

# Department of **Civil** and **Environmental** Engineering

Fall 2006, Volume 12, No. 2

Colorado  
State  
University



## Join Us for an Innovation Breakfast

The college's *Engineering Innovation Breakfasts* feature an update on CSU's engineering programs and presentations from respected faculty members and distinguished alumni on technological trends and innovative research projects and academic programs.

Upcoming schedule:

February 7, 2007, Fort Collins

March 21, 2007, Denver

April 11, 2007, Fort Collins

All breakfasts will be held from 7:30-9:00 a.m. with a nominal fee to defray the cost of food. Please call (970) 491-7028 for event locations, speakers, and to RSVP.

## Department Searches for New Faculty and Permanent Head

The Department of Civil and Environmental Engineering is world renowned for our water resources engineering which has been our focus for 125 years. In order to maintain and enhance our reputation in this area we are conducting multiple searches for water-related positions that could bring up to four new water faculty in the fall of 2007 with interests in surface or groundwater hydrology, water resources planning and management, computational fluid dynamics or environmental hydrology, and irrigation engineering. To further strengthen our environmental engineering degree program we are searching for an environmental engineering faculty member as well. Dr. Sandra Woods was appointed Dean of the College of Engineering last spring and therefore the department is searching for a permanent department head.

## Civil and Environmental Graduates in Demand

On May 11, 2007, 60 undergraduate civil and environmental engineering students will line up for graduation at Moby Arena. Last May, all of our graduating students who beat a path across the stage to get their diploma found their career path, with 38 taking jobs in the engineering industry and 16 pursuing graduate studies. Colorado State's engineering graduates are in popular demand.

Almost five years ago, 50 students were arranged on the bleachers at the Equine Center to pose for the 2002 Spring graduation photo. We've taken the front row of that photo and attempted to track down those former students to see what they've been doing in the first few years of their careers. In some cases we've used the most recent information available.

Britney Michalski Cole graduated in 2002 with a degree in environmental engineering. She went on to complete a master's degree in educational technology and works for an international performance improvement company on initiatives with companies like Comcast, Texas Instruments, and Agilent. She says, "My engineering background has been so helpful to me because it allows me to better understand my client's business needs and the technical nature of the products I design and develop for them."

Alumni, please keep us up-to-date on where you are and what you are doing. We enjoy celebrating your successes! Just e-mail [civil@engr.colostate.edu](mailto:civil@engr.colostate.edu) with information and photos, drop by the department in person, or give us a call at 970-491-5049.

Audrey Mendelsberg, completed M.S. at CSU with Dr. Pierre Julien, now an engineer at TST, Inc. Consulting Engineers, Fort Collins

Coy Egbert, 1st Lieutenant, U.S. Air Force

Britney Michalski Cole, completed M.A. in educational technology at San Diego State, now a training specialist for General Physics

Abigail Ortega, project engineer, Colorado Springs Utilities

Jessica Mikunda Adair, completed an M.S. in mechanical at CSU and is working at Woodward Governor

Ryan Avery, completed M.S. and pursuing Ph.D. at University of Washington, working on a project at the Centre for Traffic Research in Stockholm

Kristina Beard, recently left an engineering position at an ecological firm in Minnesota for a new opportunity



Nikki Trzcinski, civil engineer, Ayres Associates, Fort Collins

Stephen Sanborn, completed M.S. at CSU with Dr. Brian Bledsoe, now at Mussetter Engineering, Fort Collins

Nina Choy, thought to be in Kansas, unable to contact

Colleen Winchester, agricultural engineer, USDA, Greeley

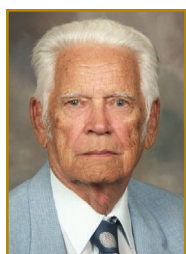
Colleen Henderson, thought to be in Texas, unable to contact

Rebecca Oline Atadero, M.S. and Ph.D. in structural engineering at University of California at San Diego, recently returned to Colorado State as a research scientist

Michael Gossenaauer, completed M.S. at CSU With Dr. Jim Loftis, now an engineer with the U.S. Army Corp. of Engineers, Hydrology and Hydraulics section, Kansas City

# Alumni News

**Ralph Adkins**, B.S. 1943 Civil, passed away on January 5, 2006. He began his career with the Colorado Fuel & Iron Corp. in 1943, then served as a line officer in the Navy during World War II. He resumed his career with CF&I in 1946, ultimately serving as director of land and water from 1965 until his retirement in 1983. He then had his own consulting firm, Ralph Adkins & Associates. He joined the board of directors of the Southeastern Colorado Water Conservancy District in 1973 and in 2002 received its first Distinguished Service Award. In 1997, he won the Wayne S. Aspinall Water Leader of the Year Award. He served on the advisory committee for CSU's College of Engineering Dean's Council and many other committees.



**Art Corey**, M.S. 1949 Civil, has been elected as a Fellow of the Soil Science Society of America. Dr. Corey is an emeritus professor in the Department of Civil and Environmental Engineering at Colorado State.

