

**COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY**  
**APRIL 2007**  
**GOOD NEWS**

**BIOLOGICAL SCIENCES**

**Bentley MD**, Jorgensen SM, Lerman LO, Ritman EL, Romero JC. Visualization of three-dimensional nephron structure with microcomputed tomography. *Anat Rec* 290:277-283, 2007.

**CHEMISTRY AND GEOLOGY**

Elizabeth A. Drommerhausen and Jeffrey R. Pribyl, Readability levels of college chemistry textbooks from Introductory Chemistry to Physical Chemistry. Paper presented at the 233rd ACS National Meeting, Chicago, IL, March 28, 2007. (Elizabeth Drommerhausen is an undergraduate student double majoring in Earth Science Teaching and Chemistry Teaching)

**M. Hadley, J. R. Pribyl**, and J. A. Kaliski, Improving the communication and efficiency in grading of laboratory reports, Paper presented at the 233rd ACS National Meeting, Chicago, IL, March 27, 2007.

Dr. John Thoenke, Associate Professor, attended the American Chemical Society national meeting and gave an oral presentation as part of a symposium entitled "Formation and Fate of Reactive Oxygen Species in Aquatic Environments".

Chemistry majors John Freiderich and Richard Wienhold also attended the meeting and presented posters on their projects in the environmental chemistry division of the undergraduate poster session.

**ELECTRICAL AND COMPUTER ENGINEERING AND TECHNOLOGY**

Dr. Bill Hudson, Professor, again served as the program organizer and lead facilitator at the Twenty-Third annual Electrical and Computer Engineering Department Head Association meeting for programs preparing for ABET visits, on March 16-20 in St. Augustine, FL. During this meeting Dr. Hudson was also a panelist discussing the costs and benefits of program assessment.

Dr. Qun Zhang, Assistant Professor, gave a presentation entitled "A Rigorous Optical DPSK Transceiver Model and BER Calculation Using the KLSE Method" co-authored with C. R. Menyuk from UMBC at the 41st Annual Conference on Information Science and Systems (CISS'07) at Johns Hopkins University on March 15, 2007.

Dr. Zhang attended and learned through his Faculty Improvement Grant, four short courses covering Bio-Photonics, Silicon Photonics, Nano-Fabricated Photonic Devices, and Degrading Effects in WDM Networks in Optical Fiber Communications Conference (OFC) 2007, held in Anaheim, CA from March 23 to 25, 2007.

Dr. Zhang has a submitted abstract "GUI based computer modeling & design platform to promote interactive learning in fiber optic communications" accepted by the 37th ASEE/IEEE Frontiers in Education Conferences (FIE'07). The full paper was submitted on March 19 for review by FIE'07.

The following three papers were submitted to the IEEE LEOS Summer Topical Meetings on March 30, 2007.

-- **Q. Zhang** and C. R. Menyuk, "An exact analysis of RZ- vs. NRZ-DPSK performance in ASE noise limited high speed optical systems", submitted to IEEE LEOS Summer Topical Meetings 2007

-- **Q. Zhang**, A. Rahman, **M. A. Khaliq**, **H-W Huang** and R. Sultana, "Exact BER calculation and performance optimization for 80 Gb/s NRZ-DPSK transceiver with pre-emphasized electrical signal driving path", submitted to IEEE LEOS Summer Topical Meetings 2007

-- **Q. Zhang** and M. I. Hayee, "A new symmetrized SSF scheme to achieve comparable global simulation accuracy for fibre optic Channel", submitted to IEEE LEOS Summer Topical Meetings 2007

### **INTERIOR DESIGN AND CONSTRUCTION MANAGEMENT**

Farid Sabongi, Assistant Professor, received an award in February from the St. Croix Falls, WI Chamber of Commerce. He was honored for the renovation of the Eagle Valley Bank in downtown St. Croix Falls. The winner in a field of five nominees, the bank project was recognized as the building renovation which contributed most significantly to the revitalization of downtown.

