CEED Student Participates in a DOTD Co-op Program

Sarah Paul (CEE) is working with Louay Mohammad (CEE), on a project entitled: Title Measuring Specific Gravity of Aggregates and Asphalt Mixtures: A Comparison Between the Saturated Surface Dry and Vacuum Sealing Methods.

The LADOTD co-op program is a cooperative endeavor between the Louisiana Department of Transportation and Development (LADOTD) and Louisiana universities, providing practical experience to civil engineering students through employment in public sector transportation engineering work. In addition to receiving university academic credit, participating students earn a salary commensurate with their academic level, experience, and ability. The co-op program is intended to enhance the educational process by providing opportunities for participants to explore their interest in transportation engineering through practical experience.

Project Description

Specific gravity plays an important role in the mix design of hot mix asphalt and portland cement concrete. It is the single most specified parameter in the construction industry. Test specimens are routinely tested by the water displacement method for determination of sample bulk specific gravity. The volume of water displaced by the sample and the weight can be used to calculate the specific gravity of the sample. The Saturated Surface Dry (SSD) technique is used for measuring the samples bulk specific gravity. This method works well for dense graded mixes with minimal to no surface texture. However, there are problems when using the water displacement method on samples with absorptive surfaces and open graded mixes. Due to these deficiencies, a fundamental specific gravity measurement approach was developed using vacuum-sealing method that involves the application of vacuum to seal the test specimens. The purpose of this project is to compare bulk specific gravity measurements of aggregates and asphalt mixtures using a conventional SSD technique and the vacuum-sealing method. The scope of the project includes the specific gravity measurements of fine and coarse aggregates as well as loose and compacted asphalt mixtures. The preliminary results from this work showed that the vacuum sealing approach is highly reproducible and are not dependent on material type and/or sample shape.
New Faculty

Xue-Bin Liang (ECE), assistant professor, received his Ph.D. in 2002 from the University of Delaware. His areas of specialization include wireless communications, information theory, signal and image processing, artificial neural network, and computation and complexity.

W. Todd Monroe (BAE), assistant professor, has joined the Biological and Agricultural Engineering faculty. Dr. Monroe received his Ph.D. in biomedical engineering from Vanderbilt University in 2001. His areas of specialization are biophotonics, bio-MEMS, and molecular and cellular engineering.

Faculty News

The Indian Institute of Technology in Dehli, India has awarded Subhash Kak (ECE) its 2002 Distinguished Alumnus Award.

Muhammad A. Wahab (ME), presented a keynote address at the International Conference on Manufacturing (ICM-2002), in Dhaka, Bangladesh on August 10, 2002. The topic presented was: "The Onset of Failure during In-service Welding of Gas Pipelines." Over 150 delegates from North America, Europe and Asia attended the conference.

Important Dates

Thursday, October 10—ChE Industrial Advisory Committee Dinner at Oak Lodge
Friday, October 11—ChE Industrial Advisory Committee Meeting
Saturday, October 12—ChE Alumni Reunion
Friday, October 18—Dean’s Industry Advisory Board Meeting—3225 CEBA
**Dr. Liao Returns from Sabbatical**

*Warren Liao (IMSE)*, has finished his one-year sabbatical with the Army Research Laboratory. His research during the past year has focused on genetic fuzzy modeling and its application to battle-space decision-making problems. He delivered a seminar to the ARL scientists at the end of his sabbatical tenure. In addition, he submitted a paper to the Army Science Conference together with the Battleship Decision Making team of the Tactical Collaboration and Data Fusion Brand of the Computational and Information Sciences Directorate. The photo was taken at the Beachtree Golf Course, the site of the farewell luncheon.

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**Best Wishes Karen**

The College of Engineering wishes to thank *Karen Holden*, counselor in the Dean's Office, for four years of service to the University. Karen has chosen to stay at home with her newborn son, Brennan Neil, who was born September 30, 2002. Our very best wishes to Karen and her new family.