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Calendar

APR 12, Fri – [Contractor's Night](#), CH2M-HILL Alumni Center, 6pm.

APR 13, Sat – FE Exam

APR 25-27 – ASCE PNW Student Conference in Corvallis

In the News

Congratulations to [Prof. Tom Miller](#) who was awarded with *the 2013 ASCE Outstanding Faculty Advisor of the Year* for Region 8, which includes all of AZ, UT, OR, WA, AK, HI, ID, MT, and NV. This is Tom's fifth consecutive year to receive this top honor!

New system to restore wetlands could reduce massive floods, aid crops

[Meghna Babbar-Sebens](#), an assistant professor in the School of Civil and Construction Engineering, and colleagues have designed an interactive system to create networks of small wetlands in Midwest farmlands, which could help prevent floods and mitigate droughts. ([Ag Professional](#), [Smithsonian](#))

Pedestrians at serious risk when drivers are 'permitted' to turn left (*Phys.Org*)

"There are far more pedestrian crashes in marked crosswalks than anywhere else on roads, and pedestrians already have a false sense of security," said [David Hurwitz](#), an assistant professor of transportation engineering at OSU. "This study found that one key concern is permitted left turns." (see also [Examiner](#), [Innovations Report](#), [TruthDive](#), [KPIC](#), [UPI](#), [KOED](#), [KVAL](#), [CBS Seattle](#), [KMTR](#), [DC.STREETSBLOG.org](#), [Medical Daily](#), [Atlantic Cities](#), [Science Daily](#))

Northwest dams not built to withstand big quake (*KTVB*)

Meanwhile, OSU has just started to map areas of the Willamette Valley likely to see soil liquefaction in a major quake, said [Ben Mason](#), assistant professor of engineering. Prolonged shaking causes some soils, such as sand, to behave like a liquid, which leaves structures built on them vulnerable to shifting. The map will be done in six years. . (see also [Seattle Post-Intelligencer](#), [Statesman Journal](#))

Seminars

APR 8, Mon - **Structures** Faculty Candidate Presentation, 11am, 311 Kearney Library. [Abstract here](#). All are invited to attend.

APR 11, Thurs - **Structures** Faculty Candidate Presentation, 11am, 311 Kearney Library. [Abstract here](#). All are invited to attend.

APR 15, Mon - CH2M HILL CEO Lee McIntire to speak: "[Working on the Frontier—The changing nature of global business](#)". The world has globalized and international diversification looks attractive. Interesting global engineering and business challenges are alluring. Should we go international and if so, in what fashion? In this discussion, McIntire will explore reasons for a business to expand internationally, and the opportunities and risks associated with going global. 5:30-6:30 pm, LaSells Stewart Center, sponsored by Division of Business and Engineering Lecture Series.

Opportunities

Found – Saab car keys; retrieve from Cindy in 101 Kearney.

APR 8-12 - [Holocaust Memorial Week](#), OSU Campus.

APR 9, Tues - **Kenya documentary:** In July of 2012, a group of OSU students traveled to the small village of Lela, Kenya, to help the community gain access to safe water. The story of their journey will be told in *Kel Wer* ("to bring song" in the native Dholuo language), a [documentary that will debut at OMSI](#) in a free public screening. Doors open at 6:30 pm, a photography exhibit of the people of Lela will be available for viewing in the lobby, and the 35-minute documentary will start at 7:15 pm. Following the screening, chapter members of Engineers Without Borders will share their personal experiences and answer questions. Seating is limited and available on a first-come basis. More information: <http://bit.ly/O7J7ij>

Review Sessions - Civil Engineering Discipline specific review sessions for the upcoming April 13 FE Exam will be held in Kearney 212. A nominal \$1 charge per session is assessed for Chi Epsilon fundraising. If you bought a Civil Specific Review book, bring it and attend free of charge. Dates and time as follows;

April 9: 7-8pm Geotech (Evans)

April 9: 8-9pm Transportation (Bell)

April 11: 7-8pm Reinforced Concrete Design (Higgins)

April 11: 8-9pm Surveying (Olsen)

APR 10, Wed - [Sexual Assault Awareness Month](#), "The Invisible War." Listen to Myla Haider from the film speak. Bring your questions! 109 Withycombe Hall, 6pm, light refreshments. Here at OSU we have worked very hard to continue to be supportive of our Veteran/military students. To do this in a way where we can all learn some of the challenges they may face as they move forward toward their educational goals we are presenting the documentary film The Invisible War. Most folks know the military is a culture that can be very mysterious, almost unknowable. While we cannot usually ask the questions directly of a Veteran/military person, we can learn from this film regarding horrific crimes that are being perpetrated on our soldiers and sailors. These crimes do not come from "the enemy" but from the very people that have sworn to protect.

