The UNIVERSITY *of* OKLAHOMA
College of Engineering
School of Civil Engineering and Environmental Science

Communiqué

Summer 2014

A newsletter for alumni and friends of the School of Civil Engineering and Environmental Science at the University of Oklahoma

From the Director

Greetings CEES Alumni and Friends!

As many of you have heard by now, after 14 years of service Robert Knox stepped down from the CEES director's position last August. With support and encouragement from CEES faculty and staff and the College of Engineering Dean's office, I agreed to serve as director. However, in order to effectively manage CEES's growing research and educational portfolio and still be able to continue my own research program and teaching obligations, I requested that Dean Landers allow me to create an associate director position to help administer the school. He approved, so I am pleased to announce that Gerald Miller, Ph.D., P.E. will serve in that capacity. Together, we represent the new leadership team in CEES, and we are working hard to build upon the strong foundation left by Robert Knox and his predecessor, Ronald Sack.

After such a long tenure by Knox, any transition brings a certain amount of anxiety. But because Miller just completed his 20th year in CEES, while I completed my 19th, and both of us have served on numerous CEES committees over the years, we were able to bring a lot of continuity and experience to the front office. With that experience, and thanks to a wonderful staff and supportive colleagues, we have been able to navigate last year without too much disruption. However, a few things did slip through the cracks, like last summer's edition of the Communique, so this edition highlights many activities in CEES over the last two years.

As you will read, it is an exciting time to be leading CEES! Here are just a handful of the many activities and accomplishments that are recounted in the following pages:

- In fall 2013, a proposal led by Musharaff Zaman, Gerald Miller, and aerospace and mechanical engineering professor Ronald Barnes to host a regional transportation center was awarded;
- Over the last two years, we have hired four new faculty members–three in structural/architectural engineering and one in sanitation/public health;
- CEES faculty and staff have continued to be recognized for excellence with many university, local and national awards;
- Our students are excelling in the classroom and in research;
- We continue to emphasize experiential learning through class activities, student competitions (e.g., ASCE's concrete canoe), and Sooners Without Borders;
- The WaTER Center has increased its national and international presence through innovative research and through the international prize/conference that it sponsors.

Collectively, these efforts and accolades indicate that CEES is an outstanding school and a great place to work. CEES is much more than just a good local program; we are a nationally-prominent program and one which, because of your time spent here, you can take some pride in helping shape.

Yes, these are exciting times for CEES! In conjunction with the CEES Visiting Council, we are critically assessing our current operations and evaluating opportunities for future growth, which we will share with you in the form of a strategic plan that will guide us for the next five years.

I hope you enjoy reading these CEES highlights taken from the last two years. As always, we welcome your thoughts and comments. If you are visiting the area, please contact us beforehand so we can arrange a time to meet with you.

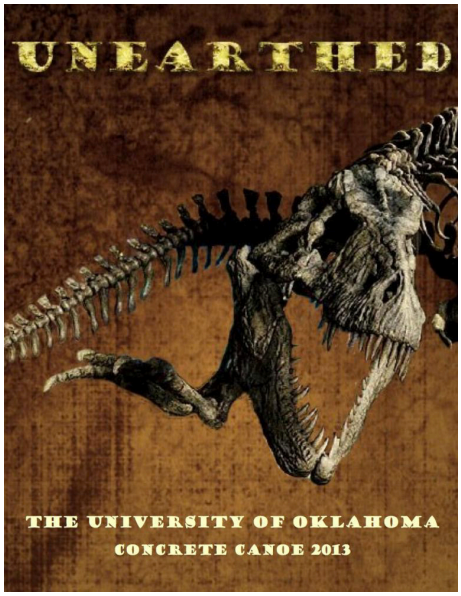
Regards,

Randall L. Kolar, Ph.D., P.E.
David Ross Boyd Professor,
Austin Presidential Professor
Director, School of Civil Engineering and Environmental Science

School News

Concrete Canoe

The 2013 National Concrete Canoe Competition season was an exciting and successful one for the University of Oklahoma's Concrete Canoe team. Entering the season, the team had its goals set on once again reaching the national level after a disappointing fourth place at regionals during



the 2012 season. Competing with a canoe titled "Unearthed," the theme for the 2013 season was a tribute to the natural history of Oklahoma. After taking a tour of the Sam Noble Oklahoma Museum of Natural History at OU, the team generated ideas for the canoe stain and display. These ideas included a large dinosaur fossil as the inside design of the canoe, a cut-away display that was being "unearthed" out of the sand, as well as a three-dimensional pterodactyl as the display back board. These detailed display elements really helped the team stand apart from the rest of the competition at the regional conference that took place at Southern Illinois University in Edwardsville. The team also had success in their presentation and paper, but the greatest success came with the sweep of the races. Even after dealing with an error with the safety boat, the OU paddlers were able to top the regional competition.

After placing first at regionals, the team returned to Norman to prepare for the tougher competition expected at the national conference, which took place at the University of Illinois Urbana-Champaign. While the actual canoe could not be altered, modifications to the stands, display and presentation were all made to step-up to the level of competition older team members knew they would face. Unfortunately, the team was not able to match the level of competition that many of the top teams at the national conference offered. Despite a 12th-place finish for final product and a 17th-place ranking overall, the team was not discouraged. By taking a total of 16 students to the national conference, 11 of whom were new team members, the team was able to gain a lot of exposure to the expectations at a national competition. More importantly, they learned about teamwork and the whole process, as well as unique and different techniques for creating a one-of-a-kind concrete canoe.

The 2013 team consisted of 16 students spanning five different majors. Team members were Samantha Heinrich, Amy Crone, Traci Kohl, Amy Wisecarver, Alyse Burgess, Kristen Carter, Brooke Sewell, Sarah Bedell, Shauna Snyder, Nate McMullen, Daniel Velazquez, Nicholas Ibarguen, Derek Garcia, Corey Wirkman, Jordan Dye, and Stephen Collins, as well as faculty adviser Chris Ramseyer.

The 2014 team members were Corey Wirkman (Captain), Daniel Velazquez (Paddling Lead), Jacob Choate, Nathan Ferraro, Stephen Collins, Amy Wisecarver, Amy Crone (Captain's Assistant), Shauna Snyder and Samantha Heinrich (Design Leads), Sarah Bedell (Fundraising Lead), Derek Garcia (Construction Lead), Bryce Lawson, Kristen Hayden, Saleh Mullayousef, Grant Rilling, Lexis Allen, Jenna Jacoby and Landon Watson.

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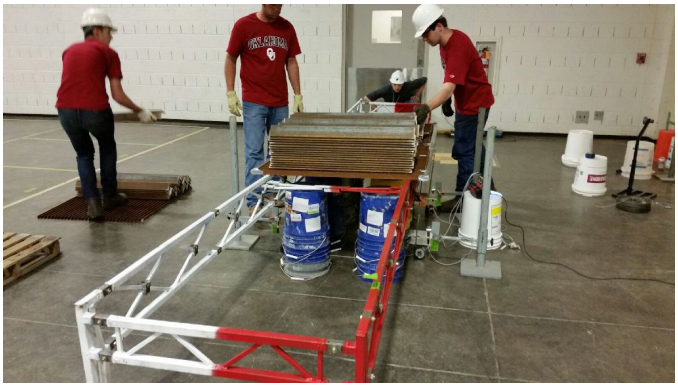
The 2014 ASCE Mid-Continent Student Conference was held April 24 - 26 in Stillwater, Oklahoma. The OU-ASCE Concrete Canoe Team, under the "Pops" theme (named after the famous drive-in of the same name along historic Route 66), won the following awards: first place Design Report; second place Oral Presentation; first place Women's Endurance Race; second place Coed Sprint Race; third place Men's Endurance Race; third place Men's Sprint Race. This resulted in a second place overall, which, while commendable against stiff competition, kept them out of nationals.

