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Calendar

JUNE 1, Sat – [FE & FLS Applications Due](#) for October 2013 exam.

Seminars

May 30, Thurs - "Implications of Distracted Driving on Driver Behavior in the Standing Queue of Dual Left-Turn Lanes: An Empirical Study." presented by Mr. **Patrick Marnell** in defense of the Masters of Science Degree. 205 Kearney Hall, 2pm. Advisor: Prof. David Hurwitz

June 3, Mon - "Shrinkage and Cracking Study of High Performance Concrete for Bridge Decks." Presented by Mr. **Tengfei Fu** in defense of his thesis for the Doctor of Philosophy in Civil Engineering Degree. 124 Kearney Hall, 1 pm. Major Advisor: Prof. Jason Ideker. [Read abstract here.](#)

In the News

[Building homes with better materials and better techniques \(KMTR\)](#) OSU engineer and assistant professor [Arijit Sinha](#) (PhD '11) thinks about tornadoes every day. He is working to develop new materials and building techniques that may save lives. (see also [Total Mortgage](#))

[Penn-led Research Maps Historic Sea-level Change on the New Jersey Coastline \(Penn News\)](#) The study was published in the Journal of Quaternary Science. Horton's co-authors were Simon E. Engelhart, ...; **David F. Hill of Oregon State University**; Andrew C. Kemp...

[Which Portland-area commercial contractors are hiring? \(Portland Business Journal\)](#) Portland-area commercial contractors are planning to hire a number of employees in the coming months. Hiring is on the rise for commercial contractors. Of the 38 companies on the Portland Business Journal's Top Commercial Contractors list, only five are not hiring.

[Vulnerable bridges not so rare \(Seattle Times\)](#) Chris Higgins, an Oregon State University engineering professor who studies truss bridges, said a much likelier threat to the existing bridge would be a major hit by a ship rather than a vehicle accident.

[OSU researcher studies ways to build tornado-resistant homes \(KVAL\)](#) Researchers at Oregon State University are working to build homes that can hold up better in tornadoes like the ones in Oklahoma.

TED S. VINSON, Ph.D., P.E., M.ASCE, is the recipient of the **Harold R. Peyton Award for Cold Regions Engineering** for his 40-year career contributions to cold regions engineering through publications, research, teaching, design, and participation with the U.S. Army Cold

Regions Research and Engineering Laboratory, the International Permafrost Association, the National Research Council, the National Academy of Sciences, the U.S. Arctic Research Commission, and the Technical Council on Cold Regions Engineering. Vinson, **professor emeritus of Civil and Construction Engineering at Oregon State University**, has been involved in engineering teaching, research, and consulting for over 40 years. Chair of the executive committee of ASCE's Technical Council on Cold Regions Engineering, and chair of the ASCE Committee on Adaptation to a Changing Climate, Vinson was honored in 2009 as the Elbert F. Rice Memorial Lecturer. Author of over 140 journal articles, conference proceedings papers, and research reports, including the Federal Highway Administration-sponsored *Road Engineering and Construction Practices for Cold Regions*, he has served as a geotechnical, pavement, and cold regions engineering consultant to a number of federal and state agencies and private consulting firms. Recently, Vinson completed a research project for the Alaska Department of Transportation entitled "Documenting Best Management Practices for Ice-rich Soils & Permafrost Sites."

Opportunities

MAY 31, Fri – [Student Loan Repayment Workshop](#), Memorial Union 109, 12pm. Lois DeGhetto, Financial Aid Advisor will hold a session to discuss the many options students may be able to take advantage of such as consolidation and loan forgiveness. It is open to anyone that is interested regardless of graduation status.

MAY 31, Fri – **Day of Caring**. The Center for Civic Engagement is coordinating this event with United Way of Benton and Lincoln Counties and HandsOn Willamette. [See the list of projects available and register now.](#)

NEW CEM polo's have arrived! They are white, Nike polo's with both the CEM and AGC logos. They are \$40 each; cash or check accepted. Make checks payable to: AGC Student Chapter of OSU. Swing by Kearney 101A today to get your new polo!

JUNE 3, Mon Deadline - OSU students who have completed a research project under the guidance of an OSU professor can get this notated on the transcript, designating them as a Research Fellow or as an Arts Fellow, depending on the nature of the work. This designation can be obtained by students at any point in their academic career - the sooner the better. We believe this designation will be of enormous help when you apply to jobs, graduate schools, or professional schools. [Apply now!](#) If you are graduating this term time is running out! If you have questions, please contact Kevin Ahern at ahernk@onid.orst.edu

Attention all CCE students!

