

Update From Luis Garcia, Department Head

Dear Alumni and Friends:

I am pleased to share with all of you the many accomplishments and news from our department.



The department is as vibrant and engaged as ever, and we have had a great year.

We have been fortunate to have been able to minimize the impact of the budget challenges, and I am optimistic that with the plans that we have in place, we will be able to continue to excel even in these challenging times. Our enrollments are way up (just recently, I did an analysis, and our enrollments have gone up by 40 percent in the last five years). We have a large number of new faculty members (nine tenure-track assistant professors and two nontenure-track research assistant professors), who are doing an outstanding job and represent a bright future for the department.

There is lots of new research with some of it highlighted in this newsletter and on our Web page. We continue to get lots of updates from many of you, which we are sharing – please keep them coming!

We appreciate all your support and wish you lots of success in all your endeavors. As always, if you are ever in the neighborhood, please stop by and say hello.

Jorge Ramirez Receives Prestigious IGERT Water NSF Grant



Jorge A. Ramirez will lead a National Science Foundation \$2.75 million Integrative Graduate Education and Research Traineeship program that will address the complex hydrologic, ecologic, and socioeconomic challenges facing our world today. For future management of the precious natural resource of water, three critical questions will be examined: (1) How can limited fresh water be distributed equitably in a socially acceptable and sustainable framework? (2) What are the relative ecological and societal benefits and drawbacks of management actions? (3) How can science provide answers for wise water management decisions?

The five-year grant will train as many as 30 doctoral students in civil and environmental engineering, atmospheric science, and ecology on all aspects of water science and engineering. Other collaborators on the project are Neil Grigg (Department of Civil and Environmental Engineering), Scott Denning (Department of Atmospheric Science), and LeRoy Poff (Department of Biology). The new program, known as I-WATER, or Integrated Water, Atmosphere, Ecosystem Education and Research, involves 11 science and engineer-

ing departments at Colorado State University and includes opportunities for trainees to participate in internships at federal and state agencies.



In addition, Ramirez heads the hydrological focus of the NSF \$1.35 million grant, Coupled Hydrological, Ecological, and Social Systems in the Sahel, known as CHERS-Sahel. The grazing lands of the Sahel region of Africa are a vital resource for the people of Africa, providing seasonal grazing for millions of animals. However, this region is subject to frequent droughts and considerable uncertainty in the availability of both fodder and surface water. This project explores the complex interactions and feedbacks between climate, vegetation dynamics, landscape hydrology, and the human societies that depend on and manage these systems in the Sahel. Other universities involved include Arizona State University, South Dakota State University, and Universite de Bamako.

Ramirez continues as the chair for Hydrology Days. This conference has been held on the campus of Colorado State University each year since 1981. Hydrology Days is a unique celebration of multidisciplinary hydrologic science and its closely related disciplines. The Hydrology Days vision is to provide an annual forum for outstanding scientists, professionals, and students involved in basic and applied research on all aspects of water to share ideas, problems, analyses, and solutions.

Ramirez has been recognized in the past for his many achievements in research and teaching. This past year, he was honored to have been awarded the CSU Outstanding Faculty Member Award of the Greek Life Community.

Faculty News

Karan Venayagamoorthy, assistant professor in the Department of Civil and Environmental Engineering at Colorado State University, was awarded the prestigious Lorenz G. Straub award from the St. Anthony Falls Laboratory at the University of Minnesota for his 2006 Ph.D. dissertation at Stanford University.



Roberto Ballarini (left), head of the Department of Civil Engineering at the University of Minnesota, presented the award to Karan Venayagamoorthy at the award ceremony held at the St. Anthony Falls Laboratory at the University of Minnesota.

Established under the Lorenz G. Straub Memorial Fund, this award is given for the most meritorious thesis in hydraulic engineering, ecohydraulics, or related fields. The competition is international, and nominations may be made by any recognized civil and environmental engineering program in the world.

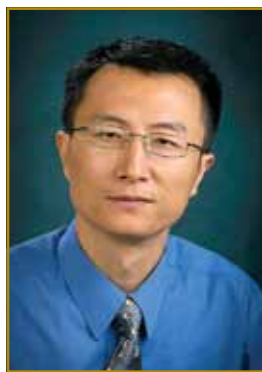
Venayagamoorthy was also selected as one of the 2011 Best Teacher Award recipients by the CSU Alumni Association. Each year, the CSU Alumni Association and the Student Alumni Connection encourage students, alumni, faculty, and staff to submit nominations for our Best Teacher awards.

Venayagamoorthy and his wife, Lumina, also celebrated the birth of their son, Yash Daniel Karan, born June 25, 2010.



José "Pepe" Salas received the prestigious Ven Te Chow award of the American Society of Civil Engineers. The award is presented annually to individuals in recognition of lifetime "exceptional

achievement and significant contribution in research, education, and practice" in the field of hydrologic engineering. In particular, Salas was recognized for his significant contributions to hydrology in the areas of probabilistic and stochastic characterization of hydrologic processes, flood forecasting, regional drought analysis, and frequency analysis.



Suren Chen was awarded the Collingwood Prize from ASCE for his paper, "Equivalent Wheel Load Approach for Slender Cable-Stayed Bridge Assessment Under Traffic and Wind: Feasibility Study."

ASCE has also honored **Sybil Sharvelle** and **Mazdak Arabi** with the 2010 Rudolph Hering Medal for their paper, "Model Development for Biotrickling Filter Treatment of Graywater Simulant and Waste Gas: I," which was published in the *ASCE Journal of Environmental Engineering* in October 2008.

