



AUSTIN WILLIAMS PRESENTS HIS GROUP'S SANDY RIVER BRIDGE DESIGN AT THE OSU ENGINEERING EXPO.

## SHAPING THE FUTURE OF ENGINEERING EDUCATION

Following the first two weeks of her CE 419 Capstone Design course, Karryn Johnson was unsure as to how her final two terms as a senior would pan out. Tasked with creating a wildlife crossing proposal for the Oregon Department of Transportation, Johnson and her three teammates did not understand the project and were at a loss as to how to proceed.

"The team was assigned to design something, and I realized I had never designed anything in my life," Johnson said. "We were completely lost. None of us had any idea what was needed to design and propose an effective wildlife crossing."

Although Johnson and her teammates were frustrated at the start, it is the exact type of reaction Oregon State University Civil and Construction associate professor Shane Brown, Ph.D., P.E., who leads the course, expected to see.

Funded by a National Science Foundation CAREER Award, Brown is conducting research to understand how practicing engineers utilize fundamental engineering concepts in their practice and how they view knowledge

and learning. His research findings suggest students are inadequately prepared for engineering positions following graduation.

"The problem is students are struggling with open-ended, complex design problems when they enter the engineering workforce," Brown said. "Strong communication, leadership, teamwork, and other T-shaped skills necessary to effectively complete a task are lacking. Once they enter the field, we are finding they do not know how to do the job. It is not because we needed more time with them while they are in school; it is because we are not thinking about their education from a design perspective."

To address this need, Brown has created a capstone course at OSU that allows students to work through a project from beginning to end. This past year, students enrolled in the two-term course were split into 36 teams of four and assigned to one of nine real-world engineering design problems. The projects, presented to the class by industry clients, included the ODOT Wildlife Crossing, City of Corvallis Sandy River Bridge design, and an ODOT Umatilla Road improvement design.

"The idea is to give them a project with thousands of possible solutions and let them tackle the problem from a design angle," Brown said. "We make it authentic by having clients present the teams with real-world projects and problems. Students are forced to ask questions, work by trial and error, apply what they have learned, and present the client with their recommendations."

Though it poses Johnson and the rest of her classmates with some stressful moments at the start, the result is a positive one for students as they prepare for life following graduation.

(...continued, page 3)

**FROM THE INTERIM HEAD**



As interim head of the OSU School of Civil and Construction Engineering for the last 10 months, I have had the pleasure of working with our outstanding students, faculty, and staff and many

of our dedicated alumni. What I have seen is remarkable as our school continues to have a positive impact on society and improving our built environment. Due to the perseverance of its constituents, our school is in a great position to remain a leader in civil and construction engineering education and research when a new school head joins us at the start of the next academic year. In this edition of the CCE News, you will learn about some of the great work conducted by our school.

For instance, with higher education continuing to evolve, engineering education professor Shane Brown and his research team (page 1) have recognized an increasing portion of engineers entering the workforce lack important skills in leadership, communication, and teamwork. To address this issue, Brown has designed a civil engineering senior capstone design course where teams of four work on real-world engineering problems presented to them by industry clients. The course has given students like Karryn Johnson the ability to recognize what is expected of engineers in the field and increased confidence to do a job right.

Our alumni continue to play a key role in the success of our school and university. Not only do they give their time and make generous donations; but, several of our alumni are playing a key role in the recent boom of construction and growth across our campus (page 6).

Finally, our students remain the focus of our school and I am always impressed by their contributions. The ASCE student chapter continues to set new standards of excellence and community outreach. Several members successfully completed a bio-sand filter project designed to improve water quality for residents of a small community in Nicaragua (page 2). In addition, students like Chris Duty (page 3) and Monica Morales (page 5) are widespread throughout the school and are examples of why I am so proud of the students we graduate.

I hope this newsletter finds you well and that you enjoy learning about some of our projects and accomplishments. Please contact me at any time, as I am always excited to learn about the accomplishments of our alumni and friends.

Go Beavs!