**Rex Sjostrom**, B.S. 1952 Civil, M.S. 1956 Electrical, passed away on May 31, 2006. Sjostrom's professional career spanned nearly 40 years of outstanding engineering and management accomplishment, culminating in his position as director of one of the most technically advanced and highly successful space programs in the United States (24 satellites flown of which nine were launched in a single year—a U.S. record). Accomplishments include design of ground system instrumentation for Titan I and II, design of telecommunications for the OV4-3 satellite, design and management of the telemetry and total electronics for the Viking Mars Lander, the first spacecraft to operate on the surface of Mars.

**Ben McCall**, B.S. 1956 Civil, lives in Redondo Beach, California. Prior to retirement, McCall had a long career in the aeronautics industry and worked on the development of the C-17.

**John Andrews**, B.S. 1957 Agricultural Engineering, B.S. 1960 Civil, is a principal with the Larkin Group in Albuquerque, New Mexico.



**H. S. Negabhushanaiah**, M.S. 1958 and Ph.D. 1962 Civil, is retired but writing a series of engineering books. He had a distinguished career as an educator in India, serving as professor and head of the department at Regional Engineering College,

Rourkela, and coordinator of the Water Research Center at the National Institute of Engineering, Mysore.

**Dale Heerman**, M.S. 1964 and Ph.D. 1968 Agricultural Engineering, was inducted into the Biological Systems Engineering Hall of Fame at the University of Nebraska where he received his bachelor's degree. Heerman was cited for his outstanding contributions in center pivot irrigation systems. His work was incorporated into the USDA NRCS's national toolbox, and both U.S. and International Standards.

At a workshop entitled "Preparing for the Environmental, Political, Cultural, Economic and Other Implications of Energy Development in Indian Country," **Bill Lorah**, M.S. 1966 Civil, spoke on the boom and bust of oil shale development in Colorado. Lorah is a senior consultant at WWE's office in Glenwood Springs. Lorah is currently working on water rights work for planned development in Granby.

**Ben Urbanas**, M.S. 1968 Civil, has been working on the Big Dry Creek outfall study for the Urban Drainage and Flood Control District.

**Bob Williams**, B.S. 1969 Civil, has started a consulting firm, Williams Engineering LLC, in Gunnison, Colorado.

**Jamie Millán**, Ph.D. 1972 Civil, presented a lecture, "Developing Hydro Power in Latin America: Potential Challenges and Contributions of Analytical Tools," on October 30, 2006 at Colorado State. The presentation was part of a Distinguished Lecture Series. Dr. Millán was principal energy economist at the Sustainable Development Department when he retired from the Inter-American Development Bank in late 2005 after 23.5 years of service. At present he serves on the Board of Directors of XM, the operator of the electricity market in Colombia, and works as a private consultant in energy issues.

**Walter Trimmer**, B.S. 1974 and M.S. 1975 Civil, and Ph.D. 1984 Agricultural Engineering, is consulting as well as teaching in the civil and construction engineering program at Oregon State University in Corvallis. This fall he is teaching statics.

**Lloyd Gronning**, M.S. 1976 Civil, is the program manager for Parson's work for the Southern Nevada Water Authority. Currently they have several billion dollars of projects in planning, about \$750 million in design, and about \$250 million in construction.

**William Linfield**, B.S. 1976 Civil, is the public works director for Silverthorne,

Colorado. His wife, Sherry, is a 1980 CSU alumna in home economics. William enjoys trail running and mountain climbing.

Chief of the NASA astronaut office, **Kent Rominger**, B.S. 1978 Civil, has resigned his position and was named vice president of advanced systems for Alliant Techsystems, Inc. and will be based in Magna, Utah. Rominger logged in over 1,600 hours in space, flying as pilot of STS-73 (1995), STS-80 (1996), and STS-85 (1997), and was crew commander on STS-96 (1999) and STS-100 (2001). Rominger's missions included two shuttle flights to the International Space Station. Rominger also flew on both the longest and second longest shuttle missions in history.

**Marcia Patton-Mallory**, M.S. 1983 and Ph.D. 1996 Civil, is the USDA Forest Service's national biomass and bioenergy coordinator. She is also a science and technology fellow assigned to the U.S. Senate.

**Lisa Goodbee**, B.S. 1984 Civil, and her engineering firm, Goodbee & Associates Inc., was featured in the March 27, 2006 issue of the *Rocky Mountain News*. Goodbee's 13-employee business, has been involved in nearly every major transportation project underway in the Denver area and all of her employees are former corporate engineers who now telecommute in order to spend time with their families.

**David Nettles**, M.S. 1984 Agricultural Engineering, is assistant division engineer with the Division of Water Resources in Greeley, Colorado.

**Kent Mao**, M.S. 1985 and Ph.D. 1990 Civil, was featured in the *Snohomish County Business Journal* in a May 2006 article titled "The China Connection." Dr. Mao met with China's President Hu Jintao. Founder, chairman, and CEO of North America Industrial Investment Co. Ltd., in Seattle, Mao specializes in fostering international trade.