Suren Chen, **Charles "Chuck" Shackelford**, and **Pierre Julien** have been selected as 2010 Outstanding Reviewers for their contributions to various ASCE journals.

On April 5-8, 2010, **Pierre Julien** was invited by Professor Junaidah Ariffin to lecture on erosion and sedimentation at the Universiti Teknologi MARA in Shah Alam, Malaysia. He was also invited to address the faculty and students as "eminent speaker" with a lecture on the effect of climate change on rivers in the United States and Asia.

Julien participated in a forum on Innovation in Civil Engineering Research. The forum was part of the launching and Memorandum of Understanding signing ceremony of the Institute for Infrastructure Engineering and Sustainable Management. At UiTM, the Department of Civil Engineering includes 126 faculty members and educates more than 2,000 students per year.

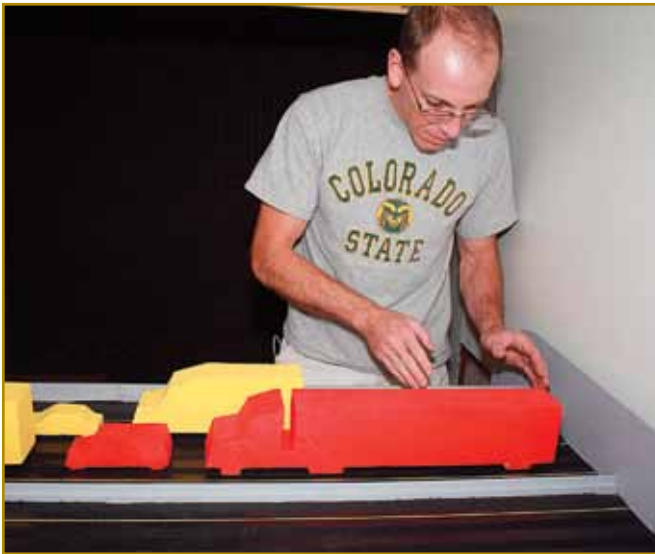
Julien also met vice chancellor of UiTM, Dato' **Sahol Hamid Abu Bakar** (M.S., '79), who is responsible for the education of 140,000 students at 13 campuses throughout all states of the country. As vice chancellor, he adopted an open-door policy, whereby deans can meet with him any day of the week, at 5 a.m. Sahol reports directly to the chancellor, who is also the King of Malaysia. At a luncheon, he mentioned that UiTM is only 60,000 students short of the objective to reach 200,000 students. When Julien asked him to share his secret on how he could smile in view of this challenge, he shrugged and replied, "But the smile is the secret."



UiTM Vice Chancellor Sahol Hamid Abu Bakar and Pierre Julien.

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Cutting-Edge Wind Tunnel Testing of Long-Span Bridge With Traffic



Ryan Nelson at work in the wind tunnel.

and stochastic traffic is crucial to the lifetime performance analysis and design of this kind of transportation infrastructure. The interaction effects between traffic and bridge structures include not only the dynamic interactions caused by traffic but also the changed aerodynamic characteristics of the bridge deck caused by the presence of traffic.

Recently, the experimental investigation of a bridge section model with stochastic traffic was conducted by M.S. student **Ryan Nelson**

Slender, long-span bridges, such as the Golden Gate Bridge, are critical infrastructures to society. Different from other wind-sensitive structures, these bridges are unique due to the frequent and complex interactions with everyday traffic. Therefore, to systematically decipher the interaction mechanisms between the bridge

in the Wind Engineering and Fluids Laboratory at ERC. This wind tunnel test using various vehicle models to simulate stochastic traffic on a bridge model is so far the most advanced and comprehensive test being conducted in the world. The stochastic traffic flow was simulated with advanced traffic flow theory to quantify the

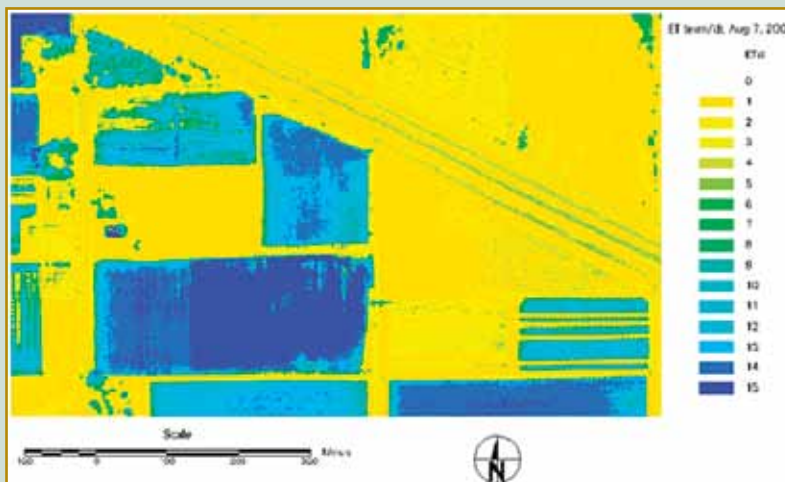
distributions of individual vehicles on the bridge. A total of 43 scaled vehicle models were manufactured to represent five types of typical vehicles: semis, delivery trucks, large SUVs/vans/buses, SUVs, and passenger cars. These models were placed on top of the scaled bridge section model following the simulated stochastic distributions. Then, 26 different scenarios were tested, representing not only the normal traffic conditions with different traffic volumes but also evacuation and major accident situations. Some new and exciting findings were made and will greatly help subsequent parts of the project.