Michael H. Scott  
Associate Professor/Interim Head

**THE OSU ASCE NICARAGUA PROJECT TEAM WITH MEMBERS OF THE COMMUNITY.**  
From L to R: Matthew Gedes, Bruce Jennessen, Alex Furnish, Austin Williams, Makenzie Budge, Shelby Foley, Jesse Bogneoff, and Caleb Lennon.



**ASCE STUDENTS COMPLETE NICARAGUA PROJECT**

After successfully completing a clean-water project in Jiquillio, Nicaragua, a year ago, the OSU student chapter of the American Society of Civil Engineers (ASCE) once again travelled to Nicaragua for a similar project on Little Corn Island. This year, the primary goal of the clean-water project was to provide a supplementary water source to 150 students at the local elementary/high school, as well as the local inhabitants of the island.

In accordance with local community leaders, the design-build rainwater catchment project implemented sustainable, affordable, and long-lasting environmental solutions. Like the year before, OSU students were involved in all aspects of the project as they analyzed available data, discussed the project with community leaders, designed the facility, and eventually built the system. Like most engineering projects, it was not without its challenges.

“We learned the difficulty of blending design and construction in a way that is useful to the recipient, feasible for the builders, and cost effective,” said Austin Williams, an OSU civil engineering student who participated in the project. “A project like this is difficult in a developing country, but even more challenging on an island in a developing country. We all learned how to collaborate effectively, make well-informed decisions, and use creative construction means and methods to complete an important project. It was a terrific experience.”

The infrastructure development, supported in part by donations from the Corvallis community, is anticipated to improve lives and sustainable development on Little Corn Island with the improvement in water quality. After completing the project, the OSU team was able to see first-hand how much it meant to community leaders.

“After a year of hard work, planning, designing, and building the project, seeing the completed product was incredibly rewarding,” Williams said. “However, it was an even better feeling to see the reaction and joy from those who need and are going to use the system. To have the opportunity to give back to a community in need is one most engineers will have during their careers.”

It is a reward that is not lost on the OSU ASCE student chapter. After the success of previous service projects, the chapter plans on continuing similar initiatives in the future.

“It continues to be important for OSU ASCE to participate in international service projects. Not only do they spread awareness and need for sustainable infrastructure, but they give students a chance to apply the classroom knowledge we receive at OSU in a tangible way,” Williams said.

To learn more about the OSU ASCE student chapter, please contact OSU associate professor Tom Miller at [thomas.miller@oregonstate.edu](mailto:thomas.miller@oregonstate.edu).



FIRST-FLUSH PIPE FOR THE TANK PROVIDING WATER TO THE KITCHEN.



## STUDENT SPOTLIGHT - CHRIS DUTY

Chris Duty, a construction engineering management major and the Associated General Contractors of America (AGC) Student Chapter President, has always been interested in the construction industry. The senior took a few minutes with CCE news to discuss his time at OSU as well as his future plans.

### HOW DID YOU GET INTERESTED IN CONSTRUCTION AND HOW DID YOU COME TO OREGON STATE?

My stepfather and father were part owners in their own companies and I grew up helping them out. I have always had an interest in being a part of the industry. My junior year of high school, I met with OSU professors and advisors at the time and they told me about the construction engineering management program at OSU. I knew this would be the program for me.

### HOW DID YOU GET INVOLVED WITH AGC AND HOW HAVE YOU SEEN IT GROW?

It all stemmed from my first internship at Advanced American Construction. I met some people who were involved in the chapter and decided to join as a freshman and I have been involved ever since. It has been great to represent OSU and AGC at various events and we have been able to grow through great industry support.

