

Clemson and DriveSafety create new driving simulator for rehabilitation

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Clemson University researchers, working with simulation technology company DriveSafety, have developed a new driving simulator designed for patient rehabilitation that now is being used at 11 Army, Navy and Veterans Affairs facilities. The program recently expanded to Europe with the addition of a driving simulator at Charite Hospital in Berlin, Germany.

Driving simulators provide patients with engaging treatment sessions in a safe environment, including practicing realistic driving skills. Therapists can work with patients on treatment areas including cognitive, perceptual and physical skills.

"Our ultimate goal is to enable drivers to maximize their independence," said Clemson psychology professor and researcher Johnell Brooks. She believes this can be best accomplished through public and private partnerships between universities, [health care facilities](#) and industry.

"The research provides Clemson students with hands-on opportunities as well as improves the quality of patient care in hospitals through new patient services," Brooks said. "The work with the simulators also may aid in the development of more efficient and safer vehicles."

Clemson researchers in the psychology department have a decade of experience using driving simulators to examine such things as nighttime driving, distracted driving and fatigue. Brooks' research studying aging drivers' capabilities and limitations has taken her from academic

research to this clinical application. Brooks also has an appointment as a clinical researcher with the Greenville Hospital System University Medical Center.

The rehabilitation simulator and associated tools first were developed and tested in the psychology department and at the Clemson University International Center for [Automotive Research](#) (CU-ICAR). The partnership with CU-ICAR allows for the study of new engineering applications, including the use of devices for drivers who can't operate a vehicle using their feet. The engineering research is led by Paul Venhovens, the BMW Endowed Chair in Automotive Systems Integration.

In its evolution from lab research to [clinical application](#), work with the simulator has led to additional programs at the Greenville Hospital System's Roger C. Peace Rehabilitation Hospital.

Provided by Clemson University

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