

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
JANUARY-FEBRUARY 2007
GOOD NEWS

AUTOMOTIVE AND MANUFACTURING ENGINEERING TECHNOLOGY

Dr. Bruce Jones, Prof. Gary Mead and Dr. Vincent Winstead provided technical consultation and test configuration assistance to representatives of E-Ride in conjunction with dynamometer testing conducted at Minnesota State University on two E-Ride vehicles.

BIOLOGICAL SCIENCES

Park, J.H., Day, T.A., Strauss S. and **C.T. Ruhland**. (2007) Biogeochemical pools and fluxes of carbon and nitrogen in a maritime tundra near penguin colonies along the Antarctic Peninsula. *Polar Biology*. 30:199-207.

Eleven teams from surrounding area high schools competed in the FFA Food Science Career Day event January 12. The competition tested their ability to analyze foods, assess food safety issues and food borne pathogens, and design a new food product. The winning team, from Dassel-Cokato, will go to the national competition in Indianapolis. The event was organized by Dr. Dorothy Wrigley (Biology) and Dr. Joye Bond (Family and Consumer Science). Judges from CSET included Dr. Tim Secott (Biology) and Dr. Mary Hadley (Chemistry and Geology).

Ms. Angela Stearns, a graduate student in the department of Biological Sciences, will be presenting at the National Experimental Biology meeting. She has made the top four of the graduate students in this section, which is the water and electrolyte section of the American Physiological Society. Ms. Stearns competed against all graduate students presenting in this section (over a hundred entrants) which includes doctoral students in not only the United States, but also internationally. Ms. Stearns did not receive the award; however, and in speaking to the chairman of the section, it was because she is only a master's student. The award went to a doctoral student.

CHEMISTRY AND GEOLOGY

Drs. Jeff Pribyl, Mary Hadley and John Kaliski (Management) received funding from NSF for a grant proposal entitled "Use of Guided Inquiry with Incorporation of Tablet PCs into the Preparatory Chemistry Classroom to Promote Student Learning". Funded amount is \$149,156

ELECTRICAL AND COMPUTER ENGINEERING AND TECHNOLOGY

Dr. Vincent Winstead received a donation of assorted motors and power electronics from MCG for use as part of course and laboratory instruction in the department.

Dr. Bruce Jones gave a technical presentation, authored by Dr. Jones and Dr. Vincent Winstead, on January 18, at the University of Minnesota, regarding the Minnesota State University's Plug-In Flex-fuel Hybrid Prius project.

Dr. Vincent Winstead gave a presentation on Hybrid Vehicle technology and Electro-Magnetic Interference (EMI) at Medtronic in Minneapolis in December.

The following paper has been accepted for presentation at the Annual Conference on Information Sciences and Systems in March 2007 at Johns Hopkins University in Baltimore, MD: **Qun Zhang** and C. R. Menyuk, "A Rigorous Optical DPSK Transceiver Model and BER Calculation Using the KLSE Method", submitted to *41st Annual Conference on Information Sciences and Systems (CISS 2007)*.

INTERIOR DESIGN AND CONSTRUCTION MANAGEMENT

Farid Sabongi has earned accreditation from the Construction Specifications Institute after completing the MasterFormat Accredited Instructor (MAI) Program in Washington, D.C. in September. He is now an Accredited MasterFormat Instructor. MasterFormat is a widely used system of organizing construction project manuals in North America. The system organizes construction information into procurement and contracting requirements, technical divisions of activities and work practices. It provides a way of classifying every information resource which is used in design and construction. Participants in the program included construction management faculty, architects, engineers and contractors.

MATHEMATICS AND STATISTICS

I-J. Kim, D.D. Olesky and P. van den Driessche, Inertially arbitrary sign patterns with no nilpotent realization, *Linear Algebra and Its Applications* 421 (2007), 264-283.

I-J. Kim, J.J. McDonald, D.D. Olesky and P. van den Driessche, Inertias of zero-nonzero patterns, *Linear and Multilinear Algebra* 55 (2007), 229-238.

Dr. Mark Zuiker submitted an NSF grant in partnership with Dr. Tom Post from the University of Minnesota which has been funded. The study will involve up to 25, two and four year, public and private colleges and universities in Minnesota. Dr. Zuiker will serve as the principle investigator at MSU. The analysis will compare the differences among Minnesota high school graduates who complete at least three years in a standards-based or traditional high school mathematics curriculum in achievement, persistence, and course taking patterns in their college and university mathematics and other SMET courses. This is expected to be a three year study.

Dr. Mark Zuiker has been funded for an Improving Teacher Quality Grant. The funding for this grant is through the Minnesota Department of Higher Education. The grant was submitted in partnership with schools in the St. Paul School District, the College of Education at MSU, and the Mathematics and Statistics Department at MSU. Dr. Zuiker is serving as the principle investigator for the mathematics department with involvement by Dr. Ernest Boyd and Ms. Mary

Guy. Dr. Kathleen Foord is the principle investigator for the College of Education with involvement by Dr. Daria Donna.

Dr. Mezbahur Rahman presented a paper titled "Estimation of the Multivariate Box-Cox Transformation Parameters" at the International Conference on Multivariate Statistical Methods in the 21st Century, Indian Statistical Institute, Kolkata, India on December 29, 2006, as an invited speaker. This is a joint paper with Dr. Larry M. Pearson.

A research paper "Shape Effect of Platelet Clay Filler on Mechanical Behaviors of Pultruded Polymer Composites under Shear Loading", with Namyong Lee and J. Park, has been accepted for publication in the Journal of Reinforced Plastics and Composites.

MECHANICAL AND CIVIL ENGINEERING

Civil Engineering students, Christopher Marr, Nathan Pieper, and Krista Wassenaar, attended the American Council of Engineering Companies of Minnesota (ACEC-MN) Award banquet last week in Minnetonka on Friday January 26, 2007, where they were awarded the ACEC Scholarships for 2007-08 academic years. All three students are juniors. Both Chris Marr and Krista Wassenaar are repeated recipients of the ACEC Scholarships. Nathan Pieper received the Earl Oxley Scholarship, the highest scholarship of \$3,500, given by ACEC-MN. He is nominated by ACEC-MN for their national scholarship.