

# Unmanned vehicles graze

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Engineering teams from 17 universities nationwide, brought their redesigned golf carts, electric wheelchairs and kiddie-ride trucks to the field at University and Adams over the weekend, to compete in the third annual Unmanned Ground Robotics Vehicle Competition at Oakland University.

Student and recent graduate engineers built their self-driven vehicles, hoping to maneuver the twists, turns and hills of the 693-foot course.

But, they admit, the theme song for the event, which offers \$11,000 in cash prizes to the winning teams for distance and design, could either be "Somewhere Over the Rainbow," or "High Hopes."

The fact that no one's made it around the track wasn't enough to daunt the determined. With a speed limit of 5 mph, even a little hill is a high hope.

"At first, we were hoping to win. Now we are just hoping to turn a corner," said Jason Meunier, who just graduated with a bachelor's degree in electrical engineering from the University of Tulsa.

Meunier quipped he'd name his vehicle the "Eye of the Hurricane," because he prayed it would move without a disaster.

Tulsa team members, Matthew Karp and John Roberts added that

this year, Tulsa/Amoco had the only "ground-up design," constructing their frame from steel pipe and adding the motors from an electric wheel chair. Although they have won in the past, using an electric-powered kiddie-car, this year they went for a lighter model, to better accommodate the requirement of a 20-pound payload.

The Tulsa team was one of the smaller groups this year.

"We had a fourth team member, but he got employed," Karp said.

The University of Minnesota team, including Bill Shiller, Lee Alexander, Robert Bodor, Jon Minners and professor Roz Dolid, brought "The ALX," a full sized golf cart. Unfortunately, it was having trouble learning the turns.

The University of Colorado, Boulder team used a "Toys-R-Us vehicle, with a video camera on the top, sensors mounted front and sides, all controlled by an IBM PC with special hardware," according to member Sam Stoller. The Boulder/Omnitech Robotics team members included Mike Deeds, Sebastian Kuzminiski and Kevin Gifford.

On the first try, it just couldn't stay on course.

The course is marked by white chalk-lines.

Video cameras and light sensors mounted on the vehicles, send directions about the chalk lines to an on-board computer, which "steers" the contraptions around the curves and inclines.

Then, there's that darn sand-trap.

All vehicles must be self-controlled, without any assistance from the pit crew, but are allowed to take three tries at the course for the final distance tally.

According to OU engineering professor Ka Cheok, all entries

must stay under the required five mph, because they don't want any out-of-control robots. But then, the definition of out-of-control might be debatable.

"Every time your vehicle leaves the course, you get a penalty of a few feet," Stoller said.

"Somebody at OU figured out that you could actually earn so many penalties, you could have a negative distance (overall)," Karp said.

The competition, which aspires to become nationally recognized like the egg-dropping contest at MIT, is one way to allow hatchling engineers to demonstrate their savvy, and their sense of humor.

"What's worse than a mess of broken eggs?" Roberts asked about this competition. "Well, right before our senior Engineering Design presentation (in Tulsa) our robot exploded. There were sparks and smoke everywhere. We stunk up the whole end of the building."

