

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

GOOD NEWS **September 2008**

BIOLOGICAL SCIENCES

Day T.A., **Ruhland** C.T. and F. Xiong. (2008) Warming increases aboveground biomass and C stocks in vascular-plant dominated Antarctic tundra. *Global Change Biology*. 14: 1827-1843.

CHEMISTRY AND GEOLOGY

The Department of Chemistry and Geology has been moving into their new offices and labs in Leonard Ford Hall during the end of September and the beginning of October. Their main departmental office address will be FH241.

CONSTRUCTION MANAGEMENT

The article below (excerpts of it) appeared in a current issue of the MSU Reporter.

Though times are changing, it is still a rare occurrence to see a ponytail sticking out of the bottom of a hard hat. But women are beginning to convince society that construction sites aren't just for the boys.

Kathryn Herman is one of the few female majors in the male-dominated construction management program at Minnesota State Mankato. According to the department, out of approximately 350 construction management majors, only six of them are women. Herman is paving her way in a career that has traditionally been considered a "man's world."

Ms. Herman became interested in construction management while growing up with a father and uncles who worked in construction. With help, her father built the house Herman and her family live in today.

She did some research and discovered MSU had a great program; but despite this, it was actually attending MSU that helped her decide that it was what she wanted to do.

Herman spoke highly of the MSU professors and their industry experience, noting that "other schools don't necessarily have that benefit, so students just get taught from a textbook and not taught on the basis of real-life experience."

Herman said that being a woman in the field will ultimately be an asset because of the industry's growing desire for diversity.

ELECTRICAL AND COMPUTER ENGINEERING AND TECHNOLOGY

Dr. Qun Zhang had two journal papers accepted/published in September: C. Ma, Qun Zhang, and E. V. Keuren, "Modeling and confinement analysis of an

asymmetric slab slot waveguide”, accepted for publication on Elsevier Optics Communications (2007 Impact factor 1.37).

C. Ma, Qun Zhang, and E. V. Keuren, “Right-angle slot waveguide bends with high bend efficiency”, OSA Optics Express (2007 Impact factor 3.709), Vol. 16, No. 19, pp. 14330 – 14334, Sept. 2008. (Dr. Ma is with the University of Nebraska-Lincoln; Dr. Keuren is with Georgetown University).

Dr. Qun Zhang submitted the following journal/conference papers:

C. Ma, Qun Zhang, and E. V. Keuren, “Hybrid integration of conventional waveguide and slot waveguide (3 dimensional case),” submitted to OSA Optics Express.

C. Ma, Qun Zhang, and E. V. Keuren, “Hybrid integration of conventional waveguide and slot waveguide (2 dimensional case)”, submitted to Optical Fiber Communications Conference 2009.

Qun Zhang, M. Imran Hayee, C. Ma, A. Rahman, A. Miner, and R. Kapadia, “On the Gaussian Approximation and Margin Measurements in Optical Amplifier Systems”, submitted to Elsevier Optics Communications. (Dr. Hayee is with the University of Minnesota Duluth; Mr. Rahman is with Thin Film Technology Corp).

INFORMATION SYSTEMS AND TECHNOLOGY

Professor Ann Quade recently had her chapter, “Redesigning a Systems Analysis and Design Course to Promote Problem-based Learning”, published in M. Syed & S. Syed (Eds.), Handbook of Research on Modern Systems Analysis and Design Technologies and Applications (pp.642-654). Hershey, PA. Information Science Reference.

MATHEMATICS AND STATISTICS

Dr. I.-J. Kim has submitted two research papers to peer-reviewed journals. One is a collaboration with a faculty member, Dr. Charles Waters, in the Department of Mathematics and Statistics at MSU, Mankato, and the other is an international project proposed at the American Institute of Mathematics (AIM) in 2006.

Charles Waters and I.-J. Kim, Low Rank Perturbations and Inertias of Full Symmetric Sign Patterns, *Czechoslovak Mathematical Journal*.

I.-J. Kim, D.D Olesky, B.L. Shader, P. van den Driessche, H. van der holst and K.N. Vander Meulen, Generating Potentially Nilpotent Full Sign Patterns, *Electronic Journal of Linear Algebra*.

Dr. I.-J. Kim presented a talk entitled "Structure Analysis of Acyclic Matrices by Special Vertices of Trees" at the Rocky Mountain Discrete Mathematics Days 2008, which was held from September 12 to 13 at the University of Wyoming.

The proposal of a special session by Dr. I.-J. Kim and three other researchers (Drs. De Alba, Hogben, Shader) has been accepted by the American Mathematical Society (AMS) Joint Meetings, Jan. 5-8 in 2009. The session title is "Spectra of Matrix Patterns and Applications to Dynamical Systems". The program would provide Dr. Kim with a great opportunity to initiate research projects with mathematical biologists and theoretical biologists who have effectively used spectral theory and sign patterns in their research.

Dr. I.-J. Kim made a research trip, hosted by Dr. Vander Meulen, to Redeemer University College, Canada in May. He also attended an Institute for Mathematics and its Application (IMA) workshop on Linear Algebra and Applications in July, held at Iowa State University, and presented a research talk at the UKC-Applied and Pure Mathematics symposium in August. The participation in both of the IMA workshops and the UKC-APM symposium gave him opportunities to branch out his research areas and to discuss possibilities of collaborations with other well-established researchers.

Mezbahur Rahman, Larry M. Pearson, and Kumiko Suzuki (2008). "Significance Testing for Cronbach's Alpha". Forthcoming: *Journal of Probability and Statistical Science*.

Namyong Lee, with S. Choo, FDS for a Generalized Calcium Diffusion Equation, is accepted for publication at the *East Asian Journal of Mathematics*. Dr. Lee is also invited to the "2008 NIMS International Conference on Fluid Dynamics and Scientific Computation" which will be held in December, 2008 in Korea.

PHYSICS AND ASTRONOMY

Dr. Louis Schwartzkopf, Professor, gave a presentation, "Is Energy Independence for Minnesota Possible?" at RE Fest, a renewable energy festival, at Riverland Community College in Austin, MN on Saturday, September 20.