



Robert H. Tures, Raytheon

Team Scorpion's Urban Challenge vehicle is designed to drive itself through 60 miles of city traffic.

Urban Challenge Team includes UA Engineering faculty

University of Arizona engineers are part of a team selected by a Department of Defense agency to build a smart vehicle that can drive itself through 60 miles of city traffic.

The team, named Team Scorpion, is led by Raytheon Co. and includes Preferred Chassis Fabrication, of Tucson; Tucson Embedded Systems; and iRobot, of Burlington, Mass. The UA engineers are being led by Professor Larry Head, of Systems and Industrial Engineering (SIE), and Professor Jerzy Rozenblit, of Electrical and Computer Engineering (ECE).

Team Scorpion is one of ten teams to have received \$1 million research grants from DARPA (Defense Advanced Research Projects Agency)

to build a vehicle for the Urban Challenge. More than 60 teams competed for the grants.

The Urban Challenge race will take place at an undisclosed location in the western United States on Nov. 3, 2007. The vehicles will be tested on simulated military supply missions of 60 miles through a mock urban area.

Raytheon will provide sensor technology and Preferred Chassis will contribute its rock-crawling Scorpion vehicle, which includes a suite of electronic and digital controls. Tucson Embedded Systems will build the computing platform, and iRobot will provide the perceptual environment to sense where the vehicle is, where obstacles are located and where the

other vehicles are.

"Our piece of the project is smaller, but very important," said Head, department head in SIE. "Researchers in our department will do the traffic behaviors, and ECE will provide the intelligent systems capability that will integrate our traffic analysis and all the sensor information to make the decisions on how the vehicle will negotiate the environment."

When the vehicle drives through a city, it will have to follow traffic laws and know how the other vehicles will behave, Head said. "So we're going to provide some mission control logic that provides the driving knowledge for controlling the vehicle as it goes

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