APR 11, Thurs – **Securing Federal Employment Abroad** (webinar), 202 Kidder Hall, 1-2pm. Want to see the world while serving your country? Join us for a discussion about the mission- critical, international positions in the government. Participants will hear from agency representatives and Partnership staff on a variety of international opportunities and how applicants can leverage language and technology skills to secure a coveted position abroad.

APR 13, Sat - [Marine Science Day](#) open house at OSU Hatfield Marine Science Center in Newport, 10am – 4pm. Get behind-the-scenes to experience the research, education and outreach in marine sciences that makes this marine laboratory unique in the Pacific Northwest. Come learn what's new on the Oregon Coast's most dynamic Marine Science campus.

APR 13, Sat - **Race Car Unveiling:** 6 pm, Kelley Engineering Center Atrium. Oregon State's Global Formula Racing (GFR) team, which won three world championships, will showcase its newest race car to kick off the 2013 season. Come meet members of the GFR team, learn more about the design and manufacturing process, and be the first to get an up-close view of the 2013 car. Refreshments will be provided. Images of the 2010 – 2012 cars: <http://www.global-formula-racing.com/index.php/cars>.

APR 20, Sat - [Earth Day Service Projects](#). All are invited to participate.

PH 213: General Physics with Calculus (4) will be offered this Summer as an 8 week course.

Supplemental Instruction (SI) - All study tables are held in the North Study on the 2nd floor of the Student Success Center, located south of the parking garage and across the street from Reser Stadium. SI help you develop study strategies for note taking, graphic organization, questioning techniques, vocabulary acquisition, and test preparation as you review course material. When you attend study tables, you'll have the opportunity to become actively involved with your classmates as you process the text, supplementary readings, and lecture notes.

[Coast to Valley Express](#) – access areas all around NW Oregon (& Portland) through public transit. The North by Northwest CONNECTOR is a coordinated regional transit system managed by the CONNECTOR Alliance, and is a partnership of: Columbia County Rider, Sunset Empire Transportation District, Tillamook County Transportation District, Benton County Transit, and Lincoln County Transit.

FE Exam Review books are still on sale in Dr. Scott's office (346 Owen). It's not too late to study for the April 13 FE Exam. \$70 for a general review book and \$60 for a Civil specific review book. Cash, check, or PayPal accepted.

2013 ASCE Pacific NW Student Conference - April 25–27. [See link here with complete competition descriptions](#). If you are interested in participating, register in Cindy's office. It is going to be first come first served basis. Contact [Kristina Milaj](#) if you have questions. Let's all do our best to make our university and ourselves proud in each competition! You'll get a cool-looking, long sleeved t-shirt, free meals and a chance to have a fun time competing against students from across the Pacific Northwest.

Student Groups

[ENGR Club Carnival](#) - the first meeting is April 11, Thurs in KEC 1114 at 10am. All OSU Engineering clubs interested in having a booth at the event are invited to attend. The ENGR Carnival is an event to raise awareness and gather donations for the Linn-Benton Food Bank. Additionally it is a chance for all students and OSU community members to come celebrate the end of the school year!

APR 11, Thurs – **AGC Speaker Meeting**, J.R. Abbott, 311 Kearney Hall Library, 6pm. Bring your resume to Kearney 101F by April 8 to sign-up for an on-site interview for project engineer and a summer intern positions.

Graduation

APR 16-17 - [Commencement Grad Fair](#) at MU Book Level. This is your opportunity to get information about the ceremony and make contact with the OSU Alumni Association. You can also buy your cap and gown, class ring, yearbook and commencement announcements.

APR 18, Thurs – Faculty academic regalia order deadline. Academic regalia must be ordered from the OSU Bookstore before April 18 and picked up by June 15. Online ordering is available at [the bookstore](#).

June 14, Fri - [CCE Graduation Celebration](#). All participating must wear traditional cap and gown. **All** graduates (Summer, Spring or Fall '13) are invited to our School's evening reception for parents, relatives, and friends with your CCE faculty and staff. Plan on joining us for a few short speeches, student year-in-review presentations, and a grad walk across the stage. Open seating and lots of photo opportunities! Refreshments and social follow ceremony. *Remember that hotels fill up fast!* Online registration for this event will open in May.