**Scott Crail**, B.S. 1988 Agricultural Engineering, is a vice president with Delphi Control Systems, Inc., in Pomona, California.

**Robert Houghtalen**, Ph.D. 1988 Agricultural Engineering, is a professor and department head of civil engineering at Rose-Hulman Institute of Technology in Terre Haute, Indiana.

**David Thaemert**, B.S. 1989 Agricultural Engineering, is working on his Ph.D. and doing research at the Stream Institute, University of Louisville. His focus is stream restoration.

**Craig Houdeshell**, B.S. 1990 and M.S. 1992 Civil, is district manager for BCI Engineers in Jupiter, Florida.

**Kevin Lusk**, B.S. 1991 and M.S. 1993 Agricultural Engineering, is a senior project



engineer with Colorado Springs Utilities.

**Armando Balloffet**, Ph.D. 1992 Civil, was in Ghana in March 2006 working on a project for the Millennium Challenge Corporation, a U.S. foreign aid organization. The organization has plans to fund a number of infrastructure facilities, including rural roads and small irrigation projects.

**Bret Egan**, B.S. 1993 Civil, is a project engineer in Greenwood Village, Colorado, at CLC Associates, Inc.

**Pete Foster**, M.S. 1994 Civil, has been named head of WWE's Durango office. Foster is working on the Red Cliff irrigation pipeline project that includes 5,000 lineal feet of pipeline and a Dolores River crossing. He is also overseeing work for BP in Durango.

**Mark Peters**, B.S. 1994 and M.S. 2002 Civil, and M.B.A. 2002, is deputy chief

of party for CDM International Inc. He is working on a three-year watershed protection project in Jordan to help the Government of Jordan develop and implement source water protection plans in three pilot watersheds. Mark and

his wife, Kristin, have a daughter, Sophia (*see photo of Kristin and Sophia above right*).

**Quentin Armijo**, B.S. 1995 Civil, is with Terra Nova Engineering & Surveying, Inc. in Colorado Springs.

**Jim Starling**, B.S. 1995 Civil, is the light rail engineering manager for T-REX, based in Centennial, Colorado.

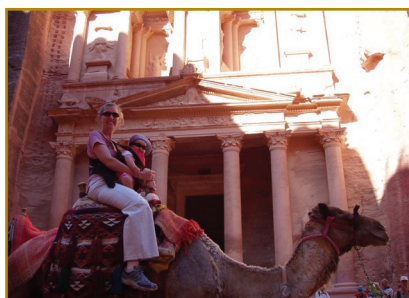
**Heather Seitz**, B.S. 1996 Engineering Science, M.S. 1998 Civil, is the planning and zoning technical assistant for the town

of Amherst, New Hampshire. She reviews building permits, subdivision applications, and provides technical support to town boards and assists the public works department on projects such as the community septic system.

**Cara Tackett**, M.S. 1996 Civil, is vice president, land development, at Pape-Dawson Engineers, Inc., in San Antonio, Texas.

**Suleyman Akalin**, M.S. 1997 and Ph.D. 2002 Civil, is with the consulting engineering firm, Nolte Associates, in Centennial, Colorado.

**Mark Donner**, B.S. 1997 Civil, is a civil/environmental engineer at Trihydro Corporation, a firm based in Laramie, Wyoming. Trihydro is the largest engineering firm in Wyoming and ranks 171 on ENR's top 200 environmental firms list.



**Mohammad Makkawi**, Ph.D. 1998 Civil, worked as a groundwater and environment consultant in Saudi Aramco Oil Company. At the company, he performed a groundwater flow/salinity transport numerical model for a deep aquifer. He also participated in designing

a remediation system to remove floating hydrocarbon products from a shallow aquifer. In mid 2005, Dr. Makkawi was promoted to associate professor at King Fahd University of Petroleum & Minerals, Saudi Arabia.

**Craig Ullmann**, B.S. 1999 and M.S. 2000 Civil, was one of five young engineers throughout the U.S. to be nominated by ACEC for the New Faces of Engineering program sponsored by National Engineers Week. Ullmann is a water resource engineer



*C.J. Riley, M.S. 2003 Civil, and Linda Vandamme Riley, B.S. 2004 Civil, (at left) were married at Snow Mountain Ranch in Grand County Colorado on September 3, 2006. They both are currently working on advanced degrees at Colorado State with C.J. working on his Ph.D. in structural mechanics and Linda on her master's in irrigation and drainage.*

at Applegate Group, Inc. in Westminster, Colorado. His knowledge of hydraulic and hydrologic modeling were cited, along with his innovative infrastructure design. Ullmann's design work on an orphanage in Africa was also lauded.

**Omar Herrera**, B.S. 2001 Civil, is a project engineer at Pickett Engineering, Inc. in Greeley, Colorado. The company's main focus is residential and commercial development.

