

CONNECTIONS

DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

Facts At A Glance

- The new Structural Fire Testing Facility is the first such facility in a U.S. university setting.
- It's housed in an addition to the Civil Infrastructure Laboratory, located off campus in Okemos, Mich.
- The facility includes an enormous furnace that is 8 x 10 x 5 feet high. It can generate heat up to 2,200 degrees Fahrenheit.
- Beams up to 13 feet long can be tested—two at a time—while an 8-foot-long section of each beam is exposed to the fire.
- Slabs measuring 8 x 10 feet and columns about 8 feet in height also can be tested. In addition, connection systems or portal frames can be tested in this facility.
- Projects at the facility are led by Venkatesh Kodur, one of the world's leading experts on the effects of fire on materials and structural systems.

MSU Hosts National Workshop

A two-day workshop on structures and fire was held on the MSU campus in conjunction with the dedication of the new Structural Fire Testing Facility. More than 60 scientists and professionals from around the world attended the workshop. The group included representatives from the New York Fire Department and the New York City Department of Buildings as well as from concrete and steel industries, and consulting companies. There were also representatives from the University of Michigan, the University of California—Berkeley, the University of Texas—Austin, Worcester Polytechnic Institute, the University of Maryland, and Princeton University. Also in attendance were experts from New Zealand, the United Kingdom, Switzerland, Belgium, and Canada.

The objective of the workshop was to develop long-term research and training guidelines. Venkatesh Kodur initiated, led, and co-chaired the program, which was sponsored by the National Science Foundation and the National Institute of Standards and Technology.

Kodur Receives Strategic Partnership Grant

A testament to Venkatesh Kodur's knowledge in fire testing is that he recently secured a Strategic Partnership Grant from the MSU Foundation for the "establishment at MSU of a Center for Structural Fire Engineering and Diagnostics." This is one of just three such grants awarded this year and the only one led by the College of Engineering.

MSU Ignites Research in Structural Fire Engineering

Fire claims 4,000 lives and injures about 100,000 individuals in the U.S. each year and accounts for more than \$50 billion in total losses. Yet, structural fire safety has been one of the least developed research areas in the United States — that is until now. MSU's College of Engineering has set out to change all that.

"The collapse of the Twin Towers of the World Trade Center on 9/11 brought international attention to the field of structural fire engineering," says Ronald Harichandran, chairperson of the Department of Civil and Environmental Engineering. "Our department has positioned itself to be a leader in this area that is so critical to homeland security and economic activity."

This June the college dedicated its new Structural Fire Testing Facility, the first such facility in a U.S. university setting.

"This is a significant day for Michigan State University," said Ian Gray, MSU's Vice President for Research and Graduate Studies, at the dedication ceremonies. "We are introducing another arsenal to our research activities as we move the university forward in terms of research prominence. This world-class facility will be a beacon to bring faculty from other institutions and government agencies to work collectively with our faculty here at MSU."

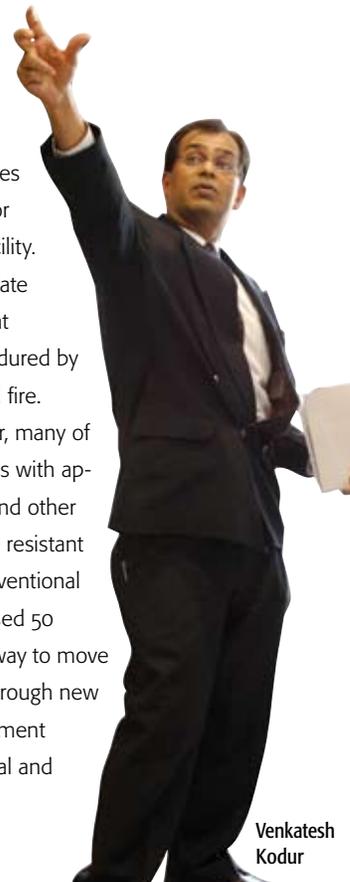
The new facility is led by Venkatesh Kodur, MSU professor of civil and environmental engineering and one of the world's leading experts on the effects of fire on materials and structural systems. He has more than 16 years of experi-

ence in structural and fire engineering and spent 12 years at the National Research Council Canada just prior to coming to MSU. He was part of the FEMA/ASCE Building Performance Assessment Team that investigated the collapse of the World Trade Center. An article in the August 24 issue of *Science News* quotes Kodur several times and makes reference to the new fire-testing facility at MSU. To read the complete *Science News* article, visit www.sciencenews.org/articles/20070825/bob9.asp.

