Vol 3. No. 2
March 2009

Region 8

MOUNTAIN-PLAINS CONSORTIUM NEWS

PROJECT HIGHLIGHTS

SDSU Boosts the Research and Material Testing Infrastructure

The material testing capability at SDSU has received a significant boost. The civil engineering program recently acquired several new pieces of testing equipment that will considerably enhance the existing research facilities.

Topping the list of newly acquired equipment is a 400,000-pound capacity concrete testing machine that is equipped with a servo-controlled valve. The new machine will not only enable the strength testing of ultra-high-strength concretes, but also will allow for capturing the entire stress-strain relationship of concrete in compression. Such research tools are invaluable for the study of high-performance concretes used in bridges and pavements. The list of new equipment includes a freeze-thaw cabinet with advanced controls and data acquisition, a sonometer for determining the dynamic modulus of concrete, an electric concrete mixer, and an assortment of displacement sensors.

The new equipment will soon be put to use on a research project on mix design optimization of jointed plain concrete pavements. The project is co-funded by MPC and the South Dakota Department of Transportation.

2008 International Summit on Agricultural Food Truck Transportation Held

More than 100 policy makers and industry leaders gathered in Washington, DC, for the 2008 International Summit on Agricultural Food Truck Transportation Dec. 2-3. The event brought together representatives from trucking industry and agriculture and food transportation organizations to discuss critical issues and generate ideas to strengthen commercial agricultural trucking as a key partner in the future success of U.S. and international agriculture.

More than 20 speakers/presenters from Congress, trucking and national and international agriculture organizations, federal government agencies, and private sector experts, addressed the 2008 Summit. The Mountain-Plains Consortium was a primary sponsor of the event

(Summit continued on pg. 2)

MPC
MOUNTAIN-PLAINS CONSORTIUM

Colorado State University • North Dakota State University
South Dakota State University • University of Utah • University of Wyoming

(Summit continued)

which was organized by the Upper Great Plains Transportation Institute at NDSU.

"The summit was important to remind everyone of the importance of trucking and highways to food, agriculture, and rural development during the current economic crisis and in the future," noted Bruce Blanton, director of the USDA's Transportation Services Division. "The trucking industry, rural America, shippers, and receivers need to work together during the legislative and regulatory process to ensure a safe, efficient, and reliable transportation system."

The following were identified as critical issues during the Summit:

- Impacts of the new U.S. farm and energy legislation on domestic and international agricultural production and processing as a critical agent of change for the agricultural and trucking sectors.
- Trucking industry's ability to meet increasing demands from agricultural and food industries.
- Role of energy costs, renewable fuels and environmental issues on the agriculture and food industry.
- Effects of security concerns and requirements in agricultural and food transportation.
- Importance of truck weight reform on the U.S. interstate highway system for the transport of raw agricultural commodities and forest products.

The program featured experts in the field of international agricultural and transportation trade and food security. Former U.S. Secretary of Agriculture and U.S. Trade Representative Clayton Yeutter opened the initial session with an overview of agricultural trade and transportation in the 21st century. Jolanta Iwanicka, first secretary, Embassy of Poland, gave a presentation on the importance and status of biofuels in Poland and the European Union, and the impacts of renewable fuels on agriculture policy and transportation challenges. Wallace Tyner, professor of agricultural economics, Purdue University, was the presenter on the topic, "Food vs. Fuel, The Real Story."

In the area of U.S. energy and rural development issues, former U.S. Undersecretary of Agriculture for Rural Development Thomas Dorr, and David Kreutzer, senior policy analyst for the Heritage Foundation, were presenters. Also, Deputy Undersecretary of Agriculture for Farm and Foreign Agriculture Floyd Gaibler provided an overview of the impact of foreign agricultural programs on U.S. agriculture and agricultural transportation trends. Dealing with U.S. highway infrastructure challenges and agricultural truck transportation, were Bruce Blanton, director of Transportation Services Division, USDA, and Tony Furst, director of Freight Management and Operations, Federal Highway Administration. Also looking at infrastructure needs from the congressional vantage point and the 2009 Highway Reauthorization Bill was Janet Kavinoky, U.S. Chamber of Commerce; Tim Lynch, American Trucking Associations; and Richard Lewis, Forest Products Association. Charles Stenholm, former member of Congress and former ranking member of the Agriculture Committee, U.S. House of Representatives, presented a look into the political issues affecting agriculture and commercial agricultural transportation in both the current U.S. economy and the 111th Congress.

