

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
SEPTEMBER 2006
GOOD NEWS

BIOLOGICAL SCIENCES

Manuscripts accepted for publication: **R. E. Sorensen**, N. B. Rodrigues, G. Oliveira, A. J. Romanha and D. J. Minchella. Genetic filtering and optimal sampling of *Schistosoma mansoni* populations. Parasitology, Forthcoming article. Published online by Cambridge University Press 04 Jul 2006.

B. Rodrigues, M. R. Silva, M. M. Pucci, D. J. Minchella, **R. Sorensen**, P. T. Loverde, A. J. Romanha, and G. Oliveira. Microsatellite enriched genomic libraries as a source of polymorphic loci for *Schistosoma mansoni*. Molecular Ecology Notes, Forthcoming article.

Dr. Robert Sorensen, Associate Professor, attended the 58th meeting of the Annual Midwest Conference of Parasitologist (AMCOP) on June 8–10, 2006 with current M.S. Biology student, Kristin Herrmann, and former M.S. Biology student, Sarah Suskovic. Kristin presented two talks describing her research on waterfowl mortality associated with trematode parasites on the Upper Mississippi River at this meeting. Kristin received the G.R. LaRue Award and \$300 for having the outstanding platform presentation for her talk entitled “Geographical distribution of *Cyathocotyle bushiensis* and *Sphaeridiotrema globulus* in Pool 7 of the Upper Mississippi River National Wildlife Refuge”. Kristin was also chosen as the AMCOP nominee for the American Society of Parasitologists student travel grant award for 2007. This travel grant will pay for Kristin to present her research at the 2007 joint meeting of the American Society of Parasitologists and the Mexican Society of Parasitologists, which will be held next summer in Mexico.

Krenz, John D. August, 2006. Best Practices for Managing Roadside Vegetation for Wildlife. Minnesota Department of Transportation. \$52,500.

Krenz, John D. Population genetics of river otters. Seminar presented at Centro Regionale Universidad de Bariloche. Bariloche, Argentina. August, 2006.

The following papers were presented at the Annual Meeting of the Ecological Society of America in Memphis TN (August 2006; MSU authors in bold): **Krna** MA, Day TA and CT **Ruhland**. Effects of neighboring plants on growth and reproduction of *Deschampsia antarctica* in Antarctic tundra.

Ruhland CT, Strauss SL, **Krna** MA and TA Day. The effects of supplemental warming and precipitation on growth and reproduction of Antarctic vascular plants.

Strauss SL, **Ruhland** CT, **Secott** TE and TA Day. Soil development and nutrient cycling during early succession of glacial forelands along the Antarctic Peninsula.

Day TA, **Ruhland** CT, Bryant DM, **Krna** MA and SL Strauss. Effects of warming and supplemental precipitation on CO₂ flux, nutrient cycling and primary production in Antarctic tundra

Bryant DM, Strauss S, Thomey M, **Ruhland** CT and TA Day. C:N:P stoichiometry of Antarctic tundra micocosms under increased temperature, precipitation and soil glucose addition

Dr. Michael Bentley, Professor, is a co-author of the following paper: Nordsletten DA, Blackett S, Bentley MD, Ritman EL, Smith NP. Structural morphology of renal vasculature. *Am J Physiol Heart Circ Physiol*, 2006, 291:H296-H309.

CHEMISTRY AND GEOLOGY

Dr. Mary Hadley, Assistant Professor, is a co-author on an article published in the American Association of Cereal Chemist's journal *Cereal Chemistry*. The article entitled, "Lipid Changes During Storage of Milled Hulled Barley Products", can be found in *Cereal Chem.* 83(4):424-427.

Publication: **Quirk Dorr, Danae**; Murphy, Kristopher; Tretyakova, Natalia. Synthesis of DNA oligodeoxynucleotides containing structurally defined N6-(2'-hydroxy-3', 4'-buten-1'-yl)-adenine adducts of 3, 4-epoxy-1-butene. *Chemico-Biological Interactions*, In Press 2006

Presentation: 97th AACR Annual Meeting, *April 1-5, 2006, Washington, DC* Rachel Loeber, Danae Quirk Dorr, Melissa Goggin, Anthony E. Pegg, Natalia Tretyakova. Cross-linking of the human DNA repair protein O⁶-alkylguanine DNA alkyltransferase to DNA in the presence of 1,2,3,4-diepoxybutane and antitumor nitrogen mustards

Jeff Pribyl, Professor, participated in the American Chemical Society K-8 Summer Conference, July 14-16. This conference brought together chemists and science education specialists from across the US to discuss issues related to pre-service elementary and middle school education majors.

The American Chemical Society Student Affiliates (Chemistry Club) at MSU has been selected to receive a Green Chemistry Chapter Award for its activities promoting Green Chemistry during the 2005-06 academic year. Green Chemistry chapters are selected by the Society Committee on Education and the Green Chemistry Institute, based on review of the annual reports of activities. MSU is one of seventeen chapters nationwide receiving the award. Dr. Trent Vorlicek is the faculty advisor for the Chemistry Club.

Dr. Steve Losh, Assistant Professor, with co-author Matt Haney, have had a paper "Episodic fluid flow in an aseismic overpressured growth fault, northern Gulf of Mexico" accepted for publication in the *American Geophysical Union Monograph* titled Radiated Energy and the Physics of Earthquake Faulting. This paper is an outgrowth of a poster that Dr. Losh presented with Matt Haney (Sandia National Lab) and Jason Phipps-Morgan (Cornell University) at an American Geophysical Union Chapman conference on the same topic.