**Nick Haws**, B.S. 2000 Civil, is working at Northern Engineering in Fort Collins.

**Kevin Kerber**, B.S. 2001 Civil, is working for Max Retaining Walls in Commerce City, Colorado.

**Michael Singleton**, B.S. 2001 Civil, is a Navy lieutenant and has recently been serving at Peral Harbor, Hawaii.

**Phil Law**, B.S. 2003 Civil, is working for Geocal, Inc., a company that does geotechnical engineering and materials testing, in Aurora, Colorado.

**Jeffrey Olsson**, B.S. 2003 Civil, is with HKM Engineering Inc. in Helena, Montana.

**Richard Mulledy**, B.S. 2004 Civil, married Heather Best on March 11, 2006, in Colorado Springs. The couple now lives in Wesley Chapel, Florida, where Richard is a civil engineer and Heather is an insurance agent.

**Cat Shrier**, Ph.D. 2004 Civil, is a water resources planner for Golder Associates Ltd., in Alberta, Canada. Their water resources group focuses on hydrology studies and water planning and management.

**David Beiswenger**, B.S. 2005 Civil, is working at CE2 Engineers, Inc. in Anchorage, Alaska.

**Travis Burgers**, M.S. 2005 Civil, is at the University of Wisconsin, working on his doctoral studies in mechanical engineering.

*continued on page 8*

## Mark your calendar for the Engineering Career Fair!

Date: February 20, 2007

Time: 9am-3pm

Location: Lory Student Center

Registration fee: \$125 for companies with 25 or fewer employees;

\$300 for companies with more than 25 employees

(fee covers breakfast, lunch, parking permit)

Space is limited to only 107 employers, so contact us as soon as possible.

On the day of the event, we will be holding a networking breakfast for all participants to connect you with our faculty and college deans.

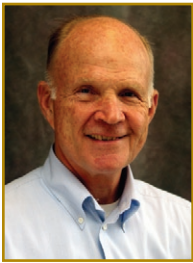
**For additional information, contact John Haines**

**e-mail: john.haines@colostate.edu, phone: (970) 491-0716**

## Faculty News



**Steven Abt** has been promoted to Major General, U.S. Army Reserve. MG Abt currently serves as the Director of Operations, Iraq Reconstruction Management Office, U.S. State Department in Baghdad, Iraq. Upon his return, he will assume the duties of the Deputy Chief of Engineers – Reserve, U.S. Army Corps of Engineers in Washington, D.C.



**Neil Grigg** received a grant from the American Water Works Association Research Foundation to study water main break prediction, prevention, and control. He worked with Ph.D. student **Peter Rogers** to prepare a paper for the Water Distribution Systems Analysis Symposium in Cincinnati and has a paper scheduled for the AWWA Distribution Systems symposium in Las Vegas in March, 2007. In September, Neil was inducted in



the newly-formed Pan American Academy of Engineering.

**Dr. Robert Meroney**, emeritus professor, teamed with Dr. Siva Parameswaran, Texas Tech University, in July to present a workshop

on Computational Wind Engineering for the Center of Excellence Program at Tokyo Polytechnic University for about 45 participants. Afterwards, he attended the Fourth International Symposium on Computational Wind Engineering in Yokohama, Japan, where he presented a paper, *CFD Prediction of Cooling Tower Drift in an Urban Environment*, chaired a technical session, and acted as a member of the conference International Advisory Committee. Dr. Meroney has also been invited to present a followup workshop in April 2007 on computational wind engineering for the staff and students of the Wind Engineering Research Center, Tamkang University, Taiwan, ROC.

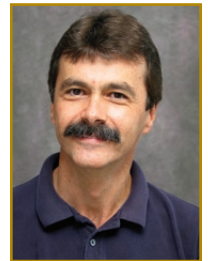


Several of **Dr. Jeff Niemann's** advisees have recently completed their graduate degrees. **Xiangjiang Huang** finished his Ph.D. examining the impacts of watershed hydrology on landscape evolution. **Mark Perry** completed his M.S. thesis examining the space-time dynamics of soil moisture. **Alfonso Mejia** finished his M.S. thesis considering the classification of drainage networks using deviations from self-similarity.

**Dr. Terry Podmore** (pictured standing at right) spent a month in the summer of 2006 in Uzbekistan. He was working with the Water Users Association Support Program, a project funded by the United States Agency

for International Development. Dr. Podmore worked with farmer groups to determine the extent and severity of drainage problems resulting from irrigated cotton production. He made recommendations to farmers about improved irrigation water management to mitigate the high water table and salinity effects on crop production. He was based in Tashkent, the capital of Uzbekistan, and visited Samarkand and Bukhara while there.

**Dr. Jorge Ramírez**, Borland professor of hydrology, is on sabbatical leave at ETH, the Swiss Federal Institute of Technology in Zurich, Switzerland.



**Charles Shackelford** received a Richard S. Ladd D18 Standards Development Award by ASTM International. The recognition was given for the time and effort Shackelford and co-authors Nazli Yesiller (Wayne State



## New Faculty Join the Department

The Civil and Environmental Engineering Department welcomes two new faculty members starting in the fall 2006 semester.

