

CE NEWS

The link from MSU Civil Engineering
to our alumni and friends



Partnerships for Student Success • Summer 2004

Concrete canoe splashes toward national competition

If only Meriwether Lewis had Montana State University's team of civil engineers to build his experimental canoe, it wouldn't have sunk somewhere along the Missouri River two centuries ago. This year's Concrete Canoe Team of 10 MSU student members of the American Society of Civil Engineers not only floated their 350-pound craft, they won the Pacific Northwest Regional Concrete Canoe Competition against teams from nine other colleges and universities.

Their canoe, the Golden Stonefly, had to successfully float while two or four students at a time raced 100-meter sprints and 600-meter endurance races. During the annual competition April 1-3 in **Klamath Falls, Ore.**, the MSU team took

first place overall and first in oral presentation and design report. They placed third in aesthetics, third in men's sprint and third in coed sprint.

The team designed the canoe in the fall and built it this spring, taking an estimated 900 hours to design, test and construct—all extracurricular time.

The students do not receive college credit for their efforts.

"Student engineering design competitions, like the concrete canoe, are invaluable learning experiences for those students who participate," said Brett Gunnink, head of civil engineering. "These experiences allow students to apply knowledge gained in the class-

room to interesting experiments. Students further develop their critical thinking and analytical skills and refine their team building and communication skills."

"The team enjoys fly-fishing," said team captain Nicole Anderson. "The name Golden Stonefly came about because it contains the school colors and is an actual Montana fishing fly." She added that the oral presentation was a mock sales pitch for the drift boat of the future.

As the first MSU team ever to qualify for nationals, the Golden Stonefly placed a respectable 18th in the nation during competitions June 17-20 in Washington, D.C.

by Jean Arthur, MSU News Service

Raymond Gamradt of Missoula (Jr.), Bruce Lieffring of Bozeman (Sr.), RaeAnne Huber of Sioux Falls, S.D. (Jr.), Sydney Arthur of Bozeman (Jr.), Team Captain Nicole Anderson of Bozeman (Jr.), Chris Crawford of Visalia, Calif. (Sr.), Steven Hebnes of Anchorage (Jr.), Jayme Berard of Missoula (Sr.), William Peete of Greensboro, N.C. (Fr.), and Nicole Arrington of Helena (Jr.). Photo by Sydney Arthur



Greetings from Bozeman!

We are updating the look of our department newsletter this year and hope that you will like the new multi-color layout.

Along with this change, we have created a theme. The theme for this year's newsletter is "Partnerships for Student Success." In this issue, you will find several examples of our departmental students' extraordinary achievements. You'll read about our ITE student chapter's recognition as international outstanding student chapter; learn about our AGC student chapter's hard work and generosity in raising scholarship funds; discover that our ASCE student chapter is competing nationally in the concrete canoe competition, and finally read the article about Brian Story. You will see that our students balance strong academic achievement with their love of the outdoors—Montana style.

There is another story behind these student success stories. These achievements are due in no small part to the outstanding support our students receive from various individuals, consulting engineers, contractors and associates. In this way many of you share in their success and deserve many thanks. If I attempted to list all who helped along the way, the list would be long, and I'd most certainly forget someone, so I'll not make that mistake.

However, the newsletter does include an article about a new relationship with the Fluor Corporation. Sustaining existing partnerships and developing new partnerships are crucial for maintaining and increasing the level of excellence in civil engineering and construction education that exists at MSU. If you have contributed to this level of excellence in the past, we thank you. If not, we invite you to participate in the future. My office door is always open—stop by and see us.

—Brett Gunnink, Ph.D., P.E.
Professor and Department Head



MSU students recognized as International Transportation Engineering leaders

In 2003, the MSU Institute of Transportation Engineers (ITE) student chapter was named the International Outstanding Institute of Transportation Engineers Student Chapter. This honor has been awarded to Montana State University for the third time in five years. Montana State University remains the only university to have been awarded the outstanding ITE student chapter for two consecutive years.

For the fifth time in six years, the MSU Institute of Transportation Engineer's (ITE) Student Chapter was named Outstanding Student Chapter in ITE's District 6, which comprises 29 universities in 13 western states including California. The award is based upon a year-long program of activities related to technical activities, professional interaction and involvement, promotion of the profession among peers and public service and outreach.

Five students, including Student Chapter President Trevor Iman (**Hamilton**), Vice President Cody Salo (**Helena**), Secretary Meagan Powers (**Billings**), Webmaster Jeff Johnson (**Deer Lodge**) and incoming President Scott Lee (**Spokane, Wash.**) traveled to the District 6 Annual Meeting in Sacramento, Calif. in July to be formally recognized for their exemplary efforts. Other officers not able to attend this meeting include Past President Joey Paskey (**Frenchtown**) and Treasurer Mike Browne (**Butte**).

During the same meeting, Trevor Iman, MSU-ITE's President for 2003-2004 received the Outstanding Student Award for District 6. Student nominations were solicited from each university in the District with the intent of recognizing extraordinary effort, leadership and dedication to ITE. The award was presented to Trevor Iman by former student and MSU-ITE Student Chapter President, Alyssa Reynolds.

