

IGRC

TACOM and Oakland University Host Student Robotics Competition



When 25 unmanned vehicles slowly navigate their way through a challenging, outdoor obstacle course on the Oakland University campus at the end of May, 25 teams of engineering students will breathe a sigh of relief and walk away as wiser and more experienced engineers.

Oakland University and TACOM, the U.S. Army Tank-Automotive Armament Command, will host the annual International Ground Robotics Competition (IGRC) May 31-June 2.

The competition cultivates students' interest in robotic control systems engineering by providing them with a practical forum where they can experience the research, development and engineering involved in the automotive and robotics industry. They also learn about the trade-offs involved to actually get a vehicle or project into production.

Students apply their technical knowledge, talent, creativity and imagination as they learn about the business environment of the real world.

A team consists of 3 to 15 student members, at least one faculty adviser and, possibly, their sponsors. The students can be undergraduate or graduate majors in mechanical, electrical, electronics, computer and computer engineering as well as computer science.

During the previous four years, 57 teams have competed in the event with over 600 students from 22 universities.

There are two competition events: the Vehicle Performance Competition where the autonomous robotic vehicles compete to finish the course in the shortest time, or by traveling the farthest distance in the allotted time, and the Vehicle Design Competition that evaluates the documentation, management and presentation of each team.

The competition rules require the autonomous robotic vehicles to sense lines, avoid obstacles, stay within the lanes and adapt to differing line patterns, colors and quality, travel across ramps and go through sand traps.

Teams must also submit technical reports a month prior to the main competition documenting their design, approach, team and resource management and present a 10-minute talk detailing the approach, techniques and process used in the project. They demonstrate the vehicle hardware and answer any questions the judges may have. This part of the competition challenges students to pay attention to the importance of documenting, presenting, promoting and defending their project.

The Association of Unmanned Vehicle Systems International sponsors the 1997 competition with the Society of Automotive Engineers, Oakland University, AUVS Great Lakes Chapter, Fanuc Robotics and Ernst and Young as co-sponsors. The competition awards more than \$12,000 in prizes to the first, second and third place winners in each event.



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