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### Media Release

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## Desert Buckeyes vie for \$2 million prize

The Ohio State College of Engineering's Desert Buckeyes autonomous vehicle team will continue its route to a \$2 million prize via the California Speedway.

For the second time, the Desert Buckeyes have qualified to advance to the semifinals of the Defense Advanced Research Projects Agency's Grand Challenge autonomous ground vehicle competition, set for Sept. 27-Oct. 5. After the semifinals in Fontana, Calif., 20 teams will advance to the Grand Challenge, scheduled for Oct. 8.

The 2005 DARPA Grand Challenge will be held in the desert Southwest on terrain featuring natural and man-made obstacles. The team that develops an autonomous ground vehicle that finishes the designated route most quickly within 10 hours will receive \$2 million.

"We will participate in the semifinals at the California race track for a full week," said Umit Ozguner, professor of electrical and computer engineering and Desert Buckeyes team leader. "This is a speed trial over a track with obstacles and gates designed to emulate some of the problems expected in the actual event."

"It is truly remarkable how much progress the Grand Challenge teams have made in a relatively short period of time," said Grand Challenge Program Manager Ron Kurjanowicz. "The national qualifying event will be very exciting, and we will see autonomous vehicle performance that was not possible a year ago. The teams' creative sparks are flying, and they are making impressive progress toward DARPA's goal of developing technologies that will save the lives of our men and women in uniform on the battlefield."

**Editors:** See attached fact sheet for more information. For details about the Desert Buckeyes, visit the team Web site at [www.ece.osu.edu/ion/](http://www.ece.osu.edu/ion/) or contact professor Umit Ozguner, Department of Electrical and Computer Engineering, (614) 292-5940 or [umit@ece.osu.edu](mailto:umit@ece.osu.edu). For information about the DARPA Grand Challenge, visit [www.darpa.mil/GrandChallenge](http://www.darpa.mil/GrandChallenge).



**Ohio State's vehicle is called ION, Intelligent Off-road Navigator. Team members include six faculty members and research staff and nearly 30 undergraduate and graduate students.**

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## **DARPA GRAND CHALLENGE FACT SHEET**

### **About the ION**

ION is the vehicle that Ohio State students and staff are developing for the 2005 Grand Challenge. As in 2004, they have provided drive-by-wire capability to control the steering, throttle and brakes. Various sensors, including multiple digital, color cameras, laser remote sensing, sonars, radar, global positioning systems and inertial navigation units may be mounted. A new radar system is being developed at the college's ElectroScience Lab. The team's software, based on the experience of 2004, will be running on multiple computers. The vision system will be provided by a group from the University of Karlsruhe in Germany.

### **DARPA Grand Challenge 2005**

The Grand Challenge 2005 is a field test of robotic ground vehicles for the purpose of advancing autonomous vehicle technology. The vehicles must travel over rugged terrain in the desert Southwest using only onboard sensors and navigation equipment to find and follow the route and avoid natural and man-made obstacles. The exact route, which will be no more than 175 miles, will not be revealed until two hours before the event begins. DARPA will award \$2 million to the team whose autonomous vehicle successfully completes the route the fastest within a 10-hour time period. All vehicles are developed without government funding.

From a field of almost 200 initial registrants this year, the Defense Advanced Research Projects Agency first selected 118 candidates based on videos submitted by teams. After site visits to 118 locations, DARPA selected 40 teams from 14 states and Canada and representing varied backgrounds including universities, individuals, corporations and a high school for this year's semifinals.

### **Grand Challenge History**

In March 2004, DARPA conducted a challenge for fully autonomous ground vehicles through a course between Los Angeles and Las Vegas in the fastest time and in less than 10 hours. Ohio State supported an Oshkosh Truck vehicle called TerraMax. An award of \$1 million was to be granted to the team that fielded the first vehicle to complete the designated route. The list of longitude and latitude points through which contestants had to plan a course was disclosed to entrants two hours before the race. None of the teams completed the course, but TerraMax went the sixth farthest of the dozen finalists.

### **About DARPA**

DARPA is the central research and development organization for the U.S. Department of Defense. The agency manages research and development projects for the department and pursues research in technology areas where the risk can be very high but success provides dramatic capability advances for Department of Defense missions.