**Dr. Suren Chen** is a new assistant professor in our structural/infrastructure engineering program. He earned his B.S. and M.S. in structural/bridge engineering from Tongji University in China in 1994 and 1997, respectively, and his Ph.D. in civil engineering from Louisiana State University in 2004. His experience includes service as a professional civil engineer working on FEMA flood hazard studies and DOT transportation projects at Michael Baker Jr. Inc., a national consulting firm. His research interests include multi-hazard assessment, transportation infrastructure system safety and protection, health monitoring/structural control, advanced material techniques, wind engineering, and GIS applications. Dr. Chen is a certified professional engineer in Ohio and a certified floodplain manager. He is also a member of the American Society of Civil Engineers, American Association for Wind



Engineering, Structural Engineering Institute, and Association of Floodplain Managers.

**Dr. Christopher I. Thornton** has joined the Department of Civil and Environmental Engineering as an assistant professor in our Hydraulics program. He earned his B.S. in civil engineering from Colorado State University in 1993 and his M.S. and Ph.D., in 1995 and 1999, respectively, in civil engineering from Colorado State University. He has served as a Research Scientist and Director of the Hydraulics Laboratory at Colorado State since 1999. Dr. Thornton's research interests include hydraulic modeling in the areas of river mechanics, pier and abutment scour, dam safety, riprap design, bank revetment and stabilization, erosion control, and hydraulic structures. He is currently a member of the Larimer County Flood Review Board and he chairs the American Society for Testing and Materials subcommittee on erosion and sediment control technology.





**Laurie Alburn** (formerly Howard), civil and environmental academic advisor, married Nathan Alburn July 1, 2006. Laurie has been working in the department for 16 years.



University) and Craig Benson (University of Wisconsin, Madison) spent on preparing ASTM Standard Designation: D7100 "Standard Test Method for Hydraulic Conductivity

Compatibility Testing of Soils with Aqueous Solutions."

The department is pleased to welcome **Tom Trout**, M.S. 1975 and Ph.D. 1979 Agricultural Engineering, as an affiliate faculty member. Tom is the new research leader of the USDA Agricultural Research Service Water Management Research Unit in Fort Collins. He has been with ARS in southern Idaho and Fresno, California. He specializes in irrigation water management, irrigation design, and crop water use. He replaces **Dale Heermann**, M.S. 1964 and Ph.D. 1968 Agricultural Engineering, who retired.



**Dr. Ted Yang** received a four-year grant from the U.S. Army Corps of Engineers Omaha District. The grant is for modification and enhancement of Dr. Yang's GSTARS (Generalized Stream Tube model for

Alluvial River Simulation) computer model for the simulation and prediction of the sedimentation and sluicing processes behind the Gavins Point Dam on the Missouri River. Ted will modify his GSTARS model from a steady to an unsteady flow model to simulate the sluicing and river morphologic processes. The model will be calibrated and tested with field data to be collected by the Corps and the USGS before, during, and after the sluicing operation. This project is the first of its kind of this magnitude in the United States.

## Early-Warning Water Security System to be Tested in CSU Engineering Laboratory

by Emily Narvaes Wilmsen

Colorado State engineering researchers have begun testing an early-warning security system designed to alert city utility officials when major pollutants are detected in water supplies.

If installed, the real-time monitoring system, integrated by ST-Infonox of California, would help city officials respond quickly to foreign substances in the water distribution system, helping to combat any potential terrorist or natural threats, said Sam Araki, chief executive officer and president of ST-Infonox Inc.

ST-Infonox officials are working with city officials in Loveland and Fort Collins to test the technology on municipal water systems.

Ralph Mullinix, director of Loveland Water and Power, said early warning systems are needed because water distribution systems are most vulnerable after the water leaves the treatment plant.

"Loveland Water and Power is pleased to participate as a pilot site for the development of the ST-Infonox early warning system for our water supply," Mullinix said. "We hope this system can be developed and cost effectively integrated into every water system in the United States and throughout the world."

In March 2004, the U.S. General Accounting Office issued a report on the vulnerability of the water distribution system and urged collaboration with industry to improve real-time monitoring. The report stated that water industry experts consider a lack of monitoring systems one of the most vulnerable points of water supplies.

"No economically viable monitoring system currently exists for water distribution systems in the country," Araki said. "This technology will help address vulnerabilities in our water."



"The potential benefit of this water distribution technology is tremendous," said Wade Troxell, associate dean for research and economic development in the College of Engineering. "These kinds of partnerships, such as this one between Colorado State and ST-Infonox, intends to provide a market-based solution that can potentially have a global impact on society. This is our role as a 21st century land-grant institution."

ST-Infonox is working with **Ken Carlson**, a civil engineering associate professor at Colorado State, and **Amy Pruden**, an assistant professor, to test the SCOPEH2O system in a laboratory environment. Carlson has traditionally studied breaches in drinking water distribution systems, drinking water contaminants and natural treatment solutions for drinking water.

