Oregon State University will host the 2017 ASCE/AISC National Student Steel Bridge Competition (NSSBC), May 26–27, 2017. The event, which began in the 1980s as a competition between three universities, is a cooperative effort between the American Institute of Steel Construction (AISC) and the American Society of Civil Engineers (ASCE). In advance of the national event, 18 ASCE student chapters host conference competitions with approximately 200 schools from throughout North America participating. The top teams from the conference competitions advance to the national competition.

This national competition provides students with design and management experience, the opportunity to learn fabrication processes, and the excitement of networking with and competing against teams from other colleges and universities.

At the NSSBC, student teams erect and test bridges that they have designed and fabricated to meet client specifications while optimizing performance and economy. Steel Bridge teams compete to be the best in aesthetics, lightness, stiffness, construction speed, construction economy, and structural efficiency. As the national host school, Oregon State students will lead the event planning and work with faculty advisors on fundraising, recruitment of judges, publicity, facilities and contracts, program, technical set-up, registration, and volunteer coordination. The student directors are Chelsea Farnsworth and Oscar Gayet with ASCE Student Chapter Faculty Advisor Tom Miller and NSSBC Faculty Advisor Judy Liu. Learn more at: cce.oregonstate.edu/nssbc.
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SAVE-THE-DATE
The CCE Distinguished Lecture Series – presented by the AGC Oregon–Columbia Chapter Foundation with support from the Construction Education Foundation – will be held Thursday, April 13, featuring a lecture by James Spellos, CMP president of Meeting U.

Visit cce.oregonstate.edu for more information.

RECENT AWARDS & HONORS

• 2016 ASCE Outstanding Faculty Advisor Award: Associate Professor Thomas Miller
• 2016 ASCE Outstanding Practitioner Advisor Award: Kenneth Archibald
• Invited keynote lecturer, 3rd International Symposium on Multiscale Geomechanics and Geoengineering, Tongji University, China: Associate Professor T. Matthew Evans
• PacTrans Outstanding Student of the Year: Jason Anderson, Ph.D. student, transportation engineering
• PacTrans Michael Kyte Award: Masoud Ghodrat Abadi, Ph.D. student, transportation engineering
• Journal of Transportation Engineering, Part A: Systems 2016 Outstanding Reviewer, Associate Professor David Hurwitz

VIEW ALUMNI STORIES ON FACEBOOK
The School of Civil and Construction Engineering launched Beavers Build on Facebook. Beavers Build tells stories of our alumni and their recent projects. Follow us to learn how CCE alums are building a better world.

> facebook.com/oregonstatecce
It’s an exciting time at the School of Civil and Construction Engineering. In this newsletter you’ll learn about the events and awards that are continuing to place us at the national stage.

In May, Oregon State will host the 2017 ASCE/AISC National Student Steel Bridge Competition. Directed by students with faculty advisors, this competition provides students with a unique and valuable experience as they compete against teams from other colleges and universities.

I’m also pleased to share the U.S. Department of Transportation awarded OSU – and its fellow members of the Pacific Northwest Transportation Consortium – a $14.35 million award to improve regional transportation. Through the award, researchers led by David Hurwitz, associate professor in transportation engineering, will work to address the complex challenges of our region. OSU also received a $4.1 million grant from the National Science Foundation for a joint center—led by Michael Olsen, associate professor of geomatics—aimed at collecting perishable data immediately following natural disasters. Ultimately, researchers hope to use the data to create a safer built environment by improving building codes and taking other actions to help reduce damage from future events.

In addition to the 50th anniversary of the CEM program, highlighted in the last issue of the newsletter, this year marks another landmark for our school: 100 OSU construction managers with better safety, maximize productivities, and reduce damage. Our program’s success is due to the dedicated faculty and staff who work together to model this problem. Although I am investigating the problem from a more geotechnical engineering perspective, I am excited to bridge the gap between these two disciplines in my study.

I started my college education at Chemeketa Community College in my hometown of Salem. I felt unsure of what to study until my math professor acknowledged that I had strong math skills and suggested that I speak with the engineering professor at the college. After our initial meeting, I thought the discipline sounded interesting with many types of engineering to choose from. I began taking prerequisites for civil engineering to try out the courses. I had heard excellent things about engineering programs at OSU, some of which from my grandfather who studied mechanical engineering, and I was excited to transfer. OSU worked with me to transfer my credits and allowed me to seamlessly begin pro-school for civil engineering, which I had become passionate about since being introduced to the subject.

