Civil & Environmental











2013 Volume 17

From the Department Head

Dear alumni and friends. It has been almost eight years since I began serving as department head. Last fall, I was reappointed for a five-year term. At



that time, I took the opportunity to review what we had accomplished and was amazed at what an outstanding department we have and what we have been able to accomplish.

Here are a few of the highlights from just the last five years: Our number of undergraduate students has increased by 22 percent (375 to 458); our number of graduate students has increased by 10 percent (186 to 204); our number of distance Master of Engineering students has increased by 500 percent (8 to 49); the number of students taking distance courses has increased by more than 360 percent (37 to 173); the number of female students has increased by 60 percent (126 to 203); and the number of Hispanic students has increased by 120 percent (14 to 31). At the same time, our per faculty research expenditures have increased by 16 percent. We have hired 16 new faculty members during this time who are doing outstanding work but, more importantly, are transforming the department and poised to take it to even greater heights. We have established more than 15 new scholarships, and, just this calendar year alone, we have established five new endowed scholarships. Thanks to many of you for your very generous support.

I look forward to an even brighter next five years for the department. There is a lot of new research occurring with some of it highlighted in this newsletter and on our Web page. Again, we appreciate all of your support and wish you success in all of your endeavors. As always, if you are ever in the neighborhood, please stop by and visit.

CEE Makes Significant Contributions in Understanding Risks Associated With Hydraulic Fracturing

With multiple ongoing research projects, the research groups of Kimberly Catton, Ken Carlson, and Tom Sale have not only been studying the risks and impacts of oil and gas development but also the practices and regulations that will mitigate these risks.

The Colorado State University Energy Institute, headed by retiring Vice President of Research Bill Farland, will provide a Universitywide focal point for energy research. The Energy Institute, which will be housed at the new Powerhouse facility being constructed next to the Engines and Energy Conversion Lab, will include the Gas Technology Center with Carlson as the initial director. The GTC will be the coordination point for environmental and community research related to oil and gas development in the state.

In addition to the GTC, the Energy Institute will include the Center for New Energy Economy, the Engines and Energy Conversion Lab, the Advanced Biofuels Lab, the Center for Energy and Global Health, and other organizations working at the energy/environment/



Ryan Hutcherson, M.S. candidate, collects water samples.





Noble Energy site (photo courtesy of Ashwin Dhanasekar)

public interface (www.energyinstitute. colostate.edu).

Projects that are currently being conducted as part of the GTC include a DOE-funded \$1.4 million project to develop and proliferate GIS-based tools for optimizing water management during shale gas development. Carlson and his partners – Catton, research scientist in the department, and Tom Bradley, assistant professor of mechanical engineering – are conducting the two-year project with Noble Energy Inc. in the Denver-Julesburg Basin in Weld County.

Other activities include partnering with Halliburton to optimize treatment of frac flowback and producing water for recycling as frac fluid, thereby reducing the amount of fresh water needed. In addition, the GTC is beginning a oneyear project to install a real-time water monitoring network in a section of Weld County that is exposed to significant oil and gas drilling. The project, which is jointly funded by the Colorado Department of Natural Resources, Noble Energy, and CSU, will result in a website that will allow multiple stakeholder groups to view water quality surrogate information in real time. In the future, the GTC will continue to study how water and energy interests can best coexist in Colorado.

Karan Venayagamoorthy Wins Two Awards Totaling \$1 Million to Study Wave Turbulence

Karan Venayagamoorthy received two prestigious awards in 2012 – the National Science Foundation CAREER Award and the United States Office of Naval Research Young Investigator Award - which total \$1 million for research.

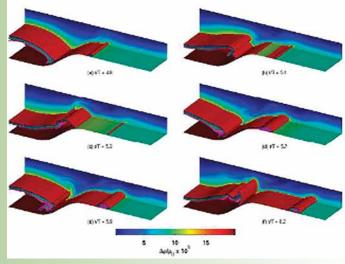
The \$517,000 NSF CAREER Award is considered one of the most prestigious

awards bestowed on junior faculty who integrate education and research. The Young Investigator Award from the Office of Naval Research is given to only 26 researchers from around the country. Venayagamoorthy is the only one from a Colorado university to receive the award, which provides him with an additional \$500,000 for his research over three years.

Venayagamoorthy studies internal waves (waves that propagate beneath the ocean's surface), which are ubiquitous in the ocean, to better understand their role in generating oceanic turbulence and mixing. These grants will help him develop better turbulence models to more reliably predict mixing induced by turbulence and hence the ocean's role in global climate.

Venayagamoorthy's research interests and activities focus both on fundamental, cutting-edge research in environmental fluid mechanics (such as flow turbulence) as well as its broader applications in engineering, oceanography, and atmospheric science, especially concerning climate change, environmental sustainability, and renewable energy.

