

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
~ GOOD NEWS ITEMS ~
September 2001

College News

The Northern Lights VII solar car was exhibited in the MnSCU booth August 31-Sept 3 in the Education Building at the Minnesota State Fair. The car represented the largest display from any MnSCU institution. Members of the solar car team, faculty and staff were available during this period to answer questions and give information to fair-goers. The opportunity to display our solar car gave the College of Science, Engineering and Technology as well as Minnesota State University, Mankato much welcomed visibility. Several television stations interviewed and ran segments including the solar car. Thank you to those people in the college who helped with this effort.

Faculty Presentations

Dr. Pavel I. Kitsul, Assistant Professor in Mathematics and Statistics, presented a brief course "Stochastic Processes with Application to Biology" for graduate students, Ph.D. students, postdocs, and professors of the University of Padua during his visit to Italy in May-June 2001. His visit was supported by the University of Padua and the Italian National Institute of Mathematics (section of Probability and Applications).

Namyong Lee, Mathematics and Statistics, participated in 5th PIMS (Pacific Institutes for Mathematical Science) Industrial Problem Workshop, June 18-22, 2001, at the University of Washington, Seattle. As a group we presented the research, Mathematical Modeling of InSb Czochralski Growth, which will shortly appear in the PIMS' Proceedings.

Kil S. Lee, Mathematics and Statistics, gave a graduate seminar on "Teaching Mathematical Problem Solving" at the Incheon National University of Education in Incheon, Korea on May 9, 2001.

Kil S. Lee and Mary Ann Lee, Mathematics and Statistics, participated in the American Association of State Colleges and University's (AASCU) Improving the Mathematics Preparation of Elementary Teachers Seminar in San Diego, California from June 3 - 8, 2001. The MSU, Mankato Team included Marla Mastin, Curriculum and Instruction, Rene Hersrud, Academic Affairs, and John Frey, College of Science, Engineering and Technology, Team Leader.

Presentations by G. O'Clock at the 7th International Symposium for Biologically Closed Electric Circuits in Biomedicine in Helsingor, Denmark, July 2001. Presentation #1 Bioelectricity Presentation #2 The Medical Implications of Biologically Closed Electric Circuits.

Madsen, J.D., (Biological Sciences) R.M. Stewart, K.D. Getsinger, C.S. Owens, and H.A. Crosson. 2001. Quantification of aquatic plants in two Vermont lakes for evaluation of

whole-lake treatments with fluridone. Aquatic Plant Management Society Annual Meeting, 15-18 July 2001, Minneapolis, MN.

Faculty Publications

Dr. Louis Schwartzkopf, Physics and Astronomy, is co-author of an article, "Through-process study of factors controlling the critical current density of Ag-sheathed (Bi,Pb)₂Sr₂Ca₂Cu₃O_x tapes", which has been published in the journal *Superconductivity Science and Technology*. The article is based on work done by him and his collaborators at the Applied Superconductivity Center at the University of Wisconsin - Madison in their effort to improve the electromagnetic properties of wires and tapes made from high-temperature superconductors.

"Gour C Karmakar, Syed M Rahman, (CIS Dept) and Laurence S Dooley: Object based Image Ranking Using Neural Networks. Computational Science - ICCS 2001: In Proceedings of the 2001 International Conference on Computational Science - Part II, pp.281-290, May 28-30, 2001, Hilton, San Francisco and Towers, San Francisco, USA".

Dr. Mahbubur Rahman Syed (CIS Dept) co-edited the following proceedings with faculties from NDSU and SUNY IT Utica published by John Wiley & Sons, Inc. Mahbubur R Syed, Val Tareski: Advances in Educational Educational Technologies - Multimedia, WWW and Distance Education. Proceedings of ICIMADE '01: International Conference on Intelligent Multimedia and Distance Education, Fargo, USA. June 1-3, 2001. John Wiley & Sons, Inc. Copyright 2001. 225 pages. ISBN:0-471-20473-0.

Mahbubur R Syed, (CIS Dept) Orlando R Baiocchi: Intelligent Multimedia, Computing and Communications - Technologies of the Future. Proceedings of ICIMADE'01: International Conference on Intelligent Multimedia and Distance Education, Fargo, USA. June 1-3, 2001. John Wiley & Sons, Inc. 285 pages. ISBN:0-471-20435-8.