Presentations on current issues in food and agricultural issues from private sector executives were given by Paul Speranza Jr., vice chairman and general counsel of Wegman's Supermarkets; Charles "Shorty" Whittington, chairman, Board of Directors, American Trucking Associations; and Mike Townsley, president, Bob Evans Farms.

Clockwise from top:
Jolanta Iwanicka, Floyd Gaibler, Paul Speranza Jr., Charles "Shorty" Whittington, Clayton Yeutter, Bruce Blanton and Tim Lynch (center)

MPC is Part of Cooperative Distance Learning Effort

The Mountain-Plains Consortium is a founding member of a national cooperative effort to establish a Graduate Education Certificate program to assist in educating tomorrow's transportation leaders. MPC Director Denver Tolliver serves as chair of the program's policy board.

The nation's Regional University Transportation Centers (including MPC), in consultation and cooperation with leaders from the National Academy of Sciences (TRB), public and private sectors, and transportation related associations, have established the program. Its purpose is to provide wider knowledge and a more comprehensive understanding of the issues required to deal with complex multimodal transportation challenges. In addition, the program will assist in making a significant contribution in helping to enhance the profession by expanding the pool of new professionals with essential competencies. The program's objective is to nurture those individuals with potential leadership qualities in both the public and private sectors and to assist them in moving along the promotion track from excellent technical contributions to management responsibilities and eventually on to leadership roles.

The theme of the program is "Transportation Policy, Management and Operations." The certificate requires the completion of four theme-related graduate courses taught by graduate faculty at some of the nation's outstanding universities. All courses will be taken by distance learning media from an individual's home or place of employment. The courses incorporate all modes of transportation and include topics such as transportation systems, policy, planning, operations, economics, safety and security, social and environmental considerations, program management, environmental and climate change, and future technologies.

Participants in the program will be awarded a certificate endorsed by several public and private sector organizations. Completed courses will also be eligible for transfer toward a graduate degree.

More information is available from www.transleader.org.

RESEARCH PROJECTS

Colorado State University

MPC-278 Bus-Stop Shelters-Improved Safety (3rd Year)
MPC-291 A New Generation of Emergency Escape Ramps (2nd Year)
MPC-301 Sustainable Concretes for Transportation Infrastructure
MPC-302 Enabling Innovative Steel Plate Girder Bridges: Simple Made Continuous
MPC-303 Seed Project–Beneficial Use of Off-Specification Coal Combustion Products to Increase the Stiffness of Expansive Soil-Rubber Mixtures
MPC-304 Feasibility Study of Mobile Scanning Technology for Fast Damage Detection of Rural Bridge Using Wireless Sensors

North Dakota State University

2nd Vision Safe Drive: Regional Rural Transportation Safety Conference

Regional Pavement Management Workshop for Asset Management

Inland Waterway Transportation Conference

MPC-308 Phase I: Pilot Project to Develop Rural Youth Occupant Protection Education Platform
MPC-309 Rural Road Signage: Simulated Driving to Evaluate Low-Cost Safety Improvements for Older Drivers
MPC-310 Evacuation Modeling for Small- to Medium-Sized Metropolitan Areas
MPC-311 Forecasting Bridge Deterioration Rates and Improvement Costs
MPC-312 A GIS Model for Bridge Management and Routing

South Dakota State University

MPC-280 Evaluation of SRICOS Method on South Dakota Cohesive Soils (3rd Year)
MPC-285 Structural Performance of Prestressed Self-Consolidating Concrete Girders Made with Limestone Aggregates (2nd Year)
MPC-305 Jointed Plain Concrete (JPC) Design and Construction Review
MPC-306 Optimization of Pavement Marking Performance

University of Utah

MPC-288 Utah Department of Transportation Traffic Operations Center Operator Training (TOC) (2nd Year)
MPC-313 Evaluation of LRT and BRT Impact on Traffic Operations in Salt Lake City Metropolitan Area
MPC-314 Assessing the User Impacts of Fast-Track Highway Construction (ABC)

