

### Letter from the Department Head

The Department of Civil Engineering has had an extraordinary year! In this newsletter, you'll find articles about our two newest tenure-track faculty members: Amy Pruden and Brian Bledsoe. Drs. Tom Sale and Dave Gilbert also joined the department's groundwater group in February 2002. In a very short time, Tom and Dave have developed an exceptionally strong and active groundwater research program, with several graduate students and multiple research grants including several from the Department of Defense. We are fortunate to have these faculty with us and look forward to working with them.

You'll also find articles about several of our alumni including Dr. Ignacio Rodriguez-Iturbe, winner of the Stockholm Water Prize, and Dr. David McWhorter and Kent Rominger. Dave and Kent were honored at this year's Alumni Banquet. In addition, our undergraduate student groups – including the ASAE, ASCE, and Environmental Engineering Student Group, all excelled in national competitions this year.

We are in a period of rapid growth – in our undergraduate enrollments, graduate enrollments, research, and faculty. For example, the size of the civil engineering freshman class is expected to increase 50 percent between Fall 2000 and Fall 2002. Although enrollments in our undergraduate bioresource, agricultural, and environmental engineering programs are smaller, we expect these enrollments to grow as well over the next several years.

Research is a critically important component of strong academic programs. It is through research that we



2001 Class of REU students

educate graduate students, and benefits to undergraduate students are many. Students learn to work in teams, gain knowledge in a research area, and receive funding to help finance their education. At Colorado State, we involve many undergraduate students in research. This year, we will welcome 16 students from 11 universities to our NSF-funded Research Experience for Undergraduates Program. Jorge Ramírez is Principal Investigator on this grant. (See above photo.)

The department has had incredible success in capturing research proj-

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#### Star Student Ryan Avery

This year's *CE News* "Spotlight on Star Students 2002" included Ryan P. Avery as an Honorable Mention. The magazine features students who are considered to be excellent students and who have an understanding and appreciation of all issues in the profession. The magazine also looks for traits of the honorees that set them apart from their peers.

Avery is a graduating senior from Fort Collins and carries a 3.96 GPA. Avery's special interests are

transportation and water resources/hydraulics, and he has interned in both areas. Avery is interested in travel as part of his chosen profession and has an aptitude for foreign languages. According to Avery, "Civil Engineering is the perfect platform to maintain an engineering focus while embracing international and societal concerns."

Congratulations, Ryan, for being a Star Student!

### **Alumnus Receives Highest Award**

The 2002 Stockholm Water Prize, hydrology's most prestigious international award, was given to Ignacio Rodriguez-Iturbe. The Venezuelan hydrologist and Princeton University professor was honored with the

Stockholm award for his significant contributions to the development of hydrologic science and to the preservation, enhancement, and availability of the world's water resources. The distinguished professor earned his doctorate in hydrology from the Department of Civil Engineering at Colorado State in 1967.



Jorge Ramírez and Ignacio Rodriguez-Iturbe at Hydrology Days 2002.



Knowledge to Go Places

### Colorado State Loses Water Pioneer and Friend Whitney Borland

Borland legacy to continue through endowed gifts



Bureau of Reclamation staff in 1931. Whitney Borland is pictured front row, far right.

Last year, Colorado State University bid farewell to distinguished water researcher and long-time friend, Whitney Borland. He is considered one of the pioneers who helped establish Colorado State's reputation as a leader in water research.

Borland is not a Colorado State alumnus, receiving degrees from the University of Nebraska, University of California, and University of Colorado. It is his work during the 1930s with the Bureau of Reclamation's laboratories at what was then the Colorado A&M that accounts for Borland's connections with Colorado State University. Borland spent eight years in Fort Collins conducting model studies and working in the engineering lab designed by Ralph Parshall, inventor of the Parshall Flume, the most widely used device for accurately measuring water flow in channels.

The research conducted by Borland's team of engineers and technicians ultimately would result in the building of some of the world's largest dams. This group was instrumental in modeling sedimentation studies for the Hoover Dam, the Grand Coulee and Imperial Dams, and the Tennessee Valley Association's Norris and Wheeler Dams.

