COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
GOOD NEWS ITEMS
SEPTEMBER 2002

AUTOMOTIVE & MANUFACTURING ENGINEERING TECHNOLOGY

At the spring meeting on April 24 in Huntington, West Virginia, *Dr. Harry Petersen*, AMET Department, was re-elected as Secretary of the Economics Committee (Committee 16) of the American Railway Engineering and Maintence-of-Way Association. AREMA is an international association of railway transportation engineers organized to study and develop standards and guidelines for the industry.

Dr. Paul Sullivan, faculty advisor for the project, reports that the AMET SAE Formula car took 14th place at the Formula Car competition in May in Detroit at the Pontiac Silverdome. There were about 140 teams registered for the event. Fifteen students worked on building and testing the car. Ten students went to the race in Michigan. The team spent about $12,000 from the SAE account to build and race the car.

BIOLOGICAL SCIENCES

Dr. Brock McMillan presented the following paper at the 82nd International Meeting of the American Society of Mammalogists: McMillan, B.R. and *J.D. Krenz*. Bat Mortality caused by wind-energy development in southwestern Minnesota: temporal patterns and population effects. The 82nd Annual Meeting of the American Society of Mammalogists, McNeese State University, Lake Charles, LA.

Dr. McMillan was appointed by the President of the American Society of Mammalogists (3,600 members) as the Chairman of the Education and Graduate Students Committee for the Society.

Mahoney, A.M., V.W. Kong, and R.R. Kowal. 2002. Chromosome counts for Packera paupercula var. appalachiana (Asteraceae: Senecioneae). SIDA, Contributions to Botany, vol. 20.

Mahoney, Alison M. and Robert R. Kowal, "Races of the polymorphic Packera paupercula complex (Asteraceae:Senecioneae) in the upper Midwest and southeastern U.S." at "Botany 2002," 7 August, 2002 in Madison, WI.

Dr. Dorothy Wrigley presented a research poster "Nisin Enhancement of Bacillus cereus germination" at the Annual Meeting of the Society for Industrial Microbiology held in Philadelphia, PA on August 11-15.

Mr. Ben Jilek (mentor: *Dr. Marilyn Hart*) was awarded an Undergraduate Research and Creative Activities Support Summer 2002 Fellowship, Minnesota State University Undergraduate Research Conference, for his proposal: **Purification of Actin Capping Protein Antibodies.**

Dr. Marilyn Hart published the following paper: Pyle WG, Hart MC, Cooper JA, Sumandea MP, de Tombe PP, Solaro RJ. Actin capping protein: an essential element in protein kinase signaling to the myofilaments. Circ Res. 2002 Jun 28; 90(12):1299-306.

Ruhland, C.T., Xiong, F.S., Clark W.D. and T.A. Day. The effects of solar UV-B on growth and phenylpropanoids of Deschampsia antarctica. Annual Meeting of the Ecological Society of America, Tucson, AZ. August, 2002.

Day, T.A., *Ruhland C.T.* and F.S. Xiong. Four years of warming enhances biomass and seed production, and litter accumulation in Antarctic Tundra. Annual Meeting of the Ecological Society of America, Tucson, AZ. August, 2002.

Cheruvelil, K.S., P.A. Soranno, *J.D. Madsen*, and M.J. Roberson. 2002. PLant architecture and epiphytic macroinvertebrate communities: The role of an exotic dissected macrophyte. Journal of the North American Benthological Society. 21:261-277.

Parsons, J.K., K.S. Hamel, *J.D. Madsen*, and K.D. Getsinger. 2001. Th euse of 2,4-D for selective control of an early infestation of Eurasian watermilfoil in Loon Lake, Washington. Journal of Aquatic Plant Management 39:117-125.

Getsinger, K.D., *J.D. Madsen*, T. Koschnik, and M.D. Netherland. Whole lake fluridone treatments for selective control of Eurasian watermilfoil: I. Application strategy and herbicide residue. Lake and Reservoir Management, In press.

Madsen, J.D., K.D. Getsinger, R.M. Stewart, and C.S. Owens. Whole lake fluridone treatments for selective control of Eurasian watermilfoil. II. Impacts on submersed plant communities. Lake and Reservoir Management, In press.

Smith, D.H., *J.D. Madsen*, K.L. Dickson, and T.L. Beitinger. Nutrient effects on autofragmentation of *Myriophyllum spicatum*. Aquatic Botany, In press.
Other Publications

Morgan L. Case and *John D. Madsen*, Quantification of the Aquatic Vegetation of Heron Lake, Jackson County, Minnesota, Aquatic Plant Management Society 42nd Annual Meeting, 21-24 July 2002, Keystone, CO.

John D. Madsen, James W. Sutherland, Jay A. Bloomfield, Lawrence W. Eichler, Charles W. Boylen, Neil. H. Ringler, David L. Smith, and Clifford A. Siegfried. Littoral Zone Manipulation and Native Plant Restoration for Fish Habitat in Onondaga Lake, New York. American Fisheries Society 18-22 Augsut 2002, Baltimore, MD.

Thomas E. Woolf and *John D. Madsen*, Seasonal Biomass and Carbohydrate Allocation in Southern Minnesota Curlyleaf Pondweed Populations, Aquatic Plant Management Society 42nd Annual Meeting, 21-24 July 2002, Keystone, CO.

Madsen, J.D. PI. Onondaga Lake Wastebed Stabilization and Habitat Enhancement Strategic Plan: Littoral and Wetland Component. Onondaga Lake Cleanup Corp, Syracuse, NY. $18,000.

