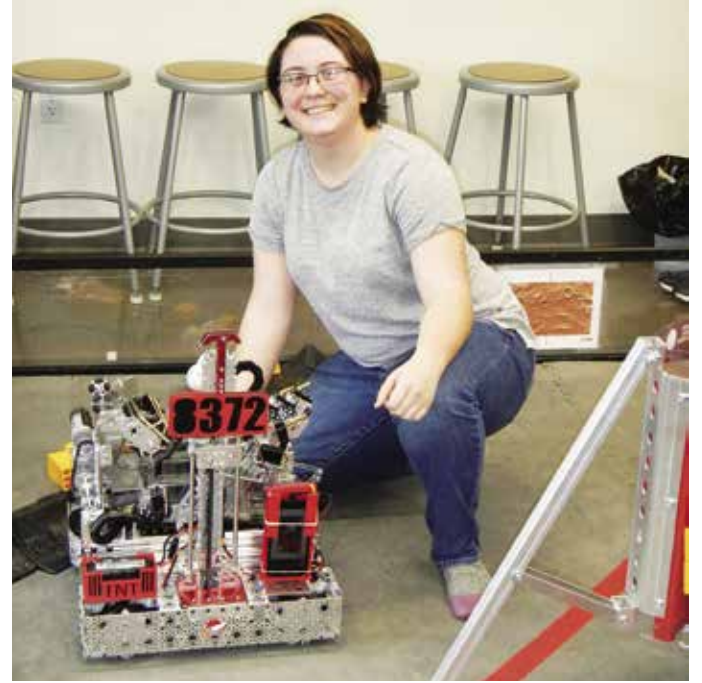
The theme of the competition changes every year and is governed by...wait for it...over 50 pages of mind-bending regulations. Team-designed robots must autonomously perform a series of preprogrammed tasks

followed by several complex maneuvers controlled by drive team members using cellphones—all within strictly controlled space and time constraints. This year the robots must accurately retrieve and place a marker, then correctly select a randomly determined target. Teams then control the robots to differentiate, collect, and deposit two types of targets into discrete bins. TNT named their robot "Tubby." Tubby was over his 42-pound weight limit so Margaux had to put him on an emergency diet, meticulously trimming his metallic parts so he (she? it?) could compete.

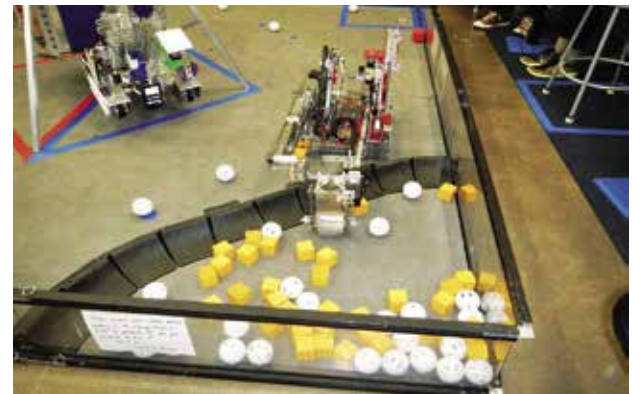
Margaux's team is coached by two Applegaters: her dad, Herb Quady, a winemaker and vintner; and Gary Conner, a vintner and retired rocket scientist (really—is this fair?). The overall effort in southern Oregon is led by Kent Daughterman, a local cardiologist and founder of SOAR (Southern Oregon Area Robotics).

Margaux will graduate from St. Mary's this year. She hopes to attend Rochester University, where she expects the winters to be a tad cooler than the Applegate's. She's already fluent in Mandarin and plans to major in mechanical engineering. She believes that this combination of skills will be instantly marketable upon graduation.

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Margaux Quady huddles with "Tubby."
Photo: Tom Carstens.



Tubby works furiously against the clock.
Photo: Tom Carstens.



TNT coaches Herb Quady and Gary Conner discuss strategies. Photo: Tom Carstens.



TNT Senior Drive Team members remotely manipulate Tubby. From left to right: Gordon Daughterman, Margaux Quady, and Calix Kim. Not pictured: Sam Schaffer.
Photo: Tom Carstens.

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