This experimental work is an important part of a three-year (2009-2012) study, sponsored by the National Science Foundation, titled "Reliability-based Analysis and Design Loads for Slender Long-span Bridges" and led by **Suren Chen**. The entire project involves wind tunnel experimental investigation, methodology development, and analytical studies. As the co-principal investigator of the project, John van de Lindt of the University of Alabama contributes to the reliability theory part of the project.

New Technique to Measure Water Consumption and Use Being Studied

José Chavez is currently researching the mapping of crop water consumptive use and crop water stress using remote sensing, at different scales (i.e., ground-based, airborne, and spaceborne). Below is a Large Aperture Scintillometer system, which is used to evaluate the accuracy of an evapotranspiration map developed for the Colorado State University Arkansas Valley Research

Center area near Rocky Ford, Colo. In addition, data from two weighing lysimeters installed at the location have been used in the ET-mapping evaluation. Results indicate it is feasible to map ET using remote sensing data. In the ET map below, a surface irrigated alfalfa field (dark blue) consumed 15 mm (or 0.122 acre-foot) of water on Aug. 7, 2009.





Pinar Omur-Ozbek, research assistant professor, trained Fort Collins, Colo., Water Treatment Utility personnel to diagnose certain chemicals in the water using their senses of taste and smell. Omur-Ozbek

conducts training known as Flavor Profile Analysis (Standard Method 2170), which is designed to help water engineers more quickly diagnose water problems and take faster action to minimize consumer complaints. Her research focuses on the aesthetic issues associated with drinking water.

“The water industry spends millions of dollars each year to tackle the taste and odor of drinking water,” said Omur-Ozbek. We can help cities manage these issues with taste-and-smell techniques.”



Larry Roesner traveled to Chile as a Senior Fulbright Scholar to assist business and university officials with developing a manual for state-of-the-art water and wastewater treatment design practices.

Roesner has more than 40 years of experience in water resources and water quality engineering and management.



Evan Vlachos received the 2009-2010 Office of International Programs Distinguished Service Award. This award recognizes faculty or staff who have made a significant impact campuswide on

the internationalization efforts of Colorado State University.

Professor Plays Hockey



Chuck Shackelford currently is playing hockey in two local adult leagues. Although physically active and an avid sports fan, Shackelford had never skated or set foot on ice before March 2009 at the ripe “young” age of 54, when he started to take adult “learn-to-skate” lessons in the evening. Following about six months of skating, he decided to try to play hockey in the novice (E) adult league in Fort Collins, Colo., beginning September 2009. He managed to last an entire season, amounting to 25 games played approximately weekly from late September 2009 through March 2010. His team, Hat Trick, won the regular season title, going 17-6-2, and Shackelford managed to score one goal with six assists.

He followed up this inaugural season by playing on two teams during the Summer 2010 season, one in Fort Collins and one in nearby Windsor, playing in a combined 18 games with four goals and 10 assists. He currently is playing for the same two teams during the Winter 2010-2011 season, and he has scored eight goals with six assists.



Mazdak Arabi received a grant in the amount of \$615,000 from the U.S. Department of Agriculture and distributed through the National Integrated Water Quality program. The grant will

fund the development and dissemination of an open-source technology focused on conservation practices for sediment, nutrient, and pesticide control.

Bogusz Bienkiewicz and graduate students hosted an annual outreach activity for first-grade students from a local elementary school. During the visit at the



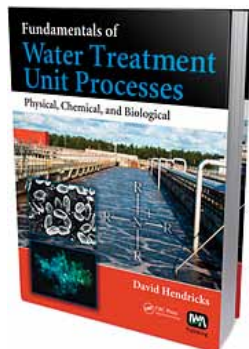
Wind Engineering and Fluids Laboratory, students learned how wind effects on buildings and structures are modeled using wind tunnels. Students were divided into small groups, and each group was exposed to wind generated inside a large wind tunnel. The wind speed was gradually increased, and students were asked to compare their perception of the modeled wind with their “wind experiences” during outdoor activities.

Luis Garcia was elected to the Board of Directors of the U.S. Committee on Irrigation and Drainage.

Department awards for 2009-2010 went to **Kathy Stencel**, Staff Award for Excellence; **Darrell Fontane**, Faculty Award for Excellence in Teaching; **Karan Venayagamoorthy**, Outstanding Faculty Performance; **Sybil Sharvelle**, Faculty Award for Excellence in Service/Outreach; **José Chavez**, Faculty Award for Excellence in Service/Outreach; and **Thomas Sale**, Faculty Award for Excellence in Research.

Linda Hinshaw received the College of Engineering Outstanding Administrative Professional Award, and **Paul Heyliger** received the Best Professor of the Year, from the College of Engineering Student Engineering Legislature.

David Hendricks, professor emeritus, has published his second book on water treatment through CRC/Taylor & Francis, Boca Raton, Fla., and co-published by the International Water Association, London.



Fundamentals of Water Treatment Unit Processes – Physical, Chemical, and Biological is a revision of his 2006 book with

two chapters added on biological treatment and about 300 fewer pages.

Richard Gutkowski, professor emeritus, was selected by the American Society of Civil Engineers to participate in its annual Legislative Fly-in held in Washington, D.C., March 23-26, 2010. More than 200 ASCE members came from 48 states. Gutkowski and others from Colorado visited with Sen.



Michael Bennet (D-Colo., pictured third from left) and his staff; Rep. Betsy Markey (D-Colo.) and her staff; and two staff members of Sen. Mark Udall (D-Colo.). They conversed about legislative bills regarding surface transportation, aviation, dam rehabilitation and repair, and water infrastructure, and shared ASCE viewpoints and position on the bills. Gutkowski has been very active with ASCE over the years and was recently awarded the honorary status of Life Member.