Environmental fluid mechanics can be succinctly defined as the study of naturally occurring fluid flows in the earth's hydrosphere and atmosphere. In particular, Venayagamoorthy is interested in understanding turbulence caused by flow interactions with underwater topographic features and other environmental influences such as density stratification. These grants will allow him to conduct fundamental research focusing on turbulence in the ocean caused by internal waves beneath the ocean's surface. Specifically, the emphasis is on understanding the generation, propagation, interaction, and ultimate dissipation of internal waves that lead to turbulent mixing.



Three-dimensional density surfaces of a nonlinear internal wave interacting with a critical slope.

The department celebrates the arrival of two newborns for our faculty. Domenico Baú and his wife, Maria, boast of the arrival of their daughter, Ruth Baú-Val Maria, and Rebecca Atadero and husband. Todd. welcome their son, Spencer Finn Atadero.

Neil Grigg published the book, Water Finance, Public Responsibilities and Private Opportunities, which explores



the worldwide water business from home plumbing to dam building. Grigg - who has years of experience as a water researcher, policymaker, administrator, and consultant - portrays the water industry as a spectrum ranging from a central water authority to a free market. Many of the issues in the book apply to what is happening in Colorado because of competing uses for a limited supply of water. Grigg feels that private financing of water projects in Colorado will become more common in the future, but regional safeguards need to be in place to preserve water quality and drought protection.

Paul Heyliger (pictured) received the 2012 College of Engineering



George T. Abell Outstanding Teaching and Service Faculty Award, and Jim Loftis received the College 2012 Meritorious Faculty Emeritus Award.

Hussam Mahmoud received the NSF travel award,



which is jointly sponsored by the National Science Foundation, the Huixin Earthquake Engineering Foundation, and the U.S.-China Earthquake Engineering Foundation. The award provides funding to attend the Second PRC-U.S. Earthquake Engineering Forum for Young Researchers and the International Conference on Earthquake Engineering Research: Challenges in the 21st Century, as well as a technical tour of Beijing.

Jorge Ramirez received the 2012 University Honors Program Professor



of the Year Award.

Charles D. Shackelford was selected to present the first R. Kerry Rowe Honorary Lecture on Environmental Geotechnics by the International Society for Soil Mechanics

and Geotechnical Engineering. The award recognizes career contribu-



tions to the field of environmental geotechnics.

Shackelford will give a presentation entitled "The Role of Diffusion in Environmental Geotechnics" at the 18th International Conference for Soil Mechanics and Geotechnical Engineering, which will be held in September 2013 in Paris, as well as at the Seventh International Conference on Environmental Geotechnics to be held in Melbourne in 2014.

The ICSMGE is ISSMGE's primary conference, held every four years dating back to 1936.



The U.S. Army Corps of Engineers awarded an additional \$1.9 million to the original \$1.7 million grant to Chris Thornton to continue testing a levee system using one of the world's largest wave simulators. The CSU team is responsible for generating guidelines and methodologies for designing levee overtopping protection for levee systems.

John W. van de Lindt's research team was awarded the 2012 Raymond



C. Reese Research Prize by ASCE for the work they did in Japan in 2009 (NEESWood) and the 2010 Journal of Structural Engineering paper that is based on that work.

Rebecca Atadero and Hussam Mahmoud hosted a structural engineering field day on campus for sixth- and eighth-grade students from West Middle School G.A.T.E. The students were working

Mazdak Arabi Investigates Water Sustainability Under Climate and Land-Use Changes

Mazdak Arabi serves as the principal investigator for a project recently funded by NSF and the U.S. Department of Agriculture to investigate sustainability of water resources under



climate and land-use change. This project will develop a new integrative and adaptive analysis framework to identify cost-effective adaptation strategies for sustainable water management at the regional scale. The framework will lead to a better understanding and managing of resources under stress, integrating physical, ecological, and socioeconomic feedbacks. In particular, this project aims to enhance our understanding of the feasibility of meeting projected water demands and water quality targets and the effectiveness of in-basin agricultural and urban water conservation strategies. Also, key institutional agreements and water rights that constrain response to the impacts of climate and land-use change on water quantity and quality will be examined.

In a complementary effort, Arabi's group, in collaboration with the Colorado Water Innovation Cluster, has established the Water Innovation Network, a live laboratory



for design and dissemination of clean water technologies. The WIN platform consists of real-time flow and water quality monitoring stations at 60 different locations along the Cache la Poudre River in Northern Colorado. The data and analytical tools can be accessed via a cloud-computing web platform (www.erams.com/win).