### WHAT ARE SOME OF THE PROJECTS AGC IS WORKING ON THIS YEAR?

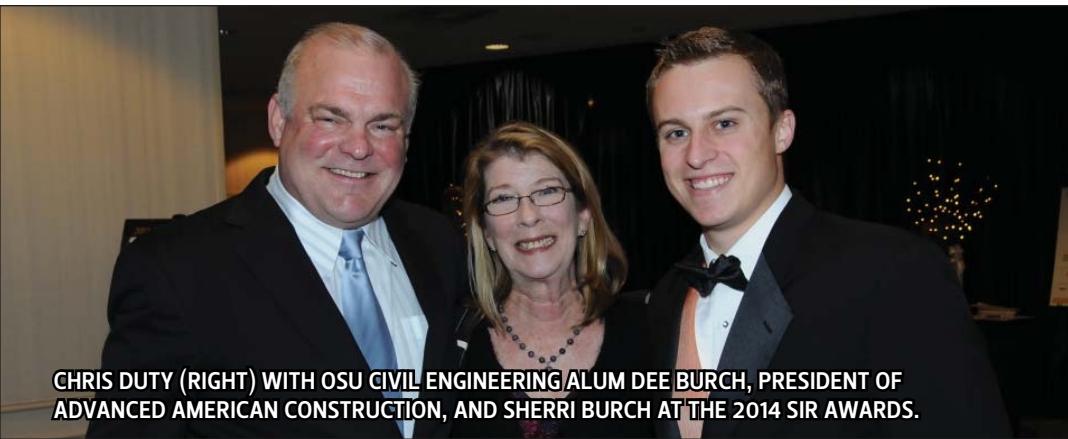
The biggest project we are working on this year is the ACE Academy AGC Student Chapter. They are starting the first AGC high school student chapter in the nation. We are providing support for them and letting them know about the tools they need to be successful.

### TALK A LITTLE BIT ABOUT YOUR ACTIVE INVOLVEMENT IN THE ASC RENO COMPETITION...

My sophomore year of school, Advanced American Construction asked me to sit in with the Reno Marine team and see what it is all about. I loved it and my interest has grown every year. This year will be my fourth year there and my third year to compete. You learn a lot about the different ways you can complete a project. There are so many ways to get the same solution and it is great to see the different ideas and to learn to work together as a team. We won the marine title last year and are looking to do the same this year.

### WHAT ARE YOUR PLANS FOLLOWING GRADUATION?

I am going to work for Advanced American Construction as a project engineer. My overall goal is to be a leader in a company. I also want to stay involved with AGC as the chapter has really helped me out.



CHRIS DUTY (RIGHT) WITH OSU CIVIL ENGINEERING ALUM DEE BURCH, PRESIDENT OF ADVANCED AMERICAN CONSTRUCTION, AND SHERRIL BURCH AT THE 2014 SIR AWARDS.

## ENGINEERING EDUCATION CONTINUED...

"I learned so much during the class," said Johnsohn, who is now pursuing a master's degree in civil engineering. "It taught me how to be a proactive problem solver. I learned how to research a real-world topic, ask questions, evaluate answers, and apply my knowledge to help find a solution. In the end, the class taught me how to be a better engineer."

The feedback on the course from industry partners has also been positive, signaling to

Brown that institutions will need to consider and implement a design-based approach to education in the future.

"The higher education system is going to shift over the next 10 years, and we need to continue to evaluate how we educate future engineers," Brown said. "It is a great opportunity for OSU to be a leader in engineering education and have a positive impact on students and the profession."

## CCE NEWS AND NOTES

### ANDRE BARBOSA NAMED KEARNEY FACULTY SCHOLAR

OSU CCE assistant professor Andre Barbosa, Ph.D., P.E., has been named the Kearney Faculty Scholar. Barbosa joined OSU from the University of California – San Diego (UCSD) after completion of his Ph.D. Before his Ph.D., he worked for seven years as a designer. His industry experience in the design of buildings and bridges serves as the foundation for his current research and teaching interests that span different materials (reinforced concrete, steel, and timber).

In 2010, Lee and Connie Kearney committed \$2.5 million to create two faculty position endowments in the school. Mr. Kearney earned his degree in civil engineering from OSU in 1963. He worked for 32 years for Peter Kiewit Sons' Inc., one of the largest construction and mining organizations in North America, holding several executive positions and serving on the Board of Directors. He was inducted into the OSU College of Engineering Hall of Fame in 2001.