University of Wyoming

MPC-286 Developing System for Consistent Messaging on Interstate 80's Dynamic Message Signs (2nd Year)
MPC-287 Effectiveness of Using Recycled Asphalt Materials (RAP) and Other Dust Suppressants in Gravel Roads (2nd Year)
MPC-307 Maximum Velocity and Shear Stress in Flow Fields around Bridge-Abutments in Compound Channels

Implementation of the Mechanistic-Empirical Pavement Design Guide (MEGPD)

Implementation of the Wyhoming Rural Road Safety Program (WRRSP)

WORKSHOPS & PRESENTATIONS

MPC Faculty and Students Present at TRB

Several researchers and students from the Mountain-Plains Consortium participated in the Transportation Research Board's (TRB) annual meeting Jan. 11-15 in Washington, DC.

The TRB annual meeting brings together more than 10,000 policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions for a comprehensive look at all modes of transportation. The meeting offered more than 3,000 presentations in nearly 600 sessions. The TRB is a part of the National Academies of Science. The spotlight theme for the meeting was "Transportation, Energy, and Climate Change."

Colorado State University

Suren Chen was an author of "Traffic Flow Simulation on Bridge with Cellular Automaton Technique." The paper outlines a study that aims at developing a simulation platform to provide microscopic traffic information for various bridge-related studies.

Suren Chen

North Dakota State University

Kim Vachal

Kimberly Vachal presented "Young Male Drivers: Knowledge, Attitude, Behavior, and Beliefs Regarding Seat Belts and Impaired Driving." Vachal also chaired a meeting of the TRB's Agricultural Transportation Committee. The paper detailed efforts to develop a survey tool that will help plan programs and countermeasures that will reduce the incidence of impaired driving and improve seatbelt use among young male drivers, a group that has a high rate of fatal crashes. Co-authors were Tamara VanWechel and Laurel Benson of NDSU.

"Policy Perspectives for Graduating Driving in North Dakota," was another paper presented by Vachal. The goal of the research was to develop a better understanding of factors in crashes among teen drivers.

Mark Lofgren

Mark Lofgren presented "Integrating Security into Small MPO Planning Activities: Case Study Analysis for Northern Rocky Mountain Region MPOs." His paper outlined the process for establishing the security element in the long-range transportation plan for a bi-state MPO with an urbanized area population of 160,000.

MPC Director Denver Tolliver presented "Highway User Costs at 2008 Prices." In the paper, highway user costs for rural and urban freeways are estimated using 2008 prices. Cost functions are synthesized from operational models in the Highway Economic Requirements System (HERS). NDSU researcher Alan Dybing was a co-author.

South Dakota State University

Ali Selim presented "Impact of Agribusiness on South Dakota's Local Roads: Successes and Failures." The paper showcased successes and failures of local roads impacted by the construction of new agriculture related businesses. The paper also illustrated how local agencies are handling the new wave of heavy trucks traveling over local roads at a rate that has never been experienced in the past. Co-authors were Ken Skorseth and Hesham Mahgoub, both of SDSU.

University of Wyoming

Khaled Ksaibati

Khaled Ksaibati, program director for the University of Wyoming, presented "Methodology for Evaluating Department of Transportation Research Programs: Case Study of Wyoming Department of Transportation." The study provided numerous observations of WYDOT's overall program and the research investment portfolio as well as guidance for developing a strategic research agenda. Additional authors of the study included Gary Schneider of WYDOT, and Larry Redd of IPM Analytics.

Ksaibati also presented "Wyoming Rural Road Safety Program." The presentation detailed an MPC project in which safety techniques and methodologies were developed to identify and rank high-risk locations on all rural roadways in Wyoming. The main objective of this research was to develop and evaluate transportation safety techniques that can help Wyoming agencies in reducing crashes and fatalities on rural roads state-wide.

George Huntington presented "Methodology for Assessing Heavy Traffic Impacts on Gravel Roads," which outlined a three-year pilot asset management program. One objective of the program was to assess the impact on roads from oil and natural gas drilling activities." Huntington also presented, "Improvement Recommendations for Unpaved Roads" which detailed a method for recommending surfacing and drainage improvements to unpaved roads. The recommendations are used to assist with prioritizing county road and bridge activities and to present policy makers with reasonable assessments of each county's road network improvement needs. Khaled Ksaibati was a co-author of the paper.