The bank renovation incorporated design elements to complement the early 20<sup>th</sup> century look of the streetscape. The awards committee recognized the bank renovation for meeting these criteria: significant impact on the downtown business community, significant impact on the revitalization of the main street, minimum disruption of day-to-day operations and skillful choice of design elements for the exterior and interior.

### **MATHEMATICS AND STATISTICS**

"On the Box-Cox Transformation in Semiparametric Density Estimation" by **Mezbahur Rahman** and D.V. Gokhale, forthcoming, Journal of Indian Statistical Association (JISA).

Dr. I. J. Kim, Assistant Professor, was invited to the University of Victoria from March 12 to March 17 for the research project "Critical sets of inertias for patterns". This trip was hosted by Drs. Olesky (Computer Science) and van den Driessche (Mathematics), and supported in part by the NSERC Discovery Grants.

Dr. I. J. Kim will give a talk on "Sign patterns that allow a positive or nonnegative inverse" at the Mathematical Association of America (MAA), a meeting that will be held at Drake University on April 13-14, 2007.

### **MECHANICAL AND CIVIL ENGINEERING**

During the annual Minnesota ASCE Award Dinner on April 5 in Minneapolis, civil engineering senior Ryan Henkensiefken received the MN ASCE Outstanding Student Award and the MN ASCE Activities Award. In addition, civil engineering senior Michael Krause received the MN ASCE Outstanding Student Award and civil engineering senior Brian Fleming received the MN ASCE Activities Award.

American Society of Civil Engineers (ASCE) MSU Student Chapter successfully hosted the Mid-West Regional Conference in March. The conference was the first one hosted by MSU. Eight other schools from Canada, Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin participated in the conference. The highlight of the conference was the

steel bridge competition held on Saturday March 10 in Myers Field House. The conference was chaired by civil engineering senior Ryan Henkensiefken with support from students ranging from freshman to seniors.

Civil Engineering students led by their captain, senior Brian Fleming, designed, fabricated, and competed at the Steel Bridge Competition during the ASCE Mid-West Regional Conference held in March at MSU. The team took fourth place overall among nine schools. The team took second place in stiffness (least amount of deflection), and third place in esthetic. The team's performance was especially impressive when, two years ago, the bridge was disqualified and last year the team's bridge took sixth place. The team's fourth place finish placed them ahead of schools such as the University of Iowa and Iowa State University and just behind the University of Minnesota.

### **PHYSICS AND ASTRONOMY**

Dr. Mark A. Pickar, Professor, is a coauthor of a paper recently accepted for publication in the primary journal for nuclear physics in North America: "Deuteron-deuteron elastic scattering at 231.8 MeV", by A. M. Micherdzinska, P. V. Pancella, E. J. Stephenson, A. D. Bacher, C. E. Allgower, A. C. Fonesca, C. M. Lavelle, H. Nann, J. Olmsted, **M. A. Pickar**, and A. Smith. Accepted for publication in *Physical Review C: Nuclear Physics*.

Dr. Russell Palma, Professor, will have the following research presentations in April: "An Overview of NASA's Stardust Mission" Minnesota Area Association of Physics Teachers Conference, Bethany Lutheran College, Mankato, MN, April 28, 2007.

"NASA's Genesis and Stardust Missions: Bringing the Sun and Comets to Earth" Department of Physics Colloquium, University of Wisconsin-Stout, Menomenie, WI, April 17, 2007.

"NASA's Genesis and Stardust Missions: An Update" Department of Physics Colloquium, University of Wisconsin-La Crosse, La Crosse, WI, April 11, 2007

On Thursday March 15 2007 a group of 17 undergraduate and graduate students toured the Fermi National Accelerator Laboratory. The tour was arranged by the Department of Physics and Astronomy, and chaperoned by **Dr. Paul Eskridge**, Associate Professor. The students were shown the control areas of the accelerator facilities, the detector fabrication laboratories for the astrophysics division, and the laboratory grounds. There were also two discussion sessions, one with an engineer in the accelerator magnets division, and one with a staff scientist in the astrophysics division.