Steel Bridge

At the ASCE regional competition in Stillwater, Oklahoma, the 2014 OU-ASCE Steel Bridge team constructed their bridge in 19 minutes and completed all load tests (lateral and vertical) for their competition. They had the lightest bridge at the competition (before penalties) and won 3rd place for stiffness. This is the first time in at least a decade that our bridge team placed in any category. Overall they won 5th place.

Slight construction issues (too tall by 1/16" at mid-span, top beam too short by 1/4", and top beam not smooth enough) caused the team to be assessed a 150-pound penalty. We can now add the importance of construction tolerances to the many learning experiences the team members have gained during this competition.

On a more positive note, the team had some of the best thought-out member connections in their design. They used the new 3-D printer capabilities in the ExxonMobil Rawl Engineering Practice Facility to create the prototypes. This helped decrease errors during the manufacturing process and helped improve efficiency.



The 2014 Steel Bridge team members were Samuel Sherry, Will Shappe, Ivan Calderoni, Ryan Branson, Ryan Sparks and Markus Thomitzek. Several of these team members will return for the 2014-2015 season to help build an even stronger steel bridge competition team. In addition, based on the 2014 team's improved success, one of our steel bridge alumni has promised to provide needed financial support for next year's effort.

Environmental Capstone Class Collaborates with GRDA

Students enrolled in the Environmental Engineering and Environmental Science Senior Capstone class conduct comprehensive analyses of open-ended, real world problems. For the academic year 2012/13, students in the capstone class worked cooperatively with the Grand River Dam Authority Ecosystems and Lake Management Department to develop

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preliminary designs for capturing and treating stormwater runoff from the GRDA Ecosystems and Education Center. The students were divided into two groups and charged with developing names and logos for their environmental consulting firms. The firm names the students chose were EcoSunshine Environmental Solutions and Crimson Duck Environmental.

To make the project as realistic as possible, the student groups were tasked with developing several technical documents in preparation for subsequent field sampling, laboratory analyses and data interpretation activities. To avoid duplication of effort, the groups were assigned separate topics, and they subsequently shared information with each other. ESE was tasked with completing a review of available information pertaining to low-impact development and best management practices for urban stormwater quantity and quality management, as well as an overview of water quality issues at Grand Lake. CDE was charged with developing an overview report on all applicable environmental regulations related to rainfall/runoff and stormwater, and developing a draft stormwater Sampling and Analysis Plan. Both teams then developed final Health and Safety Plans for the field sampling activities and Quality Assurance Project Plans for dealing with the environmental data generated during the project.

Given the short duration of the semester and unpredictable nature of Oklahoma's winter weather, it was decided to implement an artificial rainfall event. The student groups travelled to Langley,

Oklahoma during the first weekend in February. Sampling stations were established at the two distinct outfalls of the GRDA EEC parking lot. The Langley volunteer Fire Department brought a fire truck to the site and proceeded to "rain" about 2 inches of water on each side of the parking lot. The

students groups were able to measure the quantity of runoff at each outfall and collect samples for the duration of the storm event. The samples were preserved onsite and transferred inside the GRDA ECC. All sample analyses were conducted under the supervision of GRDA personnel in the analytical facilities at the EEC.

The second highlight of the project came three weeks later. It turned out that the 2013 Bassmasters Classic fishing tournament was being held at Grand Lake in late February. Each team was required to develop an oral presentation and an overview poster about their project. The posters were displayed at the Bassmaster Classic Outdoor Expo at the BOK Center in Tulsa.

After the excitement of the Bassmasters tournament, it was time for the students to get serious about reducing their data and utilizing it to develop designs for the stormwater collection and treatment systems. The student teams met weekly with the course instructors and had to provide interim (66 percent) deliverables for both their oral presentations and written reports.

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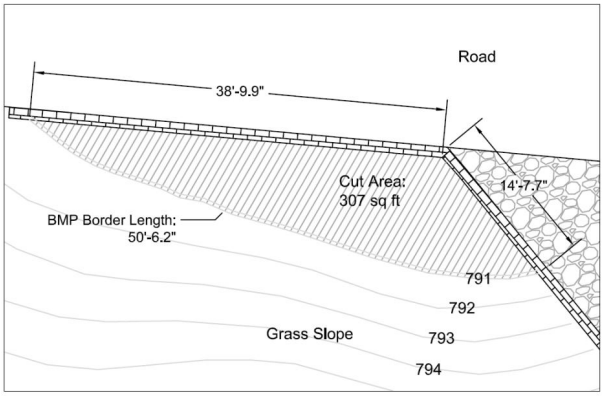
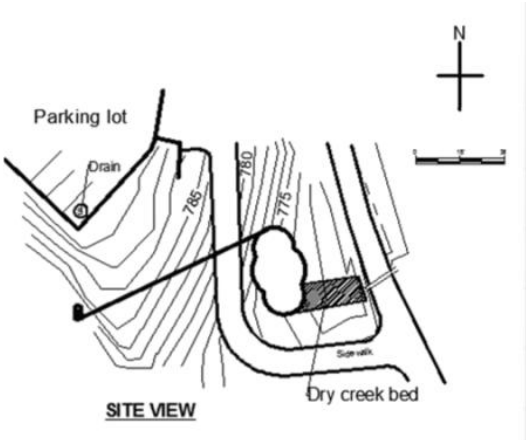


ESE selected a bioinfiltration terrace as the BMP for storm water runoff management on the southwest side of the EEC system. The system is designed to retain and treat the first flush of stormwater runoff using a fly ash and sand mixture to sorb nutrients, remove solids, and allow sufficient time for coliform bacteria die-off. The first flush is stored in the gravel and sand media to prevent mixing with post-first flush runoff. The system will allow the excess runoff to flow out of the system through crenellations after the filter media has been saturated with the first flush volume. After the first flush volume filters through the fly ash and sand mixture, it exits the system through a French-style drain at the bottom of the northeast corner of the retaining wall, and then it flows to the drop inlet before discharging into Grand Lake. After developing the design for the bioinfiltration terrace, a detailed cost estimate was developed for the project, which resulted in an estimated total present worth of $35,000.

CDE opted to utilize a rain garden, also called a bioretention cell, for storm water management on the west side of the EEC. This BMP directs runoff into shallow depressions where soil and plants filter out pollutants and improve water quality through adsorption, decomposition, ion exchange and volatilization. The proposed construction site is located on the south east side of the EEC. This area is a well-manicured lawn that is encompassed by sidewalks on the south, east and west sides. The EEC property is located at an elevation over 25 feet above Grand Lake. Because of this, there are significant downward slopes surrounding the building of up to 35 degrees. The location of underground utilities also was studied from the available site plans.



The plants chosen for the EEC rain garden were selected based on information provided by the Oklahoma Conservation Commission. Only plants that were known to survive the elements of the Oklahoma climate were listed. The six plants that were chosen for the EEC rain garden are Buttonbush (Cephalanthus occidentalis), Sneezeweed (Helenium autumnale), Swamp/Marsh milkweed (Asclepias incarnata), New England Aster (Aster novae-angliae), Golden Alexander (Zizia aurea), and Purple Coneflower (Echinacea purpurea). The total estimated present worth of the rain garden BPM is $39,000.

In addition to developing a professional-style engineering design report, each team was required to prepare and give an oral presentation about the project and their selected BMP. The oral presentations were held in the conference facilities of the EEC in Langley. The audience in attendance included personnel from GRDA's EEC plus members of the Grand Lake Watershed Alliance and Oklahoma Conservation Commission. The project was well-received by the professionals in the audience; the students are to be commended for their efforts.