### Alumnus Establishes Faoro Professorship in Water Resources

Established through a series of gifts made by Abraham B. and Jean M. Faoro since 1993, the Faoro Professorship in Water Resources was completed in 2001.

Interest generated by the \$875,000 endowment will provide funds to establish a faculty position devoted to teaching and research in water. During 2002, the Department of Civil Engineering expects to recruit and hire a new faculty member to hold the Faoro Professorship.

"This professorship will measurably enhance our ability to recruit leading faculty to our water resources program," said Sandra Woods, head of the department of civil engineering. "It also will enable us to maintain our leading education and research program in a field that is vital to Colorado and the West."

Abraham Faoro, who passed away in 2001, graduated from Colorado A&M in 1932 with a bachelor of science in Civil Engineering.

Faoro grew up in a coal mining camp in Rockvale, Colo., where his father was a coal miner. He attended school in Florence and was one of the first Rockvale residents to attend college. Faoro worked in the oil industry in California and was employed for 35 years by the Shell Oil Company. He served as regional director for Shell in the Ventura area.

"I believe it is only right to help the institution that helped you get where you are," Faoro said several years before his death. "I feel I have been rewarded for my hard work and would like to give something back to help Colorado State."

By the time the bureau returned to Denver in 1938, Colorado Agricultural College, later to become Colorado State University, had established itself as a leader in water research. Borland went on to a distinguished 42-year-long career with the Bureau, and during his tenure, many significant water projects were built that have had a long-lasting impact on the development of the West.

Several years before his death, Borland established a "life estate" with a \$1.2 million gift to the College of Engineering. The Whitney Borland Water Center Endowment is an assurance that Colorado State will continue to lead the world in pioneering water research. Born in 1905, Whitney Borland was raised in a sod house in Holyoke, Colorado. He served his country during WWII and was a member of the famed Tenth Mountain Division. Following the war, Borland was a member of the National Ski Patrol and a snow avalanche expert who helped pioneer the science of snow physics. He was also an avid climber, climbing all the 14,000 peaks in Colorado, Nevada, and California. Whitney Borland died in October 2001 at the age of 96.

While Borland's estate is not yet settled, the college is anticipating an additional gift, made through his will, which could total several million dollars. Sandra Woods, head of the civil engineering department, says that in the near future the University will be making a formal announcement with details of the bequest and the impact it will have on the college.

"Whitney Borland made great contributions to the field of water engineering," says Woods, "and his gifts to the college will help to endow the future of water engineering at Colorado State."

# Letter from the Department Head (continued from page 1)

ects this year. One success is our new Rocky Mountain Regional Hazardous Substance Research Center. Chuck Shackelford is Principle Investigator on this project involving faculty from multiple institutions. Our partners are the Colorado School of Mines and Montana Tech of the University of Montana. This five-year grant will focus on sites impacted by acid mine drainage and mine wastes.

The Hazardous Substance Research Center is just one of many new grants and projects that faculty have developed over the past year. In fact, research awards during 2001 were 63 percent higher than those received during calendar year 2000 - an extraordinary increase in one year and evidence of the excellent faculty and students here at Colorado State. This increase in research has benefited many students - allowing us to offer funding to more students. As a result, new students enrolling in our graduate programs increased 50 percent between fall of 2000 and 2001!

We have had many good friends and alumni who have given extraordinary gifts to the department. Two great friends of the department, Abraham Faoro and Whitney Borland, developed planned gifts during their lifetimes. These combined gifts will exceed \$6 million and will allow us to hire two new faculty members, assist graduate and undergraduate students, and purchase teaching and research equipment. Searches are beginning now for Faoro and Borland professorships. These professorships, in combination with resignations and future retirements, will allow us to recruit new faculty in the areas of structures, geotechnical engineering, precision agriculture, hydraulics, hydrology, and water resources within the next two years.

I hope you enjoy reading this newsletter, that you find information about a friend or faculty member, and that you will let us know how you are doing.