Rhonda Young moderated two sessions: one on innovations in statewide planning and a second titled "Evaluation of Engineering Technology, Reliability, and Network Outage: Applications of Benefit-Cost Analysis."

Rhonda Young

University of Utah

Ivana Vladisvljevic

Ivana Vladisvljevic presented "Importance of Integrating Driving and Traffic Simulations: Case Study of Impact of Cell Phone Drivers on Traffic Flow." This paper argued for integrating driving and traffic simulators by explaining the research opportunities and illustrates this through a case study. Co-authors included Joel M. Cooper, Peter T. Martin, and David L. Strayer, all from the University of Utah.

Vladisavljevic also presented "Compensatory Impact of Lane Changes When Distracted, Slower-Moving Cell-Phone-Using Drivers Impede Traffic Flow Efficiency." This paper investigated the impact of lane-changing maneuvers on traffic flow both with and without slow-moving vehicles. Various flows and their corresponding speeds were examined using the microsimulation software VISSIM. The results indicate that lane changes can partially offset the negative effect of slower moving vehicles. Cooper, Martin, and Strayer were co-authors on this paper as well.

(Workshops & Presentations continued on pg. 8)

Aleksandar Stevanovic presented "Microscopic Modeling of Traffic Signal Operations: Comparative Evaluation of Hardware-in-the-Loop and Software-in-the-Loop Simulations." This study investigated operational differences of the three primary methods modeling traffic signal operations by examining how each method operates in five experimental scenarios. Co-authors include Milan Zlatkovic from the University of Utah, and Ahmed Abdel-Rahim and Enas Amin of the University of Idaho.

Stevanovic also presented "Optimizing Traffic Control to Reduce Fuel Consumption and Vehicular Emissions: Integrated Approach with VISSIM, CMEM, and VISGAOST." The study advocated a fresh approach to integrating existing state-of-the-art tools for reassessing and ultimately minimizing fuel consumption and emissions by linking VISSIM, CMEM, and VISGAOST to optimize signal timings and minimize fuel consumption and CO2 emissions. Co-authors were Jelka Stevanovic of the University of Utah, and Kai Zhang and Stuart Batterman of the University of Michigan.

Stevanovic also presented "Optimizing Signal Timings from the Field: VISGAOST and VISSIM-ASC/3 Software-in-the-Loop Simulation." The paper presented a method where signal timings are downloaded from field controllers, optimized by a software package, and uploaded back to field controllers. Additional co-authors were Jelka Stevanovic and Peter Martin of the University of Utah.

"SCOOT and SCATS: Closer Look into Their Operations" was another paper presented by Stevanovic. The paper illuminated the structural differences between these two methods. The research presented a detailed comparison of SCOOT and SCATS signal timings and their influence on traffic performance measures in microsimulation. Co-authors included Cameron Kergaye of the Utah Department of Transportation and Peter T. Martin of the University of Utah.

Stevanovic and Martin also were co-authors of "Comparison of Before/After versus Off/On Adaptive Traffic Control Evaluations: Park City Case Study." The paper presented a comparison of traffic operations before and after the Adaptive traffic control system. Another co-author was Cameron Kergaye of the Utah Department of Transportation.

Ben Shepherd

Benjamin Shepherd presented "Military Approach to Network-Focused Operator Training for Traffic Management Centers: Case Study from UDOT's Traffic Operations Center, Salt Lake City." The paper summarizes work performed by the Utah Traffic Lab to develop a training program for the Utah Department of Transportation Traffic Operations Center operators. Martin was a co-author.

Xuesong Zhou was co-author of "Modeling the Role of Transportation Information in Mitigating Major Capacity Reductions in a Regional Network." The paper outlined a practical method presented for systematically evaluating the network impacts of Advanced Traveler Information Systems (ATIS) for the purpose of supporting well-informed project decisions and well-founded funding priorities. Co-authors included Hyejung Hu, Billy M. Williams, and Nagui M. Rouphail of North Carolina State University and Asad J. Khattak of Old Dominion University.