Robert Meroney, professor emeritus, remains extremely busy. He and his wife recently returned from a trip to Panama. Then he attended the Fifth International Symposium on Wind Effects on Buildings



and Urban Environments (ISWE5, March 7 and 8, 2011), where he presented a paper and acted as a session chairman. On March 9, he acted as a member of the Advisory Board for the Global COE Program in Wind Engineering, Tokyo Polytechnic University. Meroney also has a paper accepted at the International Conference on Wind Engineering (ICWE13) to be held in Amsterdam, the Netherlands, July 10-16, 2011.

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Robert Ward, professor emeritus, was awarded the 2010 Elizabeth Jester Fellows Award by the National Water Quality Monitoring Council in recognition of his contributions to water quality monitoring. Ward was at Colorado State University for



35 years and taught two generations of students on the subjects of operations research, engineering design, and water quality monitoring. He was well-known for his short course on water quality monitoring

network design, and he served as director of the Colorado Water Resources Research Institute at CSU.

El-Hakim Honored

Omnia El-Hakim (Ph.D., '84) has an established record of leadership in academia from 1984 to 2008 and a proven track record of increasing the number of under-represented groups in engineering disciplines as well as in the sciences. She has held a joint appointment between Colorado State University and Fort Lewis College in Durango, Colo., where she served as chair of FLC's Department of Physics and Engineering from 1996 to 1999 and assistant dean for diversity of the CSU's College of Engineering from 2003 to 2006.

El-Hakim raised more than \$30 million in grants from 1995 to 2008, and she led a consortium of universities, community and four-year colleges, and Tribal Nations as principal investigator and director of the Colorado State University Alliance for Minority Participation, known as CO-AMP.

Since early January 2009, El-Hakim has served as the director for diversity and outreach at the Engineering Directorate, National Science Foundation, and is responsible for envisioning ways to accomplish NSF's strategic goals as they relate to broadening participation in the engineering community to enhance equity and diversity. She has a passion for diversity and broadening participation and a strong commitment to excellence and global diversity. She always says, "Diversity is the way to achieve excellence."

El-Hakim reaches out to the international community to provide global opportunities and create new research partnerships that will benefit faculty and students, both nationally and internationally. You may review her programs at http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503160&org=NSF&from_org=NSF.

NSF honored her with the Director of Equal Opportunity Achievement Award presented by Cora Marrett in June 2010.



Omnia El-Hakim with Secretary of State Hillary Clinton.

Alumni & Friends

Colorado State University civil and environmental engineering alumni had excellent representation among the ASCE 2010 Honors and Awards: **Jon A. Peterka** (B.S., '64; M.S., '65) received the Jack E. Cermak Medal; **Donald K. Frevert** (M.S., '74; Ph.D., '83) received the Arid Lands Hydraulic Engineering Award; **Vijay P. Singh** (Ph.D., '74) received the Norman Medal; and **Ahsan Kareem** (Ph.D., '78) was named a Distinguished Member of ASCE. This is the organization's highest accolade. Kareem is the Robert M. Moran Professor of Engineering at the University of Notre Dame. **Lynda Barber-Wiltse** (B.S., '79) received the Harold R. Peyton Award for Cold Regions Engineering.

Ignacio Rodriguez-Iturbe (Ph.D., '67) and **Andrea Rinaldo**, 2010 Hydrology Days Awardee, were awarded the Fourth Prince Sultan Water Prize for their invention and development of a new field of ecohydrology. Rodriguez-Iturbe is currently professor of civil and environmental engineering at Princeton University. Rinaldo is professor of hydrology and water resources at École Polytechnique Fédérale de Lausan in Switzerland.

The American Society of Agricultural and Biological Engineers inducted **Robert G. Evans** (B.S., '70; Ph.D., '81) as an ASABE Fellow. He was one of 12 individuals inducted June 22, 2010, at an ASABE meeting in Pittsburgh, Pa. Evans is a supervisory agricultural engineer and research leader with the USDA Agricultural Research Service's Northern Plains Agricultural Research Laboratory in Sidney, Mont.

Victor Miguel Ponce (M.S., '70; Ph.D., '76) is completing 30 years on the faculty of civil and environmental engineering at San Diego State University, California. He is a hydrologic engineer with more than 40



years of experience in teaching, research, consulting, and service. He has written two textbooks, in addition to very prolific writing in various publications. At SDSU, Ponce's Visualab is currently leading the development of web videos for academic applications. As a national and international consultant, Ponce has worked on projects in California,

Arizona, Florida, Brazil, Peru, Bolivia, India, and Pakistan, among others.

Ken Reedy (B.S., '72) announced his retirement from his duties with the city of Glendale, Calif. He has been with the city since his start as city engineer in 1985. Over the past 25 years, he has overseen or been involved with the engineering, utilities, field operations, traffic engineering, economic development, community development, housing, code enforcement, neighborhood redevelopment, environmental resources, and public works departments. Reedy's last position with the city was as interim assistant city manager.



Eric Wilkinson (B.S., '73) was awarded the highly esteemed 2011 Aspinnall Award by the Colorado Water Congress. This award is given annually to an individual who is knowledgeable

about and dedicated to the management of Colorado's water resources. Wilkinson has been the Northern Water general manager since 1994 and is recognized for his leadership in water issues statewide.

Leroy Salazar (B.S., '74; M.S., '77) was reappointed to a new term on the Adams State Board of Trustees. He had served previously on the board for four years, beginning in 2003. Salazar was president and CEO of Agra Engineering Inc. Other community efforts have included being a member of the Colorado Agricultural Commission, serving as director of Citizens for Colorado Water, and being president of the North Conejos School District Board of Education.