A natural gas-fueled test furnace capable of reaching temperatures in excess of 2,200 degrees Fahrenheit is the major feature of the new facility. The furnace will simulate the temperatures, heat transfer, and loads endured by structures in an actual fire.

According to Kodur, many of the emerging materials with applications in bridges and other structures are less fire resistant than some of the conventional materials that were used 50 years ago. "The only way to move our work forward is through new research and development in the area of structural and materials fire safety."

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Venkatesh Kodur



from the Chair

RONALD HARICHANDRAN

Civil engineering has been in the national headlines this year with the collapse of the I-35W bridge in Minneapolis in August, a highway overpass bridge collapse in Oroville, California, in July, and the fire-induced collapse of the San Francisco-Oakland Bay Bridge in April. These catastrophes have highlighted the dismal state of the highway infrastructure in the U.S. It is well known through ASCE report cards and other studies, that in addition to the highway infrastructure many other types of built infrastructure are in poor condition. The funds available in the nation's coffers are insufficient to rebuild our infrastructure. Different strategies are therefore

needed to cope with this looming problem.

Research and education must play a strong role in developing cost-effective solutions for the nation's infrastructure problems and for protecting the public. Manual bridge inspection that is the mainstay of most highway agencies today should be complemented with structural health monitoring using advanced sensing technologies so that impending disasters can be averted. New designs that use advanced, longer-lasting, and more durable materials need to be developed and implemented in practice. A systems approach that optimizes the reliability and safety of the entire network should be used. Congress and funding agencies must support universities to engage in the required R&D.

Another issue that has received widespread news coverage is fire safety, and in particular structural fire safety. In August, an intense fire burned within the 40-story Deutsche Bank steel building at Ground Zero for seven hours.

Fortunately, the building did not collapse. Very little investment has been made to develop structural fire engineering in the U.S. and there is a strong need for R&D as well as training. Foreseeing this need, we recruited Venkatesh Kodur to join us two years ago and have expanded our Civil Infrastructure Laboratory to include a world-class Structural Fire Testing Facility. With Dr. Kodur's leadership and the new facility, MSU is well positioned to lead the nation's effort to improve fire safety.

In this newsletter you can read about how our faculty, staff, and students are taking leadership roles in developing new solutions related to structural fire engineering and highway infrastructure renewal. During the course of this year we plan to hire additional faculty to strengthen the department's work in these areas. As in the past, I trust that our alumni and friends will support our growth and help us achieve our lofty goals. ✿

MSU Ignites Research (continued)



Left to right: Stuart Pigler, representing Congressman Mike Rogers; Venkatesh Kodur, professor of civil and environmental engineering; Ronald Harichandran, department chairperson; Satish Udpa, dean of the College of Engineering; and Ian Gray, vice president for research and graduate studies at MSU.



The furnace in the facility generates heat up to 2,200 degrees Fahrenheit.

One project underway at the new facility involves MSU engineers working on a project funded by the National Science Foundation (NSF) and Portland Cement Association, a national organization representing cement companies, to develop methods for improving fire performance of concrete structural systems. In another project, funded by the American Institute for Steel Construction, the new facility will be utilized to develop performance-based approaches for steel-framed buildings. For an NSF

“This world-class facility will be a beacon to bring faculty from other institutions and government agencies to work collectively with our faculty here at MSU.”

~ Ian Gray, Vice President for Research and Graduate Studies

and National Institute of Standards and Technology (NIST)-funded project, in collaboration with Princeton University, students are studying what happens inside a steel-framed building when the beams are exposed to fire.

“We need to better train our engineers in structural fire engineering. This is something that is severely lacking in the United States,” says Kodur. “Fire is a phenomenon that occurs so frequently; you see fire crews responding every day in communities everywhere. Yet, in general engineering curricula across the country, issues related to fire aren't even addressed. Engineering curricula need to include fire as a design variable so we can achieve better results.” Kodur believes that if rational engineering approaches are used, much more can be achieved from the safety point of view — both in terms of saving lives and protecting property.