Until next year,

Sandra Woodz

Sandra Woods, Professor and Head, Department of Civil Engineering

### Civil Engineering Graduate Kent Rominger was Commencement Speaker

Kent Rominger was the College of Engineering commencement speaker for 2002 graduation ceremonies in May. Capt. Rominger has long been an inspiration to the students at Colorado State as well as the many youth of Colorado who have been honored with his motivational speaking; he was the highest rated keynote speaker at Engineering Exploration Day sponsored by the College of Engineering and alumni volunteers.

Rominger graduated from Colorado State University with a B.S. in civil engineering in 1978 and earned his M.S. degree in aeronautical engineering from the U.S. Naval Postgraduate School in 1987. As a decorated naval aviator and experienced Topgun test pilot, Rominger was selected for the NASA Astronaut Training Program in 1992 and was one of the first in his class of astronaut candidates to be given a space flight assignment.

Rominger has distinguished himself as one of NASA's most experienced and capable pilots and commanders. Last year, he commanded the STS-100, which installed the Canadianbuilt robotic Arm and Rafaello Logistics Module to the International Space Station. To date, he has logged more than 1,600 hours in space.

Rominger is deputy director of Flight Crew Operations Directorate at the Johnson Space Center. Among his many honors are the NASA Distinguished Service Medal, the Defense Superior Service Medal, the Distinguished Flying Cross, Colorado State's William E. Morgan Alumni Achievement Award, and the Distinguished Service Award from the College of Engineering.



#### **Scholarships**

**Margaret Matter**, MSAE 1986 and currently a Ph.D. student, was a recipient of the 2001 Rich Herbert Memorial Scholarship from the Colorado Section of the American Water Resources Association to support water-related research projects. Her research paper was titled "*Phase I Hydrologic Characterization of the Historic Streamflow Record for the Gunnison River.*"

### **Undergraduate Scholarships**

Nyal L. Adams Scholarship Kate E. Rudman

Engineering Scholars Abby Bronken Henrik P. Forsling Carol L. Hawk

John R. Fraser Memorial Scholarship Ryan O. Banning

Fred B. Hamilton Memorial Scholarship

Sheri L. Taylor

Harold and Katherine Kidder Scholarship Justin S. Doles Ryan C. Fleming Brady J. McDaniel Daniel R. Valley

Myron Brown Ludlow Scholarship Stephen C. Sanborn

#### Edwin C. and Kay S. McDowell Scholarship

Peter C. Rees Gavin C. Riches Ralph Parshall Memorial Scholarship Barry L. Snyder

Dr. Joseph A. and Elizabeth Pennino Memorial Scholarship Trevor D. Taylor

Carol Rohwer Scholarship Brianna L. Blume Michael R. Dunham Joshua D. Johnson Carmen M. Martinez Joel D. Nordloh Kimberly J. Schiel

Herb and Ellen Schweizer Civil Engineering Undergraduate Fund Ian S. Maycumber

Walter Scott, Jr., Scholarship

Noah I. Friesen Benjamin A. Morse

Harold H. Short Scholarship James A. Bruntz Brian D. Herbolsheimer Linda K. Vandamme

#### Chester C. Smith Engineering Scholarship

Travis D. Brinkman Joshua R. Duncan

Dan and Kris Sunada Scholarship Nathanael J. Bokelman

Alfred Triefus, Jr., Scholarship Kelly M. Brom

M. Daniel Vanderbilt Scholarship Erica M. Spencer

Richard F. Walker Scholarship Mark A. McWilliams

#### Robert D. Wilson Scholarship Andrew P. Amend Michael T. Flick

#### Claude W. Wood Scholarship

Mark A. Berrill Sean P. McAtee Timothy E. Moody Rebecca A. Oline Tanner O. Randall Katie M. Swanson Scott W. Wilkinson

### 2000-2001 Graduate Scholarships

#### SPONSOR

Jack E. Cermak Wind Engineering Scholarship Jairam Scholarship Fund H.W. Shen Water Resources Graduate Award Daryl B. Simons Graduate Fellowship Tipton & Kalmbach Graduate Fellowship Jeng Song Wang Memorial Scholarship GRADUATE STUDENT RECIPIENT

Munehito Endo

John Wood

Michael Hobbins

Oli Sveinsson

Enrique Triana

Rosalia Rojas-Sanchez and Ozlem Acar

### Alumni News

**Youngseok Lee** received a M.S. degree from Civil Engineering 10 years ago. He currently is working for Daewoo Engineering & Construction Co., Ltd., in Korea, in charge of all structural work for the company. His email address is aspen64@naver.com.

