

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY
OCTOBER 2009
GOOD NEWS

BIOLOGICAL SCIENCES

DM Wrigley, M Khaliq, A Johnson, and K Felske's research was presented as a poster "Nisin conditioning affects *B. cereus* surface characteristics" at the North Central Branch - American Society for Microbiology meeting at LaCrosse, WI, Oct 9, 2009. Next year, the NCB-ASM will be here at MSU, Mankato.

Dr. Tim Secott, Associate Professor, gave a presentation on "Conditioned medium and reduced O₂ tension improve resuscitation of dormant *Mycobacterium avium* subspecies *paratuberculosis*" at the North Central Branch-American Society for Microbiology meeting at La Crosse, WI Oct 10, 2009

The following paper appeared in the October issue of *Polar Biology*. Matt Krna was a graduate student in Dr. Chris Ruhland's lab and is now an adjunct instructor in the Biology Department.

Krna M.A., Day T.A. and C.T. Ruhland. (2009) Effects of neighboring plants on the growth and reproduction of *Deshampsia antarctica* in Antarctic tundra. *Polar Biology* 32: 1487-1494.

The first author in this article is a former graduate student of Dr. Robert Sorensen, Associate Professor. The reference information is:
Herrmann, K.K and R. E. Sorensen. 2009. Seasonal dynamics of two mortality-related trematodes using an introduced snail. *Journal of Parasitology* 95(4):823-828.

CHEMISTRY AND GEOLOGY

The American Chemical Society (ACS) student chapter at Minnesota State University, Mankato has been selected by the ACS to receive an Honorable Mention Award for its activities conducted during the 2008/09 academic year. Congratulations to the club and their faculty advisor, Dr. Trent Vorlicek.

Dr. Chad Wittkop, Assistant Professor, had two undergraduates presenting the results of their research at the national meeting of the Geological Society of America in Portland, OR last week. The title of their poster was "Holocene Stream Capture of the Le Sueur River, Minnesota: Implications for Modern Sediment Loading."

Dr. Steve Losh had a paper accepted for publication: S. Losh and L. Cathles, Phase fractionation and oil-condensate mass balance in the South Marsh Island Block 208-239 area, offshore Louisiana, in *Marine and Petroleum Geology*.

COMPUTER SCIENCE

Dr. Furman Haddix, Assistant Professor, has been invited to present a paper entitled "The Probabilistic Double Token Ring" for the IASTED International Conference on Parallel and Distributed Computing and Networks, to be held February 16-18, 2010 in Innsbruck, Austria.

Dr. Yanwei Wu, Assistant Professor, has had the following three papers accepted for publication:

Route Selection and Pedestrian Traffic: Comparing GIS-T and Integrated Modeling Approaches International Journal of Geographical Information Science (accepted to publish), 2009.

Dealing with Selfishness and Moral Hazard in Non-Cooperative Wireless Networks IEEE Transaction on Mobile Computing (TMC) (accepted to publish), 2009.

Energy-Efficient Wake-up Scheduling for Data Collection and Aggregation IEEE Transactions on Parallel and Distributed Systems (TPDS) (accepted to publish), 2009.

The IEEE Xtreme Programming Contest was held beginning at 7:00 pm October 23 and ending at 7:00 pm October 24. Over 720 teams competed worldwide and five teams of MSU students were among them. One of our teams is currently ranked at 64th worldwide and tied for second in our region. Two other teams had good rankings in the region. These are preliminary ranks; official ranks will be available after November 1. Our region includes schools such as UChicago, UIUC, UMN, Purdue, Northwestern, etc.

Additional good news is:

Congress finally and formally recognized CS as a foundational education area. In particular, "computer science as a transforming industry that drives technology innovation and bolsters economic productivity."

CONSTRUCTION MANAGEMENT

The big event in Construction Management this month was the "Legal Issues in Green Building" seminar held at the 7700 France campus. The seminar was attended by nearly 100 individuals from both MSU and industry. Legal, insurance and industry experts addressed the coming issues in the green building revolution.



