

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
Good News for January 2002

BIOLOGICAL SCIENCES

Cheruvellil, K. S., P. A. Soranno, and *J. D. Madsen*. 2001. Epiphytic macroinvertebrates along a gradient of Eurasian watermilfoil cover. *Journal of Aquatic Plant Management*, 39, in press.

Owens, C. S., *J. D. Madsen*, R. M. Smart, and R. M. Stewart. 2001. Dispersal of native and nonnative aquatic plant species in the San Marcos River, Texas. *Journal of Aquatic Plant Management*, 39, In press.

Invited Seminar Speaker: *Madsen, J.D.* Biology and Ecology of an Invasive Nonnative Aquatic Plant: Eurasian watermilfoil (*Myriophyllum spicatum* L.). Fisheries and Wildlife Departmental Seminar, University of Minnesota, St. Paul. 29 November 2001.

Krenz, John D. 2001. Evolution of female mate-choice: Field experiments using genetic markers in the gray treefrog. A research grant awarded by the National Science Foundation (grant transfer from University of Missouri) (\$49,500; 1 yr).

McMillan, Brock R., and Krenz, John D.,. 2001. River otters in the Mississippi River: abundance and ecology of a native population. A research grant awarded by the Minnesota Department of Natural Resources Research Grant (\$75,000; 3 yr).

Krenz, John D., McMillan, Brock R., and Hardwick, Elaine O.,. 2001. Abundance and diversity of macroinvertebrates in a prairie marsh. A research grant awarded by the Minnesota Waterfowl Association (\$8,062; 1 yr).

Krenz, John D., McMillan, Brock R., and Hardwick, Elaine O.,. 2001. Diversity and abundance of macroinvertebrates in Swan Lake, Nicollet County, Minnesota. A research grant awarded by the Minnesota Waterfowl Association (\$16,119; 2 yrs).

McMillan, Brock R., and Krenz, John D.,. 2001. Bats of southwestern Minnesota: species composition and mortality associated with wind-energy turbines. A research grant awarded by Western Ecosystems Technology, Inc. (\$10,000, 2 yrs).

In January 2002, *Marilyn Hart* submitted the following manuscript to the journal, Circulation Research. Title: Cardiac Actin Capping Protein: An essential element in protein kinase signaling to the myofilament. Authors: W. Glen Pyle, Marilyn C. Hart, John A. Cooper, Pieter P. de Tombe, and R. John Solaro.

The following faculty in Biological Sciences received funding from the Faculty Research Grant Program: *Dr. Elaine Hardwick* for her project entitled "Spatial and temporal variations in populations of denitrifying bacteria in natural and constructed wetlands" (partial funding); *Dr. Christopher Ruhland* for his project entitled "The effects of solar ultraviolet-B radiation on non-enzymatic antioxidants in *Phaseolus vulgaris* and

sorghum”; and *Dr. Dorothy Wrigley* for her project entitled “Nisin activity during *Bacillus* endospore germination”.

The Department of Biological Sciences and the Department of Family and Consumer Science hosted the Future Farmers of America Food Science Career Development Event on Friday, January 11. Ten teams of four high school students participated in individual and team events. The winning team was from Jackson County Central and they will represent the state at the national competition in Louisville, KY. This event was organized by Gregg Marg, Joye Bond, Elaine Hardwick, Dorothy Wrigley, Palani Whiting and Nicole Sullivan and was sponsored by AURI and Hormel.

COMPUTER AND INFORMATION SCIENCES

Dr. Mahbubur Syed informs the following good news: A paper entitled “Secure Online Learning Based on Mobile Agents”, co-authored by Xun Yi, Yiming Ye, Chee Kheong and Mahbubur Syed has been accepted for presentation and inclusion in the proceedings of the International Conference on Simulation and Multimedia in Engineering Education sponsored by the Society for Modeling and Simulation as a part of the 2002 Western Multiconference (WMC02), San Antonio, Texas during January 27-31, 2002. The co-authors are from Singapore. *Dr. Syed* has also been invited to chair a session of the conference.

