

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY SEPTEMBER 2003

GOOD NEWS

AUTOMOTIVE AND MANUFACTURING ENGINEERING TECHNOLOGY

Dr. Andrzej Markowski was awarded a Fulbright Scholar Program Grant for his Fall Semester sabbatical to travel to Wroclaw University in Poland to develop a new graduate course called COLLABORATIVE APPROACH FOR PRODUCT DEVELOPMENT. Professor Markowski will be working with students from both Poland and MSU, using Rapid Prototyping, the Internet, and remote conferencing. Department Chairperson Harry Petersen will coordinate the MSU students.

Professor Ann Goebel was appointed to the Board of Directors of the Southern Minnesota Chapter of APICS (American Production and Inventory Control Society) at their August meeting.

BIOLOGICAL SCIENCES

July 2003. Day T.A., Ruhland, C.T. and F.S. Xiong. Effects of climate change on photosynthesis, growth and reproduction of Antarctic vascular plants. The 4th Conference on Biochemistry, Ecophysiology and Population Biology of Alpine and Polar Plants. Innsbruck, Austria.

Dr. Michael Bentley is listed as a co-author on the following presentations:

Julliard L, Crimmins CR, Hauser MF, Bentley MD, Haas JA, Lerman LO, Romero JC, Husmann DA (2003) Correlation entre volume des cavites intra renales et modifications hemodynamiques et fonctionnelles renales au cours d l'obstruction ureterale. Resume # 177, Societe de Nephrologie & Societe Francaise de Dialyse, 5eme Reunion Commune a Nancy du 30 septembre au 3 octobre

Julliard L, Crimmins CR, Hauser MF, Bentley MD, Haas JA, Lerman LO, Romero JC, Husmann DA (2003) Mesures par electron beam computed tomography des modifications hemodynamiques et fonctionnelles renales au cours de l'obstruction ureterale. Resume # A176, Societe de Nephrologie & Societe Francaise de Dialyse, 5eme Reunion Commune a Nancy du 30 septembre au 3 octobre.

Julliard LC, Crimmins CR, Bentley MD, Hauser MF, Haas JA, Lerman LO, Romero JC, Husmann DA (2003) Renal hemodynamics and function during chronic and partial unilateral obstruction. SU-PO369, American Society of Nephrology, 36th Annual Meeting & Scientific Exposition, ASN Renal Week, San Diego, November 2003.

Julliard LC, Crimmins CR, Bentley MD, Hauser MF, Haas JA, Lerman LO, Romero JC, Husmann DA. Correlation of intra-renal volume with renal hemodynamics and function during

ureteral obstruction. SU-PO 370, American Society of Nephrology, 36th Annual Meeting & Scientific Exposition, ASN Renal Week, San Diego, November 2003.

Dr. Alison Mahoney completed the two-month International Course in Herbarium Techniques at the Kew Royal Botanic Gardens near London, England. Partial funding was provided by an MSU Faculty Improvement Grant.

Dr. Brock McMillan and students working in his lab (3 graduate and 1 undergraduate) presented the following papers at international conferences this past summer:

McMillan, B.R. and P.K. Whiting. 2003. Patterns of depredation by the gray wolf (*Canis lupus*) in northern Minnesota: a 14-year study. Annual Meeting of the American Society of Mammalogists, Lubbock, TX

Martin, D.J., B.R. McMillan, J.D. Erb, and T.A. Gorman. 2003. Development of an aerial snow-track survey for indexing populations of river otter (*Lontra canadensis*). Annual Meeting of the American Society of Mammalogists, Lubbock, TX

Gorman, T.A., B.R. McMillan, J.D. Erb, and D.J. Martin. 2003. Home ranges of river otters in southeastern Minnesota: seasonal patterns and characteristics. Annual Meeting of the American Society of Mammalogists, Lubbock, TX

Perlik, M.K., B.R. McMillan, M. LaRue, and J.D. Krenz. 2003. Food habits of the hoary bat (*Lasiurus cinereus*) from southwestern Minnesota. Annual Meeting of the American Society of Mammalogists, Lubbock, TX

Gorman, T.A., J.D. Erb, B. R. McMillan, and D.J. Martin. 2003. Seasonal home range shifts of river otter in southeastern Minnesota. Annual Conservation Biology Conference, Duluth, MN

Martin, D.J., J.D. Erb, B. R. McMillan, and T.A. Gorman. 2003. Aerial snow-track surveys for indexing populations of river otter (*Lontra canadensis*): testing for observer bias. Annual Conservation Biology Conference, Duluth, MN

Perlik, M.K., B. R. McMillan, G.D. Johnson, and J.D. Krenz. 2003. Species composition of bat mortalities caused by wind-energy turbines at Buffalo Ridge, Minnesota. Annual Conservation Biology Conference, Duluth, MN

CHEMISTRY AND GEOLOGY

Dr. Jeffrey R. Pribyl attended the Laboratory Safety Workshop at Northeastern University in Boston, MA, August 4-8. Support for this attendance was provided by a Faculty Improvement Grant.

Dr. Pribyl was appointed to serve on the Science Standards Committee for the state of Minnesota. He serves on the 9-12 science committee responsible for drafting standards that will be submitted to the state legislature for approval.