“It is critical that we educate engineers who will build better buildings and better infrastructure, and who will go on to train better engineers for the future,” says Kodur. “Because today's young people will become tomorrow's faculty — those who will teach and conduct research in structural fire safety at major universities around the world.” ✿

—Laura Luptowski Seeley

Endowed Fellowship a Gift from Stuart and Charlotte Bogue



Stuart Bogue appreciates a good engineering job and that, in part, motivated him and his wife, Charlotte, to create an endowed fellowship at the MSU College of Engineering. The Bogues would like to see more engineers who are up to date in the latest technology, especially in the area of wastewater purification and treatment of environmental water resources.

The recipients of the Stuart H. and Charlotte A. Bogue Endowed Fellowship will be full-time gradu-

ate students majoring in civil or environmental engineering who are pursuing practical approaches to environmentally healthy infrastructures. Stuart especially wants to see more students learn how to specify hydraulic pumps. "That's a major part in the design of waste water treatment plants these days, but there are no classes in pump specification and selection."

The endowment is a reflection of Stuart's lifelong career. He received his bachelor's degree in civil engineering from MSU in 1949, then joined a consulting firm in the Detroit area and later became a partner in Pate, Hirn and Bogue. "It was good work, not boring," Stu says. Over the years, Stu served as the city engineer for several municipalities, including working more than 40 years for the city of St. Clair, Mich. He received a master's degree from the University of Michigan in 1951. "I believe in variety. I don't like getting single bids on projects, and it is the same with going to school," Stu says. "People with different backgrounds can give you different points of view."

Stu and Charlotte met at Port Huron (Mich.) High School where they both played saxophone in the band. After high school graduation, Stu joined the army and served in Europe during World War II. Charlotte worked in a clothing store to earn money for college and attended a junior college before transferring to MSU. She earned a bachelor's degree in home economics (now human ecology) in 1948.

Stu and Charlotte have been married 58 years and have three children and five grandchildren. They return to the MSU campus each year for homecoming, and Stu brought his 10-year-old grandson to Grandparents University this summer. Perhaps there will be another engineer in the Bogue family someday. 🌸

Donation Information

If you would like information about establishing an endowment or planning a gift from your estate to benefit the MSU College of Engineering, please contact Engineering Development at 517-355-8339 or egrdevel@egr.msu.edu. 🌸

Germain's Find Golden Opportunity to Make a Difference

Jim Germain values his degrees from MSU, in part because he had to earn the money for his education. He has both bachelor's and master's degrees in civil engineering (1956 and 1963, respectively). "In the early days, you could work summers to pay for college," Jim says. After two summers as a surveyor, he had to miss a year of college "because I ran out of money." For part of his master's degree, while working at John R. Snell Engineers in Lansing, he went to night school.

That commitment to education, in part, motivated Jim and his wife, Patsy, to establish the James and Patsy Germain Endowed Research Enhancement Fund in the Department of Civil and Environmental Engineering in the College of Engineering at MSU. This endowment will provide financial support for facilities maintenance and equipment upgrades that are critical to ongoing undergraduate, graduate, and faculty research.

During his professional career, Jim served in progressively more responsible positions in the areas of waste treatment and pollution abatement. After employment with Snell in Lansing and Dow Chemical in Midland, Jim worked for several engineering companies in Pennsylvania, eventually becoming a vice president and general manager of an international engineering firm in Reading, Penn. He finished his engineering career in private practice as a consulting environmental engineer. Jim is the author of numerous technical publications.

Jim used a lot of engineering skills in his career, but project and financial management became his forte. "Not a lot of engineers are good at management," Jim says.

While in Pennsylvania, Jim and Patsy became interested in real estate and are still involved in that business. Jim and Patsy, who are both originally from Bay City, met in high school. They have been married 52 years and have two daughters and a grandchild.

Jim believes that he owes a lot to the university and always wanted to give back in some way. When the sale of a property brought in unexpected cash, the Germain's saw it as "a golden opportunity to do something we wanted to do anyway." 🌸

Fund Helps to Maintain and Grow Civil Infrastructure Lab

Research plays a big part in the construction industry. H. Stanley Espenship (CE '64) knows that well. He worked most of his career as a structural engineer with a number of large corporations. "Research is a pivotal point," says Stan. "You have to have research to move forward in the construction field."