Rebecca Atadero and students test bridge strength.

on critical and creative thinking and applying it to bridge building. Their day started with a presentation and

demonstration by Mahmoud, followed by a hands-on experience in structure stability for bridges in the concrete lab, led by Atadero. In addition, eight of the students built matchstick bridges that they brought for strength testing. The last item on the agenda, after lunch, was to see the student bridge constructed for CSU's ASCE regional competitions and a presentation by a student, Richie

McBeth (B.S., 2012), regarding the various competitions with the bridge.



Hussam Mahmoud interacts with students after his lecture.

hristopher Bareither joined the Department of Civil and Environmental Engineering as an assistant professor in August 2012. Bareither's education is all within the field of



geological engineering; he received his B.S. from the University of Idaho (2004) and M.S. (2006) and Ph.D. (2010) from the University of Wisconsin-Madison. His research is in the areas of geological, geotechnical, and geoenvironmental engineering.

Bareither's research has helped progress the state of the art in experimental evaluation of municipal solid waste and also develop predictive tools for sustainable solid waste management. Bareither's future research initiatives will focus on scale effects in laboratory testing, scale effects between laboratory and field processes, mechanisms of geomaterial behavior, and sustainable solutions to geoengineering problems. In addition to his teaching responsibilities, Bareither has become active as the department's representative on the Tailings and Mine Waste Conference organizing committee and as the department's Engineers Without Borders adviser.

Peter Nelson joined the faculty in the Department of Civil and Environmental Engineering as an assistant professor in the fall of 2012. Originally from Spokane, Wash., Nelson received his



B.S.E. in civil and environmental engineering from Princeton University in 2003. In 2004, after spending a year at Princeton as a research assistant, he began graduate studies in the Department of Earth and Planetary Science at the University of California at Berkeley. Upon receiving his Ph.D. in 2010, Nelson moved to Genoa, Italy, for an 18-month postdoctoral research fellowship sponsored by the National Science Foundation.

Nelson uses computational modeling, analytical theory, physical experiments, and field observations to address fundamental questions about geomorphology, sediment transport, hydrology, hydraulics, and morphodynamics. His research has addressed sediment sorting in gravel bed rivers, the morphodynamics of bedrock rivers, the formation of bars in tidal channels, river restoration through gravel augmentation, and the hydrology of urbanizing watersheds.

John W. van de Lindt has returned to the department as the George T. Abell Professor in Infrastructure after serving two years as the Garry Neil Drummond Endowed Chair at the



University of Alabama. He received his Ph.D. in structural engineering from Texas A&M University in 1999.

Van de Lindt's research program aims to reduce the effect of natural hazards such as earthquakes, hurricanes, tornadoes, and tsunamis on infrastructure around the world by developing new design philosophies in concert with new technologies. He has led approximately \$9 million in sponsored research resulting in more than 240 technical publications including journal articles, conference papers, book chapters, magazine articles, and technical reports. He is also active on ASCE/SEI committees and currently chairs the Committee on the Reliability-Based Design of Wood Structures.

The department is pleased to announce that Bruce. R. Ellingwood will be joining the faculty in August 2013 as a professor of structural engineering. Ellingwood's career



extends back over four decades, including federal service at the National Bureau of Standards (now NIST) and faculty appointments at Johns Hopkins and at the Georgia Institute of Technology, where he was College of Engineering Distinguished Professor and holder of the Raymond Allen Jones Endowed Chair in Civil Engineering.

Ellingwood's interests center on the application of methods of probability and statistics to structural engineering. He is internationally recognized as an authority on structural load modeling, reliability, and risk analysis of engineered facilities and as a leader in the technical development and implementation of probabilitybased, codified design standards for building structures. Ellingwood is a member of the National Academy of Engineering, a Distinguished Member of ASCE, and an Inaugural Fellow of ASCE's Structural Engineering Institute.

Faculty Emeriti

John D. Nelson professor emeritus, was invited to present the Eighth Michael W. O'Neill Lecture for CIGMAT 2013 sponsored by



the Department of Civil and Environmental Engineering at the University of Houston, on March 1, 2013, His lecture was titled "Grouted Micropiles for Remediation in Expansive Soils." After 39 years of service to the department, Nelson became the CEO and principal geotechnical engineer of Engineering Analytics Inc. He has served as a consultant and expert witness on several projects dealing with slope stability both with landslides and as a part of the design and analyses of dams. Nelson served as chief technical reviewer for the USNRC for the Church Rock tailings dam failure and reviewed almost all of the Title II tailings management license applications. He is the engineer of record for the design of raises of tailings dams in Arkansas and New Mexico and was an expert witness involving failure of a tailings dam in Idaho and seepage from large tailings impoundments in Arizona.