"The methods that we've developed for simulating intentional distribution system contamination events are unique - there are only a limited number of labs in the country that have this capability," Carlson said. "The project we're doing with ST-Infonox could help us learn much about how to help the country protect its water resources, particularly drinking water."

ST-Infonox is a sister company of Infonox, which services a large portion of the financial transaction market.



The civil and environmental department's faculty/student softball game was held on Friday, October 13th. Faculty beat the seniors 8 to 6 and then beat the sophomore/junior team 18 to 5 (in four innings). However, the faculty were feeling the pain over the weekend.



## Student News

Second bachelor candidate **James Ian Easton** was awarded an civil engineering alumni undergraduate scholarship. This alumni and friends supported scholarship was established in 2004. He also received the University's Howard Scholarship.

Ph.D. student **Kristoph-Dietrich**



**Kinzli** recently presented a paper entitled "Decision Support Systems for Efficient Irrigated Agriculture" at the First International Conference on Sustainable Irrigation.

The conference was held September 5-7 in Bologna, Italy, and was put on by the Wessex Institute of Technology. The paper presented work on a decision support system to aid the Middle Rio Grande Conservancy District in New Mexico with the implementation of rotational water delivery. The paper is a

collaboration between Kinzli, **Dr. Ramchand Oad**, **Dr. Luis Garcia**, and **Dave Patterson** at CSU's Integrated Decision Support Group. Kristoph was also just awarded an NSF Fast Track Scholarship.

Seniors **Nicole Jecminek** and **Alexander Stone** received Edwin and Kay McDowell Scholarships.

Ph.D. student **Jose Molina** received a Borland Graduate Student Scholarship. Working with **Dr. Jorge Ramirez** in the hydrology program, Jose's research is in stream-flow forecasting in the Western United States. Last year, 36 Whitney Borland graduate scholarships were awarded to hydrology and hydraulics students, totaling \$85,116.

Civil engineering senior **Rae Rossetti** received an ARCS Scholarship and the ACEC William Russell Stoneman Scholarship.



Freshman **Miranda Russell** received the Bill and Jean Fead Scholarship. The Fead family established the scholarship to honor long-time professor Bill Fead and wife Jean.

Junior **Micah Smidt** and senior **Ashley Heidenreich** received Chester C. Smith Scholarships. This scholarship provides encouragement for students to consider consulting engineering careers.

Ph.D. student **Enrique Triana** presented a paper titled "Application of GEO-MODSIM to Water Quantity and Quality Management in the Lower Arkansas River Basin, Colorado" (co-authors: **Drs. John Labadie** and **Timothy Gates**) at the AWRA's 2006 Spring Specialty Conference, GIS and Water Resources. He participated in the Conference Student Presenter Competition and was awarded first place in oral presentations among twenty five presenters.

Senior civil engineering student **Lauren Walker** received ACEC's Malcolm and Charles Meurer Scholarship.



### Spring 2006 Commencement

**Front row (left to right):** Mary Jay Vestal (CE), Julie Mages (CE), Rachel Garcia (CE), Amy Fields (CE), Sandra Gordon (CE), Roberto Suarez (CE). **Second row:** Professor Ramchand Oad, April Tischer (Env), Kendra Gabbert (CE), Brooke Sullivan (CE), Brandon Lehman (Env), Corrine Arnett (Env), Erin Mathews (CE), Professor Luis Garcia. **Third row:** Professor Larry Roesner, Joshua Smith (CE), Carlos Sala (CE), Christopher Wood (CE), Steven Marfitano (CE), Matthew Ruder (CE), Jason Barber (CE), Eric Richards (CE), Chad McKinney (Env), Amanda Rasmussen (Env), Jillian Green (Env), Jennifer Hill (Env), Brandon Horii (CE), Professor Darrell Fontane, Professor Marvin Criswell. **Fourth row:** Brian Vencalek (Env), James Hitchman (CE), Justin Carter (Env), David Renfroe (CE), Justin Meihaus (CE), Kristofer Wiest (CE). **Back row:** Cody Snowdon (CE), Fletcher McKenzie (CE), Andrew Augustine (CE), John Canaday (CE), Luke Gingerich (CE), Joshua Chavez (CE), Sang Ngor Nguyen (CE), Craig Baxter (CE), Tyler Mitchell (BAE), Aaron Cook (CE), Sean Kimbrel (CE), Christopher Clopper (CE), Ryan Nelson (CE), Chad Martin (CE), Mark Menke (CE), Advisor Laurie Howard, Professor Neil Grigg.



## Student Organizations Update

**Environmental Engineering Society (EES)** is going strong this semester. The Society recently toured the Engineering Research Center and has an upcoming field trip planned to the Fort Collins Water Treatment Facility. These are great opportunities for students to begin to grow as professionals. The students are now beginning to prepare for the annual ASCE Water Treatment from your Kitchen and Beyond Competition, which they are hoping to host at CSU in April, 2007. Pictured are the students at last Spring's competition, held at the University of the Pacific in Stockton, California, where they won 3<sup>rd</sup> place overall.