Dean Knox with our speakers, Dean Thomson, Jerry Ouimnet, Doug Pierce and Ken Hilgert

The seminar was also the launch of the Institute for Building Sciences, a vision from the Construction Management Department for professional development in the building sciences world. The institute will seek grant funding from numerous sources and work with industry and related professionals throughout the region. Look for exciting news in the near future.

Mr. Farid Jean Sabongi, Assistant Professor, was invited to be a guest speaker for the MN Society of Certified Public Accountants (MNCPA) Construction & Real Estate Conference 2009, continuing education credits at the Earle Brown Heritage Center, Brooklyn Center, MN

The subject was “Effective Cost Allocation & Technology” and was part of a one day nine-session presentation where more than 100 people attended.

Attending the seminars were:

- Project professionals who wish to learn advanced techniques in project management
- Owners, designers, developers, construction managers, real estate agents, bankers
- Also, decision makers, business planners and employees involved in Process Improvement Teams would greatly benefit from attending this presentation

Abstract

Effective Cost Allocation is an effective process for allocating costs, general expenses, and certain other costs and hence to understand better all the functional expense reports evolving in an organization's lines of business such as construction.

It enables us to choose the object of costing; accumulating the costs that relate to the object of costing and choosing a method to identifying costs for smooth and fair running of a construction project.

Many buyers of construction services do not have a system to gather and track the information they need to make informed decisions about cost estimation and allocation. A disciplined system of cost estimation and allocation will allow them to monitor fixed and variable costs, helping to insure timely and on-budget completion of projects.

The big event in Construction Management this month was the “Legal Issues in Green Building” seminar held at the 7700 France campus. The seminar was attended by nearly 100 individuals from both MSU and industry. Legal, insurance and industry experts addressed the coming issues in the green building revolution.

ELECTRICAL AND COMPUTER ENGINEERING AND TECHNOLOGY

Dr. Gale Allen presented/published a paper "A Continuous FFT Function Developed With LabVIEW-RF Tools" at the ASEE North-Midwest Regional Conference, Transforming Engineering Education, Marquette University, Milwaukee, WI, October 8-10, 2009. Co-authors were recent Masters of Engineering graduates, Sunil Chandra Devarapalli and Chinna Venkata Swamy Tavva.

Dr. Vince Winstead, Associate Professor, gave a presentation entitled "Research Efforts with the Electrical and Computer Engineering and Technology Department at Minnesota State University, Mankato" at the Southern Minnesota Section IEEE in Rochester, MN on October 19, 2009.

Three of four wind turbines are up and operational at the wind turbine site southeast of Gage Hall. The Residential Wind Turbine grant, funded through the State of Minnesota, is a two-year project to verify performance capability of four different turbines. The project is in the second year and we now have three turbines installed and operational. Testing will begin shortly.

INFORMATION SYSTEMS AND TECHNOLOGY

Here is a recent article which appeared in the Mankato Free Press: Students earn \$12 per hour. The work figures prominently in landing a real-world job. The hours are flexible. It's literally across the street from campus. It's called **Project Maverick**, a partnership of Maverick Software Consulting, Minnesota State University and the Thomson-Reuters company, based in Eagan. It's primarily an opportunity for students in computer science and information technology or information systems fields. And it might be the best kept secret at MSU.

“It's really a unique opportunity for students,” said Project Maverick employee Chris Delaney, a senior from St. Francis. “There's really nothing better you can

do.” Student workers spend their time either writing computer code or testing software for the Thomson-Reuters Company. Many more students are turned away than there is room for. At a recent information session, seventy students inquired about the handful of openings available.

It began in 2006 with ten students in a small office in the University Square Mall. Today it employs twenty, has twice the office space, and Maverick Software--the company that runs the program--has offices at three other universities. Chuck Sherwood, vice president of software testing at Maverick Software, said they typically draw the elite students from MSU’s computer-related programs. The high pay, \$12 per hour, is more than just about any other part-time job in town and is a big draw. So is the access to the kind of experience that makes a big difference come job-hunt time.