Professor Emeritus José Salas. although retired, is as busy as ever. Salas has been collaborating with other civil engineering faculty in



writing chapters of handbooks that will be published by the end of this year. He has been very actively involved in research on risk and uncertainty issues related to hydrologic extreme events such as floods and sea levels under nonstationary conditions. In addition, Salas has been collaborating with the graduate programs of Yonsei University, Korea, and the University of Genoa on stochastic analysis and simulation of water resources systems. Salas is in demand to speak at various conferences, the most recent invitation being from the Italian Group of Hydraulic Research to deliver the 2013 Enrico Marchi Lecture, which was held in Milan, Italy, on May 29, 2013.

harles Carroll (B.S., 1961) reports he is working at his small business in Waterloo, N.Y., doing some surveying and minor engineering.

Ignacio Rodriguez-Iturbe (Ph.D., 1967), the James S. McDonnell Distinguished University Professor and professor of civil and environmental engineering at Princeton



University, was among 180 influential artists, scientists, scholars, authors, and institutional leaders who were inducted into the American Academy of Arts and Sciences at a ceremony on Oct. 6, 2012.

Ted Hall (B.S., 1973) received the Superior Service Award of the Department of the Interior on Feb. 16, 2012. Hall has worked for the Bureau of Reclamation for the past 31 years, and, for the last 20 years, he has been responsible for oversight of two regional rural water projects in South Dakota, funded through the Bureau of Reclamation.

Richard George (B.S., 1973) was elected to the Royal Bank of Canada's board of directors in March 2012.



Jerson Kelman (Ph.D., 1976) received the 2012 CSU College of Engineering Honor Alumnus Award. He is currently the president of light for the Rio

de Janeiro Power Company while on leave from the Federal University. Kelman is also a member of the Brazilian Academy of Engineering, serves on the Spanish Aben-



goa's international advisory board, and is a member of the Brazilian Sustainable Development Foundation.

David Molden (M.S., 1982; Ph.D., 1988) was selected as the new director-general

designate of ICIMOD. He succeeded Andreas Schild, current director-general of ICI-MOD, since December 2011. The selection was made by the full



Board of Governors of ICIMOD, which met in Kathmandu in May 2011. Molden is a development specialist with more than 30 years of experience in designing, planning, executing, and monitoring programs on water management, livelihoods and environment, and ecosystem services.

ASTM International elected Steven M. Cramer (M.S., 1981; Ph.D., 1984) to its board of directors in January 2012. Cramer serves as associate dean for academic affairs and professor of civil and environmental engineering at the University of Wisconsin-Madison.

Steven Cernak (B.S., 1982) was selected as chief executive/port director for the Broward County Florida Port Everglades Department. He had served as port director and CEO for the Port of Galveston since 1999.

Glenn O. Brown (M.S., 1982; Ph.D., 1987), Regents Professor at Oklahoma State University, Stillwater, Okla., was honored on July 31, 2012, during the Fellows Induction Ceremony at the ASABE Annual International Meeting, held in Dallas at the Anatole Hilton Dallas, as one of 10 ASABE Fellows honored for 2012.

Frank Rijsberman (Ph.D., 1987) accepted the position of CEO of CGIAR, the international system of research on agriculture, in March 2012. He and his family moved to Montpellier, France, in May to begin this new venture. Rijsberman states his excitement in that "this is an opportunity to help implement the reform of the CGIAR system of 15 research institutes around the world - 8,000 people working to reduce rural poverty, increase food security, and improve health and nutrition while ensuring more sustainable management of natural resources."

Christos A. Karavitis (M.S., 1987; Ph.D., 1992) is assistant professor in water resources planning and management at the Agricultural University of Athens,



Department of Natural Resources Management and Agricultural Engineering.

Terry A. Ruhl (B.S., 1988) was appointed president of transportation business at CH2M HILL. Ruhl has been with the firm for 19 years, having served as the senior



vice president and director of consulting and international operations in the Transportation Business Group. Prior to that, he led CH2M HILL's aviation market segment from 2006 to 2009.

Dean Durkee (B.S., 1990; Ph.D., 2000), currently vice president and director of Earth Science and Hydraulics for the West Region, has been elected for a three-



year term to the board of directors of the United States Society on Dams. Durkee joins the prestigious board membership that includes representatives from leading engineering firms, agencies, and universities from across the country. He was confirmed as a board member in April at the 2012 USSD Conference in New Orleans.

