The Department of Civil and Construction Engineering (CCE) conducted a two-day national workshop on Finite Element Basics & Refined Bridge Structural Analysis to 14 engineers from Indiana, Michigan, Ohio, and Missouri. Dr. Upul Attanayake, CCE assistant professor, and Dr. Haluk Aktan, CCE chair and professor, directed the event held at the Parkview Campus computer center in early March. “The aim of the workshop was to train bridge engineers on fundamentals of finite element analysis and provide opportunity for hands-on knowledge and experience to analyze complex bridge structural systems,” Attanayake said. This is the third workshop conducted by Attanayake and Aktan as a joint outreach activity of the CCE and the Center for Structural Durability to help professional engineers fulfill their continuing education requirements. The workshop was co-sponsored by the Michigan’s Local Technical Assistance Program (LTAP), National Association of County Engineers (NACE), American Council of Engineering Companies (ACEC) of Michigan, and Western Michigan University (WMU). Several people assisted in coordinating and organizing the workshop. Terry McNinch from Michigan’s LTAP was instrumental in dissemination of workshop information throughout the U.S. Evren Ulku, a graduate student, provided the technical support to the workshop participants who needed help with the software program used for bridge modeling and analysis. Perry Lyford-Stojic, a student assistant, organized workshop materials and folders. Carrie Zimmerman, CCE office coordinator, assisted in numerous tasks such as ordering food and refreshments and securing parking facilities for the participants with the help of Krystal Jansen, CCE office assistant. Those interested in future bridge conferences should contact Attanayake at upul.attanayake@wmich.edu.

Faculty and Staff Accolades

Dr. Zijiang (James) Yang, assistant professor in the Department of Computer Science (CS), was recently awarded a two-year research grant from Department of Defense. The project, entitled “Continuously Monitoring and Checking Software in the Era of Multicore Systems,” will be funded by Office of Naval Research (ONR) in the amount of $142,965, and it runs from June 2009 through May 2011. The research will be collaboratively conducted with Dr. Liqiang Wang at the University of Wyoming. The project aims to dramatically improve the reliability and security of complex concurrent software systems by performing monitoring and analysis continuously even after such systems have been released. In addition to the new ONR-funded project, Dr. Yang also leads a research project on “Trace-Driven Verification of Multithreaded Software,” funded by a $400,000 from the National Science Foundation (NSF). The 3-year project runs from 2008 to 2011 and is being conducted collaboratively with Dr. Karem Sakallah at the University of Michigan.

Dr. Dan Kujawski, a professor in the Department of Mechanical and Aeronautical Engineering, is studying degradation of rubber as part of a project in the Center for Advanced Vehicle Design and Simulations (CAVIDS). “I’m part of the bigger team,” he said. Kujawski, who directs the CEAS fatigue and fracture lab, aims to develop an experimental methodology to investigate degradation and fatigue resistance in tank rubber pads under service loading conditions. “The prediction of such degradation is difficult using conventional stress- and strain-life approaches because they rely on crack initiation data and do not account for pre-existing flaws in a rubber.” According to Kujawski, the fracture mechanics approach is used because it utilizes...