Mrs. Kearney started her studies at OSU in 1961 on her way to an undergraduate degree from University of Washington and a law degree from Creighton University in Omaha, where she also later taught. She served as the first female commissioner in Clark County, Wash., serving in this role from 1976 to 1980.

### OSU CCE STUDENT ATTENDS WOMEN'S CONSTRUCTION LEADERSHIP SEMINAR

OSU civil engineering major Jessica Hartwell recently attended the prestigious Women's Construction Leadership Seminar in Omaha, Nebraska. The seminar, sponsored by Kiewit, selects 50 collegiate, female sophomores and juniors who have demonstrated leadership skills and a drive for success, with a passion for the construction and/or engineering fields.

The two-day event challenges and develops the participants leadership skills as they gain valuable experience and industry knowledge. For more information, visit [www.kiewit.com/](http://www.kiewit.com/) events.

## CCE NEWS AND NOTES

### DAVE ROGGE RECEIVES PRESTIGIOUS SIR AWARD

Congratulations to OSU CCE associate professor David Rogge on receiving the Associated General Contractors Oregon-Columbia Chapter SIR Award at the 2014 SIR (Skill, Integrity, and Responsibility) Awards Gala. As the construction industry's highest and most prestigious recognition, the SIR Award acknowledges individuals, organizations, and agencies in Oregon and Southwest Washington for their outstanding skills, conduct, abilities, and accomplishments.

Rogge, who has been with the department for 33 years, retired from a long and distinguished career in December. Among his many accomplishments, Rogge has played a key role in developing the OSU construction engineering management program into one of the best in the country. In addition, he has been heavily involved in leading OSU students at the Associated Schools of Construction Regions 6 & 7 competition throughout his career.

### OSU CCE GRADUATE STUDENT EARNS NATIONAL AWARD

Congratulations to OSU CCE graduate student Matt Adams on receiving the 2015 Young Member Award for Professional Achievement from the American Concrete Institute. The award was established by ACI's Board of Direction in 1997 for the purpose of recognizing the contributions of younger members of the Institute for professional achievement. Specifically, Adams received the award "for spearheading new programs for students and young professional members of ACI, and for mentoring new concrete professionals."

Formal announcement of his selection will be made at the awards program at the ACI annual convention on Sunday, April 12, at the Marriott and Kansas City Convention Center in Kansas City, Mo.

His selection marks the second consecutive year a member of the OSU community received the award as OSU CCE associate professor Jason Ideker was honored last year.



**DAVE ROGGE RECEIVES THE SIR AWARD FROM AGC OREGON COLUMBIA CHAPTER PRESIDENT STEVE MALANY (see panel on left).**

## CCE WELCOMES THREE NEW FACULTY MEMBERS



### Erdem Coleri, Ph.D. - Infrastructure Materials

Erdem Coleri received his Ph.D. degree from the University of California, Davis (2011) with specialization in pavement materials and structures. Dr. Coleri joined OSU after working as a Project Scientist at the University of California Pavement Research Center for two years. He has also worked as a Technical Consultant for Sensys Networks, Inc., which is a leading provider of wireless traffic detection and integrated traffic data systems. His research interests are in the areas of sustainable pavement materials

and structures, energy efficient pavement design strategies, and infrastructure health monitoring using wireless sensor networks. Teaching interests include civil and construction engineering materials, pavement engineering, pavement management systems, asphalt and bituminous materials, asphalt mix and structural design methods.



### Pedro Lomonaco, Ph.D. - Director, O.H. Hinsdale Wave Research Lab

Pedro Lomonaco joined Oregon State University in August 2014 from the Environmental Hydraulics Institute, University of Cantabria, in Spain, where he was the Head of the Hydraulics, Coasts and Offshore Laboratory from 2007-2014. Previously, Dr. Lomonaco was a Research Officer of the National Research Council's Canadian Hydraulics Centre, in Ottawa, where he designed and executed physical model testing of hydraulic, coastal and ocean structures.

