

Civil Engineering

FALL 2014

MSU takes 1st place in mixed-use at ASC's competition in Reno – more on page 3



MSU's mixed-use team placed first at the Associated Schools of Construction estimating competition in Reno, Nev., in February, 2014. Pictured are (from left) Connor Buckley, Jess Buck, Cody Henneman in the front row, and Jesse Flattum, Peter Schultz, Taylor Davis, Scott Keller (faculty coach). Photo courtesy of the Associated Schools of Construction.

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New Faculty

This year brought new faces and talent to the faculty in Civil Engineering.

Dr. Ellen Lauchnor (environmental engineering) comes to us from the Center for Biofilm Engineering. She is originally from Miles City, Mont. Ellen's research focuses on biofilms in the treatment of wastewater and microbially driven mineral formation. Away from campus, Ellen likes to trail run, ski, and spend time with her dogs.

Dr. Adrienne (Adie) Phillips (environmental engineering) hails from eastern Oregon and originally moved to Montana to attend Carroll College. Her research is novel microbiological-based technologies that can be used to seal leakage pathways in various media and improve, for example, the integrity of cap-rocks and wellbores. In Adie's spare time she enjoys gardening and has recently built a greenhouse.

Dr. Damon Fick, P.E. (structural engineering) joined us last spring. He was on the faculty at South Dakota School of Mines and Technology, and previously worked several years for a consulting firm in his home state of Minnesota. Damon's research focus is the behavior of reinforced concrete structures and the remote monitoring and analysis of bridges. Outside of work Damon can be found working on projects at home, or enjoying camping, fishing, and other outdoor activities.

Accolades & Applause

Civil Engineering is privileged to have great people in our department. Individuals recognized this year for their outstanding work include the following:

At the state level

- Ted Williams, Emeritus Professor – Inducted into Montana Engineering Hall of Fame
- Anne Camper, Professor – Regents Professor - the first woman at MSU and the first faculty member in MSU's College of Engineering to be so recognized.

At the university level

- Sarah Foster, CE/BREN Student, University Award of Excellence
- Brent Zundel, CE/BREN Student, University Award of Excellence and Fulbright Scholarship
- Bob Mokwa, Professor – President's Excellence in Teaching Award, Faculty Leadership Fellowship

At the college level

- Clint Van Voast, Lisa Woerlein, Sarah Foster – Outstanding CET, CE and CE/BREN Students
- Ed Adams, Professor – Distinguished Professor Award
- Reneé Hecox, Academic Advisor – Excellence in Advising Award



Ellen Lauchnor, PhD
Environmental Engineering



Adrienne (Adie) Phillips, PhD
Environmental Engineering



Damon Fick, PhD, PE
Structural Engineering

MSU Engineering on Display

If you would like to have your work displayed in the CE halls at MSU as motivation and encouragement to our students, we'd love to collectively show our pride in you and the profession! In the corridors of Cobleigh Hall we are starting a gallery of rotating photos of projects our alumni have done. If interested, please send either a 11x17 photograph, or a 11x17 electronic file to the department. Be sure to include a brief description of the project, your name, firm, and year of your graduation. For more information please call 406-994-2111 or email cedept@ce.montana.edu.

Photo submissions are a great way to showcase our talented alumni.

Our first submission is from Dennis Nottingham, (CE, '62) of PND Engineers.

City planners in Anchorage, Alaska, wanted a safe crossing for pedestrians but also needed a design that would accommodate dog sled teams on the Iditarod race course. The result was Tudor Road bridge.



Dear alumni and friends:

Rewriting an old adage to read "Practice makes permanent", this past year Dr. Brett Gunnink was chosen as the Dean of the College of Engineering and I was appointed Department Head of Civil Engineering. (Our titles no longer include "interim" or "acting.") Both of us are honored to serve in these roles in a college and department that has outstanding students, faculty, staff and alumni, at an institution that is committed to educating the next generation of engineers and advancing engineering science and practice into the 21st century. Indeed, over the past year the quality of our students, faculty, staff and alumni was affirmed by their receipt of multiple awards/honors that are highlighted elsewhere in this newsletter, and I encourage you to take a moment to review them.

As reported last year, enrollment in the Department's programs remains strong at approximately 600 students, who are served by 24 full-time faculty and 3 staff members. Three new faculty members have recently come on board; please join me in welcoming Damon Fick (structural), Adrienne Phillips (environmental) and Ellen Lauchnor (environmental).

Research activity continues to be strong, focused in areas such as snow/ice mechanics, transportation safety and operations, sustainable materials and structures, geosynthetics, soil-structure interaction, highway materials, ecohydraulics, alternate treatment systems, bio-films, bio-remediation, and more.

The major and continuing news item from this past year was the \$50 million dollar gift from engineering alumni Norm Asbjornson to build a new innovative engineering center here at MSU. This gift reflects the positive energy flowing across the College of Engineering at MSU. We are in the planning stage at present, with an expected building completion in

Greetings from the head of the Civil Engineering Department

March of 2018. Also this past year we celebrated the 50th anniversary of our Construction Engineering Technology program, and we thank everyone who was able to join us at the Construction Recognition Dinner in February.

If you have any observations about the directions of the civil and construction engineering professions, ideas about something we need to do better, or just want to update the Department on what you are doing, please drop me a line (jerrys@ce.montana.edu). I will be delighted to hear from you. Thank you for all of your support for our students and our programs.