**Mindy Jacobson**, B.S. 1997 in Civil Engineering, worked as a structural analyst on spacecraft for Orbital Sciences Corp. in Maryland for two years after graduation. She now works for NASA Goddard Space Flight Center in Maryland as an analyst in the structural mechanics group.

**Barrie King**, B.S. 2001, is working for the Virginia Department of Transportation in Staunton, Va., doing complete replacements to widening of state forest structures and bridges.

**Kelly Ronat**, B.S. 2001, currently is employed by CH2M Hill in Seattle, Wash., redesigning a highway through the heart of the Seattle area.

**Tom Dahl**, M.S. 1998, has been promoted to area engineer for the Texas Department of Transportation Lampasas Office.

**Rick Dennison**, B.S. 1980, became the Denver Broncos' offensive line coach in July 2001.

**Dr. Seok-Ku Ko**, M.S. 1985 and Ph.D. 1989, was appointed president of the Korea Water Resources Corporation in Taejon, Korea, early in 2001.

**James E. Caffey**, Ph.D. 1965, retired from the City of Arlington, Texas, in May 2001 and has reopened his consulting business in that city.

**Kumaraswamy Sivakumaran**, Ph.D. 1986, graduated from the West Virginia University College of Law with a J.D. degree in May 2001.

**Doug Walker**, M.S. 1994, published a Technical Note in *WRR* on "Analytical Solutions for Transport in Porous Media with Gaussian Source Terms," Vol. 37, No. 3, March 2001, pp. 843-848.

Francisco Gomide, Ph.D. recently was appointed as Minister of Mines and Energy for Brazil. Gomide joins Jersen Kelman, Ph.D., chairman of the Board of Directors of the National Water Agency of Brazil in these highly acclaimed positions in Brazil.

**Kumar Sivakumaran**, Ph.D. 1998 Civil Engineering, having attended the University of West Virginia, recently passed the Bar exam.

William M. Simpson, 1946 Civil Engineering graduate, was the 2002 recipient of the Peter Courtois Memorial Award presented by the Tilt-Up Concrete Association (TCA). Bill Simpson's contribution to the tilt-up industry has spanned half a century. From the formation stages of the site-cast tilt-up medium in the 1940s to its state-of-the-art applications today, Simpson was a trendsetter for his time and pioneered many innovations. Perhaps his most noteworthy contribution to the industry was his chairmanship of the influential *Test Report* (later known as *The Green Book*) on the Slender Walls program from 1980-82. The result of the full-scale testing program validated the strength of the tilt-up concrete method. Simpson retired to Poulsb, Wash., in 1996.

#### **Ernest Howard Award**

The 2002 Ernest Howard Award was presented to **Dr. Jack Cermak** for his pioneering research in wind engineering and the advancement of wind effect assessments on man's built environment. Dr. Cermak is president of Cermak Peterka Petersen, Inc., in Fort Collins, Colo. The award was established in 1954 to an ASCE member in honor of Ernest E. Howard, past president of ASCE.



### Alumni Achievement Awards

The College of Engineering is pleased to announce that two civil engineering alumni have been selected to receive Alumni Achievement Awards: the Engineering Honor Alumnus Award to Professor Emeritus **David McWhorter** and the William E. Morgan Award to NASA astronaut **Kent Rominger**.

During his 30-plus years at Colorado State, Dr. McWhorter, M.S. '66 Civil Engineering, Ph.D. '71 Agricultural Engineering, served as adviser for M.S. and Ph.D. students and served his department through teaching, administration, and committee work. He is a world-renowned expert in contaminant transport in soil and groundwater, with a patent on disposal of spent oil shale and other materials.