Narayanaswamy Krishnamurthi (Ph.D., '75) was awarded the 2010 Civil and Environmental Engineering Distinguished Alumnus Award. Krishnamurthi is the co-founder of Western Oil Sands, which is headquartered in Calgary, Alberta, and is a 20 percent partner in the Athabasca Oil Sands Project. Krishnamurthi retired in 2002 and resides in Walnut Creek, Calif. He is presently working on a project to

establish a modern medical facility for the benefit of the people in his hometown in India.

Janet Herrin (M.S., '78) was named executive vice president for People and Performance by the Tennessee Valley Authority in June 2010. Herrin will be responsible for building and maintaining the quality and effectiveness of TVA's workforce, which includes managing all aspects of personnel operations.

Mohammed Y. Al-Ani (M.S., '80, Ph.D., '84) and his wife, Fawzia, send warm regards to their many friends and classmates from their 6½ years at CSU. In 1990, Al-Ani was appointed to the faculty at the College of Engineering, Mustansyriah University Baghdad. He served as head of civil engineering from 1993 to 1994. In 1994, he founded the first environmental engineering department in Iraq and served as head of that department from 1994 to 2002. From there, Al-Ani was assistant dean for the College of Engineering for higher studies and elected by faculty to serve as university vice president for higher studies and research. Currently, he is a consulting engineer working on various projects in rebuilding the water and wastewater infrastructure in Iraq.



Dave Nettles (M.S., '84) was appointed the new division engineer for Water Division 1. He has been with Colorado Division of Water Resources since 1986 and was serving as the acting

division engineer. Nettles has been very active with the Department of Civil and Environmental Engineering at Colorado State University, serving on the External Advisory Board.

The National Hydraulics Association of Mexico awarded **Jose A. Raynal-Villasenor** (Ph.D., '85) the Francisco Torres-Herrera Award. He was honored for his 30-year-plus career and for his outstanding contributions to the practice of hydraulics. Raynal-Villasenor is a full professor of

civil and environmental engineering at the Universidad de las Americas – Puebla in Mexico.



Daniel Gessler (B.S., '88; Ph.D., '95) was promoted to principal and owner by Alden Research Laboratory Inc. on Dec. 11, 2010. Gessler heads Alden's Fort Collins, Colo., office and will

lead Alden's program in hydraulic modeling, including sedimentation, erosion, and fish passage studies. He has more than 18 years of numeric and physical modeling experience, including work on various hydroelectric projects.



Jeffery Holland (Ph.D., '88) on Jan. 1, 2010, became the director of the U.S. Army Engineer Research and Development Center and director of research and development and chief scientist

for the Army Corps of Engineers.

As ERDC director, he will be located at the center's headquarters in Vicksburg, Mich., and will manage seven research laboratories. As R&D director and chief scientist for the Corps of Engineers, he is responsible for developing policy and providing oversight for all Corps research efforts.

Donald Rosier (B.S., '89) was elected Jefferson County commissioner (District 3) in November 2010 and was sworn in on Jan. 11, 2011. He is a third-generation Coloradan who has lived in Jefferson County his entire life. Rosier has worked in the consulting engineering field, the public engineering sector, the land development and construction field, and the energy development and exploration field. Most recently, he was vice president of operations at Summit Oil Field Services and a principal with Westside Investment Partners.



Tissa H. Illangasekare (Ph.D., '78), AMAX Distinguished Chair of Environmental Science and Engineering and professor of civil engineering at Colorado School of Mines, was chosen by the faculty of Science and Technology at Uppsala University in Sweden to receive an honorary doctorate in the area of natural science and technology. Uppsala University's honorary doctorates are conferred upon individuals who have done outstanding academic work or in some other way promoted research at the university. The title of honorary doctor, *doctor honoris causa*, is conferred upon a person, primarily from abroad, who has established ties with Swedish academic researchers or other individuals who have not taken a doctorate through academic studies but should clearly be inducted into the research community.

Illangasekare was also awarded the 2011 AGU Hydrology Days Borland Lecture in Hydrology Days Award in March 2011. Illangasekare is a world-renowned researcher in the water resources area. His research has developed theories and models of small-scale processes that have been applied to real, large-scale problems of groundwater hydrology. In 2005, he led a joint USNSF-SLNSF team of scientists who investigated the impacts of the December 2004 tsunami on the coastal groundwaters of Sri Lanka.

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

Alumni & Friends



Lisa Fotherby (M.S., '92; Ph.D., '95) was awarded the Federal Engineer of the Year award by the National Society of Professional Engineers on Feb. 18, 2010. She was honored for her achievements in the areas of river

research and development, river engineering and restoration design, and collaborative planning in interdisciplinary teams for adaptive management. Fotherby designed three miles of meandering stream for flow delivery for the Animas-La Plata Project in Colorado.

Corey DeAngelis (B.S., '95) was selected as the lead assistant division engineer for Division 1 of the Division of Water Resources in Greeley, Colo. In his new position, DeAngelis will be involved in all aspects of Division 1 including promulgation of well measurement rules, ground and surface water administration, Denver Basin issues, interstate compact compliance, water court work, nondisciplinary personnel actions, and supervision of both water commissioners and engineers.

Mohamed Jacob al-Sulaiti (Ph.D., '97) was appointed by ExxonMobil Research Qatar to lead the ExxonMobil water reuse research program to investigate water treatment technologies. The program will initially focus on the identification and selection of native plant life that can naturally clean industrial water.

Amber Kauffman (B.S., '98; M.S., '99), project manager for The Engineering Company in Fort Collins, Colo., was recently elected a governor of Region 7 of the American Society of Civil Engineers. Region 7 represents members from Colorado, Iowa, Kansas, Missouri, Nebraska, South Dakota, and Wyoming. She began her term on Oct. 1, 2010.