David Allen (B.S., 1990) was promoted to director of public works in Broomfield, Colo., filling the vacancy left by his former boss Alan King. Allen had 21 years of experience working in municipal public works and utilities departments. In addition to his years in Broomfield, where he focused on operations, water resources, and water and wastewater treatment processes, Allen also worked for several years as director of the public works and utilities department for the city of Northglenn, Colo. Prior to that, he was a water planning and resources manager in the public utilities department in Anaheim, Calif.

Robertus W. Triweko (Ph.D., 1992) received his M. Eng. in water resources engineering from AIT in 1984 and has been elected as rector of Universitas Parahyangan, Indonesia, with the terms of office from 2011 to 2015. The decision was based on various criteria, including assessments from two external consultants: Principia Learning Lab and The Jakarta Consulting Group.

Vijay P. Singh (Ph.D., 1974), professor and Caroline and William N. Lehrer Distinguished Chair in Water Engineering with the Department of Biological and Agricultural Engineering at Texas A&M University, College Station, has been appointed as a University Distinguished Professor, effective Sept. 1, 2013.

In addition, Singh was honored as the Hydrology Days Award Lecturer at the March 2013 AGU Hydrology Days conference at CSU. Singh received his Bachelor of Science in engineering from U.P. Agricultural University, India, in



His research in kinematic wave theory is used to describe not only the behavior of water in irrigation channels but also the movement of flood waves in rivers, overland flow, runoff from snow melting, movement of glaciers, erosion from upland areas, movement of water in soils, pollutants in surface and subsurface waters, surface irrigation design, design of erosion control structures, flood planning, and hydrologic design.

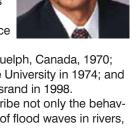
Bruce C. Muller Jr. (M.S., 2003) was named as design, estimating and construction oversight, and dam safety officer for the Bureau of Reclamation in Washington, D.C.

Garey A. Fox (Ph.D., 2003) of Oklahoma State University was honored on Aug. 1, 2012, during an awards program at the ASABE Annual International Meeting, held in Dallas at the Anatole Hilton Dallas, as the recipient of the A.W. Farrall Young Educator Award.

Yoshihiro Katsuhama (M.S., 2003; Ph.D., 2010) is working with Nippon Koei in Japan, mainly with new areas of business, such as development of PPP projects and investment for water, sewage, and mini-hydropower projects. Simultaneously, he is working for several committees to develop Japanese versions of BOK in the Japanese Society of Civil Engineering and serves on a technical committee for dam and water transfer in ICOLD.

C.J. Riley (M.S., 2003; Ph.D., 2009) received the ASCE 2012 ExCEEd New Faculty Excellence in Teaching Award and was recognized at the ASEE Annual Conference in San Antonio, Texas, on June 12, 2012.

Laura Girard (M.S., 2004) was hired by Profile Products LLC as a technical services manager to assist in the development of marketing and sales collateral. In addition, she is responsible for the management of Profile Solutions Software.



David Oldham (B.S., 2009) is currently working for the Colorado Department of Transportation in Region 3 in the Grand Junction, Colo., area.

Daeryong Park (Ph.D., 2009) was awarded the EWRI-ASCE Journal of Hydrologic Engineering 2012 Best Paper Award for his paper, "Performance Modeling of Storm Water Best Management Practices with Uncertainty Analysis." Coauthors were CEE faculty Jim Loftis and Larry Roesner.

Nichole Williams (B.S., 2009) accepted a position with CDM Smith as an Environmental Engineer 3 and started on April 22 in Seattle. She will be working on process



water and wastewater treatment projects in the Western region of the United States. In addition, she announced that she recently became engaged to Shawn Kruse, who will be working with Boeing in Seattle.

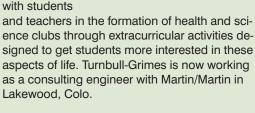
James Easton (B.S., 2010) received his M.S. from Colorado School of Mines in December 2011 after three semesters of study and worked as a teaching assistant and research assistant. He then accepted a position with Occidental Petroleum in Houston and now works as a reservoir engineer in the nonoperated reserves group, where he assists in the process of making reserves estimates for fields in Iraq and the United Arab Emirates.

Johan van Zyl (M.S., 2011), currently completing his Ph.D. at CSU, is proud to announce the arrival of his daughter, Lumé, born in December 2012.