Besides managing and coordinating the activities at the Hinsdale Wave Research Lab, his scientific activity primarily deals with studies of physical and numerical modeling of wave generation and propagation, wave-structure interaction, stability of coastal and submarine structures, behavior of floating structures, hydrodynamics, and non-linear behavior of long-waves in shallow waters.



### Christopher Parrish, Ph.D. - Geomatics

Parrish holds a Ph.D. in Civil and Environmental Engineering with an emphasis in geospatial information engineering from the University of Wisconsin-Madison and an M.S. in Civil and Coastal Engineering with an emphasis in geomatics from the University of Florida. His research focuses on full-waveform LiDAR, topographic-bathymetric LiDAR, hyperspectral imagery, uncertainty modeling, and UAVs for coastal applications. Parrish

is the Director of the American Society for Photogrammetry and Remote Sensing (ASPRS) LiDAR Division and associate editor of the journal Marine Geodesy. Prior to joining OSU, he served as lead physical scientist in the Remote Sensing Division of NOAA's National Geodetic Survey and affiliate professor in the Center for Coastal and Ocean Mapping - Joint Hydrographic Center at University of New Hampshire.

## GRADUATE STUDENT SPOTLIGHT - MONICA MORALES

Monica Morales, a civil engineering graduate student from Reno, Nev., is a first-generation college student and recently graduated from OSU with a bachelor's degree in civil engineering. Staying in Corvallis to complete her graduate degree, she recently sat down with CCE News to discuss what led her to OSU, her research, and why she loves living in the Pacific Northwest.

### AS A HIGH SCHOOL STUDENT, HOW DID YOU END UP CHOOSING TO ATTEND OSU?

I'm originally from Reno and I wanted to find something new. I have always loved the Pacific Northwest so applied to several schools in the area. I made a visit to Oregon State, it was my first visit, and I fell in love with it. OSU seemed more welcoming than other schools I visited, which was important as a first-generation college student.

### HOW DID YOU END UP CHOOSING THE FIELD OF CIVIL ENGINEERING?

Growing up, I did not know what I wanted to do. My mother pointed out I was really good at math and science and that I should look into engineering. I looked at various career paths where math and science were core strengths, everything from being a doctor to becoming a fashion designer. Looking at all of the different fields, civil engineering seemed the most impactful to me. Buildings, bridges, roads, and water are all essentials to society and it felt like I would have the chance to really serve the public and I still feel that way. It has been great.

### YOU REMAINED AT OSU TO PURSUE A GRADUATE DEGREE, WHAT IS YOUR FOCUS AREA?

My graduate focus area is in infrastructure materials, with a minor in water resources engineering. During my time as an undergrad, I got involved with Concrete Canoe and was a co-captain when we went to nationals. I also did undergrad research with Dr. Jason Ideker because he was into sustainable materials. Through internship programs, I really enjoyed my work with water and environmental issues. Through the two paths I really became interested in issues such as corrosion and durability of materials, especially as they relate to water resources issues. I felt I could combine the two and am now working with Dr. Burkan Isgor.

### TELL US A LITTLE BIT ABOUT THE RESEARCH PROJECT YOU ARE WORKING ON?

Right now we are assessing durability of reinforced concrete. Inspectors use surface resistivity measurements on reinforced structures and we are using the same probe to see how cracks, corrosion and delimitation effect those readings. By doing this, we can give better consulting advice to accurately assess the lifespan of a reinforced structures. It is a tool that will really help the inspectors. It is a great study because it is going to be put to use.

### WHAT ARE YOUR PLANS AFTER GRADUATION?

I will probably go into consulting in the area of water resources engineering. I feel like the corrosion and materials education at OSU has given me an edge. I am currently going through interviews right now and am looking for jobs in Cincinnati, Ohio, as that is where I am heading after graduation.

