

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
GOOD NEWS
SUMMER 2008

AUTOMOTIVE AND MANUFACTURING ENGINEERING TECHNOLOGY

Dr. Craig Evers, Assistant Professor, received notice last week, from the Minnesota Commissioner of Public Safety, of his appointment to a 4-year term as a member of the [Minnesota Motorcycle Safety Advisory Committee](#). There are sixteen members on the Committee. Their purpose is to make recommendations to the Commissioner on matters of motorcycle safety as it relates to rider training, testing and licensing, and public information and education.

BIOLOGICAL SCIENCES

Dr. Christopher Ruhland, Associate Professor, submitted a grant proposal with Drs. Thomas A. Day and Ferran Garcia-Pichel (Arizona State University) entitled "COLLABORATIVE RESEARCH: Succession at glacial forelands in Antarctica: linkages among plants, microbes and microarthropods" to the National Science Foundation Office of Polar Programs.

Dr. Ruhland gave a talk at 'Ferulate '08: An international conference on hydroxycinnamates and related phenolics' entitled: "Hydroxycinnamic acids in the epidermis of Antarctic vascular plants may convey increased tolerance against ultraviolet-B radiation during ozone depletion events." August 26, 2008.

CHEMISTRY AND GEOLOGY

Jeffrey Pribyl, M. Hadley, Patricia Rambo (Chemistry and Geology) and John Kaliski (Management), "Use of Guided Inquiry with Incorporation of Tablet PC's into the Preparatory Chemistry Classroom to Promote Student Learning", Presentation at the Sixth Annual Process Oriented Guided Inquiry Learning National Meeting, University of Texas, June, 2008.

Jeffrey Pribyl, M. Hadley (Chemistry and Geology), John Kaliski (Management), and Patricia Rambo (Chemistry and Geology), "Comparison of lecture versus guided inquiry success in introductory chemistry classes", 20th Biennial Conference on Chemical Education, Indiana University, July, 2008.

Patricia Rambo, M. Hadley, Jeffrey Pribyl, (Chemistry and Geology) and John Kaliski (Management), "Impact of learning style on success of students in a guided inquiry classroom", 20th Biennial Conference on Chemical Education, Indiana University, July, 2008.

M. Hadley (Chemistry and Geology), John Kaliski (Management), Jeffrey Pribyl, and, Patricia Rambo, (Chemistry and Geology) "Use of tablet PC's in introductory chemistry classes using guided inquiry methods", 20th Biennial Conference on Chemical Education, Indiana University, July, 2008.

M. Hadley, J. R. Pribyl, and Patricia L. Rambo, (Chemistry and Geology) And J. A. Kaliski, "Management, Impact of learning style on students' success in a guided inquiry classroom", Poster, CCLI 2008 PI Conference, Washington DC, August 2008.

MSU student Elizabeth Drommerhausen presented a poster of our work (**Drommerhausen, E., Losh, S.**, Fluid Properties in the Formation of High-Grade Iron Ore in Northern Minnesota) at the 54th Annual Institute on Lake Superior Geology, Marquette, MI in May. Elizabeth received a Best Student Paper award for her work and presentation.

An abstract describing fault mechanics in Nevada (Anders, M., Fouke, B.; **Losh, S.**, Rock Deformation at the Base of Large Carbonate Block Slides: Key to Assessing Emplacement Mode) was accepted for presentation at the 2008 Annual Meeting of the Geological Society of America, Houston, TX

Dr. Steve Losh received two years of funding from Cleveland–Cliffs Technology Group, Ishpeming MI, in support of his proposal “Silica Remobilization in the Mesabi Iron Range, Minnesota.” The project focuses on large-scale fluid flow through iron-rich sedimentary rocks, mineral chemistry, and formation of high-grade iron ore in the Mesabi Iron Range.