Chris Turnbull-Grimes (B.S., 2007; M.S., 2009) returned from two years of service as a Peace Corps volunteer serving in Kenya. Turnbull-Grimes left for Kenya in November 2009 and was posted in the small village of Muhuru Bay, located at the junction of Kenya, Tanzania, and Lake Victoria. He was at Rabwao Secondary School, where he taught high school students math, physics, and life skills. Additionally, he collaborated with other teachers to develop new teaching methods

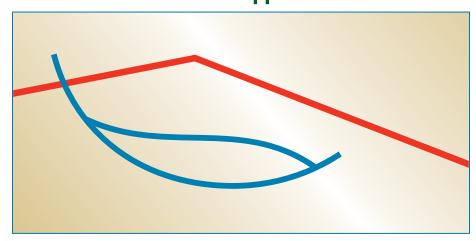
and tools for science education. At Rabwao, he also worked







CEE Tailings and Mine Waste Conference Generates a \$50,000 Endowed Scholarship and More Than \$220,000 in Graduate Research Support



he international Tailings and Mine Waste conference began as a series on uranium mill tailings management in 1978. It was organized by the Geotechnical Engineering Program of the Department of Civil Engineering at Colorado State University. The organizing committee consisted of John Nelson, Thomas Shepherd, Steve Abt, Wayne Charlie, and John Welsh. In 1986, the organizing committee, consisting of Abt, Nelson, Richard Wardwell, and Dirk van Zyl, changed the title and focus to Geotechnical and Geohydrological Aspects of Waste Management. The conference was not held from 1988 until 1994 due to the decline in the uranium market.

In 1994, the Department of Civil and Environmental Engineering restarted the conference series as Tailings and Mine Waste, the title by which the series goes today. A decline in attendance caused the conference to not be held from 2005 until 2008. In late 2007, an organizational committee consisting of CSU alumni mainly Dan Overton (B.S., 1985), Clint Strachan (B.S., 1972; M.S., 1979), and Mike Henderson (B.S., 1979), was established and, through their efforts, garnered the sponsorship of a number of consulting engineering companies -Engineering Analytics, Golder, Knight Piésold, MWH Global, Robertson Geo-Consultants Inc., SRK Consulting Inc., Tetra Tech Inc., and URS Corp. - and a

stable financial basis was established for the conferences to continue. In addition. it was decided at that time to alternate the conference between the University of Alberta and the University of British Columbia.

It was the goal of the key alumni and sponsors to not only continue a conference that provided a forum for members of the mining community, engineers and scientists serving the mining industry, regulatory groups, and other interest groups concerned with environmental issues related to tailings and mine waste management, but to also provide funding for research to find solutions to the issues that industry now faces. The 2008, 2010, and 2012 conferences generated more than \$270,000 in net revenue, which resulted in the creation of several graduate student assistantships.

In addition this year, the sponsors of the conference agreed to the establishment of an endowed Tailings and Mine Waste graduate scholarship for geotechnical/geoenvironmental engineering students. The department is most grateful to these sponsoring companies: Engineering Analytics Inc., AMEC, Ausenco PSI, ConeTec Inc., Golder Associates Inc., Knight Piésold Consulting, MWH, Paterson & Cooke, Robertson GeoConsultants Inc., SRK Consulting Inc., Tetra Tech Inc., and URS.





olorado State University lost one of its shining stars this past year. Jack Cermak, Colorado State University Distinguished Professor Emeritus and pioneer in wind engineering research, died peacefully at his home Aug. 21, 2012, at the age of 89.

Cermak was a sound ranging officer in the U.S. Army from 1943 to 1946, retiring from the Army as a lieutenant colonel. At CSU, he earned his Bachelor of Science in civil engineering (1947) and Master of Science in hydraulic engineering (1949). From Cornell University, he received his Doctor of Philosophy in engineering mechanics (1959). He continued his education in 1961 as a NATO Postdoctoral Fellow at Cambridge University.

In 1959, he founded the Fluid Dynamics and Diffusion Laboratory, later established the Fluid Mechanics and Wind Engineering Program, and served as director and professor-in-charge of the program until 1985. His pioneering research resulted in the development of unique wind-tunnel facilities capable of simulating motion in the atmospheric boundary layer. As part of this work, he led important studies of wind impacts on San Francisco's Candlestick Park and New York City's World Trade Center. In 1973, Cermak was elected to the National Academy of Engineering, and the National Society of Professional Engineers selected the Fluid Dynamics and Diffusion Laboratory for the 1988 **Outstanding Engineering Achievement**

Award. In 1999, the CSU wind tunnels were selected by the Engineering News-Record as one of 125 great engineering innovations between 1874 and 1999.

For 50 years, Cermak instructed undergraduate and graduate courses in addition to his research. He led the development of the undergraduate engineering science major and served as chairman from 1962 to 1973.

In 1981, Cermak co-founded the consulting engineering firm Cermak Peterka Petersen Inc. and was its president until

Cermak was selected as one of the first CSU University Distinguished Professors in 1986. His love of advising graduate students was continued when he established an endowment for the annual Jack E. Cermak Outstanding Adviser awards, which are given to one faculty member from each college and the Graduate School. In addition, the Jack E. Cermak Wind Engineering Scholarship is endowed and awarded annually to an outstanding student studying wind engineering or fluid mechanics. Cermak left \$100,000 from his estate to further fund this endowment.