Many employees, eighteen so far, have gone to work directly for Thomson-Reuters. The company estimates that by hiring a Project Maverick employee, it saves the roughly \$50,000 it would have spent to train them.

The type of work the students are doing is the kind of work often outsourced to India, Russia or China. For Thomson-Reuters, having their outsourced work done a few hours away is better than having it done a few continents away: There is no time difference, no language barrier, and Thomson-Reuters doesn’t have to compile a detailed list of instructions for them, as is often the case with work outsourced to foreign countries.

Project Maverick came about when faculty member Mike Wells, an MSU alumnus, was put in touch with someone at Thomson-Reuters (he worked there when it was called WestLaw). Maverick Software got involved and the three parties worked out a deal. The initial contract in 2006 was for \$1.2 million. Last summer, a new five-year contract was signed for \$3 million. Thomson-Reuters contracts with Maverick Software for its testing and code writing, and Maverick Software contracts with MSU for the student workers. Dr. Wells said everyone benefits from the agreements, especially students. “This has been great for them,” Wells said. “Literally millions of people see the code they write.”

Sherwood said a lot of the work the students do involves adding functionality to Thomson-Reuters Internet sites, which primarily deal with legal software. For example, they may write computer codes that allow Web sites to be used by people with disabilities, such as making sites navigable by keyboard only for people who cannot use a computer mouse. Getting such work, students say, is competitive. “It’s a fairly big deal among students,” said Corey Hermanson, a senior from Blue Earth. “We get to learn hands-on what we’ll be doing in the real world.” Delaney said it is one part-time job students in his major covet for its use in getting a real-world job, but also because it means not having to work at a gas station or fast-food joint. “That’s one of the biggest benefits,” he said. “A lot of people avoid a part-time job because it gets in the way. But this job helps you, now and in the future.”

MATHEMATICS AND STATISTICS

Dr. Francis T. Hannick, Professor, presented a workshop on Hands-On Experience with Numerous Activities for the Elementary School Math Curriculum at the 21st Annual Conference of the Association of Mathematics Teachers of New Jersey in Somerset, NJ on October 15.

Tsao, Y.L (2009). Teaching computational estimation. In C.H. Yang (Ed.), Educational Consulting Book: Effective teaching methods. (pp.45-54). Taiwan, Taipei: National Taipei University of Education.

Dr. Chia-chi Tung, Professor, has a paper "INTEGRAL PRODUCTS, BOCHNER-MARTINELLI TRANSFORMS AND APPLICATION", published in TAIWANESE JOURNAL OF MATHEMATICS, Vol. 13, No. 5, pp. 1583-1608, October 2009.

Dr. I.-J. Kim, Assistant Professor, gave a talk entitled "On Nilpotence Indices of Sign Patterns" at SIAM (Society for Industrial and Applied Mathematics) Conference on Applied Linear Algebra, held in Monterey, CA from October 26-29, 2009. This trip was supported by a SIAM Early Career Travel Award.

PHYSICS AND ASTRONOMY

Dr. Russell Palma, Professor, presented the following talk: "NASA's Genesis and Stardust Missions: Bringing the Sun and Comets to Earth" Keynote Speaker, at the fall banquet and joint meeting between the Minnesota Microscopy Society and Sigma Zeta, Bethel University, Minneapolis, MN, October 27, 2009.

R. L. Palma, R. O. Pepin, and D. J. Schlutter, 2009. A Preliminary Light Noble Gas Investigation of Stardust Samples. Meteoritics & Planetary Science 44, A164.

H. Busemann, L. R. Nittler, J. Davidson, I. A. Franchi, S. Messenger, K. Nakamura-Messenger, R. L. Palma, and R. O. Pepin, 2009. Carbon Raman Spectroscopy of 36 Interplanetary Dust Particles. Meteoritics & Planetary Science 44, A46.