

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

GOOD NEWS

AUTOMOTIVE AND MANUFACTURING ENGINEERING TECHNOLOGY

Drs. Gary Mead and Bruce Jones and Mr. Paul Steevens released a paper on a compatibility study of automotive electric fuel pumps and sending units with 20% ethanol (E20). This paper was the result of a 4,000 hour dynamic endurance test of 24 pumps and nine sending units. The study was performed for the State of Minnesota to see if E20 would be viable for sale in all gasoline. The paper was released to the Minnesota Department of Agriculture and can be found on their website.

BIOLOGICAL SCIENCES

Dr. Steve Mercurio, Professor, presented a talk on "Doing Toxicology Research in the Classroom" to the Society of Toxicology conference in Baltimore, MD as part of the Education-Career Development Session: Toxicologists: The Next Generation.

CHEMISTRY AND GEOLOGY

Drs. Jeffrey R. Pribyl, Mary Hadley, Patricia L Rambo (Department of Chemistry & Geology) and John A. Kaliski (Department of Management) presented a paper at the 237th American Chemical Society National meeting entitled "Saving time with POGIL grading" on March 23, 2009 in Salt Lake City, UT.

Drs. Jeffrey R. Pribyl, Mary Hadley, Patricia L Rambo, and John A. Kaliski presented a poster at Sci-Mix Interdivisional Poster Session at the 237th American Chemical Society National meeting entitled "Saving time with POGIL grading" on March 23, 2009 in Salt Lake City, UT.

Drs. Mary Hadley, Jeffrey R. Pribyl, Patricia L Rambo, and John A. Kaliski presented a paper at the 237th American Chemical Society National meeting entitled "In depth look at the concepts of nomenclature and chemical bonding in a POGIL classroom vs. a traditional lecture classroom" on March 25, 2009 in Salt Lake City, UT.

Brendan P. Roggow (undergraduate student majoring in Human Biology) and Dr. Jeffrey R. Pribyl presented at poster at the 237th American Chemical Society National meeting entitled "How guided inquiry affect student's learning chemistry" on March 23, 2009 in Salt Lake City, UT.

Dr. Danae R. Quirk Dorr, Assistant Professor, presented "Development and Implementation of POGIL Activities Supporting an Introduction to Research Course" at the American Chemical Society National Meeting in Salt Lake City, Utah.

INFORMATION SYSTEMS AND TECHNOLOGY

Dr. Mahbubur R. Syed, Professor, has been invited to be a member of the International Program Committee (IPC) for the 'International Conference on Internet and Multimedia Systems and Applications' (EuroIMSA 2009), which is to take place in Cambridge, United Kingdom from July 13, 2009 to July 15, 2009. Visit <http://www.iasted.org/conferences/home-671.html> for the EuroIMSA 2009 conference details."

MATHEMATICS AND STATISTICS

Dr. I.-J. Kim, Assistant Professor, was invited to Iowa State University, Ames from March 9 to March 12, 2009 for research collaboration, hosted by Drs. Hogben and Grout in the Department of Mathematics. During the trip, he also presented a colloquium in the Department of Mathematics, entitled "On Potentially Nilpotent Sign Patterns".

I.-J. Kim, D.D. Olesky and P. van den Driessche, Critical sets of inertias for matrix patterns, *Linear and Multilinear Algebra* 57 (2009), 293-306.

I.-J. Kim, D.D. Olesky, B.L. Shader, P. van den Driessche, H. van der Holst and K.N. Vander Meulen, Generating Potentially Nilpotent Full Sign Patterns, *Electronic Journal of Linear Algebra* 18 (2009), 162-175.

Dr. Brian Martensen, Assistant Professor, presented "Relations between proximality, mixing and Pisot expansion factors for tiling spaces" at the Annual Spring Topology and Dynamics Conference, hosted this year by the University of Florida in Gainesville on March 7-9.

A paper by Dr. Dan Singer, Associate Professor, has just been published in Volume 16 (1) of the *Electronic Journal of Combinatorics: A Graph-Theoretic Method for Choosing a Spanning Set for a Finite-Dimensional Vector Space, with Applications to the Grossman-Larson-Wright Module and the Jacobian Conjecture*.

Dr. Gary Rockswold, Professor, was invited to give the keynote address at the joint mathematics meetings of the Minnesota Council of Mathematics Teachers and the Minnesota Mathematical Association of Two-Year Colleges on May 1, 2009 in Duluth.

Dr. Gary Rockswold, Professor, gave a presentation entitled *Connecting Science with Spirituality* for the yoga teacher's training class at Sun Moon Yoga Studios in Mankato on March 28.

A research paper by Dr. Deepak Sanjel, Assistant Professor, (jointly with Drs. S. B. Provost and H. T. Ha) entitled "On approximating the distribution of indefinite quadratic forms" has been accepted by the *Journal of Theoretical and Applied Statistics*. Published By: Taylor & Francis

Dr. Chia-chi Tung, Professor, presented "A note on the weak holomorphicity and analyticity of distributions" in the Special Session on Holomorphic and CR Mappings, II, at the AMS Spring Central Sectional Meeting at the University of Illinois at Urbana-Champaign, in March.

A paper entitled "Independently Axiomatizable $SL_{\{\omega_1, \omega\}}$ Theories" by G.Hjorth and **I. Souldatos** was accepted for publication in the *Journal of Symbolic Logic*.

MECHANICAL AND CIVIL ENGINEERING

Dasenbrock, D., **Budge, A.**, and Paikowsky, S. LRFD Implementation Effects on Geotechnical Investigation and Design, *Geotechnical Special Publication No. 186 – Contemporary Topics in In Situ Testing, Analysis, and Reliability of Foundations*. American Society of Civil Engineers, Reston, VA. 2009.

Dr. Aaron Budge, Assistant Professor, and several student members and past alumni of the American Society of Civil Engineers (ASCE) student chapter at MSU were involved with the Greater Mankato Career Expo on April 1. The event involved approximately 600 high school students from the region and provided them with an idea of potential careers in various disciplines. Dr. Budge, the ASCE students and the alumni provided the high school students with information about Civil Engineering and the potential career paths associated with the discipline.

Dr. Jim Wilde, Associate Professor, presented results of a research project, "Pavement Smoothness Construction Specifications", to the Concrete Pavement Association of Minnesota, the Minnesota Asphalt Pavement Association, and to the Traverse des Sioux Chapter of the Minnesota Society of Professional Engineers.

Dr. Wilde also received a research contract from MN/DOT to conduct a study relating concrete temperature history to strength in concrete pavement construction.

PHYSICS AND ASTRONOMY

Dr. Youwen Xu, Professor, attended the 2009 American Physical Society March meeting in Pittsburgh, PA. Dr. Xu presented a talk at the meeting entitled "In situ X-ray Synchrotron Diffraction Study of the Synthesis of LaFeAsO and LaFeAsO_{1-x}F_x".

WATER RESOURCES CENTER

The Water Resources Center co-hosted Shallow Lakes Forum 6: Development and Implementation of Shallow Lake Management Plans on March 30 in Chaska. More than 170 participants attended the full-day conference, including elected officials, lake association members, local and state government staff, and conservation organization representatives. Water Resources Center Director, Shannon Fisher, is the coordinator of this Forum series that has now served more than 1,500 shallow lake stakeholders in the past six years. Water Resources Center staff and graduate students also attended and assisted with the event.