Jason Swenson (B.S., '98) was appointed by the Minnesota Dakota County Soil and Water Conservation District Board of Supervisors to the position of District 2

supervisor on July 1, 2010. Swenson lives in Lakeville, Minn., and is employed as a technical engineer for watershed management by Scott County, Minn.



Alicia Rigli Borrego (B.S., '99) is currently working in the aviation industry as project engineer with Jviation, Inc. in Denver. Prior to this, she was with Jehn & Associates in the land development area. Borrego has been married for almost five years and is so very proud of her Ariana, pictured above.

Steve Babcock (B.S., '03; M.S., '05) has been with URS for the past five years. He works primarily in the area of heavy industrial facilities doing structural steel design. He also spent a few months in Alberta, Canada, working on construction support for an oil refinery structure. In addition, he spent last fall in Knoxville, Tenn., working on a TVA nuclear power plant project.



Garey Fox (Ph.D., '03) was named the 2009 Whatley Award recipient by Oklahoma State University for meritorious service in agricultural sciences. This award is presented annually to the

top young scientist in Oklahoma State's Division of Agricultural Sciences and Natural Resources. Fox is an associate professor in the department of biosystems and agricultural engineering. His research focuses on factors affecting surface and groundwater quality use.

Kristoph Kinzli (B.S., '03; Ph.D., '10) joined the Whitaker School of Engineering at Florida Gulf Coast University as an assistant professor in the civil and environmental engineering department. Florida Gulf Coast started its civil and environmental engineering program five years ago, and the current enrollment is around 500 students. Kinzli is looking forward to developing a water program there.

Sean Stellish (B.S., '05) is currently with S.A. Miro Inc. in Denver. Stellish was married on Aug. 3, 2008, to his wife, Jessica.

Travis Burgers (M.S., '05), after completing his Ph.D. at the University of Wisconsin-Madison, joined the Van Andel Institute in Grand Rapids, Mich. He will be working with James Mason in the area of orthopedic research to develop long-term solutions for patients with bone maladies.



Jennifer Mueller Price (M.S., '06; Ph.D., '10) accepted a faculty position as assistant professor in the civil engineering department at Rose-Hulman Institute of Technology in Terre Haute, Ind.

The courses she teaches are focused on water resources and environmental engineering. The school is mainly for undergraduate education, but she is working to enhance the Ecological Systems Laboratory by incorporating more students in exploring the water quality and stability of the stream that runs through campus.



Brian Jessee (B.S., '08) and **Erin Dallinger** (B.S., '08) were married Oct. 24, 2010. They currently reside in Littleton, Colo. Jessee is a civil engineer with Black and Veatch, and Dallinger

works as a highway design engineer for the Central Federal Lands branch of the Federal Highway Administration.

Tom Magenis (B.S., '08) is a roadway designer for the Colorado Department of Transportation in Denver.

Matthew Crooks (B.S., '09) is employed as a quality assurance engineer with Hewlett-Packard in Fort Collins, Colo.

Jonathan East (B.S., '09) is a civil engineer with the Bureau of Reclamation in Denver.

Nathan Miller (M.S., '09) has joined Sargent and Lundy in Chicago as an engineering associate in the nuclear power technologies group. In this position, he is working as a pipe stress engineer.



Kathryn Pfretzschner (B.S., '09) is currently studying for her M.S. in structural engineering and wood science at Oregon State University.

Maria V. Prieto Riquelme (B.S., '09) is currently pursuing her M.S. in environmental engineering from Virginia Tech.



Dan Baker (Ph.D., '09) has recently begun a postdoctoral fellowship with Peter Wilcox at Johns Hopkins University. His two-year project works with the National Center for Earth-surface Dynamics

and the Intermountain Center for River Rehabilitation and Restoration to develop and implement a predictive, objectives-driven approach to stream restoration practice.

In Memoriam



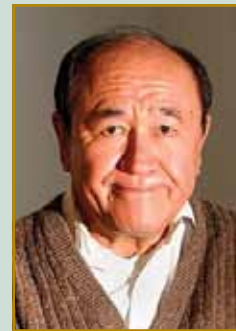
Leonard P. Zick (B.S., '40) passed away April 20, 2010, at the age of 91. Zick retired as chief engineer and vice president of the Chicago Bridge and Iron Co.

He was born in Denver, living most of his life in Chicago and Hinsdale, Ill. The last 30 years, he resided in Scottsdale, Ariz. A great friend and loyal alumnus of Colorado State University, Zick was honored by his family on his 90th birthday with the establishment of the Leonard P. Zick Scholarship Endowment for undergraduate civil engineering students in the Department of Civil and Environmental Engineering.

Alan E. Menhennet (B.S., '51) died April 24, 2010, at his home in Boulder, Colo. He was one of the co-founders of Centennial Engineering and was its president until his retirement in 1993. He is survived by his wife, Harriet, and his three children.

David Tuckwood Mott (B.S., '51) passed away at the age of 86 in Denver. He is survived by his wife, Betty, and sons Robert and Richard.

Retired Lt. Col. James Alan Butler (B.S., '59) passed away Jan. 22, 2011. A native of Colorado Springs, Colo., he was commissioned a second lieutenant in the U.S. Air Force after graduating. Butler was a highly decorated officer, receiving such awards as the Distinguished Flying Cross, the Meritorious Service Medal, and the Air Medal. Following his retirement from the Air Force, he worked for York County Schools, Williams Honda, and Butler's Custom Woodworking, where he worked with his son, Ronald.