Stan, along with other alumni and key faculty members at the College of Engineering, believed

that MSU needed a "world class" research lab to enhance the university's position as a leader in the field of infrastructure research. Stan and his wife, Virginia, were donors in the creation of the Civil Infrastructure Research Laboratory, which was dedicated in 2002.

Now Stan is ensuring that there will be funds to keep the lab "first class." The Civil Infrastructure Laboratory Enhancement Fund

will be used to maintain the facility and provide improvements and equipment upgrades. Stan and Virginia donated the money to get the fund started. Faculty, staff, and friends of the Department of Civil and Environmental Engineering are encouraged to donate to this fund. "We need to get everyone involved to make it work," says Stan. 🌸

– Jane L. DePriest

NCPP Provides Innovative Approaches to Preserve Critical Transportation Infrastructure



For Larry Galehouse, director of the National Center for Pavement Preservation (NCPP), the recent Minnesota bridge tragedy, based on facts being developed, could be traced to a lack of timely preventive maintenance as a contributing factor. "If infrastructure preservation was practiced, the bridge may not have collapsed." Simple, inexpensive actions can be critical factors in preservation. "It is nothing glamorous. It is just taking care of what you have."

NCPP was established in 2003 by Michigan State University, the Federal Highway Administration (FHWA), and the Foundation for Pavement Preservation as a collaborative effort among government, industry, and academia. Galehouse, a professional engineer and surveyor, holds a degree in civil engineering from MSU. He worked for the Michigan Department of Transportation for many years before becoming director of NCPP.

"We cannot constantly rebuild roads. We have to preserve," Galehouse says. The organization's major goal is outreach; to date, Galehouse has worked with more than 30 state departments of transportation. He teaches state transportation agency engineers and administrators how to develop strategies to maintain highway systems with an emphasis on being proactive to prevent the need for costly reconstruction. Moreover, Galehouse points out that traffic delays caused by road reconstruction cost the U.S. economy billions of dollars. This approach has met with enthusiasm from transportation agencies. "The public is behind these efforts, too, when they understand that roads need maintenance, just like their houses and cars." Galehouse points out that, just as we wouldn't expect our cars to last long without regular maintenance, so we can't expect our highways to serve us well without thoughtful attention to their preservation.

NCPP was recently awarded a large contract from the American Association of State Highway and Transportation Officials (AASHTO). Through the AASHTO program NCPP provides nationwide "help desk" services to state transportation agencies. "We run the technical services program for transportation systems preservation," Galehouse says. "We are a new organization, but our future is bright."

Facts At a Glance

Location: Okemos, Michigan

Founded: July 11, 2003

Funding: Self-sufficient organization; funding comes from contracts with organizations, agencies, and industry groups

Employees: 5 full-time; 4 part-time

More info: www.pavementpreservation.org



Galehouse answers questions about highway preservation.

What does preservation mean? Preservation is a comprehensive business approach to managing highway networks. It is about repairing minor damage before it turns into expensive structural damage. It is about using a strategic network approach to preserve highways.

Does preservation end continuing problems with potholes? Yes, being proactive means addressing minor defects so you never have potholes. Historically in this country, we built roads, used them until they were worn out, then rebuilt them. Most roads are designed for 20 years, but usually last only 8-12 years if left unattended. Road agencies let problems develop and then try to fix them. NCPP's approach is to show a systematic way to manage the highway network and make it cost effective for taxpayers.

Why is preservation cost effective? Every \$1 spent on preventive maintenance eliminates or delays spending \$6 to \$10 on rehabilitation or reconstruction. By spending all our funds on the worst roads we lose the opportunity to use lower cost preventive maintenance treatments to preserve good roads. Our nation's highway system alone is valued at over \$2 trillion and there will never be enough money to rebuild it.

Are there other reasons why preservation is a good idea? Besides the economic savings, there are also environmental issues. We are running out of materials for highways. We are depleting good sources of materials and environmentally we cannot open up new sources like we once did. Also, traffic delays result in high fuel consumption and increased pollution.

Is preservation going to happen? It is happening right now. There is a national recognition that we need to change our emphasis from construction to preservation. That doesn't mean we will end construction, but it will not be done on the same scale as in the past. The shift is to preserve and safeguard instead of tearing down and building anew.

Does Michigan have unique conditions as far as roads go? Every state believes it has unique conditions. In Louisiana there is difficulty finding stable soil conditions. In Arizona it is the intense heat and sunlight. Tennessee and Kentucky actually have more freeze/thaw cycles than Michigan. In Alaska the permafrost and wide-ranging temperature swings are problems.