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Sooners Without Borders Travels to El Salvador

The OU WaTER Center is proud to have sponsored the Sooners Without Borders' 2013 Thanksgiving week trip to El Salvador (Nov. 25 - Dec. 1). SWB is a student-run service organization on the OU campus that plans and conducts service and development projects for peoples in need, both domestic and abroad. In 2013, they were invited to do several projects in the Bajo Lempa (lower Lempa River) region of El Salvador, a coastal plains region with some of the poorest inhabitants in the country.

The 10 students and their three adult mentors worked on two water projects and one development project. The purpose of the first water project–a tidal zone and water quality study in Isla Montecristo–was to locate wells and analyze water quality to provide a more reliable and long-term source of clean drinking water. Coastal villages face the challenge of inadvertently drawing salt water into the wells, which ruins the pumps and is unsafe to drink.

The second water project was a solar irrigation pump design and installation to provide an eco-friendly solution for crop irrigation during the increasingly longer dry season that is due to a changing climate. A submersible pump, a cased well, a set of solar panels, and an elevated tank were installed as a system that began working perfectly as soon as the last wires were connected. The development project included a geologic analysis of soils stratification on a building site for a new mangrove research center.

The group stayed with host families in Ciudad Romero where they were working on the solar-powered water system. Students ate with their host families, stayed in their beds (or hammocks), used

their outdoor latrines and tried to sleep through the raucous sounds of farm animals from the early evening to the very early morning hours. The village was founded in 1991 by approximately 300 families of former refugees from the Salvadoran highlands who returned after 10 years of exile in the Panama jungles. The farming community is working with groups like SWB to build an infrastructure compatible with the region's climate and topography.

But it was not all just work for group. They also enjoyed playing soccer (futbol) with the local teenagers, playing in the ferocious surf of the Pacific Ocean, and releasing baby sea turtles at the ocean's edge as part of a turtle egg hatchery and conservation initiative.

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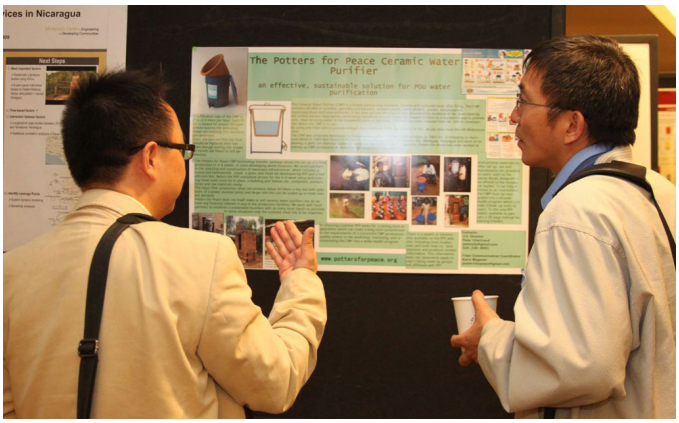
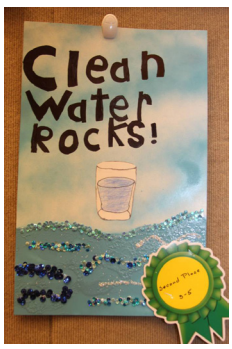


WaTER Center Hosts Third Biennial OU International WaTER Conference

The WaTER Technologies for Emerging Regions Center at the University of Oklahoma hosted the Third Biennial OU International WaTER Conference and International Water Prize Award Ceremony Sept. 23-25, 2013, in Norman.

The conference theme, "Synergy at the Interface: Integrating Technology, Social Entrepreneurship and Behavior Change," attracted nearly 200 participants from multiple disciplines, all with the common goal of bringing water and sanitation to developing countries.

Attendees included representatives from 17 countries and included water and sanitation experts from academia, industry, NGOs, governments and foundations. Two full days of presentations and networking opportunities included oral and poster sessions that addressed an array of water related topics, such as assessment of WASH interventions, behavior change, climate change, fluoride effects and mitigation, gender and social equity, hydro-philanthropy, social entrepreneurship and water technologies for emerging regions.



In addition to technical sessions, the conference included six keynote speeches from leading WASH professionals, an educational outreach Clean Water Poster Contest for local school-age children, and a panel discussion on climate change. Serving on the panel was Christine Moe, professor of safe water and sanitation, Emory University; Richard Taylor, professor of geography, University College London; Pawan Labhasetwar, principal scientist at the National Environmental Engineering Research Institute, Nagar, India; Peter Lamb, director of the University of Oklahoma Cooperative Institute for Mesoscale Meteorological Studies (now deceased), and Braimah Apambire, senior assistant to the President for Global Sustainability and director for Water, Sanitation and Hygiene Programs at the Desert Research Institute.

The conference highlight occurred on Monday evening at the banquet where the 2013 OU International Water Prize was awarded to Ms. Ada Oko-Williams, assistant director of the Sustainable and Thriving Environments for West Africa Regional Development program. Oko-Williams currently is exploring a business approach to accelerate access to WASH in Africa.

Two post-conference work-shops were offered. One was a hands-on workshop in field methods, featuring sustainable pump technology, water well drilling methods, ecolatrine design, household water treatment systems and biosand filter construction.

The second workshop was on social entrepreneurship. Participants created a social business plan for a hypothetical urban sanitation case-study involving problem and solution identification, customer analysis, fashioning a business model and outlining its implementation.

The fourth Biennial OU International WaTER Conference is scheduled to be held Sept. 21-23, 2015. For more information about the WaTER Center visit WaTER.ou.edu

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CEES Hosts ASCE National Department Heads Conference

The School of Civil Engineering and Environmental Science was host for the 2014 American Society of Civil Engineers National Department Heads Conference, April 6-8. The two-day conference (preceded by a workshop) is the only national gathering of civil engineering department heads. A total of 85 department heads from 36 states across the country attended the meeting at the National Center for Employee Development in Norman.

The theme for this year's meeting was "experiential-based learning," and it gave CEES faculty and students the opportunity to showcase the many activities and facilities on campus that focus on "hands-on learning". The highlight of the first day was a welcome reception served in the atrium of the new Devon Energy Hall, followed by tours of the ExxonMobil Lawrence G. Rawl Engineering Practice Facility. Feedback from the tours of the practice facility was superlative and left many faculty envious of the type of opportunity we are able to offer OU engineering students.

The conference agenda also provided an opportunity to showcase the talented faculty and programs at OU. As has been well documented in the CEES Communique over the years, CEES has been very successful in student competitions, such as the ASCE-sponsored concrete canoe and steel bridge. At lunch on Monday, Randall Kolar, director of CEES, gave a plenary talk about "The Future of Student Competitions," which generated some lively discussion.

Following the afternoon sessions, the department heads were transported to the Fred Jones Jr. Museum of Art on the OU campus for a reception, tour and dinner. OU's Fred Jones, Jr. Museum of Art ranks in the top five university art museums in the United States. It is home to the Weitzenhoffer

Collection, the largest gift of French Impressionist art ever given to a public university in the United States. The new Stuart Wing of the museum provides an additional 18,000 square feet for the University's collection, which is valued at over $1 billion. Once again, feedback from the tours of the museum was overwhelmingly positive.

Dinner was served in the Sandy Bell Gallery of the museum that evening. The guest speaker for the evening was Donald Burgess, formerly of the National Severe Storms Laboratory. His talk was titled "Estimation of Tornado Wind Speeds and Implications for Engineered Structures." As one can imagine, the topic was of great interest to an audience of civil engineers.

The last day of the conference was devoted primarily to discussions about ABET and other departmental administrative duties. Those attendees who stayed through lunch were provided with a tour of the National Weather Center on the OU research campus.