### WHAT HAVE YOU ENJOYED ABOUT CORVALLIS AND THE PACIFIC NORTHWEST?

It has been amazing. It is so clean, green, and you can ride your bike everywhere. Corvallis is a tremendous community where you can feel safe and still have plenty to do. I love it here and I am going to hate to leave.

A FIRST-GENERATION COLLEGE STUDENT, MONICA MORALES WILL LEAVE OSU WITH A GRADUATE DEGREE IN CIVIL ENGINEERING.



## CCE NEWS AND NOTES

### OSU WINS NATIONAL PCI BIG BEAM CONTEST

Congratulations to a team of OSU CCE students as they captured the national title in the 2014 Precast/Prestressed Concrete Institute (PCI) Big Beam Contest! The squad, consisting of students Luke Cressman, Drew Nielson, Sandy Spencer, Jarrett Yanagida, and advised by Keith Kaufmann of the Knife River Corporation, took home a \$2000 prize with the victory. With the win, the team attended the 2014 PCI Fall Convention, held in National Harbor, Md., from Sept. 6-9.

OSU, which won the national title for the fourth time, also took home top spot in the region, placing ahead of Sacramento State, Northern Arizona, UC San Diego, and Washington.

The year-long contest consisted of fabricating and testing a precast/prestressed concrete beam with the help of a local advisor. Prizes were awarded to the top performers in each zone in consideration of efficient design, highest load capacity, and other categories.

### OSU FACULTY PARTICIPATE IN NAPA POST-EARTHQUAKE RECONNAISSANCE

OSU CCE assistant professors Andre Barbosa and Ben Mason participated in a post-earthquake reconnaissance effort following the August 24, 6.0 magnitude South Napa earthquake in California. Barbosa was named the Structures Lead on the published Earthquake Engineering Research Institute (EERI) Special Earthquake Report, which contains data related to the seismic hazard, behavior of structures and lifelines, and other information for improving the seismic resilience of communities.



## CCE NEWS AND NOTES

### TASK FORCE OUTLINES MAJOR INITIATIVES FOR EARTHQUAKE AND TSUNAMI PREPAREDNESS

A task force that studied implementation of the Oregon Resilience Plan submitted to the Oregon legislature an ambitious program to save lives, mitigate damage and prepare for a massive subduction zone earthquake and tsunami looming in the future of the Pacific Northwest.

The recommendations of the Governor's Task Force on Resilience Plan Implementation, if enacted, would result in spending more than \$200 million every biennium in a long-term initiative.

The task force, led by Scott Ashford, dean of the College of Engineering at OSU, includes numerous members across government and industry.

The Oregon Resilience Plan outlines more than 140 recommendations to reduce risk and improve recovery from a massive earthquake and tsunami that's anticipated on the Cascadia Subduction Zone, similar to the one that hit Fukushima, Japan, in 2011.

The newest analysis identified specific steps that are recommended for the 2015-17 biennium.

One of the largest single steps would be biennial funding of \$200 million or more for the OBDD/IFA Seismic Rehabilitation Grant Program, with similar or higher levels of funding in the future. Funds could be used to rehabilitate existing public structures such as schools to improve their seismic safety; demolish unsafe structures; or replace facilities that must be moved out of a tsunami inundation zone.

It was recommended that additional revenue be identified to complete work within a decade on the most critical roads and bridges that form "backbone" transportation routes; that the state Department of Geology and Mineral Industries receive \$20 million to update inventory and evaluate critical facilities; and that \$5 million be made available through existing programs for tsunami resilience planning by coastal communities.

Utility companies regulated by the Oregon Public Utility Commission would also be required to conduct seismic assessments of their facilities, and be allowed through rate increases to recover their costs if they make prudent investments to mitigate vulnerabilities.



