



Industrial-scale laboratories and testing facilities are accessible to companies and professionals for applied R&D on new technology. Thanks to world-class partners, the Carroll A. Campbell Jr. Graduate Engineering Center houses more than \$10 million in state-of-the-art facilities and equipment, including:



Full Vehicle CMM

MTS 320 Tire Coupled Road Simulator and Weiss Climate Test Chamber

This facility will support testing for squeaks and rattles, vibration, structural durability, suspension characterization and fastener integrity. The road simulator is in an environmental chamber, allowing for many unique testing possibilities.

Renk Labeco 4-Wheel 500 HP Chassis Dyno and Faist Semi-Anechoic Chamber

The Renk system is a low-noise chassis dynamometer housed in a semi-anechoic chamber, making it able to perform driveline noise studies, mileage assessments, sound measurements and all other chassis dynamometer and sound room-related test activities.

Zeiss Pro T Compact Dual Column Full Vehicle CMM

This system is configured as a "drive on" CMM facility to allow full-vehicle, body-in-white and other large-item coordinate measurements.

FEV 500 HP Engine Dyno Test Cell

A containerized and expandable facility, this system accommodates testing of performance, engine durability and components, emissions, fuel, catalysts, and engine mapping and calibration.

ETS Lindgren Electromagnetic Compatibility Chamber

An ETS Lindgren FACT-3-2.0 PREMIUM high-performance, RF-shielded, 3m semi-anechoic chamber for EMC testing supports FCC and CISPR radiated emissions tests as well as electromagnetic immunity testing up to 100V/m.

In addition, there are four dedicated laboratories (one for each endowed chair) for studying design and development, systems integration, manufacturing and vehicular electronics. This unique infrastructure of testing facilities and laboratories provides a one-of-a-kind environment focused on solving complex industrial engineering problems.