SDSU Hosts Biennial Geotechnical Seminar

The Department of Civil and Environmental Engineering at SDSU held the SDSU Biennial Geotechnical Seminar Dec. 5 in Sioux Falls, SD. The one-day seminar was co-sponsored by the SDSU Department of Civil Engineering and the Mountain-Plains Consortium. The seminar included a breadth of topics from deep foundations to sustainable design. Seven speakers travelled from Atlanta, GA, Kansas City, MO, Minneapolis, MN, and Pierre, Brookings, and Rapid City, SD, to make presentations. The conference was well-attended by more than 120 engineers, managers, and public officials, as well as seven exhibitors demonstrating products applicable to the geotechnical profession. Attendees earned eight professional development hours. The seminar was coordinated by SDSU Associate Professor Allen Jones and SDSU Assistant Dean Richard Reid. The next conference will be held Dec. 3, 2010.

MPC Research Presented at Timber Engineering Conference

Jeno Balogh, an affiliate faculty at CSU, served as moderator of the session Structures 8 at the 10th World Conference on Timber Engineering (WCTE2008) held in Miyazaki, Japan, June 4, 2008. He also presented the paper, "Performance of Wood-Concrete Composite Beams under Repeated and Sustained Loading." He is an assistant professor in the Department of Civil Engineering Technology at Metro State College, Denver.

Also at the conference, CSU Ph.D. student Zsuzsa Balogh presented "Modeling of Shear Transfer in Wood-Concrete Notch-Connections" in the Structures 9 session.

FACULTY ACTIVITIES

Bridge Paper Accepted for Publication

"Design and Costs for Simple-Made-Continuous Rolled Steel Girder Bridges: A Literature Survey" by A. Stone, J.W. van de Lindt, and S. Chen at Colorado State University has been accepted for publication by the ASCE Practice Periodical on Structural Design and Construction.

Gutkowski Plans Research Visit to Italy


Richard Gutkowski

Professor Richard Gutkowski of Colorado State University has received a grant from the Italian government for a short-term research visit to the University of Sassari in Alghero, Italy. He will cooperate with Massimo Fragiacomo, associate professor of structural design in the Department of Architecture and Planning, in preparing technical journal papers on their joint research on long-term time dependent behavior of composite wood-concrete structural floor and deck systems. Gutkowski will present invited lectures on that and other MPC-supported research project activity. The visit is planned for May 26 to June 8.

Utah Professor Elected to Czech National Academy

Paul Tikalsky, chair and professor of civil and environmental engineering at the University of Utah, has been elected a Fellow (foreign) of the National Academy of Engineering of the Czech Republic (EACR), a member organization of the International Council of Academies of the Engineering and Technological Sciences. The announcement was made at the annual meeting of the EACR in Prague and recognizes the contributions Tikalsky has made in advancing simulation-based reliability assessment techniques for long-life structures in the European Union and the Czech Republic.

Utah Researcher Invents Device to Stop Teen Cell Phone Use While Driving

Xuesong Zhou, assistant professor of civil and environmental engineering at the University of Utah, has invented a wireless car key device to stop teenage motorists from talking on cell phones and sending text messages while driving. When the key is extended from the device, it sends a signal, putting the phone in "driving mode" so it cannot be used to talk or send texts. Parents can control the system from a computer, which collects safety scores on cell phone use and on driving speed and traffic violations tracked by Global Positioning System satellites.

For adult drivers, the system prevents texting and allow calls only on hands-free cell phones. Zhou says the goal for adults is to improve safety by encouraging them to reduce the time they spend talking while driving. The encouragement could come in the form of insurance discounts by insurers, who would receive monthly scores showing how well an adult driver avoided talking while driving. The university has licensed the technology, "Key2SafeDriving," to a private company, which hopes to have the device on the market within the next several months. Zhou invented the device with University of Utah Alumnus Wally Curry.

STUDENT ACTIVITIES

NDSU Students Present at Transportation Research Forum

Several Ph.D. students from North Dakota State University presented papers at the 50th Annual Transportation Research Forum held March 16-18 in Portland, OR. The Transportation Research Forum is an independent organization of transportation professionals which provides an impartial meeting ground for carriers, shippers, government officials, consultants, university researchers, suppliers, and others seeking an exchange of information and ideas related to both passenger and freight transportation.

Eunsu Lee

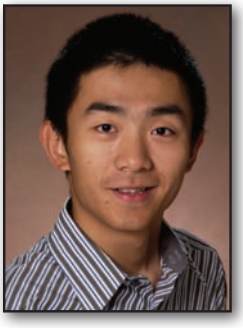
Eunsu Lee presented "Location and Routing Problems for Railroad Intermodal Terminal." The paper examines various scenarios for locating the intermodal terminals in the Upper Great Plains region and shows diverse transportation cost effects by selecting various routes. The study indicates that a new intermodal terminal in the study region will generate more demand and decrease the total logistics cost and congestion cost in the metropolitan areas.

