Record Turnout for 2011 CCE Graduation

The School of Civil and Construction Engineering (CCE) held its annual commencement ceremony on June 10. More than 1250 friends and family joined together in the LaSalle Stewart Center to witness the 223 undergraduates and 60 graduate students receive their diplomas. The largest CCE graduation ceremony to-date!

Scott Ashford, Professor and School Head, was the master of ceremonies for the evening. Professor Ashford wished the graduates success in their careers and personal endeavors and shared with them his “Ten Rules to Work By.” He emphasized doing the right thing, staying involved by connecting with local ASCE or AGC Chapters and giving back to the community and University. First and foremost, he says, “Keep your priorities straight. Family first. Do stuff with your friends. Take vacations. Work hard and play hard. It’s all a balance. Enjoy life!”

Student speakers for the evening included Marc Putman, (CEM) President of the AGC Student Chapter and Sri Benson, (CE) President of the ASCE Student Chapter.

Marc provided a year in review of the AGC Student Chapter activities and recognized student achievements accomplished by the Class of 2011. Sri reminisced on his time with classmates and lessons learned in the classroom and at home. He imparted the wisdom of Professor Schulz and his Father, “Draw a sketch, check your work, and experience is more valuable than gold.”

Awards were presented to the Student of the Year in both CEM and CE. Students are selected by their Professors based on academic standing, student activity involvement and attitude. This year awards were given to Jamie Clune (CEM) and Brittany Snyder (CE).

Family, friends, faculty and staff joined the graduates for a reception outside of the Alumni Center after the ceremony.

Congratulations to the Class of 2011!
Greetings from the Construction Education Foundation

The CEM Class of ’11 has now graduated and many of these constructors and engineers are working with our partners throughout the Pacific Northwest. The CEM program at OSU has always had a strong relationship with our industry partners and it is important that we maintain these relationships. As our graduates and future leaders start the journey of their careers, we ask that you stay as involved in our program just as the past graduates and current leaders in our industry do. The Reno competition takes significant effort and has been very well supported by industry. Other activities that make our program great include guest lectures, speaker meetings with the OSU AGC Student Chapter, providing “real world” examples for class projects, contractor’s night, the AGC Golf Tournament, and many other activities. The CEM program at OSU is unique in that we receive significant industry support from alums and partners. I encourage our new and recent alumni to stay involved – the strength of our program depends on our partners participation.

David Trejo, Ph.D., P.E.
CROVALLIS, Ore. – The massive subduction zone earthquake in Japan caused a significant level of soil “liquefaction” that has surprised researchers with its widespread severity, a new analysis shows.

The findings also raise questions about whether existing building codes and engineering technologies are adequately accounting for this phenomenon in other vulnerable locations, which in the U.S. include Portland, Ore., parts of the Willamette Valley and other areas of Oregon, Washington and California.

A preliminary report about some of the damage in Japan has just been concluded by the Geotechnical Extreme Events Reconnaissance, or GEER advance team, in work supported by the National Science Foundation.

The broad geographic extent of the liquefaction over hundreds of miles was daunting to experienced engineers who are accustomed to seeing disaster sites, including the recent earthquakes in Chile and New Zealand.

“We’ve seen localized examples of soil liquefaction as extreme as this before, but the distance and extent of damage in Japan were unusually severe,” said Scott Ashford, a professor of geotechnical engineering at Oregon State University and a member of this research team.

“Entire structures were tilted and sinking into the sediments, even while they remained intact,” Ashford said. “The shifts in soil destroyed water, sewer and gas pipelines, crippling the utilities and infrastructure these communities need to function. We saw some places that sank as much as four feet.”

Some degree of soil liquefaction is common in almost any major earthquake. It’s a phenomenon in which saturated soils, particularly recent sediments, sand, gravel or fill, can lose much of their strength and flow during an earthquake. This can allow structures to shift or sink and significantly magnify the structural damage produced by the shaking itself.

But most earthquakes are much shorter than the recent event in Japan, Ashford said. The length of the Japanese earthquake, as much as five minutes, may force researchers to reconsider the extent of liquefaction damage possible in situations such as this.

“With such a long-lasting earthquake, we saw how structures that might have been okay after 30 seconds just continued to sink and tilt as the shaking continued for several more minutes,” he said. “And it was clear that younger sediments, and especially areas built on recently filled ground, are much more vulnerable.”