CHEMISTRY AND GEOLOGY

Dr. Jeffrey Pribyl, Professor in Chemistry and Geology presented a paper entitled "Green Chemistry Demonstrations," at the 17th Biennial Conference on Chemical Education at Western Washington University, July, 2002

Professor Jeffrey Pribyl completed his third term as a committee member on the First Term General Chemistry Exam for the American Chemical Society. The exam will be published later this year.

Dr. Brian Groh, of the Department of Chemistry and Geology, and undergraduates Luis Yanez and Justin Stewart presented a paper entitled "A Simple and Effective Method for Removal of Trioganotin Halides from Reaction Mixtures" at the Great Lakes Regional Meeting of the American Chemical Society in Minneapolis, MN on June 2, 2002.

COMPUTER AND INFORMATION SCIENCES

Governor Jesse Ventura has appointed *Dr. Colin Wightman* to the Board of Directors for Minnesota Technology, Inc., the state's high-tech economic development organization.

Word was received last Thursday that a paper entitled "How Sample Completeness Affects Gamma-Ray Burst Classification" has been accepted for publication in *Astrophysics Journal.* The list of co-authors on this journal paper are: Jon Hakkila, Timothy W. Giblin, *Richard J. Roiger, David J. Haglin*, William S. Paciesas, and Charles A. Meegan. The bibliographic reference will be:

MATHEMATICS AND STATISTICS

Mezbahur Rahman and Larry M. Pearson: "Moments for Order Statistics in Scale and Shift Parameter Exponential Distribution". Forthcoming, Journal of Statistical Research, 2002.

Dr. Mary Ann Lee and Dr. Kil S. Lee conducted a Mathematics Summer Institute successfully on "Numbers and Operations" for 58 elementary school teachers from Southern Minnesota. The summer institute was supported by a Eisenhower grant of $62,976.00.

Dr. Dong Gweon Chung, a visiting professor from Inchon National University of Education gave two presentations on Lesson Study to the Mathematics Summer Institute participants at Minnesota State University, Mankato on June 25, 2002. Research in Lesson Study has been gaining attention in the United States in recent years.

Dr. Namyong Lee participated in some conferences during the summer. He presented a research talk "Seismic Inverse Problem in Anisotropic Inhomogeneous Media" at 6th PIMS Industrial Math Workshop at Univ. of British Columbia, which will be published in PIMS Proceedings. Dr. Lee also participated at SCA (Symbolic Computational Algebra) 2002 at the University of Western Ontario. The travel and workshop funds were supported by Pacific Institute of Mathematical Sciences and by the National Science Foundation, respectively, for each conference.

MECHANICAL AND CIVIL ENGINEERING

The American Society of Civil Engineers (ASCE) Student Club was chartered by ASCE National Headquarter in August 2002.

Civil Engineering students Jeff Bartz and Luther Kromschroeder were each awarded a $2000 Scholarship from The City Engineers Association of Minnesota in the summer.

PHYSICS AND ASTRONOMY

Faculty from the Department of Physics and Astronomy and from Mankato West High School performed a Physics Show featuring a number of popular and informative physics demonstrations for sixty students in the Blue Earth County Library Summer Reading Program on campus on June 13.

Prof. Louis Schwartzkopf was a Senior Visiting Scientist at the Applied Superconductivity Center at the University of Wisconsin -- Madison. He was a co-presenter of a poster presentation on the electromagnetic characterization of

BSCCO-2223 composites at the Applied Superconductivity Conference in Houston, Texas, in August.

New Endowment Established in Physics--Mr. Clinton Crosby of Apple Valley, MN made a gift of $25,000 to the Department of Physics and Astronomy to establish the Clinton Crosby Undergraduate Assistantship Endowment. Exceptional students are offered assistantships to assist the department with laboratory supervision and assistance, but tightened budgets had threatened their ability to continue the program. Mr. Crosby, seeing the valuable experience that undergrads gain in this role, stepped up to establish the endowment. Clinton graduated from MSU with a BS in Physics in 1966 and a MS in Physics in 1968.

Most recently, Mr. Crosby was the guest lecturer at the College of Science, Engineering and Technology's spring Excellence in Science and Engineering Lectureship (ExSEL) series.

The MSU-Mankato solar car team participated in parades in St. Peter, North Mankato, and Mankato during this past summer. The team also took the car for display at Xcel Energy in Minneapolis for a day.

van den Bergh, S., Abraham, R.G., Whyte, L.F., Merrifield, M.R., *Eskridge, P.B.*, Frogel, J.A., & Pogge, R.W., (2002), "The Visibility of Galactic Bars and Spiral Structure at High Redshift," The Astronomical Journal. 123, 2913.

Elmegreen, D.M., Elmegreen, B.G., Frogel, J.A., *Eskridge, P.B.*, Pogge, R.W., Gallagher, A., & Iams, J., (2002) "Arm Structure in Anemic Spiral Galaxies," The Astronomical Journal. 124, 777.

Both of these are part of a larger project to study the evolution of the structure of spiral galaxies (galaxies like our own Milky Way).

Dr. Youwen Xu has been studying magnetic materials in Ames Laboratory, Iowa State University during the past 13 months during her sabbatical leave. Dr. Xu has been working on the alloy design, processing and atomization of rare earth-iron-borides. An abstract about part of her research has been submitted and accepted by the 47th Annual Conference on Magnetism and Magnetic Materials, which will be held in November, 2002.

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

Last year the College of Science, Engineering and Technology at Minnesota State University, Mankato was awarded a substantial National Science Foundation Grant to fund scholarships for current and new transfer students in the junior/senior

years of academic study who are majoring in engineering, engineering technology, mathematics and computer science. For academic year 2002/2003, we have 49 scholarships available and 37 have been awarded to our students.