H. Edward Lecuyer (B.S., 1950), Merrick & Company's co-founder and chairman emeritus, passed away on Oct. 13, 2012, in Hays, Kan., where he and his wife, Marjorie, had



lived since Lecuyer's retirement. Lecuyer remained very active with Merrick & Company after retiring, driving from Hays to Denver to attend board meetings and shareholder meetings in person.

Lecuyer began his engineering education at Colorado School of Mines. His studies were interrupted when he was called into Army service, ultimately seeing action from the Battle of the Bulge to the end of World War II in Europe and earning a Bronze Star. He returned to school after his military service, earning a Bachelor of Science in civil engineering from Colorado State University.

Abbey M. Drake Meneghetti (B.S., 2008), of Longmont, Colo., lost her battle with colon cancer on May 3, 2012. After graduating from Springfield High School in Illinois, Drake attended



Colorado State University and graduated with a Bachelor of Science in environmental engineering. Her professional engineering career began when she accepted a position with Tetra Tech Inc. She was highly regarded for her skills as a professional engineer but, more importantly, for fostering and developing relationships and committing herself to excellence.

Drake's first love was competitive soccer, and she spent much of her early life traveling around the Midwest to soccer tournaments. In her spare time, she was an avid trail runner and backpacker and loved more than anything to be in the mountains. Her smile and love for life was contagious, and even in her absence, her spirit will continue to motivate and inspire us all. She was married to Anthony Meneghetti.

The Abigail M. Drake Memorial Scholarship Fund was established in Drake's name for women in engineering at Colorado State University. Also, the Abigail M. Drake Charitable Foundation was founded in her honor to continue the fight against colon cancer.

Alumni and Friends Website www.engr.colostate.edu/ce/alumni.shtml

Look up your former classmates on the Alumni and Friends website! The news is arranged on the website according to graduation year.

Send your own personal or professional news to Linda.Hinshaw@ColoState.edu.



Spring 2012 Graduation

Front Row: Rebecca Bradley, Josh Mallin, Paula Miller, Katelyne Podhajsky, Nathan Schweers, Tyler Wible, Jesse Jankowski, Nicholas Brink, Ace Duyao, Kristine Wilson, Megan Caswell

Second Row: Mary Rademacher, Jill Colasuonno, Duncan Cornell, Chelsea Wright, Justin Simpson, Nicholas Ortiz, Tim Hoffman, James Foreman, Megan Carroll, Andrew Wordekemper, Matt Cain, Landon Shaw, Matt Fleck, Laurie Alburn

Third Row: Neil Grigg, Francis Kuma, Emily Bulow, Philip Korpi, Ernest Watenpaugh, Patrick Schoenecker, Paul Chubirka, Brad Jackson, Chase Jiron, Emily Buhon, Kirk Reimann, James DeHerrera, Kathleen Morin

Last Row: Jacob Reiter, Monsour Alameel, Colin Jacobson, Brandon Hruby, Nicholas Bruce, Ben Margolit, Kyle Swaving, Colin Smith, Luis Garcia, Cara Cox, Marvin Criswell



Fall 2012 Graduation

Front Row: Mayren Mata Carrillo; Corey Wallace; James Brundage; Levi Stockton; Natalie Keene; Kaitlin Fishburn; Laurie Alburn, Academic Adviser

Second Row: Tyler Rossow, Hailey Guglielmo, Darren Wood, Marc Houghton, Reed Newcomer, Natalie Pittenger, Dr. Kimberly Catton

Third Row: Erick Wilkins, Marielle Hendry, Jeff Sigl, Wesley Cordes, Richie McBeth, Kelly Obermeyer, Brenna Mefford, Dr. Marvin Criswell

Fourth Row: Rebecca West, Taylor Scott, Luke Whalen, Nathan Baker, Ryne Pearce, Shane Ritchie, Scott Turner, Sam Wallner, Dillon Fox, Dr. Neil Grigg, Dr. Chuck Shackelford

Where Are **They Now?**

Graduated in 2012

Megan Carroll is with the Division of Water Resources in Denver as a groundwater research analyst.

Chelsea Wright is working for Halliburton Energy Services in Anchorage, Alaska.

Nathan Schweers is a structural analyst/stress engineer for Spirit AeroSystems in Wichita, Kan.

Han Buss is an aeromedical evacuation officer in the U.S. Army.

Duncan Cornell is a structural design engineer with Quality Engineering in Fort Collins, Colo.

Kyle Hoffmeister is working for Calibre Engineering in Highlands Ranch, Colo., as an Engineer I.