The data provided by analyzing the Japanese earthquake, researchers said, should make it possible to improve the understanding of this soil phenomenon and better prepare for it in the future. Ashford said it was critical for the team to collect the information quickly, before damage was removed in the recovery efforts.

“There’s no doubt that we’ll learn things from what happened in Japan that will help us to mitigate risks in other similar events,” Ashford said. “Future construction in some places may make more use of techniques known to reduce liquefaction, such as better compaction to make soils dense, or use of reinforcing stone columns.”

The massive subduction zone earthquakes capable of this type of shaking, which are the most powerful in the world, don’t happen everywhere, even in other regions such as Southern California that face seismic risks. But an event almost exactly like that is expected in the Pacific Northwest from the Cascadia Subduction Zone, and the new findings make it clear that liquefaction will be a critical issue there.

Many parts of that region, from northern California to British Columbia, have younger soils vulnerable to liquefaction - on the coast, near river deposits or in areas with filled ground. The “young” sediments, in geologic terms, may be those deposited within the past 10,000 years or more. In Oregon, for instance, that describes much of downtown Portland, the Portland International Airport, nearby industrial facilities and other cities and parts of the Willamette Valley.

Continued on Page 7
AGC Student Chapter at Oregon State University

The 40th Annual Contractors’ Night took place on April 15, with a record turn out of 88 contractors representing 27 industry partner companies, 76 students and 11 faculty members. The event was coordinated and hosted by the AGC Student Chapter.

Keynote Speaker for the evening was Stacy Allison, businesswoman, adventurer, author, motivational speaker, and first American woman to summit Mt. Everest. Stacy related her experience as an expedition leader on the trek to summit Mt. Everest to the challenges we all face in life and in our careers. She imparted guests with her reflection, “If you see yourself as trying to beat the mountain, eventually the mountain will win. You don’t conquer mountains, you cooperate with them.”

Student achievements in the ASC Competition in Reno, NV were recognized along with the awarding of the 2011 Hal Pritchett Honorary Scholarship.

The students also announced the CEM Instructor of the Year, an award selected by the students. Joe Fradella received the award for his outstanding efforts in the classroom.

Closing the ceremony, the new officers for the 2011-12 school year were initiated. Thank you to our 2010-11 Officers for doing such an outstanding job!

2010-11 AGC Student Chapter Officers
Marc Putman, Ann Yriarte, Alicia Yoder, Sarah Sullivan, Jamie Clune, Kodi Long, Shaun Jolley

Schedule a Speaker Meeting for the 2011-12 Academic Year.
Contact Jacob or Mitch at: osuagc@gmail.com
We look forward to seeing you on campus!
Beaver Happenings

Prof. David Trejo, Prof. Kate Hunter-Zaworski and a group of CEM students spent several days designing and constructing a wheelchair ramp at Prof. Bob Schultz’s home. Profs. Schultz and Ashford were the honorary project managers.

The location of Schultz’s house and the setting made it necessary to construct the ramp to the back of the home. This required relocating irrigation lines, relocating some landscape, widening walkways, and constructing a new gate, replacing some fence, and constructing a wood ramp and walkway. Luckily, the weather cooperated with their work schedule, and after four days, the ramp was complete.

National Association of Women in Construction (NAWIC)

CEM Students Sarah Sullivan and Katy Britsch attended their first NAWIC mentoring mixer earlier in the year. While attending the meeting, the students saw a need to make similar events available on campus for their fellow classmates. This spring OSU hosted the first on campus mentoring forum with industry professionals from NAWIC organized by Sarah and Katy.

Students participated in an interactive discussion on issues facing women in the construction industry and were given advice on the different paths available after graduation. This is hoped to be the first of many networking meetings with NAWIC here at OSU.

Student Volunteers

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SAVE THE DATE!

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<th>Date</th>
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<tr>
<td>September 9</td>
<td>CEF Golf Tournament</td>
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<td>October 27</td>
<td>Engineering Career Fair</td>
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<td>November 19</td>
<td>AGC Tailgate: OSU vs Washington</td>
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For more details on these events or to schedule a campus visit contact: Margie House at 541.737.4096
Associated Schools of Construction: Construction Management Annual Student Competition

The Associated Schools of Construction (ASC) Construction Management Annual Student Competition took place on February 15-19, 2011. Seven OSU CEM teams participated in the event with a total of 42 undergraduate students represented. Four teams brought home trophies and one student was awarded “Best Presenter”.

