

University of Iowa News Release

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### **NADS nets \$2.5 million contract to study alcohol-related driver impairment**



The National Advanced Driving Simulator (NADS) announced today the award of a \$2.5 million contract from the National Highway Traffic Safety Administration (NHTSA) to conduct an exploratory study of the application of vehicle-based sensors for detecting driver impairment due to alcohol and their possible use in developing effective countermeasures.

The study may have far-reaching effects, according to John Lee, director of Human Factors Research at NADS, professor of mechanical and industrial engineering in the UI College of Engineering and lead principal investigator on the study; and Tim Brown, senior team leader of Cognitive Systems Engineering at NADS and project co-principal investigator.

"Alcohol has been a persistent traffic safety problem," says Lee, "In this study we hope to identify how impairment influences the driving performance of individuals to identify reliable, feasible, and robust means of detecting impairment."

Although the number of alcohol-related fatalities declined from 1982 through 1992, the rate has remained relatively constant since then. Lee and Brown note that 41 percent of all U.S. traffic fatalities involve alcohol use and that 12,491 deaths annually are attributed to drivers operating a vehicle with a blood-alcohol level of greater than 0.08, the current legal limit.

Karim Malek, NADS director, says: "We are extremely excited to have been asked by the National Highway Traffic Safety Administration to perform this important, cutting-edge research. As the alcohol-related fatality rate has been stagnant over the past decade and a half, our expectation is that this research will reveal measures that can be used to monitor impaired driving in real time using appropriate vehicle-based sensors and processors. Understanding driving impairment is one of the research questions best-suited to be answered using the high-fidelity NADS 1 simulation platform."

Since 2001, NADS has researched several areas of major interest to NHTSA, including the effectiveness of electronic stability control systems in vehicles, a technology that has shown strong promise in reducing vehicle rollovers and rollover-related fatalities. Recently, NHTSA has mandated that electronic stability control be made standard equipment on all light passenger vehicles by the 2009 model year and on all vehicles by the 2012 model year.

STORY SOURCE: University of Iowa News Services, 300 Plaza Centre One, Suite 371, Iowa City, Iowa 52242-2500

MEDIA CONTACTS: John Lee, National Advanced Driving Simulator, 319-384-0810, [jlee@engineering.uiowa.edu](mailto:jlee@engineering.uiowa.edu); Tim Brown, National Advanced Driving Simulator, 319-335-4785, [tbrown@nads-sc.uiowa.edu](mailto:tbrown@nads-sc.uiowa.edu); Gary Galluzzo, University News Services, 319-384-0009, [gary-galluzzo@uiowa.edu](mailto:gary-galluzzo@uiowa.edu)