The two-day conference was a strategic opportunity for CEES to increase its national visibility for research and learning excellence; thanks to the hard work of the CEES staff and organizing committee, and thanks to the generous financial assistance of our sponsors (listed above), we were able to put on a well-organized, well-attended conference and social program that left the attendees with a very positive impression of OU and CEES.

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CEES Faculty Member Chairs ASMR 31st National Meeting in Oklahoma City

For more than a year, CEES faculty members Robert W. Nairn and Robert C. Knox, staff members Cindy Murphy and Molly Smith and students from the Center for Restoration of Ecosystems and Watersheds have been busy planning the 31st National Meeting of the American Society of Mining and Reclamation. The theme of this year's conference was "Exploring New Frontiers in Reclamation." ASMR is a 400-member professional organization dedicated to "efforts to reestablish, enhance or protect our natural resources disturbed by mining or other human activities, or by disturbance through natural events." Nairn and many CREW students are long-term members. Nairn also served as the ASMR president for 2013-14.

This year's meeting marked the first time ASMR met in Oklahoma, and it included more than 200 attendees from across the United States and several other nations. The conference was held at the Cox Convention Center and Renaissance Oklahoma City Convention Center Hotel. Pre-conference activities included a technical workshop titled "Introduction to Fluvial Geomorphology," taught by CEES doctoral student Russ Dutnell.

Over 125 oral and poster presentations were provided in 36 technical sessions, ranging from topics in Ecology, Forestry and Wildlife, Geotechnical Engineering, Land Use Planning and Design, Soils and Overburden, Tailings, Water Management, Oil and Gas Reclamation and Remediation, Slope Stabilization, Aggregate Mining Reclamation and Emerging Reclamation Technologies. Highlights included two special symposia on Passive Treatment of Contaminated Mine Drainage and Contaminated Sediment Management.

Conference activities also included an Early Careers Professionals' Social Event (to promote younger members in the water and land reclamation profession) and an Evening Social Event at the Oklahoma History Center, highlighting our great state's history to our many guests. In addition to ASMR's major awards, Memorial Scholarships, Student Travel Grants, and Best Student Oral Presentation and Poster Awards were provided.

For the first time in ASMR's history, all conference registration, abstract submission and related activities were conducted electronically. The 2014 ASMR Oklahoma meeting was a great success and set a new bar for the Society.

Faculty Updates

Jim F. Chamberlain, Ph.D., P.E., BCEE, joined the OU WaTER Center and CEES as an environmental engineer in 2012. His work focuses on building the capacity of the WaTER Center through teaching, service and research. He helped design and continues to teach the new Technical Field Methods course, which is offered each May Intersession. He also co-teaches with David Sabatini ENGR 1510, a one-hour online introductory course on water and its global challenges. Chamberlain serves as a faculty adviser to Sooners Without Borders and the OU Wells Project. In addition to assisting graduate students with their research, Chamberlain conducts his own research on the economic and environmental life-cycle comparisons between various drinking water supply options in Cambodia and Ethiopia. His administrative responsibilities include writing grant applications, leading social media and communications for the WaTER Center, and helping plan major events, such as the biennial Water Conference. In addition, Chamberlain is an ordained Catholic priest and serves as pastor of two rural parishes in Purcell and Pauls Valley, Oklahoma. A native Texan, Chamberlain earned a bachelor of science degree in environmental engineering from Texas A&M University and worked as an engineering consultant for more than 12 years. In 2005, he started a professional chapter of Engineers Without Borders in Austin and has been working on water system projects in El Salvador ever since. Chamberlain received his doctoral degree in Environmental Engineering and Earth Sciences from Clemson University in 2011.

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A musician (guitar and banjo), Chamberlain also enjoys kayaking, backpacking, and running, in addition to building a log cabin with a friend in Maggie Valley, North Carolina. When he is not doing academic or pastoral work, TreeTop Cabin is where he can be found!

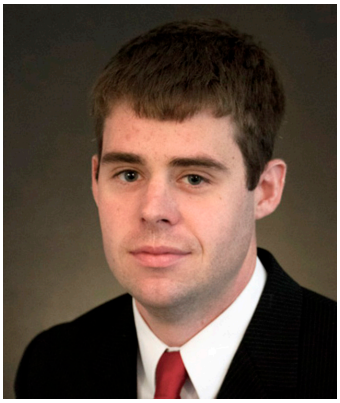
Robert Dreibelbis, Ph.D., joined the OU faculty in August 2013 as an assistant professor with a joint appointment in CEES and the Department of Anthropology in the College of Arts and Sciences. He received his bachelor of arts degree in anthropology from Washington University in St Louis, Missouri, in 2000, his master's degree in public health from Emory University's Rollins School of Public Health in Atlanta, and his doctoral degree from the Johns Hopkins Bloomberg School of Public Health in Baltimore in 2013. His past and current research focuses on the behavioral and social science aspects of environmental health issues in low-income countries. While at Emory University, Dreibelbis was involved in the design and implementation of the SWASH+ research project in Kenya–a large applied research and learning initiative funded by the Bill and Melinda Gates Foundation and the Global Water Challenge. The project examined the impact of improved water and sanitation in public primary schools on the health and educational attainment of school-going children, the health of children under the age of 5 in associated communities, and behaviors among parents of school children. He also was involved in the evaluation of urban water supply and sanitation interventions in Madagascar and Kenya and the development of an ecological sanitation business model in rural Bolivia. With researchers at Johns Hopkins, he helped develop a behavior change framework for water, sanitation, and hygiene behaviors, and he advised on the behavioral and social science aspects of improved cookstove interventions in Kenya, Peru and Nepal. Other current research projects include an investigation into the psychological and social health impacts of limited sanitation access among women of reproductive age in rural India, which is being conducted in partnership with Emory University, the University of Nebraska and the Asian Institute of Public Health. He is also involved in the feasibility evaluation of advanced membrane filtration systems for supplying rural health centers in Rwanda with sustainable access to safe drinking water.

Kendra M. Dresback, Ph.D., joined the CEES faculty as the school's first research assistant professor in September 2008. She is an alumna of CEES, receiving her bachelor of science degree in 1997, her master's of science degree in civil engineering in 1999 and doctoral degree in civil engineering in 2005. Her dissertation was awarded an Honorable Mention from the Universities Council on Water Resources, and she was a U.S. Department of Education GAANN Fellow. After completing her graduate work, Dresback was appointed as a post-doctoral research fellow. Since joining the faculty, some of her research has been funded by the U.S. Department of Homeland Security and the National Oceanic and Atmospheric Administration. It has centered on the development of a real-time forecast system for tropical and extratropical storms that couples hydrologic and hydrodynamic models to more accurately capture the storm surge and flooding that occurs during these events within coastal areas of North Carolina. This system has been operational for two years and was running during Hurricane Irene in 2011. The system was found to have notable skill in capturing the storm surge and flooding that occurred during the event. In 2011 Dresback was part of a group of faculty members invited to participate in an international workshop in China that discussed water-related disaster prediction and prevention. In 2013, she was invited to participate in a National Science Foundation Pan-American Advanced Studies Institute entitled "The Science of Prediction and

Understanding Tsunamis, Storm Surges and Tidal Phenomena" in Valparaiso, Chile. Some of her current NSF-funded research explores the expansion of the coupled system of the hydrologic and hydrodynamic models to incorporate evacuation and atmospheric models. Additional research will explore decreasing the computational time of the hydrodynamic model utilized in the coupled system, which has been funded through Intel.

Outside of work, Dresback's interests include travelling, coaching and playing basketball and softball, watching plays and movies, and reading novels.