Dr. Mike Wells received one of the Teaching Scholar Fellowships for Summer 2002, to develop the curriculum of the Application Programming course.

ELECTRICAL AND COMPUTER ENGINEERING AND TECHNOLOGY

During winter break 20 CSET students majoring in Electronic Engineering Technology, Computer Engineering Technology, Electrical Engineering, Computer Engineering and Computer Science successfully completed the intense 2-week course entitled "Basic Wireless Telephony" offered by the Institute for Wireless Education at Technology Plus in Mankato. *Dr. Paul Lindfors* was one of the instructors.

The EXSEL Lectureship was held November 6, 2001, with a large turn-out of staff and students. Toni Grabinger, an MSU graduate, was the speaker; Ms. Grabinger also visited advanced engineering classes.

Dr. George O’Clock gave a Physics Seminar in November on “Biologically Closed Electric Circuits in Healing, Regulation and Oncology: Clinical Applications and Results.”

Dr. George D. O’Clock and Tobias Leonard, “In Vitro Response of Retino blastoma, Lymphoma and Non-Malignant Cells to Direct Current: Therapeutic Implications”, Deutsche Zeitschrift Fur Onkologie (German Journal of Oncology), Vol. 33. pp 85-90, 2001.

Dr. Muhammad Khaliq has submitted a grant proposal to NSF for an RUI grant under the Electronics, Photonics, and Devices Technologies (EPDT) Program of the Division of

Electrical and Communications Systems (ECS). The topic of the proposal is "Modeling and Characterization of Ultrathin Gate Dielectric for Nanoscaled CMOS Technology." Additionally, congratulations are in order for Dr. Khaliq for becoming a senior member in the IEEE.

Dr. Lindsay Hess is moving forward on a robot project for elementary schools. Some ECET students have also started making presentations to area schools on magnets and motors.

Dr. Bill Hudson attended an NSF Workshop on power electronics at Arizona State University from January 3-6, 2002. In addition, Dr. Hudson has received a donation for the ECET Department from the Cunningham Fire Department, Denver, Colorado, of five 233 PCs to be used for networking.

MATHEMATICS AND STATISTICS

This January, *Dr. Dan Singer* attended the joint meetings of the American Mathematical Society/Mathematical Association of America, and participated in the 2-day mini-course "A Sampler of Applications of Graph Theory." Of particular interest was how graph theory is used to model phase transitions, a topic in statistical physics. Dr. Singer expects to incorporate some of this material in the graduate Graph Theory course he will be teaching in Fall 2002.

Dr. Mary Ann Lee, and Dr. Kil S. Lee, Professors of Mathematics, *Dr. John Frey*, Dean of the College of Science, Engineering and Technology, and Mrs. Judi Brandon, Chairperson of the District 77 Mathematics Articulation Committee, were awarded an ExxonMobil Planning Grant of \$3,000 on December 14. There were 15 such awards made in the U. S.

PHYSICS AND ASTRONOMY

Professor *Paul Eskridge*, Department of Physics and Astronomy, is the lead author of an article, "Analysis of a proper-motion-selected sample of stars in the Ursa Minor dwarf spheroidal galaxy," which was published in the December 2001 issue of The Astronomical Journal.

CENTER FOR RAPID PROTOTYPING AND PRODUCTION

Phillips Plastics of Hudson Wisconsin is donating a 3-D Systems SinterStation 2000 rapid prototyping machine to the Minnesota Center for Rapid Prototyping and Production. The SinterStation utilizes selective laser sintering to make 3-D models of CAD drawings. It is a production scale device that will serve as the centerpiece for the Center where industry, faculty and students will work on collaborative projects. The machine will also be used in the Manufacturing Engineering Technology Program. The principle faculty and staff involved in the acquisition of the machine are *Dr. Markowski, Kevin Schull and Greg Bednar*.