Lei Fan

Lei Fan presented "Optimization Model for Global Container Supply Chain - Imports to United States." The paper analyzes the supply chain network with primary focus on importing containers to the United States. An optimization model that integrates international trade and U.S. inland transport networks was developed. The model presents a framework for capturing impacts on the supply chain network due to underlying cost structure changes and potential infrastructure constraints.

Ieelong (Peter) Chen

Ieelong (Peter) Chen presented "Improving Cost Efficiency of Implementing RFID in the Railroad Industry." The paper examines potential benefits of adopting RFID technology in the rail industry. The results could be used for refining business processes and increasing the degree of visibility and decreasing expenditures for inventory, logistics, and transportation.



Xianzhe Chen

Xianzhe Chen presented "Optimal Dispatching Policy Under Transportation Disruption." The paper proposes an optimal vehicle dispatching policy for transportation disruption. This policy determines the optimal vehicle capacity and dispatching time along a route. The proposed method can be applied into various scenarios, such as mass transit dispatching, freight transportation, aircraft shuttle scheduling, etc.

STUDENT ACCOMPLISHMENTS

SDSU Masters Grad Named MPC Student of the Year

Chad Stripling

Chad Stripling, a master's degree graduate from SDSU, was named Student of the Year for Region VIII at the Transportation Research Board annual meeting in Washington, DC, in January. Each year, the U.S. Department of Transportation honors an outstanding student from each participating University Transportation Center for achievements and promise for future contributions to the transportation field.

Students of the year are selected based on their accomplishments in such areas as technical merit and research, academic performance, professionalism, and leadership. Each student receives a certificate from the U.S. DOT and $1,000 from the student's University Transportation Center.

Stripling earned his M.S. in civil engineering from South Dakota State University in August 2008 and his B.S. in civil and environmental engineering from SDSU in 2006. He is currently a design engineer at S. A. Miro, Inc., a structural engineering firm in Denver. He is from Minneota, MN.

As a graduate research assistant in the Department of Civil and Environmental Engineering at SDSU from January 2007 to June 2008, Stripling's research focused on the structural performance of pre-stressed self-consolidating concrete bridge girders made with limestone aggregate. The study assessed the performance and feasibility of using pre-stressed self-consolidating concrete in South Dakota bridges. Strippling tested until failure, three full-scale bridge girders with composite decks in the Lohr Structures Laboratory at SDSU. In his thesis, Chad analyzed the performance of the SCC girders including camber, transfer length, prestress losses, flexural stiffness and strength, and shear strength and compared the results to those obtained from testing identical prestressed girders made with conventional concrete. A final report and two manuscripts that are based on Stripling's research are being prepared for publication.

Stripling graduated with a grade point average of 4.0 in both of his degrees. He was named SDSU Outstanding Senior and received the Phi Kappa Phi Outstanding Scholar Award, the John A. Focht National Chi Epsilon Scholarship, and the Golden Key International Honor Society Scholarship. He received the Minnesota Public Works Association Scholarship twice and the Minnesota County Engineers Association Scholarship four times. He also received a NSF Graduate Research Fellowship Honorable Mention.

In addition to his research duties, Stripling assisted in teaching undergraduate courses. While working towards his B.S., Stripling was a project engineer assistant at Daktronics, Inc., in Brookings, SD, where he designed and modeled structures for scoreboard display systems. From 2003 to 2006, he was a summer intern with the Lyon County Public Works Department in Marshall, MN, where he performed surveying work on highways using total station and GPS equipment.

NDSU Student Earns TRF Foundation Scholarship

Steven Leon

Steven Leon, Ph.D. student in transportation and logistics at NDSU was recently awarded the Transportation Research Forum Foundation scholarship. This scholarship recognizes excellence in scholarship, research, and writing and is intended to encourage students to develop the interest and knowledge to support the long-term growth and modernization of the transportation industry. MPC director Denver Tolliver recommended Leon for the award.