Why is NCPP important to MSU? Because of our affiliation with MSU, the university is being recognized as a national authority on highway infrastructure. We are able to bring cutting-edge research and best practices from the academic arena into applied practice. We have also established relationships with FHWA, and state and county highway agencies. This strengthens the bond between the public and academic sectors. It's what "outreach" is all about. 🌱

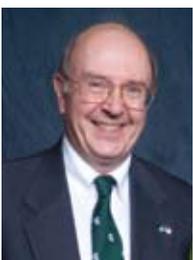
—Jane L. DePriest

Faculty and Staff Connections



Neeraj Buch, associate professor of civil and environmental engineering, received the 2007 Withrow Teaching Excellence Award. This is the third time he has won this award. Every year, each

department in the College of Engineering selects one faculty member to receive this award. Selection is based primarily on nominations from students. An outstanding instructor who constantly takes on greater challenges, Buch is known for his passionate, organized, and skillful instruction. When he assumed responsibility for the college-wide sophomore-level statics class in 2004, he developed PowerPoint slides of his lectures and used a personal response system to facilitate engagement of the 220 to 230 students in the class. He received SIRS (student instructional rating system) scores of 3.9 or higher in this course—ratings that are almost impossible to achieve in a large, lower-level class that is required for CEE students. Student nominations included comments such as: “structures his courses so students are motivated to learn; well organized, easy to contact, entertaining lecturer; invokes proper thought process in class.”



Mackenzie Davis, professor emeritus of environmental engineering, received an Honorary Alumni Award at the MSU Alumni Association Grand Awards Ceremony in September 2006 as

part of MSU’s 2006 Homecoming celebration. Recipients of these awards are selected for having high standards of integrity and character and for having demonstrated long-term volunteer service to MSU.

Davis came to MSU in 1973 after serving as a captain in the U.S. Army Medical Service Corps. At MSU he specialized in teaching and conducting research on pollution control and hazardous waste management. He belongs to numerous professional organizations and has won many honors. Most recently, Davis was named Educa-

tional Professional of the Year by the Michigan Water Environment Association (MWEA) for his efforts in promoting activities and professionalism in water resource education. He received the award in June 2007 at the association’s annual conference in Boyne Highlands, Michigan.

When he retired in 2003, he established the Mackenzie L. Davis Student Activity Discretionary Endowment Fund to enhance student activities. During his MSU career, Davis taught more than 8,000 students in 19 different courses, served 10 years as faculty adviser for Chi Epsilon (the civil engineering honor society), and coached MSU’s Concrete Canoe Team for 25 years. One Friday each fall, Davis declared “Spirit Day” in his classes. He gave an award to the person wearing the most green. He also encouraged everyone in his department to wear green every Friday. Now that he is retired, he still wears green on Fridays.



Syed A. Hashsham, Edwin Willits Associate Professor of civil and environmental engineering, received the 2007 Withrow Distinguished Researcher/Scholar Award. It recognizes

faculty members who have demonstrated excellence in scholarship who have been in service in the college for not more than seven years. Hashsham is an emerging research leader in the area of molecular biology and drinking water quality, developing powerful, yet cost-effective tools to address the problem of safe water on a global scale. His work on biochips for parallel microbial detection is of critical importance to federal agencies. He has helped attract \$9.5 million as PI, co-PI, or collaborator on 26 grants and has developed excellent collaborations at MSU, around the United States, and internationally. One collaborator says, “He is knowledgeable in emerging technology and able to translate his knowledge to work in interdisciplinary areas.”

Shu-Guang Li, professor of civil and environmental engineering, has been elected a fellow of the Geological Society of America (GSA) in recognition of his fundamental contributions to



the field of groundwater flow and contaminant transport modeling. Li will be recognized at the GSA’s October 2007 annual meeting in Denver. Li and his MSU research team have been investi-

gating new ways and new high-resolution data sources to model flow and contaminant transport in complex groundwater systems. He recently developed a nationally acclaimed software system for unified deterministic and stochastic groundwater modeling as well as a state-of-the-art laboratory for real-time computing and multiscale modeling. The National Science Foundation has continuously funded Li’s basic research during the past decade. The Michigan Department of Environmental Quality, the Great Lakes Protection Fund, the Environmental Protection Agency, the United States Geological Survey, local city governments, private industries, and citizen groups have funded his applied research. He serves on the editorial board of the several research journals.