Dr. Dean Moosavi, will be working with NASA Ames on their Astroventures project. Astroventures is a series of web based instructional modules for earth and space science which utilize scientist "experts" to help explain science concepts to students in interactive activities. His role will be to help in designing the content of some of the modules, beta testing modules, and serving as an "expert" with streaming audio for some modules.

Dr. Moosavi is also working to support Mike Wagner from the Nicollet County Highway Department in the development of a roadside rest area off of Judson Bottom Road, which ultimately will provide a teaching resource on southern Minnesota Geology at a scenic waterfall which the county is working to acquire. Funding for the project has been approved and the project is entering the engineering design phase.

COMPUTER AND INFORMATION SCIENCES

Professor Steve Case received two grants from SpeechGear to support student-faculty research during the summer and fall terms. A \$21K grant was received for the summer and an additional \$17.7K was received for the fall. The SpeechGear grant involves applied research relating to the use of image processing and language translation within mobile and wireless environments.

Steve Case received a grant from the Computer Research Association's CREW initiative. CREW is the Computer Research for Undergraduate Women initiative. The grant provides stipends for two undergraduate students, Phuong Anh Loi and Merina Kansakar, who will spend this academic year developing a Bluetooth simulator to support undergraduate research and education.

Steve Case received a grant from Midwest Wireless for \$7000 to support undergraduate and graduate student research during the past summer. The students were involved in the development of a prototype system to perform real-time monitoring and diagnostics of two-way SMS services.

Steve Case authored a paper titled "An Indoor Positioning System using Bluetooth Ad Hoc Networks" that was accepted for publication and presentation at the ISA's 2003 Emerging Technologies Conference to be held in October.

INTERIOR DESIGN AND CONSTRUCTION MANAGEMENT

Katie Beam, an Interior Design Student, did an individual study with Prof. Shari Kagermeier for an ASID (American Society of Interior Designers) contest. Ms. Beam won "Honorable Mention" in the ACCESS Design Challenge for her entry, which was entitled, A ROOM FOR HARRY POTTER.

Dr. Carl Egan published some research, The Achievements of Science and Technology in the 20th Century, Stylistic, 2003, and State Technical University - MADI Brochure, Stylistic, 2003.

Dr. Egan had three presentations this summer: "Funding and the Management of Highway Construction in the United States and the State of Minnesota", Volgograd State Architectural & Civil Engineering Academy, Volgograd, Russia, June 10, 2003. "Funding and the Management of Highway Construction in the United States and the State of Minnesota", Krasnoyarsk, Russia, June 3, 2003. "Design-Build as a Construction Project Delivery Method for Road Building", International Conference at Siberian State Automobile and Highway Academy, Omsk, Russia, May 21, 2003.

MATHEMATICS AND STATISTICS

This summer, Dr. Namyong Lee visited MBI (Mathematical Bioscience Institute) at Ohio State University for a month for both research and curriculum development. During his stay, he also participated in a summer workshop "Neuronal Rhythms" and presented a talk entitled "Propagation of signals along non-uniform axon". The visiting program was supported by NSF and MBI. Also, a research paper "Uniform Matrix Representation of Degree Reduction of Bezier Curves" was accepted at the Journal of Computer Aided Geometric Design with very positive editorial comments.

The Department of Mathematics and Statistics hosted a Visiting Professor, Luigi Beghi, from the Department of Pure and Applied Mathematics of the University of Padua, Italy. Professor Beghi has been conducting cooperative research in the field of the mathematical modeling of visual perception with Dr. Pavel Kitsul (July 2003).

Dr. Pavel Kitsul visited the Russian Academy of Sciences in Moscow and participated in research seminars in the area of Stochastic Dynamic Systems. His affiliation with the Russian Academy of Sciences at the rank of Senior Research Scholar was extended for the next two year period (August 2003).

MECHANICAL AND CIVIL ENGINEERING

Dr. Karen Chou, Dr. Deborah Nykanen, and Dr. James Wilde participated in a week long teaching workshop during the summer, the ExCEED (Excellence in Civil Engineering Education) Teaching Workshop, sponsored by the American Society of Civil Engineers.

All five civil engineering graduates passed the Fundamental of Engineering exam they took in April 2003.

The civil engineering student steel bridge team was invited by the MSU Foundation to present their steel bridge design and to demonstrate the construction of the bridge during the Foundation's retreat in May.

PHYSICS AND ASTRONOMY

Ying-Xing Lin, a senior physics major, has been accepted into a 10-week summer REU (Research Experience for Undergraduates) program at the Indiana University Cyclotron Facility in Bloomington, Indiana. She will receive a stipend of \$3000, as well as room and board and travel expenses, from the program during the course of her stay. She will be working with a team of researchers on the proton ion source for the accelerator facility. Approximately 12 of 60 applicants are accepted into this program each year.

Dr. Louis Schwartzkopf is co-author of an article, "Irreversibility Fields of Bi-2223 at 30-77K", which was recently published in IEEE Transactions on Applied Superconductivity. Dr. Schwartzkopf worked for two weeks this summer as a Senior Visiting Scientist at the Applied Superconductivity Center at the University of Wisconsin - Madison.