**Sustainability.** To the average engineering student, this concept may only be an idea cited in a courses. To the students involved with **Engineers Without Borders**, however, sustainability is the heart and soul of their engineering work. Currently, EWB-CSU is working on projects in many areas of the world including communities in Purulia, India; Nyanzwa, Tanzania; and El Salvador.

In its most innovative project, EWB-CSU and the Department of Mechanical Engineering have been collaborating to create modified cook stoves for implementation in Central America, India, and Nepal. The goal is to develop stoves that are cleaner and more efficient, and available at a low cost, thus improving indoor air quality and overall health. The other EWB-CSU projects in India, Tanzania, and El Salvador confront water quantity and water quality problems. In the summer of 2005, two CSU students and a professional engineer traveled to the villages of Juri and Pitati in Purulia, India. They returned with information concerning the community and the project site, giving EWB-CSU the necessary information to develop a clean and adequate source of water for the villages. Although the students working in Nyanzwa, Tanzania have not yet traveled to the community, they are working with an NGO to develop and implement a sustainable water supply and treatment system. The project team working in El Salvador recently returned from a site assessment trip and now a civil engineering senior design team is creating a sustainable solution to the community's water quantity and quality problems.

EWB-CSU is also working on an additional project in El Salvador. Many rural areas in El Salvador have a difficult time coping with the lack of water during the five-month dry season; the two communities of La Laguneta and El Chile are no exception. For five months, the community is severely limited in the amount of water they can use, and depending on how long the dry season lasts, families of six or more people are limited to between five to ten gallons of water a day. In addition, the water is contaminated and causes many illnesses. A team comprised of students, faculty, and professional engineers has made three trips to the two communities to build relationships, conduct site assessments, and drill two wells. The team will travel to the communities in January 2007 to improve the conditions of an existing tank, provide the community with a chlorination system to improve water quality, and increase current water supply. Although the team has faced challenges, their dedication to the community and the project has been strong. This commitment to individuals living thousands of miles away exemplifies the future necessity of becoming a truly Global Engineer.



**2006 ASCE Regional Conference in Rapid City, South Dakota**

Back row (left to right): Ryan Horn, Melissa Robson, Julie Mages, Luke Harris, Chris Turnbull-Grimes, Kyle Plonka, Zach Glueckert, Alicia Shogbon, Jared Moreng. Front Row: Brian Jessee, Carissa McGuire, Ben Hostetler, Dr. Tom Sanders, Dr. Richard Gutkowski, Kaylee Strand, Erin Dallinger (Erin's father is in the photo below), John Wilson, Aaron Brown.



**1978 ASCE Regional Conference in Rapid City, South Dakota**

Back row (left to right): Eric Nelson, Janet Floersch, Keith Hjelmstad, Dr. Wayne Charlie, Peggy Catlin, Lynda Barber, Steve Light, Carol DeAngelis, Corey Elliot. Front row: Jim Tout, Kent Steele, Mark Courtney, Mark Koester, Thomas Edgar, Bobbie Logan, Dr. Richard Gutkowski, Kevin Gottschalk, Bill Allen, Curt Dallinger (Curt's daughter appears in the photo above), Terri Fead, Dick Crim, Dr. John Nelson, Dr. Steve Abt.

## ASCE Now and then . . .

See the photos above for a look at our delegation to the ASCE regional conference in South Dakota in 2006 and 28 years earlier! At the 2006 regional conference, CSU's concrete canoe received 3<sup>rd</sup> place overall. Other prize awards included: 4<sup>th</sup> in the design paper, 6<sup>th</sup> in the Men's Sprint, 3<sup>rd</sup> in the Women's Sprint, 2<sup>nd</sup> in Women's Endurance, and 2<sup>nd</sup> in Men's Endurance. In addition CSU's team placed 2<sup>nd</sup> in final product. Unfortunately, the steel bridge was disqualified when it failed to pass the lateral-load test. CSU's teams are preparing for the 2007 conference to be held in spring at the University of Colorado at Boulder.



*Dillon Cowan, B.S. 2005 Civil, with his son Miles and wife Angella. Miles was born on July 7, 2006.*

Over the summer he worked at Zimmer, an orthopedic company that makes replacement knees and hips. He is currently working on a project dealing with a metal hip cup that is placed in the pelvis during hip replacement.

**Che Yun Chan**, B.S. 2005 Civil, is a cost engineer with Earth Tech in Englewood, Colorado.

**Mike Dunham**, B.S. 2005 Civil, completed his master's degree in structural engineering at Columbia. He is working for Schlaich Bergermann and Partner in New York City.

**Mike Flick**, B.S. 2005 Civil, is in the transportation group at HDR Engineering, Inc., doing mostly highway/roadway design work. Mike lives in Denver and is engaged to Sarah Longstrom, a 2004 CSU alumna.

