

### **U of M Opening Doors and Minds to Engineering Professions**

It is transportation week at the University of Memphis! The Intermodal Freight Transportation Institute (IFTI) at the University of Memphis is hosting two fast-paced interactive summer programs that engage, educate, and excite Memphis area students with a number of activities designed to motivate and challenge participants to explore engineering.

The Girls Experiencing Engineering Program (GEE) targets middle and high school aged girls. The GEE program increases the number of girls pursuing careers in STEM fields by offering an opportunity to increase awareness and interest in the fields of mathematics, science, and engineering, with a specific focus session for transportation engineering. 2013 marks the 10th anniversary for the GEE program. Since its inception, GEE has introduced over 1,200 girls to opportunities through engineering. The project is funded through support from the Women's Foundation for a Greater Memphis, the University of Memphis Intermodal Freight Transportation Institute, and the Herff College of Engineering.

A GEE graduate, Tierra Hill, shares "I started GEE my ninth grade year blindly and closed-minded. I did not know what engineering was nor did I want to know. When I thought, "engineer", I thought of a man operating a train engine. I went into the program the first day thinking, "I am not going to be an engineer, and girls don't do that". By the third day, however, I loved it. There were professional speakers from different firms and companies that came in and talked to us about the benefits of engineering and why we should consider the field. Because of GEE, I am now an incoming freshman majoring in Civil Engineering at the University of Memphis."

The male version of the program is called TRansportation Engineering Careers (TREC). The TREC program increases the number of students pursuing careers in transportation by offering high school students an opportunity to increase awareness and interest levels regarding existing and potential opportunities in the transportation field. As part of a yearlong emphasis between Wooddale High School and the University of Memphis through the Garrett A. Morgan Technology and Transportation Education Program grant, students from the Wooddale Aviation Magnet Program are participating in the TREC program. This focused TREC project is designed to address the Garrett Morgan program's goal "to improve the preparation of students, particularly women and minorities, in science, technology, engineering, and mathematics through curriculum development and other transportation-related activities."

Both summer programs seek to create a broader impact by providing high school science and math teachers with new methods and tools for use in their classrooms. Program goals are addressed through careful selection of curricular activities, undergraduate student mentors, and professional speakers. Speakers are selected to include diversity in gender, ethnicity, career path, and experience. Content areas covered demonstrate the wide variety of opportunities available through transportation engineering. Students participate in activities in teams of four to emphasize the importance of teamwork and collaboration. Teams earn points based on successful completion of activities, with the winning teams at the end of the week receiving prizes. The competitive environment helps foster active engagement of all students in the program.

“I have been involved with GEE since the beginning and while my role has changed over the years, every year I learn something new” says math teacher Shelli Brasher. “As a result of my participation with GEE, my teaching style and the learning opportunities that I can make available to students are night and day different from the traditional math classroom.”

Dan Pallme, IFTI director said, “The University of Memphis motto is Dreamers. Thinkers. Doers. I believe this fits perfectly with the GEE and TREC program ideals. Our students are free to dream of how to do things better, faster and more efficiently, they are shown how to think as they will be our future engineers and planners, and the doers - our professors, teachers and professional speakers - share knowledge and best practices that lead to a more successful transportation network. We are impacting the future workforce of America.”

IFTI addresses critical issues affecting the planning, design and operation of the nation's intermodal freight transportation systems. The extensive transportation infrastructure in the Memphis region provides the perfect working laboratory for IFTI to solve critical problems facing the freight industry and generate educational opportunities to develop tomorrow's leaders. The IFTI vision is to be a nationally recognized leader in linking people to solutions in freight and logistics through research, education and technology transfer activities.

More information about IFTI is available online at [www.Memphis.edu/IFTI](http://www.Memphis.edu/IFTI). More information about GEE is available online at <http://www.memphis.edu/herff/gee/index.php>. More information about TREC is available online at <http://www.memphis.edu/herff/trec/index.php>.