Royce Floyd, Ph.D., joined CEES in August 2012 as an assistant professor. Originally from Benton, Arkansas, he received a bachelor of science degree in civil engineering in 2008 and doctor of philosophy degree in civil engineering in 2012, both from the University of Arkansas in Fayetteville. His primary research area is behavior of prestressed concrete members cast with specialty concrete materials. His other research interests include material property characterization of self-consolidating concrete, high early strength concrete, and ultra-high performance concrete, internal curing and sustainable structures. He currently is working on projects focused on shear behavior of aged prestressed concrete bridge girders, high early strength concrete, internal curing, and bond of prestressing strands in lightweight self-consolidating concrete. The ultimate aim of his research is to develop materials and methods that will produce longer-lasting structures. His work has been published in refereed journals and in the proceedings of national and international conferences.



Floyd teaches undergraduate courses in basic mechanics and reinforced concrete, and graduate courses in reinforced and prestressed concrete. He attended the ASCE ExCEEd teaching workshop in the summer of 2013, which has had a profound impact on his teaching style. He is a member of the American Society of Civil Engineers, Precast/Prestressed Concrete Institute and American Concrete Institute, where he is an associate member of Committee 213 Lightweight Concrete. He is a registered engineer intern in Arkansas

Floyd enjoys hunting, fishing and other outdoor activities. He and his wife, Molly, an industrial engineer, are active in their church in Norman.

Scott Harvey, Ph.D., joined CEES in August 2014 as an assistant professor. He graduated from Duke University in 2005 with a bachelor of science degree in civil and environmental engineering, with a focus on structural engineering. He then continued as a graduate student at Duke where he was awarded the James B. Duke Fellowship to conduct research in seismic hazard mitigation. He completed his master's degree in 2012 and his doctoral degree in 2013. Following graduate school, Harvey remained at Duke as a postdoctoral associate in Mechanical Engineering and Material Science, working on "Nonlinear Dynamics and Global Stability of Aircraft Structures." His research is centered on the behavior of nonlinear structural systems. The work may be broadly divided into two foci. The first is on the mitigation of damage to building contents and the second is on the application of results from constrained optimization to problems of practical engineering importance, including nonlinear rolling motion, optimal control with application to controllable-damping systems, and stability and dynamics of slender structural components. He currently is investigating the loss of stability of dynamical systems with specific attention on aircraft structures.

Harvey enjoys fishing, boating and surfing. He played soccer and baseball throughout high school, and has recently taken up biking and running, completing his first half-marathon in 2011.

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Randall L. Kolar, Ph.D., P.E. is David Ross Boyd Professor, Austin Presidential Professor and director of CEES. He received his bachelor of science degree in civil engineering and mathematics from the University of Idaho in 1983, after which he worked for the consulting firm of JUB Engineers in the Pacific Northwest from 1983-1987. Kolar is a registered professional engineering in Idaho and Oklahoma. After consulting practice, he then returned to graduate school and earned his doctoral degree in civil engineering from the University of Notre Dame in 1992. Kolar worked at the University of New Haven for three years, after which he joined the CEES faculty in 1995. His research interests center around computational hydrology and hydraulics, and as an educator, he has strived to integrate design throughout the curriculum via the "Sooner City" project. For his efforts, he has received a number of university and national awards, including an NSF CAREER Award, the ASEE Dow Outstanding New Faculty Member and the Oklahoma Regents' Williams Faculty Innovator Award. Kolar's spouse of 21 years, Maria, is a professor of legal writing at the OU College of Law. They have five children: John (17), Charles (15), Sam (12), Katie (9), Ben (6), and Santa delivered a Labradoodle, Bella, for Christmas.

Joakim G. Laguros, Ph.D., P.E., professor emeritus, and spouse Vivian are enjoying retirement in Houston with their son and his family. Laguros, who joined CEES in 1963, served the school, the College of Engineering and the University of Oklahoma for more than 40 years in various capacities, including acting director of CEES, acting and interim dean for Academic Programs and David Ross Boyd Professor. He also served on the University Research Council, the Academic Programs Council, and the Council on Honors and Awards, and was appointed by the provost to chair the Task Committees on Advising and Admission. During his tenure at OU, he received the College of Engineering Dean's Special Service Award, the Regents' Award for Superior Teaching, The Halliburton Distinguished Lectureship and the Provost's Award for Outstanding Academic Advising. In addition to his service to the university, he was recognized by and served the American Society of Civil Engineers Oklahoma Section as secretary treasurer, vice president and, in 1988, as president. His research interests included highway materials, including shales, soils and coarse and fine aggregates, and his work emphasized the use of admixtures to improve and stabilize commercially available cement, lime and fly ash.

Gerald A. Miller, Ph.D., P.E., joined the CEES faculty in 1994. A Rapp Presidential Professor, he also serves as the associate director of the school. He received his bachelor of science (1987) and master's of science in civil engineering. (1989) degrees from Clarkson University in Potsdam, New York, and his doctor of philosophy degree in 1994 from the University of Massachusetts at Amherst. All of his degrees are in the field of civil engineering with emphasis on geotechnical engineering. A registered professional engineer in Oklahoma, Miller has been active in geotechnical research, teaching and consulting for 28 years. A primary focus of his research has been on laboratory and invasive in-situ soil testing for the study of soil behavior, site characterization, foundation engineering, and stability of natural and reinforced slopes. In addition to considerable work in the area of experimental unsaturated soil mechanics, he has done extensive work related to chemical stabilization of soil and soil-structure interaction

around piles and bridges. His work is published in more than 70 articles in journals and conference proceedings, most of which represent results of collaborative efforts with his colleagues and students. Miller has a long history of professional service to the geotechnical community and, among other activities, currently serves on the Geo-Institute board-level committee for planning of the annual GeoCongress. In addition, he has served as secretary of the ISSMGE, Technical Committee on Unsaturated Soils since 2006 and is an active member of the ASCE Geo-Institute Technical Committee on Unsaturated Soils. In 2013, Miller played an integral role in bringing the Southern Plains Transportation Center to the University of Oklahoma and is serving as the SPTC associate director for OU. In early 2014, he was presented the Oklahoma Outstanding Geotechnical Engineer Award by the Oklahoma Chapter of the Geo-Institute–an award he is very proud of and greatly honored to receive.

Jeffery S. Volz, S.E., P.E., Ph.D., joined CEES in fall 2013 as an associate professor. He graduated with a bachelor's and master's degree in architectural engineering from Penn State in 1987 and subsequently spent 16 years in Chicago involved in structural design, research and forensic investigations of buildings and bridges.

A Licensed Structural Engineer in Illinois and Professional Engineer in Missouri and Illinois, he has worked for Skidmore, Owings & Merrill, the CTLGroup, Montgomery Watson Harza, and Holabird and Root. Volz returned to Penn State in 2003 to pursue a doctoral degree in civil engineering and received several fellowships during that time, including the prestigious American Concrete Institute Fellowship in 2005, as well as the Harold F. Martin Graduate Assistant Outstanding Teaching Award in 2006. He spent five years as an assistant professor at Missouri University of Science and Technology prior to moving to OU. During his academic career, Volz received the Class of 1942 Excellence in Teaching Award from the Miner Alumni Association in 2009, Outstanding Advisor Award from the Miner Alumni Association in 2010, the Daniel P. Jenny Research Fellowship from the Precast/Prestressed Concrete Institute in 2011, and the Faculty Excellence Award from Missouri S&T in 2012. His research interests involve the combination of structural engineering and material science aimed at material improvements for structural performance. His research has been highlighted in both ASCE and ACI SmartBriefs, as well as several industry and trade publications. Volz lives in Norman with his wife, Kathy, and their son, Tyler.