NASA astronaut Kent Rominger, B.S. '78 Civil Engineering and M.S. '87 U.S. Naval Postgraduate School, has been commander and pilot on five NASA shuttle missions and has served in a variety of technical assignments in support of NASA's successful Space Shuttle and Space Station Programs.

### David Banks Receives Award at Americas Conference

**David Banks**, Ph.D., 2000 graduate in civil engineering in wind engineering and fluid mechanics, received the Outstanding Wind Engineering Ph.D. Award during the Americas Conference in Wind Engineering held at Clemson University in June 2001.

Banks' dissertation was titled "The Suction Induced by Conical Vortices on Low-Rise Buildings with Flat Roofs" and completed under the direction of Dr. Robert N. Meroney, professor. It dealt with the fluid physics associated with the disruptive suction pressures induced by high wind speed gusts over roof corners.



### Faculty and Staff News

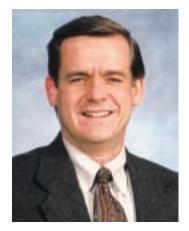
In June 2001, Professor Erik Thompson attended the Seventh International Conference on Numerical Methods in Industrial Forming Processes (NUMIFORM'01) in Toyohashi, Japan. While there, he presented a paper titled "Numerical Simulation of a Multi-Stand Rolling Mill." Professor Thompson has been a member of the Steering Committee of the NUMI-FORM conferences since their inception and was chairman of the third conference held here at Colorado State University in 1989. While in Japan, he also toured the Civil Engineering Department at Tokai University in Hiratsuka, as the guest of Professor Yoji Shimazaki, head of the Department of civil engineering. Professor Shimazaki received his Ph.D. degree in Civil Engineering at Colorado State University in 1980 and currently is conducting research on the damping of structures during earthquakes.

Congratulations to **Dr. Pierre Julien**. He was selected to become Editor of the *ASCE Journal of Hydraulic Engineering* and will begin that position very soon. Our department now is home to the editors of two of the ASCE journals.

**Dr. John Labadie** is editor of the Journal of Water Resources Planning and Management, published by ASCE.

**Dr. Chuck Shackelford** is the editor for two magazines, *The Journal of Hazardous Materials*, published by Elsevier in Amsterdam, and *The Journal of Geotechnical and Geoenvironmental Engineering*, which is part of ASCE.

Civil Engineering **Professor Tim Gates** is featured in the *AERC 2001 Annual Report*.



Professor Tim Gates

**Dr. Luis Garcia** looks for causes and solutions to the devastating effect salinity has on irrigated agriculture in the Colorado Agricultural Experiment Station Annual Report.

**Dr. Ramchand Oad** received the Outstanding Faculty Member Award for 2001-02 presented by the American Society of Agricultural Engineers.

Growth in Colorado is a hot topic statewide, especially along the Front Range. Since most of the new development occurs in areas outside municipal boundaries, the burden of water supply falls on rural domestic water suppliers, testing their capacities. Dr. Terry Podmore of the Department of Civil Engineering and Dr. John Wilkins-Wells from the Department of Sociology have launched a research project sponsored by the Colorado Water Conservation Board and directed by the Colorado Institute of Irrigation Management at Colorado State to look for new ways to provide water to small acreages. The Dual Systems Project is investigating the provision of potable (drinking) water supply for internal household usage and a nonpotable (raw or untreated) supply for external landscape irrigation uses.

**Dr. Paul Heyliger** was selected as the winner of the 2001-2002 Chi Epsilon Excellence in Teaching Award for the Rocky Mountain District. He was nominated by the Colorado State chapter of Chi Epsilon for this competition in recognition of his dedication to teaching. His application will be submitted for competition for the National James A. Robbins Award.

ASCE's Engineering Mechanics Division and its Structural Engineering Institute (SEI) have established the **Jack E. Cermak** Medal to recognize the lifetime achievements of this researcher and educator in the field of wind engineering and industrial aerodynamics [*ASCE News*, August 2001, 26:8].