Henry Liu (M.S., '64; Ph.D., '66) died suddenly in an automobile accident on Feb. 22, 2011. After earning his degree, Liu was a civil engineering professor at Missouri

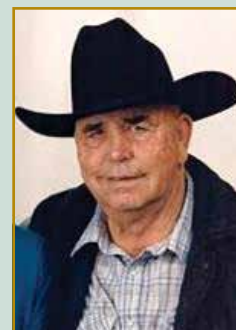
University for more than 20 years. In 2001, he founded and was president of Freight Pipeline Co.

Jeffrey Cronholm (B.S., '08) died at the age of 31 in Rapid City, S.D. Cronholm was born in Northglenn, Colo. He served in the U.S. Marine Corps and then worked as co-owner of Max Retaining Walls.



Alan G. Davenport, wind engineer pioneer, passed away July 19, 2010, at the age of 76. Davenport carried out the tests on his first wind tunnel project, the World Trade

Center buildings, at the Colorado State University wind laboratory in 1964 with wind engineer, Jack Cermak.



Denzel Goodwin died Feb. 3, 2011, at his home in Grand Junction, Colo. Goodwin attended Colorado State University and left to join the Navy. He

was a founder of the Upper Arkansas Water Conservancy District and served as chairman for 22 years. In addition, he was director for 16 years of the Southeastern Colorado Water Conservancy District.

Spring 2010 Civil and Environmental Engineering Graduates



Front row: *Margaret Hollowed, ENV; Luke Javernick, CE; Scott McCord, CE; Julie Heitland, CE; Doug Allen, CE; Andre Dozier, CE; Katelin Crook, CE; Stephen Wheeler, CE; Kyle Hrutkay, CE; Nathan Phelps, CE; Dr. Rebecca Atadero; and Laurie Alburn, academic adviser.*

Second row: *Dr. Luis Garcia; Rachel Gallagher, CE; Brayden Jerde, CE; Yodi Kusumo Djamin Ceha, CE; and Julian Maskeroni, CE.*

Third row: *Dr. Karan Venayagamoorthy; Dr. Ken Carlson; Austin Snow, CE; William Mihelich, CE; Jared Vantassel, CE; Garrett Markus, CE; James Easton, CE; Kevin Cherian Potherican, CE; Brett Hallock, CE; Bryce Johnson, CE; Cole Davis, CE; Lindsi Hammond, CE; Cameron Leitch, CE; and Dustin London, CE.*

Fourth row: *Dr. Domenico Bau; Dr. Chris Thornton; Dr. Darrell Fontane; Dr. Neil Grigg; Brock Hodgson, ENV; Jonathan Gates, CE; Daniel Workman, ENV; Eric Nelson, CE; Scott Avery, CE; David Case, CE; Derek Labahn, CE; Daniel Bailey, CE; and Nicholas Sansoni, CE.*

Spring/Summer 2010 Update

Cole Davis is currently working on his M.S. in fluid/solid mechanics at Colorado State University.

Scott Dickmeyer is a water quality specialist for the city of Loveland, Colo.

Andre Dozier is an M.S. candidate studying water resources at Colorado State University.

Lindsi Hammond is a civil engineer – ERDC-CERL for the U.S. Army Corps of Engineers in Champaign, Ill.

Julie Heitland and **Scott McCord** are in graduate school at the University of Texas at Austin, studying structural/geotechnical engineering.

Garrett Markus is working on his Master of Engineering in irrigation at Colorado State University.

Renee Mayer went on to be an environmental inspector/intern for the city of Aurora, Colo.

William Mihelich is a staff engineer with Leonard Rice Engineers Inc. in Denver.

Fall 2010 Civil and Environmental Engineering Graduates

Fall 2010 Update

Nathan Alburn is currently pursuing an M.S. in hydrology at Colorado State University.

Oscar Mata Carrillo is working on his M.S. in structural engineering at Colorado State University.

Catherine Oakleaf is a staff engineer in the environmental remediation group with AECOM in Fort Collins, Colo.

Both **Zachary Taylor** and **Simon Schaad** are studying for their Masters of Science in fluid mechanics at Colorado State University.



Front row: *Richard (Trey) Graft, CE; Charles (Chad) Bohac, ENV; Mohammed (Omar) Amini, CE; Catherine Oakleaf, CE; Thomas Perkins, CE; Ray Cundiff, CE; Glenn Parr, CE; Dr. Rebecca Atadero; Nathan Alburn, CE; Laurie Alburn, academic adviser; and Dr. Karan Venayagamoorthy.*

Second row: *Zachary Taylor, CE; Thomas Pluemer, CE; Brett Sollenberger, CE; Oscar Mata Carrillo, CE; Paul Diloreto, CE; Mark Fischer, CE; Dr. Neil Grigg; Dr. Marvin Criswell; and Dr. Darrell Fontane.*

Third Row: *Conner Burba, CE; Devin Mitchell, CE; Michael Lebsack, CE; Blaze Wujek, CE; Peter Melander, CE; Dr. Luis Garcia, department head; Dr. Thomas Sanders; and Corey Arends, CE.*

Students Place High in Environmental Engineering Competitions

2010 National WEF Wastewater Challenge

The Colorado State University Environmental Engineering Society is a student chapter of the Rocky Mountain Water Environment Federation and American Waterworks Association, which provides an outlet for students interested in the environment and water to participate in academic and social activities.