In June, Dr. John Thoemke, Associate Professor, attended the Gordon Research Conference "Environmental Sciences: Water" held at the Holderness School near Plymouth, NH. He presented his poster, co-authored with 2005 MSU graduate Alex Blom and Prof. Kris McNeill of the University of Minnesota, entitled "NOM-sensitized singlet oxygen production: Correlations with NOM excitation-emission spectral features."

COMPUTER AND INFORMATION SCIENCE

A grant award to Drs. Patrick Tebbe, Rebecca Bates and David Haglin, \$140,000, "MRI: Acquisition of a Linux Cluster to Fulfill High Performance Computing Needs Within Engineering and Science", National Science Foundation, CTS-0619641, from August 15, 2006 to July 31, 2009

K.R. Mayes, M.J. Elliot, A.M. Manning, **D. Haglin** and J.R. Gurd, "A distributed search infrastructure for statistical disclosure on a grid," in *Second International Conference on e-Social Science*, Manchester, UK, 28-30 June, 2006.

MSU has started Project Maverick, a collaborative effort between the Computer and Information Sciences Department, Maverick Software Consulting, and Thomson Corporation. Project Maverick is designed to provide MSU students with real world software development and software testing projects from Thomson Corporation under the guidance of Project Maverick Director, Dr. Michael Wells, and Maverick Software Consulting's Testing Manager. Maverick Software Consulting has signed a five year contract with MSU and committed in excess of \$1.2 million dollars to Project Maverick.

INTERIOR DESIGN AND CONSTRUCTION MANAGEMENT

Farid Sabongi, Assistant Professor, was invited to be a guest in the WCCO booth at the State Fair radio show "Parade of Homes" on Saturday, August 26, from 11 am to noon. Two other guests along with Mr. Sabongi have been asked to talk about careers in the housing industry for professionals and skilled craftsmen. He was asked to represent Minnesota State University Mankato as a professor in the construction management major. The other guests are from a large homebuilding company and one of the metro-area school districts.

The show will be an open discussion that is supposed to cover topics like the current availability of jobs in the industry, construction forecasts, and educational requirements for job seekers. While the discussion won't be limited to any particular topics, the conversation will begin with these issues: present job market, anticipated changes in the job market in five years, interaction between hiring companies and the MSU program, advice to high school students who are considering a career in construction management, and the opportunities for adults who are older than traditional college students to go to college so they can make a career change.

MATHEMATICS AND STATISTICS

Dr. Gary Rockswold, Professor, has co-authored four textbooks: *A Graphical Approach to College Algebra*, *College Algebra and Trigonometry*, *Precalculus*, and *Precalculus with Limits*. These texts are in their fourth editions and are published by Addison Wesley Publishing Company in Boston, Massachusetts.

Dr. Rockswold was invited to give the keynote address at the GPC Mathematics Conference in Atlanta, Georgia on February 9, 2007.

Dr. Namyong Lee, Associate Professor, gave a short tutorial on "Enzyme Kinetics and Cell Cycle" at MAA's Computational and Mathematical Biology workshop, which was held in Virginia June, 2006. He also presented "Patterns of multiallelic polymorphism maintained by migration and selection" at Ohio State University this summer. Their research paper, "Manning Manufacturing Cells with Multi-functional Workers in Group Technology", with Kim et al, is accepted for publication in Review of Business Research.

MECHANICAL AND CIVIL ENGINEERING

Dr. Aaron Budge, Assistant Professor, was invited to present a paper and act as a Session Moderator at the 40th Engineering Geology and Geotechnical Engineering Symposium, held in May in Logan, UT. The title of the paper presented was "Analysis of Large-span Culverts Subjected to Extreme Live Loads." Dr. Budge also presented a paper entitled "Geotechnical Opportunities for Computer-aided Education" at the Joint International Conference on Computing and Decision Making in Civil and Building Engineering, co-sponsored by the American Society of Civil Engineers and held in Montreal, Canada in June.

Dr. Budge was selected to participate 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 during July.

PHYSICS AND ASTRONOMY

Dr. Hai-Sheng Wu, Professor, has been invited as a seminar speaker at the 21st Modern Engineering & Technology Seminar (METS) to be held during September 22-27, 2006, in Taipei, Taiwan. The seminar is sponsored by the Chinese Institute of Engineers, USA (CIE/USA). Dr. Wu's speech will be on the topic of Photovoltaic in the session of "Energy Technology and Sustainable Development".

CIE/USA is a professional non-profit and non-political organization founded in 1917 in New York by a group of Chinese engineers who were educated in the US and worked at various US industries. Through decades of growth, CIE/USA now has close to 10,000 members in six chapters throughout USA. First established in 1966 jointly by CIE/USA and CIE/ROC, METS is a once every two-year event that brings engineers and scientists in the US and Taiwan together for a weeklong seminar in Taipei.

Dr. Paul Eskridge, Associate Professor, attended the 208th meeting of the American Astronomical Society, held in Calgary, Alberta on 4--8 June 2006. He presented the following paper: Eskridge, P.B., (2006) "Recent Star and Cluster Formation in the Nearby Magellanic Spiral NGC 1311," Bulletin of the American Astronomical Society. 38, 93.

Dr. Louis Schwartzkopf, Professor, presented the results of his research, "Minnesota's Energy Needs, in Natural Units of Renewable Energy," at the American Association of Physics Teachers summer meeting in Syracuse, NY, in July.