Dr. Choe (Biological Sciences) has had the paper "Systemic effects of oxidative enzymes in *Phaseolus vulgaris* leaves that have been wounded by the grasshopper *Melanoplus differentialis* Thomas or have had a foliar application of jasmonic acid" accept for publication in the International Journal of Plant Sciences. It is expected to be published in the January 2002 issue.

Paper by L. Hess, J. Caven, and J. Mandojana, (ECET Dept) "An Educational Program to Prepare Computer Application Workers for the 21st Century".

Paper by W. Hudson (ECET Dept) and Nolan Riley (Kansas State University), "Entrepreneurship and Engineering Education, The Trials and Tribulations".

Paper prepared from talk given by M. Khaliq, (ECET Dept) "Undergraduate Microelectronics Education and Research in Engineering and Technology Program at Minnesota State University, Mankato," IEEE/EDS University Government Industry Microelectronics (UGIM) Symposium, June 2001, Virginia Commonwealth University,

School of Engineering, Richmond, Virginia, and published in the Proceedings of Fourteenth Biennial UGIM.

Papers resulting from the presentations and accepted for publication in the German Journal of Oncology: G. O'Clock, (ECET Dept) "Evidence and Necessity for Biologically Closed Electric Circuits (BCEC) in Healing, Regulation and Oncology". G. O'Clock and T. Leonard (Biological Sciences Dept.), "In Vitro Response of Retinoblastoma, Lymphoma and Non-malignant Cells to Direct Current: Therapeutic Implications".

Book in progress by H. Huang (ECET Dept) on the "68HC12 Microcontroller" (500+ pages).

Madsen, J.D., (Biological Sciences) P.A Chambers, W.F. James, E.W. Koch, and D.F. Westlake. 2001. The interaction between water movement, sediment dynamics and submersed macrophytes. *Hydrobiologia* 444(1/3):71-84.

Madsen, J.D., H.A. Crosson, K.S. Hamel, M.A. Hilovsky, and C.H. Welling. 2001. Management of Eurasian watermilfoil in the United States using native insects: State regulatory and management issues. *Journal of Aquatic Plant Management* 38:121-124.

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

Dr. Mahbubur Rahman Syed coauthored the following paper with faculties from Monash University, Australia which was presented by G Karmaker at the international conference in San Francisco and is published in the conference proceedings.

Dr. Mahbubur Rahman Syed coauthored the following papers published in the ICIMADE01 conference proceedings with faculties from Singapore, Australia, USA and Bangladesh. He presented two of the papers in the international conference.

Xun Yi, Chee Kheong Siew, Mahbubur R Syed: Agent-mediated Online Learning - AMOL. *Advances in Educational Educational Technologies - Multimedia, WWW and Distance Education. Proceedings of ICIMADE'01: International Conference on Intelligent Multimedia and Distance Education, Fargo, USA. June 1-3, 2001. pp.26-33.*

Rezaul K. Begg, Jimmy J. Cai, Mahbubur R Syed: Prediction of Stance Phase Time During Gait from Ground Reaction Force-time Characteristics using Neural Networks. *Intelligent Multimedia, Computing and Communications - Technologies of the Future. Proceedings of ICIMADE'01: International Conference on Intelligent Multimedia and Distance Education, Fargo, USA. June 1-3, 2001. pp.202-207.*

Munir Mahmood, Mahbubur R Syed, Quamar Mehdi: Some Aspects of Descriptive Statistics via Multimedia. *Advances in Educational Educational Technologies. Proceedings of ICIMADE'01: International Conference on Intelligent Multimedia and Distance Education*, Fargo, USA. June 1-3, 2001. pp.211-217.

Grants Funded

Madsen, J.D. Seasonal Biomass and Carbohydrate Allocation in Minnesota Curlyleaf Pondweed Populations. Minnesota Department of Natural Resources, May to December 2001. \$28,000.

Madsen, J.D. Aquatic Vegetation Resources and Life History of Sago Pondweed. Minnesota Waterfowl Association, 1 July 2001 to 30 June 2003. \$11,502.

Madsen, J.D. Onondaga Lake Littoral Zone Restoration Projects: Littoral Zone and Wetland Vegetation Monitoring and Assessment. Onondaga Lake Cleanup Corp., Syracuse, NY. May 2001 to December 2002. \$42,000.

Grants Submitted

McMillan, B.R., B.L. Proctor, and J.D. Madsen. Development of a New and Integrated Ecology Curriculum at Minnesota State University, Mankato. National Science Foundation, CLLI Program, submitted 5 June 2001. \$169,266 requested.