COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
March 2006
GOOD NEWS

AUTOMOTIVE AND MANUFACTURING ENGINEERING TECHNOLOGY

Prof. Gary Mead and Dr. Bruce Jones have just received word of a $100K grant from the Minnesota Corn Research and Promotion Council to study the effects of 20% ethanol blends in small engines. This is in addition to a recent $50K grant from the Minnesota Department of Agriculture to study material compatibility issues associated with E20.

BIOLOGICAL SCIENCES

Join us in the excitement! Minnesota State University, Mankato and the College of Science, Engineering & Technology are hosting the 55th Annual South Central/ Southwest Minnesota Regional Science & Engineering Fair on March 4, 2006. Nearly 300 junior/senior high students (Grades 7-12) from twenty-six regional schools will be representing their projects or research papers. Included in this year's fair will be students from Mankato West High School, Loyola High School, Fitzgerald Middle School, St. Clair High School, New Ulm Area Catholic School, Immanuel Lutheran School, Gaylord, and Lake Crystal Welcome Memorial Secondary School.

Students will be competing for an opportunity to represent their region at this year's 38th Annual Tri-State Junior Science & Humanities Symposium in St. Paul on April 1-2, this year's 69th Annual State Science Fair in St. Paul on April 2-4, or the 57th Intel International Science and Engineering Fair in Indianapolis, Indiana. In addition, many special awards will be presented at the regional fair. Student projects represent fourteen areas of science: Behavioral and Social Sciences, Biochemistry, Botany, Chemistry, Computer Science, Earth Science, Engineering, Environmental Sciences, Mathematics, Medicine and Health, Microbiology, Physics, Space Science, and Zoology.

Approximately, 200 judges from universities, business, industry and the medical community are involved in the fair. Major sponsors for the SC/SW Regional Science Fair are the College of Science, Engineering and Technology at MSU, Mankato, MICO, Wells Fargo, Thin Film Technology Corporation, NorAm/Minnegasco Foundation, Xcel Energy Inc., Norsoft as well as numerous individuals and professional organizations with an interest in science, engineering and technology. The exhibit area is open for public viewing from noon to 3:00 p.m.

Science and engineering fairs offer an exceptional opportunity to enrich school programs through encouraging independent project work, developing displays, having work judged by professional scientists and engineers, sharing similar interests with other students, competing for awards and receiving local, national and even international recognition. For future scientists and non-scientists alike, the Science and Engineering Fair's work provides experiences and motivation

that are reflected in both personal and classroom development. For questions or comments, call 507-389-2849 or check the Regional Science Fair website at www.mnsu.edu/sciencefair

The following manuscript was submitted to the journal *Polar Biology:*
Park, J.H., Day, T.A., Strauss S. and **C.T. Ruhland**. Biogeochemical pools and fluxes of carbon and nitrogen in a maritime Antarctic tundra ecosystem.

INTERIOR DESIGN AND CONSTRUCTION MANAGEMENT

Congratulations to McNair Scholar Afton Enger for being accepted into the Urban and Regional Planning graduate program at the University of California, Irvine. Afton is an MSU senior who is double-majoring in Urban and Regional Studies and Interior Design. Afton has really been a model McNair Scholar; last year she was selected as both the McNair Scholar of the Year and the MSU TRIO Achiever of the Year. The McNair Scholars Program would especially like to thank Dr. Anthony Filipovitch for serving as an outstanding mentor to Afton. Afton has also been accepted into the Master's Program in Urban and Regional Studies at MSU.

MECHANICAL AND CIVIL ENGINEERING

Dr. Jim Wilde, Associate Professor, was invited to speak at the 50th Annual Asphalt Contractor's Workshop sponsored by the Minnesota Asphalt Paving Association on March 2, 2006. The presentation was entitled "Addressing Bumps in Hot Mix Asphalt Overlays Caused by Crack Fillers".

Dr. Wilde was awarded two research projects from the Minnesota Local Road Research Board entitled "Updating Vehicle Classification for County Road Pavement Design" and "Predicting the Occurrence of Bumps in Overlays". These two projects will be funded for a total of about $90,000 over two years.

PHYSICS AND ASTRONOMY

Dr. Russell Palma, Professor, gave the following research presentations:
"The Latest Nitrogen Isotopic Measurements from Gold on Sapphire Wafers by Mercury Amalgamation" Genesis Science Team meeting, *Lunar and Planetary Science Conference*, Houston, TX, March 12, 2006.

"NASA's Genesis and Stardust Missions: Exploring the Early Solar System" *Physics Department Colloquium*, Texas State University San Marcos, San Marcos, TX, March 10, 2006.

"NASA's Genesis Mission: An Update" *Physics Department Colloquium*, Sam Houston State University, Huntsville, TX, March 9, 2006.

"Cometary Connections? NASA's Stardust Mission and Interplanetary Dust Particles" *Department of Physics and Astronomy Colloquium*, Minnesota State University, Mankato, MN, February 23, 2006.

Dr. Russell Palma received the following research grant:
"Measuring Helium, Neon and Argon in Ultra-fine Particles from the Stardust Mission," *American Astronomical Society,* $3500, 2006.

Dr. Louis Schwartzkopf, Professor, has been acknowledged in the Preface of *Physics: Concepts & Connections, 4th edition*, by Art Hobson, for his work in reviewing the book.