Starting in the spring of 2010, EES decided to enter the **2010 National WEF Wastewater Challenge**. The competition was held in Phoenix, Ariz., during the annual WEF Collection Systems Conference on June 13, 2010. The competition's scenario was to design and build an emergency water treatment system to treat the sanitary sewer overflow before it could contaminate a drinking water supply. The overflow was a result of torrential rainfalls causing the local wastewater treatment plant to back up. Another concern regarding this disaster is its happening on the evening of Thanksgiving Day, so no stores were open to provide supplies; the supplies

utilized in the treatment system must be resources found in local garages.

The EES Ram Water Engineering team included **Victor Sam** (senior), **Jeff Lasker** (senior), **Darren Wood** (sophomore), **Kelly Bergdolt** (junior), and **Alicia Shogbon** (graduate student). Ten schools entered the competition, and only eight were accepted to compete after evaluation of each school's design report. Other schools selected to compete included Cal Poly Pomona; Cal Poly Obispo; Ohio State University; University of California, Berkeley; University of California, Irvine; University of Wisconsin; and Washington State University.

The design was a modified five-drawer dresser,

designed to treat the sanitary sewer overflow and serve as a graywater treatment system when not used for such emergencies. CSU scored fifth overall and was particularly commended on the design presentation in which the team focused on specific characteristics of the wastewater and a detailed explanation of the treatment processes.



Jeff Lasker and Victor Sam set up for competition.

2010 National WEF Student Design Competition



Pictured are Lucas Loetscher, Stephen Goodwin, Sophie McKee, Andrew Case, and Ken Carlson, adviser.

A team of four environmental engineering students from Colorado State University was awarded third place in the **2010 National Student Design Competition** held at the Water Environment Federation Technical

Exhibition and Conference in New Orleans, La. The team was invited to enter this competition after winning first place in the regional student design competition.

The CSU team proposed building a new plant at Ralston Reservoir while still using an existing Moffat site for post-treatment, storage, and distribution. Using this design, the team could take advantage of the exist-

ing pipeline from Ralston Reservoir to the Moffat site as a chlorine contact basin. This novel design utilized existing infrastructure and required smaller doses of chlorine due to the large contact time. Additionally, the team developed a plan to use the hydraulic gradient to generate electricity using microhydro turbines and using on-site chlorine generation to reduce cost.

The team used a creative approach to determine the best method to upgrade an aging water treatment plant for Denver Water. The approach included a multiple-criteria decision analysis, preliminary engineering designs, and a basic cost analysis.

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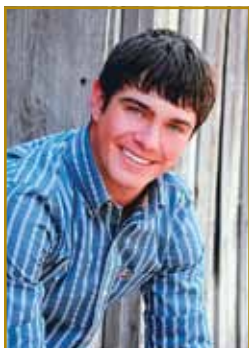
Ken Carlson mentored the team consisting of members **Andrew Case, Stephen Goodwin, Lucas Loetscher, and Sophie McKee**. The Rocky Mountain WEF/AWWA Chapter sponsored the regional student design competition, which included participation from the University of Colorado, New Mexico Tech, the University of Wyoming, and Colorado State University. All four teams were faced with the same challenge of determining the feasibility of rebuilding or remodeling the aging Moffat Treatment Plant at its current site or building an entirely new plant at Ralston Reservoir.

Student News



The Irrigation Association Education Foundation announced the winners of its seventh annual essay and video contest in December 2010. The essay on agriculture was won by **Kendall**

DeJonge, Ph.D. graduate student. The winners composed entries on the theme “The Role of Irrigation in Sustainability.” DeJonge and his faculty adviser received an all-expenses-paid trip to the 2010 IAEE Irrigation Show.



Ryne Schroder of Campo, Colo., joined the civil engineering program in Fall 2010 as a Monfort Scholar. The Monfort Scholars program recognizes superior scholastic ability, leader-

ship, service to community and school, and outstanding character. Schroder graduated from Vilas School in Vilas, Colo. When asked how his first year at CSU has been, he said, “My studies of civil engineering at Colorado State University have been exciting, challenging, and ultimately rewarding. I believe that knowledge is a product of hard work, and the faculty in the College of Engineering are about as good as it gets at inspiring students to become their best. I plan to take my knowledge and apply it to local agricultural issues in my community, hoping to benefit thousands of people and attract a new population to southeastern Colorado.”



Tyler Wible was chosen as the Outstanding 2011 Junior by the College of Engineering Phi Kappa Phi National Honor Society. “With close friends and great support

from your teachers, even the hard work and time commitment is worth it when, at the end of the day, you know you did your best and had fun,” says Wible.



Courtney Cowley was one of four Colorado State graduate students who was awarded a National Science Foundation Graduate Research Fellowship. The fellowship covers \$10,500 annu-

ally in educational costs and provides an additional \$30,000 annual stipend for three years.

Cowley is currently working with Mazdak Arabi, Sybil Sharvelle, and Ken Carlson on research dealing with antibiot-



Cowley taking samples.

ics and hormones from agricultural and wastewater treatment plant activities. The project includes taking water samples in the Poudre River basins as well as a watershed scale analysis of the contaminant transport and potential management actions for their control.

Congratulations to **Brett Hallock**, **Nathan Alburn**, and **Scott McCord** (pictured below) for receiving the 2010 Colorado Section of ASCE Outstanding Student Awards.



Scott McCord was also the Colorado Engineering Council 2010 Silver Medal award recipient for outstanding senior in engineering at Colorado State University.

CSU ASCE Student Chapter Participates in Can-Struction



ASCE team with Can Design.

The Colorado State University ASCE student chapter competed in the Rocky Mountain Regional Student Competition in Las Cruces, N.M., last spring. One of the events was called Can-Struction. The



ASCE team and adviser Jeff Niemann with award.

theme for the Can-Struction competition was “World Monuments,” and the CSU team built the Red Pyramid. The team took third place.