Jerry Stephens, PhD, PE
Professor and Department Head

Accolades, FROM PAGE 1

- Allison Banfield, IT Manager - Classified Employee Award
- Al Cunningham, Professor - CBE Outstanding Faculty Award
- Michael Sanderson, Alumni - Alumni Achievement Award

National Scholarships

- Flynn Murray, CE Student, NSF Graduate Research Fellowship
- Brent Zundel, CE/BREN Student, Fulbright Scholarship

Ted Williams, Professor Emeritus, inducted into Montana Engineers Hall of Fame



This past year CE professor emeritus Ted Williams was inducted as the 15th member of the Montana Professional Engineers Hall of Fame. Ted actively taught in the department over a span of almost five decades, starting at MSU

Five of Six ASC Estimating Competition Teams Placed in Their Division

Congratulations to our ASC regional estimating competition teams - five out of six teams that went to the annual meet sponsored by the Associated Schools of Construction in Reno, Nev., this year placed in their competition division. Competing against the top 40 schools in the West, MSU took first place in Mixed-Use, second place in Marine Structures and Heavy Civil, and third place in Commercial and Concrete Solutions. Over 40 construction companies contributed their time, expertise and/or financial resources to this effort, and we gratefully acknowledge their support of our students and programs. (See team photo on page 1.)

in 1956. Ted grew up farming onions and cantaloupes in Colorado, served in the army (WWII) and then used his GI bill to attend college. Over the years Ted served in a variety of capacities at MSU, including associate dean and vice president for research. Ted, who continued to teach hydraulics even after his formal retirement, commented in a recent interview, "It was hard to give it up. But I have taken a lot of satisfaction in the fact that engineers solve problems and create the infrastructure that produces a better life for people. And as a professor, I was able to watch my students go out and have wonderful careers in engineering."

Ed Adams, Professor, named Distinguished Professor, College of Engineering



Professor Ed Adams was named as a Distinguished Professor in the College of Engineering in recognition of his outstanding contributions as an instructor in engineering mechanics and researcher in snow and ice mechanics.

In his 30-year career, Ed has focused on snow and ice mechanics. He has played key roles in 35 sponsored research projects, more than 70 presentations, and more than 70 publications. He is an Editor for the Journal of Glaciology and is collaborating with three international colleagues and a publisher on the first-ever textbook on snow mechanics. Primarily due to Ed's efforts, MSU continues to be recognized internationally for its expertise in snow, ice and avalanche mechanics.

Ed has taught nine different courses in which students apply fundamental math and science principles to solve engineering problems. Students consistently comment on the difficulty of the mate-

rial and their appreciation of Dr. Adams' help in comprehending it. Although he is very comfortable teaching, he elected to "flip" the strength of materials class, evidence that he readily invests his time to serve our students better. Graduate students appreciate his depth of knowledge, clarity, and help in developing critical thinking skills. One described mentorship from Ed as "one of the great gems of my time at MSU."

His audience is extensive. He has helped the Academy of Applied Sciences provide a meaningful research experience to high school students and he conducts avalanche training for the American Avalanche Institute. His outreach has ranged from Good Morning America, to People magazine, to museum exhibits, to local elementary schools. Just this past month, both the Canadian and British Broadcasting Corporations worked with him on documentaries.

Anne Camper, Professor, named Regents Professor



The Montana University System (MUS) Board of Regents unanimously approved the appointment of Dr. Anne Camper to Regents Professor at their meeting in Bozeman on Thursday, November 21. Regents Professor is the system's top honor for faculty of distinction.

Dr. Camper is a professor of civil engineering at MSU-Bozeman and has been an exemplary researcher, faculty member, mentor and administrator at MSU for more than 40 years. She is a national expert in biofilm growth and control in drinking and industrial water systems. Dr. Camper has been instrumental in advancing the careers of almost 40

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Wanted: Professional Mentors for Student Organizations, Experience NECESSARY

The MSU student chapter of Engineers Without Borders continues to work on projects to bring fresh drinking water and sanitary wastewater facilities to schools in Kenya's Khwisero District. More than 120 students have travelled to Kenya to work on the project over the past nine years.

If you want to work with some highly capable, motivated students overcoming unusual challenges halfway around the world, please contact EWB's advisor, Professor Otto Stein (ottos@ce.montana.edu) or contact the students directly (ewbmsu@gmail.com). Mentors are needed both for student activities on-campus and in Africa.

For more information, visit the MSU-EWB website at www.ewb-msu.org/

All student organizations can use support. Contact us at 406-994-2111 or via cedept@ce.montana.edu to learn about specific needs.



Camper, FROM PAGE 3

graduate students, and she has been actively involved in advancing Native American engineering education.

Dr. Camper is the first woman and first engineer to be appointed Regents Professor in the Montana University System. Her career accomplishments were recently featured by MSU News.

Visit Us Online

The Department has a webpage and is on Facebook, come see us at www.coe.montana.edu/ce



Changes in CE: Mov'in, Show'in, Shak'in, Build'in and Break'in (the mold that is)

After a new dean, a new department head, and new faculty, we kept the “new” in this year. With more students and expanded programs to support them, we need to be proactive with practical and exciting new educational spaces. Additionally, some of our alumni have been inspiring us with their ideas and funding to help support and celebrate the success of our students. A sampling of our new additions — across the spectrum from large to small — follows:

- Courtyard renovation east of Cobleigh Hall to serve as an outdoor “lab” for hands-on experiential learning (right below).
- A new Engineering Mechanics Help Center. Already a huge success with students.
- A new Peer Advising Center, scheduled to be up and making a difference in Spring '15.
- A new 225 kip tension/compression test machine in the Materials Lab (left below).
- New and MORE! student lockers.
- New custom cabinetry display cases for our competition awards.
- Main office suite update — bringing administrative and academic support together in one place!
- Lastly (for now!) custom wall frames to proudly exhibit projects that our alumni have contributed to.