Naiyu Wang, Ph.D., joined CEES in August 2013 as an assistant professor. She earned her doctoral degree in civil engineering from Georgia Institute of Technology, Atlanta, in 2010. Wang's research interests include application of statistics and probability in civil engineering; structural safety and reliability; reliability-based condition assessment; performance-based design and renewal; risk-informed sustainable decisions for civil infrastructure; resilience of civil infrastructure systems; analysis and mitigation of competing hazards and risks; and impact of climate change on risk mitigation of civil infrastructure exposed to natural hazards.

Her teaching interests include structural reliability and risk-informed decisions, probability and statistics in civil engineering, structural loads, and performance-based structural design.

Wang currently serves as a member of the Subcommittee on Strength Design (Load Combinations) of the ASCE Standard 7 Minimum Design Loads for Buildings and Other Structures and as a member of the ASCE/SEI Technical Council on Life-Cycle Performance, Safety, Reliability, and Risk of Structural Systems.

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Musharraf Zaman, Ph.D., P.E., F. ASCE, returned to CEES in January as a faculty member. Zaman joined the CEES faculty in 1982, moving to the position of associate dean for Research and Graduate Programs for the College of Engineering from July 2005 to December 2013. Zaman currently serves as director of the Southern Plains Regional Transportation Center (see article this page). A prolific teacher and a highly accomplished researcher, during his tenure at OU, he has received a number of prestigious national-level teaching awards from the American Society of Engineering Education. He also received the lifelong title of David Ross Boyd Professorship, the highest teaching award given by the University of Oklahoma. While at OU, he has received over $14 million in external research funding from various state and federal agencies and industry. He has published over 275 archival papers. Several of his papers have won prestigious awards from national-level societies and organizations. He is a fellow of the American Society of Civil Engineers and serves as the editor-in-chief of the International Journal of Geomechanics, ASCE.

Staff Update

Cindy Vitt Murphy joined the WaTER Center as a part-time staff assistant in spring 2013 and became a full-time CEES staff member in 2014. Her primary responsibilities involve assisting in event planning and organization; website maintenance; creating reports; proposals and bios; designing advertising signage; and many other daily support duties. A native Oklahoman, Murphy graduated from the University of Oklahoma with a bachelor of arts degree in fine arts. She went on to complete a master of arts degree in education from Oklahoma City University. Murphy taught or held administrative positions in private and public schools for more than 25 years and holds state certifications from Oklahoma and Texas in art, early childhood/elementary education, as well as from the American Montessori Society. Murphy lives in Norman with her life partner, Steve, and her cat Khaleesi. In her spare time, she can be found sewing, reading, singing or writing songs, creating various types of artwork, or spending time with her daughter and granddaughter.

Research

CEES Faculty Lead Regional Transportation Center

The Southern Plains Transportation Center was designated as a Regional University Transportation Center in October 2013 through a nationally competitive funding process. The U.S. Department of Transportation provides SPTC nearly $2.6 million per year for FY 2014 and FY 2015 with potential for continued funding in subsequent year(s). The purpose of this funding is to advance U.S. technology and expertise in the many disciplines comprising the area of transportation through research, education, workforce development and technology transfer. The Oklahoma Department of Transportation also provides nearly $1 million per year for two years to advance the SPTC goals.

The SPTC consortium consists of eight academic institutions from Region 6, namely: the University of Oklahoma (Consortium Lead), Oklahoma State University, Langston University, the University of Arkansas, the University of New Mexico, Louisiana Tech University, the University of Texas at El Paso and Texas Tech University. Two international universities collaborate with the consortium: Indian Institute of Technology at Bombay, Mumbai, India, and Shandong University at Jinan, China. SPTC is led by center director Musharraf Zaman, Ph.D., P.E.; associate director Gerald Miller, Ph.D., P.E.;

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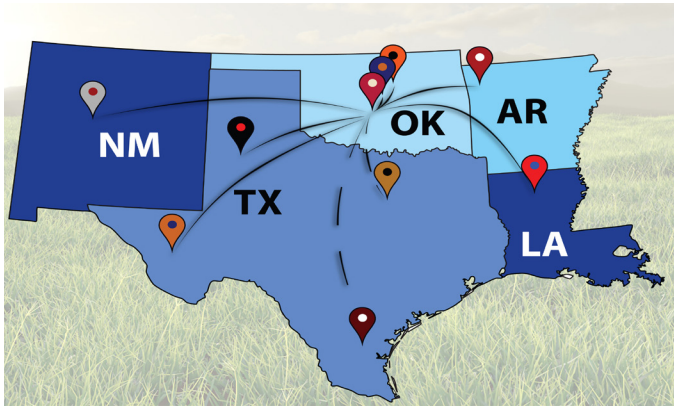


research, education and outreach chairman Ronald Barnes, Ph.D.; technical director Arnulf Hagen, Ph.D.; program coordinator Sonya Brindle and financial associate and outreach coordinator Colleen Wilhelm. Each consortium member is led by an associate director, a REOC member, and an emerging leader. For details visit http://www.sptc.org

The impact of weather extremes on the U.S. economy is staggering. Recent severe droughts have resulted in losses worth nearly $9 billion annually to managed systems in Oklahoma and Texas alone, including transportation and freight infrastructure. Extreme summer temperatures, flash floods and large numbers of freeze-thaw cycles, coupled with poor soils in most Region 6 states, create monumental challenges to transportation infrastructure, health, and public safety. Increased truck traffic and limited resources available to transportation agencies for construction, maintenance and preservation of infrastructure exacerbate these challenges. In addition, freight movements across modes – including highways, rail and inland waterways – are significantly impacted by weather extremes. Consequently, Climate Adaptive Transportation and Freight Infrastructure is the primary focus of SPTC's research, education and workforce enhancement goals.

The SPTC's vision is to is to be a diverse and inclusive regionally-based, nationally-recognized research, education and outreach center dedicated to solving climate adaptive transportation and freight infrastructure problems while producing highly trained transportation professionals. The SPTC focuses particularly on under-represented professionals – Hispanic, Native American, African American, Women and First-in-Family-to-Attend-College – capable of leading public and private sector efforts aimed at providing U.S. citizens a sustainable and resilient transportation system.

The SPTC mission is to develop comprehensive, cost-effective and imminently implementable solutions to critical infrastructure-related issues facing the transportation systems of the region and the nation; and to prepare transportation professionals for leadership roles in professional and research careers in support of the nation's transportation systems.

Since its inception, the SPTC has been very active in implementing its strategic plan. Major accomplishments thus far include the following: soliciting and receiving research, education and outreach proposals; conducting peer reviews and panel evaluation of these proposals; making funding decisions on meritorious proposals; developing an effective outreach program; implementing a regional summer internship program; planning a Transportation Climate Summit; conducting seminars and conferences; and developing leadership activities. The remainder of this report is focused on the proposal solicitation and selection process, selected outreach activities and the Transportation-Climate Summit.