As award recipients in District 6, MSU-ITE goes on to compete with such prestigious universities as Purdue, Texas A&M, Georgia Tech and others for the honor of being named International Outstanding ITE Student Chapter.



2002-03 MSU ITE Chapter officers. Front row, l to r: Trevor Iman; Jack Freeman, International President; Joey Paskey; Meagan Powers. Back: Jodi Carson, ITE Faculty Advisor; Scott Lee; Kelly Williams; Department Head Brett Gunnink.

CE News is produced annually by the Montana State University Civil Engineering Department.

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Engineers turn hot dogs into scholarships

Six thousand hot dogs and some engineering know-how have created one of Montana State University's largest student-funded donations for a scholarship.

Hot dog sales, at 75 cents each, also helped send 28 students from the College of Engineering's Construction Engineering Technology (CET) program to a regional competition in **Reno, Nev.** in February.

The Associated General Contractors Student Chapter (AGCSC), with 60 CET students, donated \$5,000 to the Nick Clare Scholarship endowment fund last month. The memorial scholarship was established in 2002 after Clare was killed in a November 2001 automobile accident. Clare was president of the AGCSC at the time of his death. The first \$1,000 scholarship was awarded to an engineering student this year.

"We make about \$200 a week," said club secretary Mark Zabrocki, a junior from **Billings**. "We also raise money from an annual auction during the Montana Contractors Association convention. We used the money to offset the cost of the trip to Reno for the ASC Reno 2004 Construction Management Conference and Student Competition."

CET is among the oldest accredited construction education programs in the country. The 250 MSU students in the four-year program explore earthwork, highway technology,



The MSU College of Engineering's Construction Engineering Technology students (including Scott McHenry, pictured) raised \$5,000 for scholarships by selling hot dogs.

project management and methods. They learn the technology, supervision and management of engineering, and industrial and building construction.

The program's content is designed to prepare students for professional employment in construction companies, consulting engineering companies, surveying and photogrammetry companies, industrial and manufacturing companies, and government agencies, including the military.

Competitions such as the regional event in Reno provide realistic problems for teams of construction engineering students to solve.

The MSU teams competed in four divisions: commercial building, design-build, heavy civil and residential. Each division has a different challenge. The commercial building team had to plan a two-story addition for a hospital.

The heavy civil team worked on

a \$30-million fish ladder around Oregon's Bonneville Dam. The residential team dealt with a housing development and sales pavilion.

"We have six people on a team," says Mark Larson, a senior from **Dutton**. "We received our construction challenges at 6 a.m. and had until 10 p.m. to turn in a project bid. The project could be something like widening and repaving a road in Yosemite National Park or building a \$15 million parking garage."

The students must compile a contractor's bid including how many hours may be involved with an excavator or laborers and subcontractors.

"All the MSU teams did an excellent job in their estimating, scheduling and proposal presentation," said Michael Whelan, program coordinator of CET.

"Results include a third-place finish in the design-build category. The project was a police station in California that is currently under construction." The third-place design-build team included Anthony Copley (team leader), Stuart Doyle, Nate Jacobs, Ean McClure, Josh Peterson and Trent Short.

While the program aims to prepare students to perform the basic planning, estimating and scheduling functions of a constructor, the students have no intention of trying to build a better hot dog.

Contact: Michael Whelan, 994-6134

written by Jean Arthur, MSU News Service

Fluor Government Group gives \$15,000 for College of Engineering women

Fluor Government Group, of **Richland, Wash.**, selected Montana State University's College of Engineering as one of its Development Schools under Fluor's corporate university program. With an initial \$15,000 gift, Fluor Government Group is providing scholarship support to recruit and retain women in construction engineering.

In addition, the company is providing funds to support student leaders' travel to national conferences and to support outreach activities that encourage young women to consider careers in construction engineering.

"MSU hires are among the best of our work force and are recognized for their excellent work ethic and strong foundation in construction and engineering principles," said Robert "Bob" Heck, Fluor's representative. "They have shown the ability to take on more responsibility and move up within the organization."

MSU engineering student gets into water studies

Brian Story is a senior civil engineering major (bio-resources option) at Montana State University. When Brian graduates in 2005, he expects to be employed in the water resources engineering field. The 20-year-old Bozeman High School graduate doesn't just study water issues—he lives them.

Brian's knowledge of snow science and avalanche behavior has helped him and back-country skiing companions choose safe slopes. That translated to work with MSU avalanche expert and civil engineering professor, Ed Adams. Brian also has interest in the other end of the hydrologic cycle for snow because it is running water that truly interests him.

That enthusiasm combined with a 3.99 GPA, extracurricular activities and varied talents have set him up to be awarded the MSU Student of the Month, an award sponsored by the Bozeman Rotary Club.

Brian has received numerous other awards and scholarships including the E.R. Dodge Scholarship, the MSU University Scholarship, the MSU Merit Scholarship and a MSU Music Department Scholarship. Brian is in his second year as President of the Bio-Resources Engineering Student Club.



MSU civil engineering student Brian Story of Bozeman travels the backcountry during a recent alpine adventure. (Photo courtesy of Story.)

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