**Professor Chuck Shackelford** attended the International Conference on Soil Mechanics and Geotechnical Engineering in Istanbul, Turkey, as an invited panelist and invited participant for NSF funded research workshop held in August 2001.

**Dr. Bryan Hartnagel**, ASCE Student Chapter faculty adviser, was selected to receive an award under the second annual ASCE Faculty Adviser Reward Program in July 2001. The award is given to approximately 50



Dr. Bryan Hartnagel

faculty advisers who were highly rated by their student chapter members and whose student chapters had successful programs as demonstrated in their annual reports to ASCE.

**Dr. Robert Ward** recently was highlighted in the 2001 issue of *Water Wise, The Voice of the Colorado Water Efficiency Community.* Dr. Ward is the director of the Colorado Water Resources Research Institute (CWRRI). Dr. Neal Gallagher announced that **Dr. Steven Abt**, professor of civil engineering and associate dean, has been selected for promotion to brigadier general, U.S. Army Reserve. Of the approximately 206,000 members in an "active" status of the U.S. Army Reserve, 70 serve at the rank of brigadier general. Steve will assume the duties of the deputy commanding gen-

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Dr. Steven Abt

### In Memoriam

**James W. Ball**, B.S. 1930, internationally noted hydraulic engineer, died July 4, 2001, at 96. Upon retirement from the hydraulics lab at the Bureau of Reclamation in 1962, he became vice president and director of the Western Canada Hydraulics Laboratory. Later, he taught graduate engineering students at Colorado State University. He then did consulting in the Philippines, India, Pakistan, and Australia and was a consultant for the United Nations at one time. He is cited in the Library of Congress.

**Morton Bittinger**, 74, died on October 29, 2001, in Boulder. He was on the faculty in civil engineering at Colorado State University from 1957 to 1968. He founded and operated Resource Consultants Inc. in Fort Collins, specializing in hydrology and water resource problems. He wrote a book on the Ogallala Aquifer and also developed some of the first computer modules of groundwater systems.

Robert Bloom passed away in February 2000.

**Herbert Schweizer**, an emeritus professor in civil engineering who also earned a master's degree in civil engineering, passed away in Fort Collins on November 18, 2001, at the age of 83. He was a valuable member of the civil engineering faculty until his retirement some 20 years ago, and he was well known among students for his teaching of mechanics courses and handling smash lab sessions.

**Jerry Seeley**, former chairman of the civil engineering department at Colorado State University, passed away on April 16, 2001, following cancer surgery. Following is the address for his wife and family if anyone cares to send a note: Mrs. Barbara Seeley, c/o Mrs. Pam Becka, Gellersen Center, Valparaiso University, Valparaiso IN 46383.

**Chester C. Smith**, B.S. 1961, passed away in Fort Collins on June 8, 2001. He was 65. Mr. Smith worked for Empire Laboratories Inc. until 1992 as a consulting engineer in geotechnical engineering.

### **New Faculty**

#### New Civil and Environmental Engineering Faculty Member Joins the Department

The Department of Civil Engineering is pleased to welcome Amy Pruden as assistant professor of civil and environmental engineering. She will join Colorado State University as a faculty member in August 2002.

Currently at the University of Cincinnati, Amy's research focuses on ways to optimize the biological degradation of MTBE (methyl tert-butyl ether). Due to the widespread use of reformulated fuels, MTBE has over the past decade emerged as a significant groundwater and drinking water contaminant. At Colorado State, Amy will be working on developing applications of molecular tools, such as DNA and RNA, in environmental remediation.

"With a more complete understanding of the microbes applied in environmental remediation we can put them to better use," Amy says. "I am par-



ticularly interested in the application of microbes for mine waste remediation, which is an important and pressing issue in Colorado and throughout the west."

In addition to conducting research, Amy will apply her expertise in biotechnology and molecular methods to developing new and interesting courses for the civil and environmental engineering curriculum. She hopes to combine the focus of her teaching and research as much as possible.