Parviz Soroushian, professor of civil and environmental engineering, was named a fellow by the American Society of Civil Engineers for leadership and contributions to the profession. He has

pioneered major developments in the field of civil engineering materials, emphasizing cement-based composites. He has also made major innovations in the field of smart, nano-structured and composite materials and protective coatings. His long-term research on cellulose fiber cement has contributed to a broad introduction of fiber cement products to residential construction markets in the United States. Thirteen patents and 77 technical papers published in refereed journals substantiate his research accomplishments. Soroushian is a fellow of the American Concrete Institute, and has chaired the ACI Committee on fiber cement products. 🌸

Alumni Connections

Woodruff Receives CEE Distinguished Alumni Award



Paul H. Woodruff (BS '59, MS '61) received the CEE Distinguished Alumni Award at the annual College of Engineering Alumni Awards Banquet in May 2007. Established in 2003,

this award honors graduates of the department who are national and community leaders in their profession and have made meaningful contributions to MSU.

After college, Woodruff worked for Dow Chemical Company's pollution control department. Two years later, he joined a company in Philadelphia that provided environmental consulting services to industry. In 1977 he founded the Environmental Resources Management Group (ERM), an international consultancy. By the time he retired, the company had become a global leader and was a \$300-million-a-year business.

Woodruff has a long-standing association with MSU, serving on the advisory board of CEE several times and has been president of MSU's Philadelphia Area Alumni Club. In 1993, Paul and his wife, the Reverend Dr. Marcia Woodruff, established an endowed scholarship for high school graduates. They live in Malvern, Penn., a suburb of Philadelphia. They have six children and 19 grandchildren.

Chaikittisilpa Honored with Alumni Service Award



Anan Chaikittisilpa (BS '69) of Bangkok, Thailand, received an Alumni Service Award, which is given to alumni who have demonstrated outstanding volunteer

service to MSU and have done meritorious public service. The award was presented at the MSU Alumni Association Grand Awards Ceremony in September 2006 as part of MSU's 2006 Homecoming celebration.

Chaikittisilpa established Veena International Co. Ltd., a distributor of chemical maintenance products, in Thailand in 1974. He serves on numerous boards in Thailand and has an outstanding record of distinguished service in his country. Chaikittisilpa also is dedicated and loyal to MSU. He is the founder and first president of the Thai MSU Alumni Association. He continues to be a prime mover in what has become one of MSU's largest and most active international alumni clubs. John Hudzik, MSU vice president for global engagement and strategic projects, says Chaikittisilpa's commitment and loyalty to MSU are "surpassed by none."

Alumni News

Anthony Baciak, Jr. (BS '95) works for Crispell-Snyder, Inc. (CS) as a project manager on public works and transportation projects in southeastern Wisconsin. Prior to joining CS in 2005, Baciak worked for the Michigan Department of Transportation (MDOT) for five years. He received the MDOT Simply Super Service Award in 2004 for assisting in developing a solution on a controversial project. He also worked for Jones & Henry Engineers, Ltd., designing municipal water and sanitary sewer projects throughout southern Michigan.

Thomas Kang (MS '00) has a new appointment as assistant professor, beginning August 2007 in the school of Civil Engineering and Environmental Science at the University of Oklahoma (OU). Prior to joining OU, Kang earned his PhD in civil engineering from the University of California, Los Angeles (UCLA), in September 2004 and worked as a lecturer and postdoctoral researcher at UCLA until June 2007.



Timothy D. McNamara (BS '79, MS '81) was honored this September with the Raymond J. Faust Award from the Michigan Section of the American Water Works Association in

recognition of his outstanding personal service in the water supply field. McNamara is a principal and senior vice president at Fishbeck, Thompson, Carr & Huber, Inc. In his more than 27 years of service, McNamara has contributed to safe public health engineering practices through efforts to advance sound water treatment and supply technology.