**Jeff Goodell**, B.S. 2005 Civil, is working for Martin/Martin Inc. in Lakewood, Colorado.

**Brendan Hines**, B.S. 2005 Civil, is a design engineer in land development for Drexel, Barrell & Company in Steamboat Springs, Colorado.

**Jason Krall**, B.S. 2005 Civil, is an associate design engineer at Merrick & Company in Aurora, Colorado.

**Karol Miodonski**, B.S. 2005 Civil, is working for PBS&J in Denver.

**Micah Richey**, B.S. 2005 Civil, is working at Englewood, Colorado's RJH Consultants, Inc.

**Jenny Romano**, B.S. 2005 Civil, is working for Nolte Associates, Denver Tech Center.

**Eric Shey**, B.S. 2005 Civil, is working as a civil engineer with Jacobs Engineering in Bellevue, Washington.

**Cara Shonsey**, B.S. 2005 Civil, is in the Peace Corps, stationed in the Kayes region of Mali, Africa. Her primary job will be building and capping wells and her secondary projects revolve around women's literacy and health education. Cara writes that she has

been placed in the small village of Horongo (population 1000). In this farming community, people live in mud huts with thatch roofs and no potable water and they have problems with standing water. She is a 30-minute bike ride from Kita the larger market town. You can write to her at Cara Shonsey, PCV, Corps de Le Paix, B.P. 25, Kita, Mali.

**Matthew Young**, B.S. 2005 Civil, is a design engineer with Ehrhart Griffin & Associates, Inc., in Erie, Colorado.

**Roberto Arranz**, M.S. 2006 Civil, is in Afghanistan working on a water sanitation project in the Hazarajat Mountains.

**Andrew Augustine**, B.S. 2006 Civil, is working for High Country Engineering.

**Jeremy Ball**, B.S. 2006 Civil, is working for Adams County Engineering

**Ethan Ford**, B.S. 2006 Civil, is a staff engineer with CH2M HILL in Colorado Springs.

**Rachel Garcia**, B.S. 2006 Civil, is pursuing her master's degree in structural engineering at Colorado State.

**Steve Gerhardt**, B.S. 2006 Civil, is pursuing graduate studies in hydraulics at Colorado State.

**Luke Gingerich**, B.S. 2006 Civil, is an assistant engineer at Natural Resources Consulting Engineers, Inc. in Fort Collins.

**Sandra Gordon**, B.S. 2006 Civil, is a water resources engineer at Riverside Technology, inc. (RTi), in Fort Collins.

**Julie Mages**, B.S. 2006 Civil, is a civil engineer with the United State Air Force. She was recently at Maxwell Air Force Base completing an air and space basic course.

**Steven Marfitano**, B.S. 2006 Civil and Mathematics, is pursuing graduate studies in transportation engineering at the University of Texas at Austin.

**Erin Mathews**, B.S. 2006 Civil, is a design engineer with Pickett Engineering in Greeley, Colorado.

**Dave Renfro**, B.S. 2006 Civil, is working for Bechtel Power in Frederick, Maryland.

**Eric Richards**, B.S. 2006 Civil, is a designer with KL&A, Inc., in Loveland, Colorado.

**Kathryn Sednek**, B.S. 2006 Civil, is a project engineer/manager with H.W. Lochner, Inc in Cheyenne, Wyoming.

**Josh Smith**, B.S. 2006 Civil and Construction Management, is working in structural engineering for CDM in Denver.

**Sean Stellish**, B.S. 2006 Civil, is a design engineer at Merrick & Company in Aurora, Colorado.

**Eric Tracy**, B.S. 2006 Civil, is with JR Engineering in Fort Collins.

## Engineering Careers Update

Employers across the country are all experiencing the national shortage of civil and environmental engineers and the situation in Colorado is no different. The college garnered a 100% placement rate in the Department of Civil and Environmental Engineering with all May 2006 graduates entering the workforce or continuing on to graduate school.

While demand for civil and environmental engineers has increased, our enrollment in the civil and environmental engineering program has stayed relatively constant. As competition heats up to recruit and hire the top talent, employers have re-examined their recruiting efforts on campus.

Many employers have been successful with their strategy to increase the number of underclassmen interns they are hiring during the winter and summer breaks. Student interns are an easy "win-win" for both employers and students. Employers have an opportunity to train interns on specific technologies and organizational values while evaluating this temporary employee in what could be viewed as a three month interview. After evaluating the intern's performance, the employer may have a full-time hire upon graduation.

Some companies have provided scholarship opportunities for students pursuing studies aligned with their business. This allows the company to build relationships with academically strong students that are interested in their field.

The Career Center at Colorado State is very happy to assist employers with scheduling of campus interviews and meet the employer sessions, as well as allowing access to our student resume database. To contact the Career Center, call 970-491-5707.

Finally, the greatest opportunity for employers to gain exposure to large numbers of students is the College's Career & Internship Fair on February 20, 2007. ***If you are interested in attending the CSU Engineering Career & Internship Fair please contact [john.haines@colostate.edu](mailto:john.haines@colostate.edu).***



*John Haines, engineering career liaison*