Quirk Dorr, Danae R.; Hadley, M.; Munneke, Megan. Correlation of student learning styles to delivery methods of organic chemistry and biochemistry course material Oral and Poster Presentation. (abstract # CHED 367) 236th American Chemical Society National Meeting, Philadelphia, PA, 2008

Thompson, Mark D.; Quirk Dorr, Danae R. Discovering the structural interactions between potential anticancer agent NSC 652287 metabolite and 2'-deoxyguanosine. Poster Presentation. (abstract # CHED 224) 236th American Chemical Society National Meeting, Philadelphia, PA

COMPUTER SCIENCE

Dr. Furman Haddix, Assistant Professor, has received a conditional acceptance from the *Journal of High Speed Networks* for his paper, "A uniform process alternator for arbitrary topologies". Dr. Wuxu Peng (Texas State University) is co-author.

Dr. Rebecca Bates, Associate Professor, attended the Third Workshop on Issues in Teaching Computational Linguistics as part of the 46th Annual Meeting of the Association for Computational Linguistics in Columbus, OH, June 19-20, 2008.

Dr. Bates presented the following paper: R. Bates & D. Wilson, "Confronted by Students: Dealing with Anger, Frustration and More Pleasant Emotions in Office Hours and in Class," Proc. 2008 ASEE Annual Conference & Exposition, Pittsburgh, PA, 2008.

Dr. Bates taught two 2-week sessions of Project Lead the Way's Gateway to Technology engineering curriculum to middle school teachers. One session was held in Mankato at South Central College and one was at St. Cloud State University.

A proposal by Rebecca Bates, "Collaborative Research: Professional Development Gateways in Social Learning Settings," has been funded by the National Science Foundation Division of Undergraduate Education for \$60,000. The work is in collaboration with Denise Wilson at the University of Washington.

Haglin, D. J., K. R. Mayes, A. M. Manning, J. Feo, J. R. Gurd, M. Elliot and J. A. Keane, “Factors Affecting the Performance of Parallel Mining of Minimal Unique

Itemsets on Diverse Architectures,” Concurrency and Computation: Practice and Experience, to appear.

Paraskevas Yiapanis, **David J. Haglin**, Anna M. Manning, Ken Mayes, and John Keane, “Variable-grain and Dynamic Work Generation for Minimal Unique Itemset Mining,” in 2008 IEEE International Conference on Cluster Computing (Cluster 2008), Tsukuba, Japan, 29 Sep - 1 Oct 2008.

INFORMATION SYSTEMS AND TECHNOLOGY

In May 2008, Dr. Christophe Veltsos, Assistant Professor, joined the editorial board of the SysAdmin, Audit, Network, Security Institute (SANS) NewsBites newsletter. SANS NewsBites is a semi-weekly high-level executive summary of the top information security news, with over 180,000 subscribers. In June 2008, Dr. Veltsos received a Flies Fellowship from CSET to work with the Chief Information Security Officer for the State of Minnesota. The information gleaned from this grant has been integrated into his Information Security and Information Warfare classes. In August 2008, Dr. Veltsos was the Lead Assessor for an Information Security Assessment performed on behalf of the Center for Strategic IT & Security (a MnSCU center for excellence).

Dr. Veltsos also gave a number of presentations, including “Staying Safe on the Internet” to MSU for seniors, “Basic Incident Response and Computer Forensics” at LabMan, and “The Art of War Version 2.0 - Sun Tzu versus the Hackers” at Secure360.

Dr. Allan Hart, Associate Professor, wrote a chapter entitled, “Hibernate: A Full Object Relational Mapping Service”, which was included in a book entitled: *Handbook of Research on Modern Systems Analysis and Design Technologies and Applications*. This book was published this summer by IGI Global. The chapter appears on pp. 433-467 of the book.

MATHEMATICS AND STATISTICS

A paper entitled “On the distribution of a statistics for detecting first order serial correlation” by **Deepak Sanjel**, Hyung-Tae Ha and S.B. Provost has been published in The Journal of the Korean Data Analysis Society, Vol. 10, No 1, pp. 87-95.

Liqun Qi, Zheng Yan and **Hongxia Yin**, A semismooth Newton method for solving the security region problem of power systems, Journal of Industrial and Management Optimization, 4(2008), pp. 143-153.