**THE OSU STUDENT EXPERIENCE CENTER WILL HOUSE A NUMBER OF STUDENT GROUPS AND WILL BE COMPLETED EARLY IN THE WINTER TERM. (PHOTO COURTESY OF ANDERSEN CONSTRUCTION)**

## OSU CEM ALUMNI LEADING CAMPUS GROWTH

For those walking onto the Oregon State University campus for the first time, it is hard not to take notice of the growth taking place across the institution. Everywhere you turn, a new building seems to be taking shape, a reminder OSU is dedicated to providing students the necessary resources to support a continuous search for new knowledge and solutions.

The growth, of course, would not be possible without the generous donations from OSU alumni around the globe. However, a number of OSU CCE alumni are contributing more than just dollars, they are leading the builds for these new, state-of-the-art facilities. Employed by companies like Andersen Construction, Fortis Construction, Hoffman Construction, Howard S. Wright, and others, OSU alumni are cementing a better future for OSU.

Dustin Sievers, a project manager for Andersen Construction, is one of several alumni contributing to the growth on campus. Sievers, who received his degree in construction engineering management, is currently working on the OSU Student Experience Center (SEC), slated to open in January 2015. The LEED Gold four-story, 93,300 square-foot structural steel framed facility will be a community center for students and student programs. Like many of the new facilities on campus, it will utilize a number of sustainable strategies in its design: energy efficient lighting, day lighting, passive/natural ventilation and highly efficient mechanical, plumbing and electrical systems.

For Sievers, the opportunity to work on projects at his alma mater is exciting and rewarding.

"It is fun to serve a client that you have a shared interest in," Sievers said. "As an alum, I care about the university. It is great to go to work and see orange in black every day. It is obviously an exciting time for OSU and it has been great to grow with the rest of the campus."

Like Sievers, OSU CCE alumni can be found across campus, working on a number of projects as the campus continues to grow. Current and recently completed projects include Austin Hall (College of Business), Johnson Hall (College of Engineering), William Tebeau Hall (residence facility), and the Learning Innovation Center (classrooms). According to Sievers, it is no surprise the projects have OSU construction engineering management alumni playing a critical role.

"It is an incredibly strong program. It encourages student engagement and those who take advantage have turned out to be great employees," Sievers said. "I do a lot of interviews with students at OSU and always leave impressed. Students are often prepared for their future career in the industry."

For more information about the current projects on the OSU campus, visit [cpd.oregonstate.edu/projects](http://cpd.oregonstate.edu/projects).

## OSU CCE OPENS PAIR OF OREGON BEST LABS

The school introduced a pair of Oregon BEST research laboratories during the fall term with ribbon cuttings for the Multipurpose River Hydraulics Research Facility (MRHRF) and the Green Stormwater Infrastructure Research Facility (GSIRF).

The MRHRF features a recirculating system with the ability to test two simultaneous and independent experiments with flows of up to 35 cubic feet per second. The facility is ideal for the construction and testing of river and low head pressurized hydraulic structures, and it can also be used for a wide range of research projects, including flood control, reservoir sedimentation, density currents, erosion and scour, aquatic habitat, stream restoration, fish passage and dam removal.

The \$600,000 facility, led by OSU water resources professor Arturo Leon, consists of a re-circulating system with a 20-m x 8-m concrete slab (platform for experiments), two independent head tanks, a sediment catchment, a clean water sump, pumps, and impulsion and return pipe lines. Partners for the lab include the United States Environmental Protection Agency, Oregon BEST, OSU, and Northwest Research Associates.

The GSIRF is a three-celled stormwater research facility for field-scale experiments and testing on green infrastructure. The cells provide the ability to test various stormwater treatment technologies and treatment of various stormwater contaminants. These cells are also instrumented with multiple sensors to enable better data collection and modeling.

Pollutants captured at the \$110,000 facility include tractor leaks, fuel tank spills, raw asphalt, road fill sediment, parking lot sediments and chemicals, and road paint spills. In addition to stormwater treatment, this facility supports long term research on stormwater quality to inform current and future projects for treating stormwater using 'low impact development' technology.