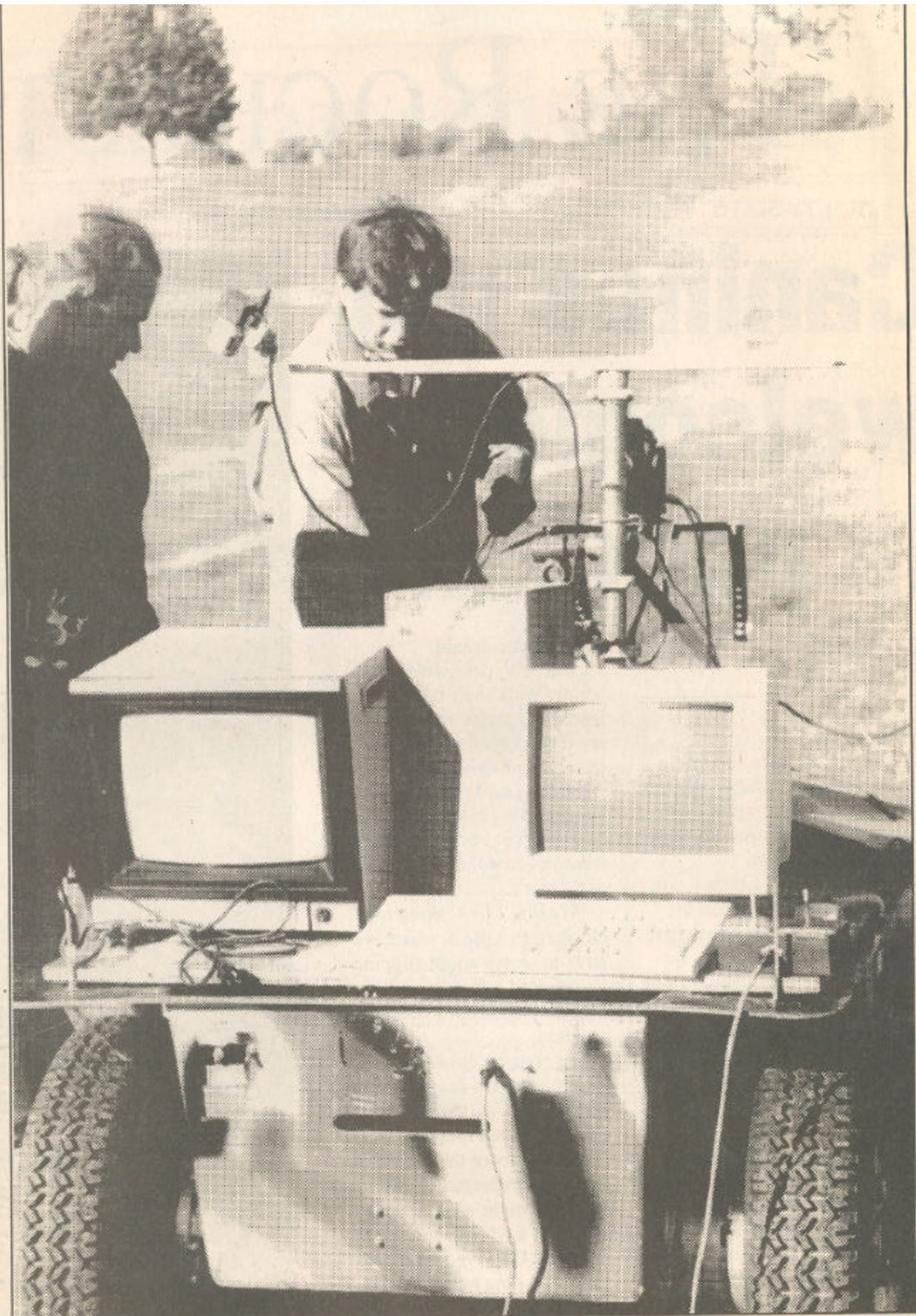
Candy McLellan from the OU School of Engineering and Computer Sciences, said she applauded the die-hard students, who camped in tents over the weekend to prepare for the event.

"They started arriving Saturday and made it through all the wind and rain," McLellan said.

Teams entered the event from Cincinnati, Texas-Arlington, Illinois, Michigan Tech, North Dakota, Cedarville, Minnesota, Princeton, West Virginia and Maine. Three teams drove in from Colorado: teams from Denver, Boulder and the Colorado School of Mines.

There were two teams from OU: the Maverick Team for General Dynamics comprised of D. J. McCune, Randy Graca, John Srovawa and Paul Horn; and the Coyote Team.

Sponsors for the competition, The Association for Unmanned



Some of the OU Mavericks who participated in the contest make last minute adjustments.

Vehicle Systems (AUVS),  
Oakland University and the Soci-

ety of Automotive Engineers of-  
fer up the \$11,000—including a

\$1,000 prize for best design and a  
first prize of \$5,000.