"Professors have a very important responsibility in shaping the future, both in terms of

research and education," says Amy. "I'm very excited to be working with a group of talented individuals in a department with such a strong commitment to environmental quality. And I'm also looking forward to interacting with the students and helping them develop into successful professionals."

When she's not in the laboratory or the classroom, Amy spends much of her time running, hiking, biking, and weight lifting. She says staying active keeps the momentum going in life and helps her nurture a balance necessary for creative thinking.

Amy also says she can't wait to get to Fort Collins. "The town is beautiful, the people are nice, and both the dean and department head have a strong and positive vision for civil and environmental engineering at Colorado State, which will offer a lot of opportunity for growth and development. Who could ask for more?"

### **E-Days Awards**

The following awards were presented to graduating seniors:

**Outstanding Civil Engineering Student: Becki Oline** – Becki will graduate in May, she was President of Chi Epsilon and plans to attend graduate school in civil/structural engineering.

**Brittany Albrandt** – Britney will graduate in December with a dual major in CE and Engineering Science/Space Engineering, she was Vice President of Chi Epsilon and plans to attend graduate school.

**Ralph Parshall Award**: **Steve Sanborn** – Steve will graduate in May in the top 10% of his class. He is the editor of Chi Epsilon and plans to attend graduate school at Colorado State in the fall.

**Student Leadership Award: Barry Snyder** – Barry was the 2001 president of the ASCE Student Chapter.

**Civil Engineering Achievement Award: Ryan Avery** – Ryan was CE News' "Star Student" and will attend graduate school at the University of Washington.

Outstanding Faculty: Terry Podmore by ASAE Student Chapter Outstanding Senior Award: Michael Gossenauer

### **New Position**

#### Brian Bledsoe Assumes New Position in Department

Brian Bledsoe, who has been serving as a research associate with an appointment as research assistant professor, was recently appointed as a tenure-track assistant professor in the Department of Civil Engineering.

Bledsoe says his new position enables him to place greater emphasis on bal-

ancing teaching, research, and outreach. In previous years, he taught one course in environmental river mechanics (CE413). This year, he also is teaching a course in nonpoint source pollution (CE440) and next year will add a third course, which is yet to be determined.

Bledsoe says he his excited about having more interaction with students and using difficult real world issues related to water quality as a context for teaching the fundamentals.



"I believe most people learn best by doing things that impact their life in some tangible

way," he says. "The more we can bring applied research and outreach into the classroom, the more we're going to produce students who are better prepared to tackle complex problems that require applying technology with an awareness of long-term social and environmental consequences."

Bledsoe's research focuses on stream and watershed processes, in particular the interactions between hydraulics, geomorphic processes, and water quality. He says protecting and rehabilitating watersheds is the foundation of safe and reliable water supplies and healthy streams.

"We are trying to develop a better understanding of the fundamental processes to improve the effectiveness of watershed management practices and rehabilitation strategies," says Bledsoe. "This ultimately involves collectively viewing watersheds and water treatment facilities as one system."

As he continues to develop new collaborations across campus and around the world, Bledsoe says he is looking forward to contributing to Colorado State's reputation for high-quality teaching and research.

#### Faculty and Staff News, continued from page 5

eral for Mobilization and Training, U.S. Army Maneuver Support Center, at Fort Leonard Wood, Mo., beginning in May 2002. Because of the complexity of the Presidential nomination and Senate confirmation process, Steve has indicated that he will not "pin his stars" for several months. Since Steve remains in a reserve status, he will continue serving as the associate dean in the college.

A new protective building system design to reduce the impact of manmade or natural disasters recently was tested at the Missile Impact Facility. **Dr. Bogusz Bienkiewicz**, director of the Wind Engineering and Fluids Laboratory, and Dr. Wayne Charlie, director of the Center for Geo-Explosive Research, developed the Missile Impact Facility, which allows for testing of tornado missile resistance for tornado shelters.

