Federal grant to create new Clemson auto research center

FOR THE JOURNAL

GREENVILLE — Clemson University's automotive engineering program has received a $1 million competitive award from the U.S. Department of Energy that will create a center for research and education in "sustainable vehicle systems."

Clemson President James F. Barker announced the award Monday at the Automotive Transatlantic Summit at the Clemson University International Center for Automotive Research.



Barker

The two-day summit brings together an international group of political and industry leaders to address competitiveness, economic development and the future of the global auto industry.

Established by the energy department's Graduate Automotive Technology Education, or GATE division, the center to be headquartered at CU-ICAR is one of seven in the country.

The goal of Clemson's center is to help overcome technology barriers in the design and development of high energy-efficiency and low environmental-impact vehicle propulsion systems by integrating graduate education and research.

"The program is designed to help our students learn to address fundamental issues of sustainability, such as vehicle lifecycle, energy use and emissions, reliability, manufacturing and cost of ownership," said Imtiaz Haque, chairman of Clemson's automotive engineering department.

"Future automotive products and technologies will have to meet a wide variety of goals — economic and environmental, as well as performance goals — in order to meet market requirements," Haque said. "The GATE Center of Excellence in Sustainable Vehicle Systems will help our students gain the strength in innovation that is the key to our automotive industry remaining competitive in world markets.

"The innovation our faculty and staff have brought to the program, creative research ideas and projects such as Deep Orange that

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give students hands-on experience in engineering have established our reputation as one of the best in the country

"When we were designing this program, we thought if we had 50 students, that'd be great. Just two years into the master's program, we had 76 students and more knocking on the doors," he recalled. "Since then we graduated the nation's first Ph.D. student in automotive engineering, and interest in the program continues to expand. Our growth reminds us of how vital the automotive industry truly is. There is more innovation going on in this industry right now than there has ever been before."

Haque said the relationship with industry partners has been vital.

"The combination of research, education and industry and government involvement; this is a new paradigm for how we educate young people," he said. "In our discussions with automotive manufacturers, they told us what they really needed was a different kind of engineer. That has been our focus.

"Cars today are very, very complex. They have lots of disciplines interfacing. It's no longer possible to be just a mechanical engineer or electrical engineer or computer scientist; you have to be all of those," Haque said.

"We have to produce a workforce that can develop these vehicles for the future."

The Department of Energy GATE Centers of Excellence focus on the critical areas of hybrid propulsion, energy storage and lightweight materials.

The five-year GATE program funds both curriculum development and expansion as well as laboratory work, which the energy department hopes will foster multidisciplinary training.

Other centers are being established at the University of Michigan, the University of Colorado, Ohio State, Penn State, Purdue and the University of Alabama at Birmingham.