We are extremely proud of and would like to recognize each of the participating teams and the folks who supported them along the way!

Team Coaches: David Rogge, Joe Fradella


Additional Support: Hal & Ann Pritchett, David Trejo, Margie House, Jan Strombeck

Team Awards:

1st Place
Marine: Chad Campfield, Kodi Long, Casey Michaels, Greg Miller, Marc Putman, Brian Sexson

Mechanical: Chris Kaufmann, Kyle McCommas, Mark Pedersen, Evan Schaye, Tyson Smart, Kenneth Tyler

2nd Place
Commercial Building: Isaac Brown, Jamie Clune, Ian Dailey, Shaun Jolley, Scott Mettler, Wyatt Naegle

Concrete Solutions: Amanda Blackburn, Scott Butler, Stephen Lucia, Jonathan Martz, Michael Rieck, Leif Schei

Individual Award:
Tyson Smart – Best Presenter (Mechanical Team)

Winter Wonderings: Student Outreach Activity

Civil & Construction Engineering student volunteers facilitated three educational sessions for 5th & 6th grade students participating in Winter Wonderings, a program designed to challenge and engage highly talented grade school students. Volunteers worked one-on-one with the students on two educational activities in which they mixed their own concrete and built their own structures.

Students learned the components and many uses of concrete as well as three key aspects of construction management: time, resources and budget. A big thank you to all of our volunteers for making the day a huge success!

Hal Pritchett Honorary Scholarship: In January 1999, Granite Construction established the Hal Pritchett Honorary Scholarship in recognition of the outstanding contributions of Professor Harold D. “Hal” Pritchett to the Construction Industry. Students are selected by the professors in the program based on demonstrated high code of ethics and a record of service and leadership. This year, Andrey Novikov was awarded the scholarship for his dedication to education and pursuing a career in the Heavy Civil Construction Industry. Congratulations, Andrey!
Cont… Research Team Analyze Japan Earthquake Liquefaction Damage

Anything near a river and old flood plains is a suspect, and the Oregon Department of Transportation has already concluded that 1,100 bridges in the state are at risk from an earthquake on the Cascadia Subduction Zone. Fewer than 15 percent of them have been retrofitted to prevent collapse.

“Buildings that are built on soils vulnerable to liquefaction not only tend to sink or tilt during an earthquake, but slide downhill if there’s any slope, like towards a nearby river,” Ashford said. “This is called lateral spreading. In Portland we might expect this sideways sliding of more than four feet in some cases, more than enough to tear apart buildings and buried pipelines.”

Some damage may be reduced or prevented by different construction techniques or retrofitting, Ashford said. But another reasonable goal is to at least anticipate the damage – to know what will probably be destroyed, make contingency plans for what will be needed to implement repairs, and design ways to help protect and care for residents until services can be restored.

Small armies of utility crews are already at work in Japan on such tasks, Ashford said. There have been estimates of $300 billion in damage.

The recent survey in Japan identified areas as far away as Tokyo Bay that had liquefaction-induced ground failures. The magnitude of settlement and tilt was “larger than previously observed for such light structures,” the researchers wrote in their report.

Impacts and deformation were erratic, often varying significantly from one street to the next. Port facilities along the coast faced major liquefaction damage. Strong Japanese construction standards helped prevent many buildings from collapse – even as they tilted and sank into the ground.

The OSU College of Engineering is among the nation’s largest and most productive engineering programs. In the past six years, the College has more than doubled its research expenditures to $27.5 million by emphasizing highly collaborative research that solves global problems, spins out new companies, and produces opportunity for students through hands-on learning.
For over 35 years OSU’s Construction Education Foundation has been supporting the Construction Engineering Management Program through dedicated funding. The funds raised support scholarships, job-placement assistance programs, professional associations and faculty endowments helping make our program one of the premier construction education and research resources in the Pacific Northwest.

Interested in helping support the CEM Program? Make a gift to the Construction Engineering Foundation:

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Corvallis, OR 97331
Attn: Margie House