Megan Caswell is at URS as an Engineer II in Denver.

Bradley Jackson is an engineering intern for Douglas County in Castle Rock, Colo.

Jared Sims Carhart is a project engineer for CAS Engineering in Mount Airv. Md.

Richie McBeth joined Zachry Engineering in Denver.

Landon Shaw was hired by The Twin Platte Natural Resources District as a hydrologist.

Kaitlin Fishburn is an associate engineer with Campos EPC.

Scott Turner joined Magnum Geo-Solutions as a staff structural engineer.

Taylor Scott is an associate civil engineer with MWH Global in Denver.

On to Graduate School

Both Tyler Wible, 2012, and Nicholas Emmendorfer, 2011, stayed on at CSU for their master's degrees in hydrologic sciences and engineering.

Taylor Barnett is working on his M.S. in hydraulic engineering, stream restoration, and river mechanics at CSU while working part time with Obermeyer Hydro Inc.

ASCE's Outreach Activities

In addition to keeping busy with the ASCE regional competitions, the ASCE student organization is very active with outreach activities. Some of the projects for this past year included Webelos Engineering Day, a STEM class, and volunteering for the 150-year-old Virginia Dale, Colo., stage station modifications.

Webelos



Webelos, ASCE students, Don Silar, and Dan Overton present a lab on structures.

The Northern Colorado Branch of ASCE and the Department of Civil and Environmental Engineering hosted a day for Webelos Scouts to earn their engineering badges. The Webelos participated in activities at five different stations from electrical to structural engineering basics. Professional engineers from the Northern Colorado ASCE branch were station leaders, and several ASCE student volunteers assisted at each station. This has proven to be a great way to build personal connections with local professional engineers and to give back to the community at the same time.



Tyler Lund assists third-grade students in building a structure.

ASCE has worked very hard to ensure that there is always a connection between the young minds of today and the engineering world. ASCE puts on one



Third-grade class members admire their city.

STEM (Science, Technology, Engineering, and Mathematics) night each semester, introducing grade-school children to engineering. This past year, they were at Shepardson Elementary School with third-graders. To keep the students interested, ASCE provided fun, hands-on activities related to engineering by using common building ideas to create structures with toothpicks and gumdrops. The creativity from the young students was extraordinary, and whole cities were built.

Virginia Dale Stage Station



Jim Brady, ASCE Northern Branch; Robert Lankford; Kirsten Sargent; Kristi Gemperline; Sean Franklin; and Cort Nickel, ASCE Northern Colorado Branch 2011-2012 president.

One of the most important structures on the Overland Trail was the Virginia Dale stagecoach station, established in 1862. Through the years, the station started to lean 3 degrees south, and the southeast corner was starting to pull apart. ASCE took on the task of designing modifications to stabilize the station, and volunteer labor helped absorb a lot of the costs related to the project. Several of the ASCE students were among the volunteers.

ASCE Awards



Don Silar (B.S., 1976), currently with Stantec Consulting Services in Fort Collins, Colo., became the ASCE Student Chapter adviser

in 2010. This year, he received the 2013 ASCE Outstanding Practitioner Adviser Award for Region 7. He was nominated by the ASCE student chapter officers and was selected by the ASCE Committee on Student Members.



Kristi Gemperline, Jeremy Begley, and Robert Lankford received the 2013 ASCE Colorado Section's Outstanding Senior Student Awards.

Spring 2013 ASCE Regional **Competition Awards**

The CSU ASCE student chapter placed in two competitions:



Rosiland Reynolds and Jocelyn Bryant took third place in the women's concrete canoe endurance race.



Kristi Gemperline received the thirdplace Technical Paper Award.

Student Mentor Program Hosts the First Semiannual Volleyball Smackdown

n September 2012, the department's mentor program hosted the first Volleyball Smackdown for new and returning students. The volleyball tournament teams were organized by class and included freshmen, sophomores, juniors, seniors, graduate

students, and faculty. The final game for the championship was played between seniors and faculty, and the senior team won. Pizza and pop was provided for all, and it was a fun afternoon for both observers and players.



Seniors serve to faculty - pictured left to right: Chris MacLaird, Jenna Schroeder, Sean Franklin, and Tyler Lund.



Faculty anticipate serve - pictured left to right: Peter Nelson, Christopher Bareither, Pinar Omur Ozbek, John van de Lindt, Mazdak Arabi (with daughter Sybil), and Sybil Sharvelle.



Students and staff watch final game.



The seniors win! Pictured front row: Jenna Schroeder and Oscar Mata; back row: Chris MacLaird, Tyler Lund, Devin Blanch, and Sean Franklin.

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