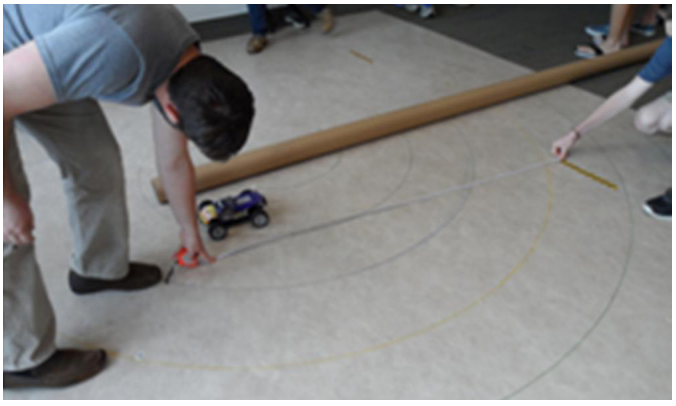
Consistent with its vision of developing a diverse and inclusive regionally-based and nationally-recognized research, education and outreach center, development of an appropriate Request for Proposals was immensely important. The SPTC leadership made substantial efforts to develop a RFP that values collaborations and leverages federal investment in developing Climate Adaptive Transportation and Freight Infrastructure (see http://www.sptc.org/rfp14-1 and http://www.sptc.org/rfp14-2 for details). Under the umbrella of the USDOT strategic objective of "State of Good Repair," the SPTC seeks to specifically address the key issues of "climate and infrastructure upon transportation and freight." The following research topics were included in the RFP: (1) Impact of weather/climate extremes on surface transportation infrastructure; (2) Weather/climate-resistant transportation materials; (3) Innovative technology to minimize impact of weather/climate on transportation infrastructure; (4) Freight and surface transportation system modeling to address weather extremes; (5) Minimizing weather/

continued next page

climate-related risks to transportation safety; (6) Maintenance and rehabilitation of transportation infrastructure to withstand extreme weather/climate; (7) Innovative monitoring and sensing technologies for surface transportation. Proposals with education or outreach as the primary focus addressed at least one of the following topics: (1) Developing innovative programs with a strong diversity-building component that encourage K-12 students, college students or adult learners to become transportation professionals; (2) Developing creative professional programs for training transportation professionals to work and lead in a diverse workforce.

The SPTC received excellent response to RFP14.1 (region-wide competition) with 42 research and seven education and outreach proposals. These proposals represent seven consortium members as well as eight other academic institutions (not part of the SPTC consortium) from Region 6 with transportation expertise. Some of the non-consortium institutions submitted proposals as the lead, while others were partnering either with a consortium member or with a non-consortium institution. It is important to note that 19 proposals involved multi-institutional collaborations. In total, the proposals requested $3.4 million in Year 1 and $2.8 million in Year 2 funding. It is evident from the submitted proposals that Region 6 has outstanding groups of transportation professionals desiring to help build Region 6 and that an inclusive RFP is highly valued in the region.

According to the USDOT estimates, about half of the transportation workforce is expected to retire in the next 10 years, and there are not enough trained individuals to fill the vacancies, especially those in the underrepresented groups noted above. The SPTC strategic plan seeks to target those groups through outreach activities to engage them in the engineering field of transportation.



In cooperation with the University of Oklahoma College of Engineering, British Petroleum has sponsored a two-week-long summer camp for high school students from Oklahoma and neighboring states for the past several years. The camp is divided into two parts: one for freshman-to senior-level boys, titled “BP Engineering Academy,” and the other for freshman to senior level girls, called “DEVAS: Discovering Engineering Via Adventure in Science.” This year, the SPTC developed an educational module to introduce transportation safety to the BP Summer Camp participants. The sessions were held on June 11-12. Thirty boys and 30 girls participated in this educational module. The attendees were selected from a group with an interest in science, technology, engineering and math. The main objective of the Transportation Safety Module was to provide students with information on and hands-on experience in transportation safety through fun and experiential learning in a supportive environment. It is expected that this experiential learning will help students to gain an understanding of roadway safety and design. To this end, four hands-on activities were introduced: Activity #1: Measurement of individual reaction time; Activity #2: Measurement of coefficient of friction; Activity #3: Measurement of braking distance; and Activity #4: Effect of radius of curvature on maximum speed.

In addition to experiential learning sessions held this summer, the SPTC has partnered with the South Central Climate Science Center at OU to plan a one-day symposium on transportation and changing climate in the 21st century called the Transportation-Climate Summit. On Sept. 30, noted climate scientists, transportation officials, practitioners, researchers and educators will assemble at the National Weather Center in Norman to discuss 21st-century climate challenges and their impacts on transportation and freight infrastructure. An expert panel will provide presentations, followed by discussions designed to reach a broad audience. The goal is to increase awareness across the region on evolving challenges and spur ideas for collaboration between climate scientists and transportation researchers with a view toward transportation stakeholder needs. Additional

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information, as well as how to register, can be found at http://www.sptc.org. The center is excited about hosting this important and timely event.

The SPTC consortium is tied together by its collaborative culture, sharing to gain, and its core values of communication and collaboration. Each consortium member is committed to sharing its human expertise and facilities to serve Region 6 through research, education and workforce development. This willingness to share extends not just to the members of the consortium, but to all stakeholders, including state and local transportation agencies, the private sector, international partners and any educational institution in the region that is interested in collaboration.

Alumni News

Botao Lin (Ph.D. 2012) was promoted to associate professor at the State Key Laboratory of Petroleum Resources and Prospecting & Department of Oil and Gas Well Engineering, College of Petroleum Engineering, China University of Petroleum, Beijing.

Tashina Mahood (Ph.D. 2013) is currently an adjunct professor in the Civil Engineering Department at the New York University in Brooklyn, New York.

Shideh Shadravan (MSCE 2007, Ph.D. 2011) has accepted a tenure-track assistant professor position at the University of Oklahoma College of Architecture. Following her graduation in 2011 Shadravan was an instructor at Cornell University in upstate New York.

Thulasi Vinayagam (M.S.C.E. 2004), was named by the ASCE South Carolina Section Board as the winner of the 2013-2014 "SC Government Civil Engineer of the Year." This designation is granted to an Outstanding Civil Engineer working for a federal, state, or local government service in the state. Vinayagam was nominated and selected for her efforts behind the first GRS-IBS bridge in the state.

A Message to Alumni and Friends from Emeritus Faculty Members

CEES emeritus professors Larry Canter, Joakim Laguros, Jimmy Harp and James Robertston are part of an ad-hoc committee assembling a short historical document of remembrance about George Reid, who served as CEES director from 1950 to 1986. They are trying to depict his career, and want several of his students to send a brief, or not-so-brief, story about their encounters, their experiences, or associations with him. Photos are most welcome!

The authors expect that the document will be about 30 to 40 pages, and will be both entertaining and historical. They hope to publish 100 copies that will be either sold or distributed in electronic format. They would like for you to submit a story about yourself and George Reid. Microsoft Word or Flash Point formats are preferred. Yellow paper and pencil also will be accepted.

Please submit your contribution ASAP to:

Jim F. Harp, Ph.D., Professor Emeritus
jmmyharp@cox.net
3217 Cotswold Square
Norman , OK. 73072-4700

Sample contribution: A career story.

Professor Reid was involved in a conglomeration of research projects. He and some graduate students developed an electric toilet for the space program and were eager to test its performance. So, he built a lake cabin at Eufaula and installed a prototype unit there. He had greater visions of using the space toilet for private use at recreational centers, cabins, etc. (both zero and non-zero gravity applications).

Early cabin users were anxious to test the unit. Immediately adjacent to the cabin was the lake itself. They had taken an opportunity to fish that day, and they were in a boat with the cabin in view.

They were appalled to look back and see the cabin in flames and destroyed!

George took the insurance money and never went back to the lake.