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

Career Fair

APR 23, Tues - [All Majors Career Fair](#), Alumni Center, 11-4pm. Students can find jobs, internships, and grad school opportunities. Students can view which employers will be attending the career fairs here, the majors they are recruiting, as well as the positions they are hiring.

Friday, April 19

Job Search Strategies, 11:00am-12:00pm
Valley Library, Willamette Room East & West, 3rd Floor

Interviewing for Success, 1:00pm-2:00pm

Valley Library, Willamette Room East & West, 3rd Floor

Beavers Wanted: How to Prepare for Success at the Career Fair, 2:00pm-3:00pm
Valley Library, Willamette Room East & West, 3rd Floor

Monday, April 22

Creating a Stand-Out Resume, 12:00pm-1:00pm
MU 208

Speed Mock Interviews, 2:00pm-4:00pm
MU 208

Jobs

Internships (3) - Myers and Sons Construction. We have three different position/locations available (all in CA) for the summer. [Details here.](#)

The [Disability Access Services Office](#) needs note takers for science and engineering classes for spring term. This is a paid position, and you would take notes for courses in which you are currently enrolled. The expectation is that you would attend class every day, take neat notes, and upload them promptly. If you are interested in becoming a note taker, you can get more information and register on the [DAS Notetaking Page](#).

Structures Candidate 1

APR 8, Mon – ***“Automated Damage Quantification of RC Columns for Post-Earthquake Evaluations,”*** presented by Stephanie German, Ph.D. Candidate, Georgia Institute of Technology

Abstract: In the event of an earthquake, every affected structure must be evaluated prior to entry by search and rescue teams as well as prior to re-entry of occupants. Thus, there are established guidelines by which these evaluations are performed. Currently, according to these guidelines for post-earthquake structural and safety evaluations, these practices are designated to be performed manually by a team of certified inspectors/structural engineers. The inspectors are to make a decision based primarily on visible damage and conditions of the structure. Therefore, these practices are incredibly time-consuming, subjective and unreliable. In the meantime, until the evaluations are completed, people are unable to return to their homes, businesses or usual way-of-life.

In order to mitigate the societal and economic impact of earthquakes, the provision of critical and timely information regarding the structural integrity of buildings and vital infrastructure in the response following the disaster is necessary.

A model for automated post-earthquake safety and structural evaluations of reinforced concrete frame buildings based on computer vision is presented. Reinforced concrete columns, and the damage which they incur in the event of a disaster such as an earthquake, are the primary focus. Individual algorithms in damage detection and property retrieval using video data are discussed. Algorithms in spalling and cracking on RC column surfaces are presented. The spalling on RC column surfaces was quantified in terms of the extent and type of exposed reinforcement. Cracking on RC column surfaces was quantified in terms of the orientation, length, width and spacing of cracks. All of these measurements were related to the column dimensions in order to provide the user with a meaningful indication of the extent of damage to the column. Experiments were conducted to validate the automated retrieval and quantification nature of each of the methods. The automated, computer-vision based measurements were compared to manual measurements of the damage. The speed and quantitative nature of the computer vision-based damage quantification for RC columns prove that the model would aide in the mitigation of earthquake damage.

Structures Candidate 2

APR 11, Thurs – ***“Strut-and-Tie Modeling and Experimental Testing of Reinforced Concrete Inverted-T Beams,”*** presented by Nancy Larson, Ph.D. Candidate, The University of Texas at Austin

Abstract: Several recently constructed inverted-T bridge bent caps have developed significant diagonal

shear cracking. The resulting safety and serviceability concerns prompted an investigation into the design and behavior of such structures. Contrary to rectangular deep beams, inverted-T beams are loaded on a ledge at the bottom, or tension chord, of the beam. This loading induces a tension field into the web and the resulting complex strain distribution renders sectional design provisions inadequate. The current design methodology did not capture all critical elements of the structural behavior so an improved design procedure was recommended.

The applicability of strut-and-tie modeling, developed for rectangular deep beams and simpler, two-dimensional design, was evaluated. An extensive experimental study was conducted in which thirty three large-scale reinforced concrete inverted-T specimens were tested and the effects of the following variables were investigated: ledge geometry, quantity of web reinforcement, number of point loads, member depth, and shear span-to-depth ratio. It was concluded that strut-and-tie modeling offers a simple and accurate design method for the more complex strain distributions in these beams and was recommended for use in inverted-T beam design along with existing serviceability requirements for deep beams. The final step will be code implementation to aid future designers.

Go Beavs!

Forward newsletter submissions to nancy.brickman@oregonstate.edu by **Friday** each week. Prior newsletters archived at <http://cce.oregonstate.edu/node/223>