Come tour the new OSU College of Business building, courtesy of Andersen Construction Company. The jobsite tour will be **Thursday, May 30. Meet at 4:15 PM** in front of Kearney 101 to get your PPE: hardhats, safety glasses, etc... Please wear long pants, closed-toed shoes/boots, and proper jobsite attire. The tour will begin at 4:45 PM at the jobsite, and will last approximately 45 minutes to 1 hour. Be the first to sign up...there is a 15 person max. Come to Kearney 101 today, to sign up for the tour!

Here are some activities that Andersen will be doing on-site this week:

- Waterproofing for slab-on-grade on the west side of the building and pouring it (date not set in stone, but most likely will pour on Thursday)
- Work on the elevated deck for the 2nd floor east side - installing post-tensioning tendons, rebar, layout and install for MEP devices in the slab - all in preparation for pouring the 2nd floor east side deck on Friday, May 31.

Student Groups

May 30, Thurs - the **Team of Construction Volunteers (TCV)** will hold a meeting to recruit new officers for next year. TCV has participated in several local and international projects. Locally, TCV has worked with Habitat for Humanity in Philomath and internationally TCV has performed many projects in Guatemala, Thailand, and Peru. At this meeting we will discuss the various officer position and their duties in TCV. We welcome you to come to this meeting if you are interested in TCV. This is a great volunteer and college experience that will help you strengthen your relationships, cultural experience, and construction knowledge. 202 Kearney Hall, 5pm.

Advising

Next year's CE Seniors – **CE 420 is offered both Fall and Winter**. If you can't get into CE 481 or CE 491 (both split Fall/Spring), and/or the tech electives you want are not offered Fall term, then you should consider taking CE 420 Fall term.

Next year's CEM Seniors – **BA 453 is now MGMT 453**.

Upcoming Classes

[Spring Term Week 9 – It's the end of spring!](#)

Summer Term

[CCE 321 – Engineering Materials](#), an 8-wk summer session beginning June 24 (Matt Adams)

Pro-school applicants are welcome to take this summer class. An override will be required.

Fall Term

[CE 471 – Foundations for Structures](#), (Dr. Matt Evans)

[CE 505 – Design for Safety in CCE](#), (Dr. John Gambatese)

[CE 540 – ST/ Unsteady Flows in Rivers & Pipe Networks](#), (Dr. Arturo Leon)

Graduation

June 14, Fri - [CCE Graduation Celebration](#), **register online to attend before June 4**.

June 15, Sat - [OSU Commencement](#). All candidates must wear traditional cap and gown. No tickets required.

Attention 2013 **CEM graduates!** June 3rd–12th you are welcome to swing by Kearney 101A to pick up your **FREE CEM hardhat** for graduation! Budget 10 to 15 minutes, as you

will be required to complete a brief exit survey before receiving your hat.

Jobs

All jobs will also be posted at: <http://cce.oregonstate.edu/civil-construction-jobs>

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**Project Engineer** with **Ordell Const. LLC**. In Eugene/Springfield.

- Processes administrative work including RFI's, submittals and COR's/CO's.
- Gathers technical data specific to GC's field crews.
- Manages material and equipment procurement.
- Ensures safe working environment and adheres to general safety plan.

Interested applicants please call or email. **Application deadline is June 5.**

Adam Haag

Office: 541-747-8734

[ahaag@ordellconstruction.com](mailto:ahaag@ordellconstruction.com)

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Wilson Construction Company has an immediate opening in our Canby, OR office for an experienced, mid to upper level, **Distribution Construction Estimator / Project Manager** with a positive, results-oriented attitude and the experience to lead and provide valuable input to project teams. For more information and to apply, please submit your cover letter & resume via our website through the Opportunities page: www.wilsonconst.com.

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**Summer Intern - Brix Paving Northwest Inc.**, an asphalt paving company, is looking for a summer intern from the CEM program. The position is based in Sherwood, Oregon but the applicant will be responsible for projects in the Portland Area, as far north as Woodland WA and as far south as Salem. This internship pays \$750 per week. The intended hire date is June 17, 2013 and will continue until September 13, 2013. To apply please send your resume to: [brick@brixpaving.com](mailto:brick@brixpaving.com) by June 7th.

The position would entail: Quantity takeoffs, Jobsite visits, Assisting the Project Manager/Superintendents and or Foreman, Time keeping & site paperwork, Tracking Job Costs, Write, Submit & Track RFI's, Submittals and Change Orders

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Lithia Motors Inc. 2013 Intern Staffing:

Number of available positions: 1

Dates of internship: As soon as possible through September 2013 and possibly longer.

Tentative work schedule: Full time – 8:00 am to 5:00 pm.

Project Assistant: **Reviews and analyzes lighting and energy use** at Lithia's Stores throughout the United States. Develops solutions and creates a priority list based on need and return on investment for lighting upgrades and retrofits. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. Must be proficient in Microsoft Excel and have an ability to read a construction plan. Reports to an executive or a manager.