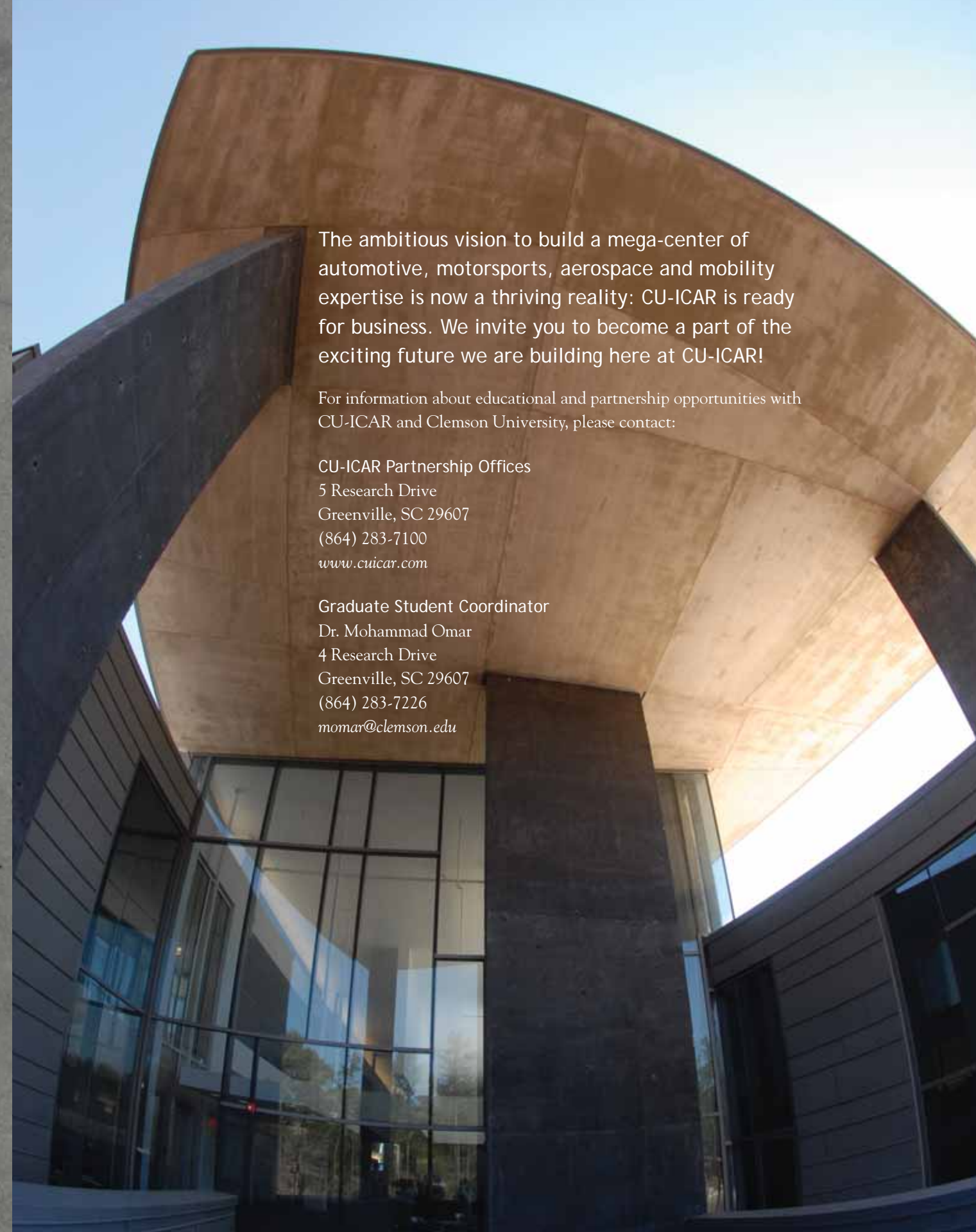
Road Simulator/Climate Chamber



4-Wheel Chassis Dyno



Engine Dyno



The ambitious vision to build a mega-center of automotive, motorsports, aerospace and mobility expertise is now a thriving reality: CU-ICAR is ready for business. We invite you to become a part of the exciting future we are building here at CU-ICAR!

For information about educational and partnership opportunities with CU-ICAR and Clemson University, please contact:

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Open. For Business.



The Clemson University Center for International Automotive Research (CU-ICAR) is an advanced-technology research campus where university, industry and government organizations engage in synergistic collaboration. With more than \$200 million in commitments, it represents the ultimate public/private partnership, directly fueling a knowledge base critical to the automotive industry.

CU-ICAR is strategically located in the rapidly growing Southeastern automotive and motorsports region. The 250-acre campus in Greenville, South Carolina is midway between Charlotte, North Carolina, and Atlanta, Georgia, on the Interstate 85 corridor. This is where Clemson University offers the nation's only Ph.D. in automotive engineering, contributing to the University's continued climb in national reputation (27th in the 2008 *U.S. News & World Report* annual ranking of public doctoral-granting institutions).



The master's and doctoral automotive engineering programs are among the most exceptional in the country as a result of direct engagement with industry-leading OEM's and suppliers on curriculum development and research capabilities and definition of industry needs. These rigorous programs, designed with input from world-class companies such as BMW and Michelin, require foreign language training in addition to a lengthy course of study and a six-month international assignment within the industry.



Leading-edge fundamental and applied research is being conducted in critical areas such as advanced product development strategies, platform integration, sustainable mobility, intelligent manufacturing systems and advanced materials. CU-ICAR's interdisciplinary research portfolio is focused on

industry-relevant issues and funded by some of the most respected companies in the automotive industry. New and innovative business models that involve unique public/private structures for research will allow cost-effective solutions with fast turnaround time — essential for today's globally competitive marketplace.



Attracting the leaders of today to teach the leaders of tomorrow.

CU-ICAR faculty, through investments by private industry and matching funds from the state of South Carolina include some of the most heavily endowed chairs in the nation.

They include:

- BMW Endowed Chair in Systems Integration
- BMW Endowed Chair in Manufacturing
- Michelin Endowed Chair in Vehicular Electronics Systems Integration
- Timken Endowed Chair in Automotive Design and Development



A comprehensive computational center dedicated to helping clients solve industrial problems will offer unique simulation capabilities that are predictive in many diverse

fields, including the automotive and aviation industries. Housing a massive computer infrastructure, the center is created to address design, optimization, research and development issues encountered in the mobility system industries.