In addition to his studies, Leon is an adjunct professor at the University of North Dakota, teaching operations management and is a contributing writer for Professional Pilot Magazine. He is also the founder and president of The HighTOP Company, an e-learning enterprise which facilitates training and workforce development for small- and medium-sized companies.

Students Earn Paper Award

Khalid Bachkar

A paper presented by NDSU Ph.D. students Khalid Bachkar and Charles Briggs was selected as Best Paper in the Supply Chain Management Track at the 16th Annual Conference of American Society of Business and Behavioral Sciences Feb. 19-22 in Las Vegas.

Charles Briggs

Their paper, "Managing Risk in Pharmaceutical Global Supply Chain Outsourcing: Applying Analytic Hierarchy Process Model," examines some of the risks associated with the trend toward global supply chain outsourcing in the pharmaceutical industry. The paper also suggests some management strategies that can be employed to tame a firm's exposure to supply chain outsourcing risk.

CSU Student Earns WTS Honor

Jun Wu, a CSU Ph.D. student, was awarded the Helene M. Overly Memorial Graduate Scholarship of $3,000 in February by the Women's Transportation Seminar of Colorado. Wu was also recommended by the group for international level scholarship competition.

The award recognizes Wu's dedication and scholarship in the field of transportation. She has been involved in several MPC projects under the direction of her faculty advisor, Suren Chen, assistant professor in the CSU Department of Civil and Environmental Engineering.

(Student Accomplishments continued on pg. 14)

(Student Accomplishments continued)

CSU Student Defends Thesis

Giang Lam To

In December, 2009, Giang Lam To successfully defended his doctoral thesis in structural engineering and mechanics at Colorado State University. His research was partially supported through MPC funding. He also received academic and housing support for three years from the Vietnamese government. A unique feature of his defense was the participation by academic committee member, Dr. Massimo Fragiacomo via a Skype link to the University of Canterbury in New Zealand where he was in residence as a visiting professor. Skype is a computer/telephone-based audio visual teleconference technology.

Student Presents at Wind Engineers Workshop

CSU Ph.D. student Feng Chen was awarded $500 in travel support from the American Association of Wind Engineers to attend the association's first workshop in Vail, CO, in August. At the workshop, Chen presented a paper about research on a novel vehicle stability assessment model that considers the effects between vehicles, wind, and other adverse environmental conditions. Co-author of the paper was Suren Chen, assistant professor in the CSU Department of Civil and Environmental Engineering.

NEW STUDENTS

John McWilliams, a new masters student at CSU, is looking at innovative techniques to optimize plate girders for simple-made-continuous design. This research is beginning with MPC funding and is expected to be leveraged into a joint MPC-CDOT research project in FY 2010. The principal investigator on the MPC project is CSU Professor John W. van de Lindt.

Elvis M. Ndembe began studying for his Ph.D. at NDSU in the spring semester of 2009. He holds an M.S. degree from NDSU in agribusiness and applied economics. He also holds a B.S. degree in banking and finance from the University of Buea in the Southwest Province of Camaroon. Ndembe is a native of that area. His research focuses on bridge management systems and related studies to evaluate the cost effectiveness and strategies required for the maintenance, repair and rehabilitation of bridges. After attaining his degree, Ndembe hopes to work for an international organization that promotes growth and development in developing countries. He would also like to teach and conduct research at the university level.

NEW FACULTY

Andrea Huseth-Zosel joined the Upper Great Plains Transportation Institute at NDSU in January as an associate research fellow. She was previously a research analyst with MeritCare Health System in Fargo, ND.

Huseth-Zosel holds a B.S. in secondary social studies education from Minnesota State University Moorhead and B.A. and M.S. degrees in sociology from North Dakota State University. She is working with the UGPTI's Rural Transportation Safety and Security Center which promotes and enhances the region's transportation safety and security through research, education, and outreach. Her work focuses primarily on studying and enhancing rural traffic safety by addressing driver behavior issues. She is currently involved in an MPC project partnering with the NDSU Extension Service that is designed to raise awareness and reduce traffic deaths and injuries for North Dakota youth through a pilot educational program.

Contents

Mountain-Plains Consortium
Upper Great Plains Transportation Institute
North Dakota State University
Dept. 2880 • P.O. Box 6050
Fargo, ND 58108-6050
T: (701) 231-7938
F: (701) 231-1945
www.mountain-plains.org