Corwin Mabery (BS '94) became a partner in Davis Land Surveying and Engineering in 2000. He is currently responsible for all engineering and construction management projects. Davis Land Surveying and Engineering is a small civil engineering firm located in Lapeer, Mich., specializing in "hands-on" service for private and public clients. 🌸



Arthur Bensen Hopperstead, (BS '48) died August 30, 2007, at the age of 82. He started his career with Foster Engineering Co., designing and inspecting bridges in Michigan. In 1950

he was appointed an engineering inspector for the Pennsylvania Turnpike Commission and was a construction engineer for Dinardo Construction in Pittsburgh, Pennsylvania, before he joined Trumbull Corp. of Pittsburgh as chief engineer and retired as vice president. He is survived by his wife, Dorothy, four children, and five grandchildren. 🌸

Student Connections

2007 Academic Awards

Congratulations to the following students from the Department of Civil and Environmental Engineering who were recognized for academic excellence and service to the community.

Outstanding Graduate Student and Fellowship Awards: Samuel Baushke, David Bendert, Monther Dwaikat, Tewodros Ghebrab, Geneva Hulslander, Nizar Lajnef, Shawn McElmurry, Golrokh Nossoni, Milind Prabhu, Robert Stedfelt, Julian Taurozzi, and Dieter Tourlousse.

Undergraduate Awards

Best Senior Design Project (Fall 2006): Yana Chudnaya, Colin Castle, Eric Keefe, Jason Radabaugh, and Mark Smith.

Best Senior Design Project (Spring 2007): Diana Herriman, Christopher James, Jordan Phillips, Heather Ploch, and Sarah Bandomelen.

Academic Achievement Awards 2007: Russell Blakely, Ronald Davis, Bradley Fase, Timothy Francisco, Christopher James, and Jason Provines.

Concrete Canoe Competition Fun and Challenging

Would you take a ride in a concrete canoe? Eight MSU students from the Department of Civil and Environmental Engineering did just that this spring—and they built the canoe, named Phoenix. It is all part of the annual American Society of Civil Engineers North Central Regional Conference Concrete Canoe Competition.

A concrete canoe is a boat shaped like a canoe that is made of lightweight concrete, reinforced with materials such as fiberglass or carbon fiber. It is made to float with four paddlers. The canoe also has to float when completely filled with water, which is an additional challenge.

This year's contest was held at Michigan Technological University in Houghton, Mich. The MSU team ranked sixth overall out of seven teams; Michigan Tech won the regional competition.

Co-captains of the team are Joel Brown and Brad Fase. Other members of the team include Rachel Chojnacki, Staci DeRegnaucourt, Nnaemeka Ezekwemba, Chris Nelson, Jessica Webb, and Dan Williams. Neeraj Buch, associate professor, is the faculty adviser.

Steel Bridge Competition Brings Honors for MSU Team

This spring a team of students from the civil engineering department participated in the North Central Student Steel Bridge Contest, which was held at Michigan Tech. The top three teams were very close in score, with Lawrence Technological University (Southfield, Michigan) finishing first, MSU second, and University of Michigan third. Michigan Tech and several teams from Ohio schools also competed.

The top two teams were invited to the national competition. So, the MSU Steel Bridge team took off for California State University Northridge at the end of May. In a field of 43 excellent bridges from the United States and Canada, MSU finished 25th. MSU had high rankings in three of the six categories of competition: Lightness, display (esthetics), and efficiency (a composite of lightness and stiffness).

Heather Thurston, Jeffrey Roberts and Jordan Phillips were co-captains of the team. Other team members included Ian McCullough, Marcus Bush, Steven Pump, David Coger, Keith Troyer, Timothy Francisco, Christopher Ciesa, Therese Pasichnyk, Thomas Gavin, Erik Zuker, Andrew Gronowski and Jacob Wenger. Frank Hatfield, professor emeritus, is the lead adviser for the team. 🌸



The MSU Steel Bridge team at the national competition. Standing on top on the bridge from left to right are David Coger, Marcus Bush, Steven Pump, and Jordan Phillips. Standing on the ground from left to right are Jeffrey Roberts, Jacob Wenger, Christopher Ciesa, Heather Thurston, Ian McCullough, and Andrew Gronowski.

Professional Advisory Board Members

The Department of Civil and Environmental Engineering welcomes the following new members to the Professional Advisory Board:



Bellandra Foster, PhD, PE

President
BBF Engineering Services, PC
Detroit, Mich.

Thomas W. Larder, PE

Unit Vice President
Tetra Tech, Inc.
Ann Arbor, Mich.



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