I really enjoyed the two introductory courses to the subject offered in the civil engineering program. Dr. Ben Mason, the professor for Geotechnical Engineering II, informed me of an opportunity to work during the summer in the geotechnical research lab with a Ph.D. student. This experience made me much more familiar with geotechnical testing and the implications of the results. I learned so much that summer about the process of research. I decided soon after to pursue graduate school for a master’s degree in civil engineering with a geotechnical focus. Also this past year, I was fortunate to be able to attend two research trips to Nepal. The first trip was timed for the anniversary of the Gorkha Earthquake. Experts from around the world traveled to Nepal to attend a workshop focused on work that had been done since the earthquake. During the second trip, I was part of team who presented an earthquake engineering workshop.

I am currently working to perform many laboratory tests on samples of sand from Newport to fully characterize the sediment properties. After I obtain the results from my laboratory program, I plan to implement them into a tsunami-induced sediment instability model. Geotechnical engineers and coastal engineers must work together to model this problem. Although I am investigating the problem from a more geotechnical engineering perspective, I am excited to bridge the gap between these two disciplines in my study.

Assistant Professor
Joseph Louis
Assistant Professor
Yelda Turkan
USDOT AWARDS OSU AND PARTNERS $14M GRANT TO IMPROVE REGIONAL TRANSPORTATION

The Pacific Northwest Transportation Consortium (PacTrans), of which Oregon State University is a member, was awarded $14.35 million over 5 years from the U.S. Department of Transportation (USDOT) to fund research toward improving the mobility of people and goods across the Pacific Northwest.

PacTrans is a consortium of transportation professionals and educators from Alaska, Washington, Oregon, and Idaho and is the Regional University Transportation Center (UTC) for Federal Region 10. Through the UTC program, the USDOT awards grants to universities across the U.S. to advance state-of-the-art transportation research and develop the next generation of transportation professionals. PacTrans focuses on using technological advances to develop data-driven, sustainable solutions for the diverse transportation needs of the region.

“This new grant will serve as a force multiplier for the impact of transportation mobility research currently taking place at Oregon State University,” said David Hurwitz, associate professor of transportation engineering and associate director at Oregon State for PacTrans. “The traveling public in Oregon – and the Pacific Northwest more broadly – will benefit directly from these efforts.”

“Through this grant, Oregon State will conduct further world-class research toward increasing mobility and accessibility,” said Jason Weiss, professor and head of the School of Civil and Construction Engineering at Oregon State’s College of Engineering. “Our region presents diverse challenges and this award will contribute to optimizing freight and passenger movement, connecting rural and urban communities, and more.”

Previous research at Oregon State funded through PacTrans includes improving cyclist safety by considering levels of stress, evaluating the potential to perform bridge inspections with unmanned aerial vehicles, preventing accidents during the construction of transportation infrastructure, and reducing the occurrence of lane departure crashes.

The University of Washington leads PacTrans. Other university partners include Boise State University, Gonzaga University, the University of Alaska Fairbanks, University of Idaho, and Washington State University.

COLLEGE OF ENGINEERING DEBUTS NEW PODCAST

This fall, the College of Engineering launched Engineering Out Loud—a brand new podcast telling the stories of how our research and innovation are helping change the world.

In episode 5, you can learn how Haizhong Wang, assistant professor in transportation engineering, is incorporating the Monte Carlo method to model tsunami evacuation routes in the Cascadia Subduction Zone. The Monte Carlo method conjures images of a suave gambler beating the house in Monaco. In reality, Monte Carlo methods are computational algorithms that use randomness to solve problems.

NEW INITIATIVE WILL HELP INVESTIGATE NATURAL DISASTERS WORLDWIDE

This fall, the National Science Foundation announced a $4.1 million grant to provide instrumentation and tools for a new Rapid Response Research Facility, which will promptly collect data about how buildings, roads, bridges and other infrastructure are impacted by earthquakes or wind damage from hurricanes, tornadoes and other storms.

The center will be operated by the University of Washington in collaboration with Oregon State University, the University of Florida and Virginia Tech. Scientists say it will provide assistance to teams that can deploy anywhere around the world, and help compile data about damage in a systematic, high-quality way before it’s forever lost to bulldozers, weather, cleanup, and repair efforts.

With this information, scientists hope to identify ways to improve building codes, identify weak spots in structures, and take other actions to help mitigate damage from future events.

The system will also use the latest and most sophisticated technologies to analyze the landscapes.

“We’re able to learn a great deal now with technologies such as light detecting and ranging, or LIDAR, aircraft monitoring, hyperspectral imaging, and other instruments that can analyze seismic and wind forces better than ever before possible,” said Michael Olsen, an expert in the evolving science of geomatics, associate professor in the School of Civil and Construction Engineering and one of the co-principal investigators on the project.

The grant follows the NSF’s larger $40 million NHERI investment, announced in September 2015, which funds a network of shared research centers and resources at various universities across the nation. The goal is to reduce the vulnerability of buildings, tunnels, waterways, communication networks, energy systems and social groups to increase the disaster resilience of communities across the United States.