E. Polak, R. S. Womersley and **Hongxia Yin**, An algorithm based on active sets and smoothing for discretized semi-infinite minimax problems, Journal of Optimization Theory and Applications, 138(2008), pp.311-328.

Hongxia Yin, Zhenghai Huang and Liqun Qi, The convergence of a Levenberg-Marquardt method for the least norm solution of nonlinear inequalities, Numerical Functional Analysis and Optimization, 29(2008), pp. 687- 716.

Dr. Namyong Lee, Associate Professor, was one of the invited speakers at the special session on Mathematical Biology at the KSIAM's annual meeting this May 30-31, 2008. He presented a talk “Mathematical Modeling on Cell and Biodynamics”, and the same entitled paper was published at the Proceedings of KSIAM Vol.4(3), 2008.

Dr. Lee hosted an international conference "6th International Conference on Scientific Computing and Applications" on June 2-5, 2008 at Busan, Korea.

Dr. Lee has presented a talk "Some Mathematical and Computational Questions on Lou Gehrig's Disease Model" at the UKC-2008 meeting on August 14-17, 2008, San Diego, CA.

Dr. Pavel Kitsul, Professor, delivered a course of lectures on Stochastic Processes and their Applications to Biology, Chemistry, Electrical Engineering, Computer Science, and Physics at the Ph.D. school of the University of Padua, (Italy) one of the oldest universities in Europe. Beginning from the academic year 2007-2008, this course is included into the Ph.D. program of the University of Padua. Dr. Kitsul also visited the Russian Academy of Sciences (Moscow).

MECHANICAL AND CIVIL ENGINEERING

A conference proceeding: **Park, J. Y.**, Davis, T. B. and **Sullivan, P. L.**, "Small-scale Fabrication Process of Clay-containing Thermosetting Nanocomposites," Composites and Polycon 2009, ACMA, Tempa, Florida (2009) was accepted for a presentation and publication.

Dr. Aaron Budge, Assistant Professor, was invited to participate in a workshop sponsored by the Association of Drilled Shaft Contractors, held in June in Chattanooga, TN. Approximately 50 professors from throughout the United States were treated to five days of intensive lectures and field exercises, which exposed them to drilled foundation design and construction considerations, drilled foundation types, analysis of drilled shafts, and other related topics. This workshop is only held every eight years, so it was a rare and worthwhile opportunity to participate.

Dr. Budge was selected to participate for a third year as an Assistant Mentor in the ExCEED Teaching Workshop, sponsored by the American Society of Civil Engineers. ExCEED is an acronym for Excellence in Civil Engineering Education. The workshop trains civil engineering faculty from throughout the nation to become more effective teachers. Mentors and Assistant Mentors involved in the program provide instruction to workshop participants, providing feedback and support to the faculty during the week-long workshop. The ExCEED program was held at the University of Arkansas in Fayetteville, AR during July.

PHYSICS AND ASTRONOMY

Dr. Russ Palma, Professor, gave the following presentations:
"The Early Solar System: Surprises from NASA's Stardust Mission" Rochester Astronomy Club, Rochester, MN, August 12, 2008.

"NASA's Genesis and Stardust Missions: Bringing the Sun and Comets to Earth" Sciencetech, Indianapolis, IN, August 4, 2008.

Dr. Palma was a coauthor on the following publication:

K. Nakamura-Messenger, L. P. Keller, S. Messenger, S. J. Clemett, M. E. Zolensky, R. L. Palma, R. O. Pepin, and S. Wirick, 2008. Mineralogy of Interplanetary Dust Particles from the Comet Grigg-Skjellerup Dust Stream Collections. Meteoritics & Planetary Science 43, A111.

Russ Palma was part of a team of NASA scientists that discovered a new mineral (MnSi, named "Brownleeite") found in an interplanetary dust particle hypothesized to be from Comet Grigg-Skjellerup.

Dr. Louis Schwartzkopf, Professor, gave talks, "What Can We Do to Solve the Global Warming Problem," at Grace Lutheran Church on May 18 and at Centenary United Methodist Church on June 20, and a third talk, "Global Warming -- Evidence, Projections, and Mitigation," at the Mankato Rotary Club on July 30.