We'd love to hear from you! If you have news to share in the next issue of ***Communiqué***, please contact us:

334 Carson Engineering Center
202 W. Boyd St.
Norman, OK 73019-1024

or cees@ou.edu

2012-2014

Faculty Awards and Honors

- Royce Floyd received a 2013 ASCE ExCEEd Faculty Fellowship to attend the ASCE ExCEEd Teaching Workshop.
- Kianoosh Hatami and CB&ME colleague Brian Grady's Sensor-Enabled Geosynthetics invention was selected in 2014 by the Office of Technology Development at OU and i2E Proof-of-Concept Center in Oklahoma City as one of only four projects to participate in a 10-week hands-on program for market evaluation and development of technology.
- Yang Hong was selected as chair of the International Professionals for the Advancement of Chinese Earth Sciences. Hong also received the 2014 Regents' Award for Superior Research and Creative Activity.
- Randall Kolar received a David Ross Boyd Professorship.
- Chris Ramseyer received the 2013 American Institute of Architects of Central Oklahoma Urban Design Citation Award and the 2013 Excellence in Structural Engineering Awards from the National Council of Structural Engineers Associations.
- Gerald Miller received the Rapp Presidential Professorship and was presented the 2014 Oklahoma Outstanding Geotechnical Engineer Award by the Oklahoma Chapter of the Geo-Institute.
- Robert Nairn received the Sam K. Viersen Family Foundation Presidential Professorship and he served as President of the American Society of Mining Reclaimation in 2013-2014.

2012-2014

Staff Awards and Honors

- Michael Schmitz received a Patent Award from the University of Oklahoma.

2012-2014

Student Awards and Honors

- Pradeep Adhikari received the 2013 Cleo Cross International Scholarship.
- Chodchanok (Mink) Attaphong received the 2013 Honored Student Award and Manuchehr Eijudi Award, American Oil Chemist Society.
- Elizabeth Ann Attewell was named 2014 Outstanding Senior in Architectural Engineering.
- Amy Crone won second place and a $200 scholarship in the 2014 Mid-Continent Regional Technical Paper Competition for her paper "Sharing accountability for natural and assumed risks."
- Kaci M. Gevaldo was named 2014 Outstanding Senior in Environmental Science.
- Rouzbeh Ghabchi received two awards for participation in the 2013 OU Student Research and Performance Day.
- Katy McNeil, Kyle Renevier, Travis Poole, Jesse Berdis, Paul Boer, Christopher Breazile and Mack Caldwell received the 2012 People Prosperity and the Plant Award from the U.S. Environmental Protection Agency.
- Juan Pereira received the 2013 Terracon Scholarship.
- Leah Oxenford received the 2012 Best Student Presentation Award at the American Society of Mining and Reclamation National Meeting, Laramie, Wyoming.
- Allison Quiroga was named 2013 Outstanding Senior in Architectural Engineering and received the ADSC: International Association of Foundation Drilling, South Central Chapter's "Pioneers of the Industry" scholarship. This is one of 17 scholarships given by the ADSC annually and included a trip to the association's annual meeting, which took place in San Diego in 2013.
- Seth Roswurm was named 2012 Outstanding Senior in Civil Engineering.
- Megan Salisbury was name 2012 Outstanding Senior in Environmental Science.
- Dylan G. Smith was named 2014 Outstanding Senior in Civil Engineering.
- Cameron M. Spriggs was named 2014 Outstanding Senior in Environmental Engineering.
- Ben Toms received a 2014 Summer Undergraduate Research Fellowships with the National Institute of Standards and Technology.
- Hessam Yazdani won the 2013 Deep Foundations Institute Student Paper Competition and received an ASTM International Project Grant.

2012 Graduates

Summer

B.S. Civil Engineering
Josh Wright

M.S. Civil Engineering
Kyle Renevier

Fall

B.S. Architectural Engineering
Traci A. Kohl

B.S. Civil Engineering
Katie A. Brown
Derek W. Holmes, Jr.
Jason R. Kilpatrick
Mohammad H. Sharifi
William R. Swain

B.S. Environmental Engineering
Juan G. Arango Calderon
Lee A. Diede

M.S. Civil Engineering
Chris T. Breazile
Zachary Bright
Christopher Cope
Jaime Granados
Estefnia Barrientos Munoz
Travis Poole
Carlos E. Rincon

M.S. Environmental Engineering
Aissata Cisse
Lance Klement

M.S. Environmental Science
Kelly Dillow

Ph.D. Civil Engineering
Botao Lin

2013 Graduates

Spring

B.S. Architectural Engineering
Alyse L. Burgess
Blake T. Campbell
David A. Divine
Stephen K. Hambright
Nels D. Malmberg
Clifton W. Newkirk
Cory D. Scrivner
Emma E. York
Carlos A. Chang Lara
Abdalhafiz Wahesh

B.S. Civil Engineering
Tiera J. Adams
Jacob C. Bankhead
Jeremy D. Been
Lucas K. Bever
Evan K. Burns
Kristen M. Carter
Bret S. Chapman
Folaseye M. Coker
Brock A. Corr
William D. Dowding
Timothy D. Duncan
Peter S. Everest
Duncan Fugitt
Anthony E. Hanley
Nicholas W. Ibarguen
Mason J. Kettler
Logan L. Liles
Haby Ly
Trevor McDougall
Blake A. Miller
William M. Mwangi
Amanda E. Oehlert
Ceara R. Parks
Travis J. Sorrell
Ngoc Chau T. Tran
Jennifer Vargas
Alexander S. Weber-Kamin
Lianh L. Winn

B.S. Environmental Engineering
James E. Allen
Samuel T. Bush

continued next page

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Levi Golston
Austin E. Harris
Anna E. Humphrey
Jacob C. Mild
Eric M. Tichansky

B.S. Environmental Science
Gregory A. Busch
Alexandra E. Marsh
Victoria A. Oden
Steven C. Zawrotny

M.S. Civil Engineering
Tommy Bounds
Bryce M. Callies
Seth W. Carlton
Jesse E. Roswurm
Seth M. Roswurm
Karim Saadeddine
Yewei Zheng

M.S. Environmental Engineering
Hayley Ann Ryckman

Ph.D. Civil Engineering
Karrthik Kirupakaran
Jonathan P. Looper

Summer
B.S. Civil Engineering
Dustin Powell

B.S. Environmental Engineering
Aaron Bugher
Eddie Heck

B.S. Environmental Science
Stephen Cline

M.S. Civil Engineering
Yusheng Su

Ph.D. Civil Engineering
Tahsina Mahmood

Fall
B.S. Architectural Engineering
Ran Kong
John H. Landon

B.S. Civil Engineering
Matthew W. Buck
Guillermo Lopez
Kyle A. Olson
Colleen T. Shappee

B.S. Environmental Engineering
Tracy L. Driggers

M.S. Civil Engineering
Jesse Berdis
Celine Bourasset
Benyamin Naghavi
Allison Quiroga

Ph.D. Civil Engineering
Yu Zhang

2014 Graduates

Spring

B.S. Architectural Engineering
Elizabeth Attewel
Sabah J. Al-Azzawi
Brandi M. Bruens
Brittany N. Cranor
Kyle R. Frost
Stephanie M. Johnson
Amy C. Trick
Corey M. Wirkman

B.S. Civil Engineering
Christopher Y. Brummett
Clinton K. Bryant
Stephen R. Collins
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Jeremiah K. Lee
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Jacob P. Tillman
Kodi S. Wallace
Danny L. Williamson

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Brandon L. Fanning
Michael T. Nguyen
Ethan Rice
Kristen M. Rice
Brett Zogas

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Jerrett Fowler
Phillip A. Lewis

M.S. Civil Engineering
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Brandon Ezell
Michael Hendrick
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Arthur Wendling

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THE GOAL OF THE SCHOOL OF CIVIL ENGINEERING AND ENVIRONMENTAL SCIENCE:

The goal of the School of Civil Engineering and Environmental Science is to provide a high-quality educational experience for undergraduate and graduate students in the areas of environmental, geotechnical, transportation, architectural and structural engineering and environmental science. The educational experience is accomplished through innovative classroom instruction aided by computer and multimedia-based instruction, laboratory experiences and student mentoring. The products of this experience are engineers and scientists capable of critical thinking, devoted to a lifetime of learning, and highly sought-after by employers.

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