"The data from this facility will enable us to develop clear recommendations for cities that are facing the overwhelming choices in green stormwater technologies," said OSU water resources professor Meghna Babbar-Sebens, who is co-director of the facility with Leon. "The facility also provides capabilities for conducting short term as well as long term experiments on different types of innovative green technologies."

The lab is a partnership project to enhance water quality, provide long-term research and support stormwater and water quality education and outreach. Partners in the project include Benton County, Oregon State University, Oregon BEST, State of Oregon Water Resources Department, and the Pacific Northwest Transportation Consortium.

**THE GREEN STORMWATER INFRASTRUCTURE RESEARCH FACILITY AIMS TO ENHANCE WATER QUALITY AND PROVIDE FOR EDUCATION AND OUTREACH.**



## CCE NEWS AND NOTES

### CHRIS HIGGINS NAMED INAUGURAL CECIL AND SALLY DRINKWARD PROFESSOR IN STRUCTURAL ENGINEERING

OSU CCE professor Christopher Higgins was recently named the inaugural Cecil and Sally Drinkward Professor of Structural Engineering. A registered Professional Engineer, Higgins also directs the Structural Engineering Research Laboratory at OSU.

Higgins' research focuses on inspection, evaluation and rehabilitation of infrastructure. He has extensive experience testing and evaluating structures subjected to the effects of such things as wind, ocean waves, and earthquakes and his research on reinforced concrete bridges for the Oregon Department of Transportation is reported to have saved state taxpayers \$500 million.

Building on their past generous support of the university, in 2013 Cecil Drinkward and his wife, Sally, made a \$1 million gift commitment creating the professorship. "This is payback for the training Oregon State provided to the engineers over the years who helped me build Hoffman into the premier Oregon general contractor," he said.

A graduate of Caltech, Drinkward joined Hoffman Construction Company in 1967, serving as its president and CEO from 1974 to 1991, then as president of Hoffman Corporation.

### UPCOMING EVENTS

FEB. 19 - OSU Engineering Career Fair

FEB. 27 - Oregon Stater Awards

MARCH 4 - Graduate Research Expo

JUNE 12 - CCE Graduation Celebration

JUNE 13 - OSU Commencement



## IN THIS ISSUE OF CCE NEWS

### SHAPING THE FUTURE OF EDUCATION

OSU researchers are developing educational models to help prepare graduates for life in the workforce.

### STUDENT SPOTLIGHTS

Chris Duty and Monica Morales sit down to talk about their experiences at OSU.

### NEW FACULTY JOIN CCE

CCE welcomes three new faculty members.

### CCE NEWS AND NOTES

News briefs from around the school.

### ASCE STUDENTS COMPLETE WATER PROJECT

A group of ASCE students travelled to Nicaragua for a design-build project to improve water quality.

### OSU OPENS PAIR OF OREGON BEST LABS

The school opens two facilities to aid in water resources research.

## PHOTOS OF THE FALL TERM: TSUNAMI STRUCTURES CHALLENGE

An annual rite of passage for all OSU ENGR 111 and CCE 101 students is the Tsunami Structures Challenge, held at the Large Wave Flume at the O.H. Hinsdale Wave Research Laboratory. Led by education and outreach coordinator Alicia Lyman-Holt, students design and build model structures to provide shelter for a ping-pong ball in hopes it will withstand a simulated tsunami wave.

The main goals of the project is for the students to work on the “design-build-test” process, to introduce students to the concept of constraints on design, and to connect engineering with helping people.

The world-class lab also conducts the “challenge” with K-12 students throughout the region, giving younger students the opportunity to learn more about the importance of engineering. If you know of a class that might be interested in receiving a tour or participating in the challenge, contact Alicia Lyman-Holt at 541-737-3665 or [alicia.lyman-holt@oregonstate.edu](mailto:alicia.lyman-holt@oregonstate.edu).



STUDENTS LEAN OVER THE LARGE-WAVE FLUME (TOP) TO GET A LOOK TO SEE HOW THEIR STRUCTURES (RIGHT) STAND UP TO A TSUNAMI.