Student academic area of study: Architecture, Engineering, Construction, Environmental, or Business.

Posting Date: May 28th, 2013, **Closing Date: June 14th, 2013**

To Apply: Please send your resume to Lauren Farmen at lauren.farmen@oregonstate.edu

or bring to Kearney 101A by June 12th, 2013.

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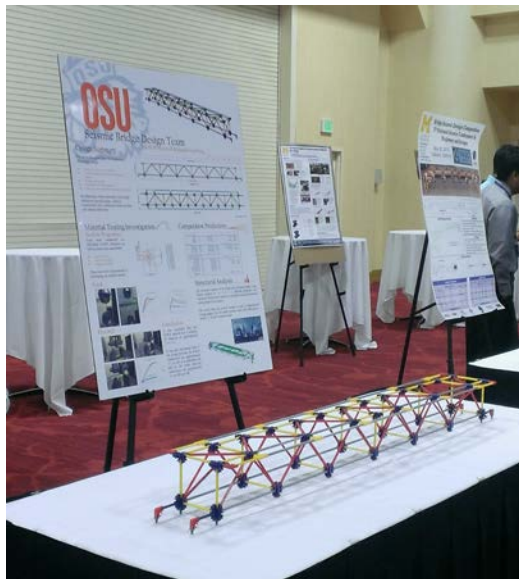
**Columbia Green**, an Eco-Technology Company in Portland, OR is hiring a **Market Research & Lead Generation Intern**. They are looking for CE or CEM majors of any experience level. To apply, please send your resume to Greg Love, COO at [gregl@columbia-green.com](mailto:gregl@columbia-green.com). The closing date is June 20, 2013. See the attached posting for more information.

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## National Seismic Bridge Design Competition

The **2013 OSU Seismic Bridge Design Team** (Jakob Walter, Benjamin Sundberg, faculty advisor Prof. Tom Miller) took **1st place in the second National Seismic Bridge Design Competition** held at the 7th National Seismic Conference on Highways and Bridges this week in Oakland CA.

The team led by Jakob Walter was among 5 competitors including University of Michigan, Michigan Tech, University of California at San Diego, and Purdue. The OSU Bridge was the lightest, cheapest, stiffest, and fastest to construct at the competition. Additionally the team's predictions of deflection were spot on. Having run out of competition weights, the competition organizers had to resort to duct taping Gatorade bottles to the model in order to provide enough mass so that their shake table could fail the bridge. The team looks forward to taking on the EERI Seismic Design Competition next year.



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## Abstracts

"Shrinkage and Cracking Study of High Performance Concrete for Bridge Decks" **presented by Tengfei Fu**

Abstract: In the field of civil infrastructures, bridge decks have been widely constructed using high performance concrete (HPC). Concrete bridge decks demand qualities such as low permeability, high abrasion resistance, superior durability, and long design life. Over decades of fields and laboratory experience, many HPC for bridge decks were found susceptible to shrinkage and cracking issue, which is also regarded as a major cause for structure deficiency and deterioration.

A comprehensive study was presented in this dissertation on shrinkage and shrinkage induced cracking in HPC, in three aspects: 1) to mitigate the shrinkage and cracking issues in HPC, internal curing by fine lightweight aggregate (FLWA) and incorporation of shrinkage reducing admixture (SRA) have proven effective during the last 15 years. To determine the optimum FLWA content, chemical shrinkage of the cementitious materials needs to be determined. A simple and improved procedure was recommended to determine the long-term chemical shrinkage for HPC systems containing supplementary cementitious materials (SCMs) and/or SRA; 2) due to the fact that drying shrinkage significantly affects concrete bridge deck cracking performance, it is important to develop drying shrinkage prediction models. However, each existing model is limited by the data source used to develop the model, which is not likely representative of all modern HPC. To solve this issue, a procedure was proposed based on the current ACI 209 model to predict long-term drying shrinkage for modern HPC concrete by using short-term experimental measurements; 3) a state-of-the-art literature review on shrinkage and cracking issue on bridge deck HPC showed that the causes behind cracking in HPC were well known and documented. However, appropriate shrinkage limits and standard laboratory/field tests which allow proper criteria to ensure cracking-free or highly cracking resistant HPC is not clearly established either in the technical literature or in specifications. A “cracking potential indicator” (CPI) concept was proposed to assess cracking risk of candidate concrete mixture designs. A simple and robust test procedure to determine CPI, involving only free shrinkage and mechanical properties of HPC, was also identified.

**Go Beavs!**

Forward newsletter submissions to [julie.barlow@oregonstate.edu](mailto:julie.barlow@oregonstate.edu) by **Friday** each week. Prior newsletters archived at <http://cce.oregonstate.edu/node/223>