#### 2002 Faculty Awards

Faculty Award for Excellence in Teaching Faculty Award for Excellence in Research Faculty Award for Excellence in Research Faculty Award for Excellence in Service Outstanding Faculty Performance Award Staff Award for Excellence Staff Award for Excellence Research Scientist Award for Excellence Research Scientist Award for Excellence Timothy Gates Charles Shackelford Pierre Julien Luis Garcia Jorge Ramírez Maura Chaney Douglas Whitt David Neff Christopher Thornton

### Consortium Based at Colorado State Works to Improve Mine Waste Remediation Strategies in the Rocky Mountain Region



The Rocky Mountain Regional Hazardous Substance Research Center (RMRHSRC), which was established in collaboration with Colorado School of Mines last year, is making progress toward its goal of developing improved methods for cleaning up environmental problems associated with mine wastes.

The RMRHSRC serves EPA Region 8 states (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming), which comprise about a sixth of the land area in the United States. The mining industry historically has played a significant role in the development of these states and continues to be important to their economies, contributing \$22.5 billion of revenue to the Region 8 states and more than \$740 million of revenue to the federal government.

Many western states also are experiencing environmental problems associated with historic and current mining operations. Most of the problems associated with abandoned mine lands are related to water quality and include acid drainage emanating from adits and sulfide-bearing waste piles, leaching of heavy metals from relic tailings and other mine waste piles, erosion and migration of contaminated sediments, and direct groundwater contamination from pond seeps and pits.

"Approximately 60 percent of the active Superfund sites for EPA Region 8 are associated with abandoned mine lands and past mining activities such as smeltering operations," says Charles Shackelford, the center's director and Colorado State University professor of civil engineering. "This demonstrates the significance and extent of environmental pollution resulting from the abandoned mine lands."

Four research projects have been funded through the RMRHSRC this year, and progress reports are expected later this summer. Most of the projects have multiple participants that include from two to four co-principal investigators as well as several graduate students. Researchers are based at Colorado State University, Colorado School of Mines, Montana Tech of the University of Montana, and several academic and non-academic institutions throughout the United States and Canada.

The center has also established its two guidance committees, the Science Advisory Committee, and Technology Transfer Advisory Committee. These groups are responsible for evaluating the progress of existing research and technology transfer activities funded through the RMRHSRC as well as evaluating proposals for proposed future research and technology transfer activities.



"Our two committees

are composed of people who have been heavily involved in research and technology transfer activities with respect to environmental problems and the mining industry," Shackelford says. "These individuals represent all primary stakeholders, including industry, consulting, academia, regional and national EPA, and other state and federal agencies such as the Forest Services and the Bureau of Land Management.

The first semi-annual meeting for all participants of the RMRHSRC will occur at Colorado State University during July 31 - August 1, 2002.

### We Want To Hear Your News; E-mail us at civil@engr.colostate.edu

Fill us in on your recent promotions, honors, etc., so we can keep your classmates informed about important changes in your life.

Name	Graduation Year /Degree			
E-mail Address				
Mailing Address				
City	State	Zip	_ Country	
Here's my news:				

Send your news to: Department Head, Department of Civil Engineering, Colorado State University, Fort Collins, CO 80523-1372. E-mail: civil@engr.colostate.edu Telephone: (970) 491-5048 Fax: (970) 491-7727

## Your Financial Contribution is a Vote of Support

This has been an extraordinary year for the Department of Civil Engineering and for its students and faculty who participate in civil engineering, environmental engineering, and bioresource and agricultural engineering programs! Alumni and friends are an important part of our department and have helped to support student scholarships, faculty positions, equipment, laboratories, and student projects. They have been generous with gifts of time and resources. Your contributions really do make a bigger difference than you might think!

#### **Donor Information:**

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### **Departmental Donors**

This will be the first time that we have listed donors in our annual newsletter. The gifts listed below represent more than \$300,000 in funds from more than 250 donors. (I apologize in advance if we have missed anyone.) The list does not include gifts made to the College of Engineering, but only those directed to the Department of Civil Engineering. Each one made a difference to a civil engineering, environmental engineering, bioresource, or agricultural engineering student.

These gifts make an incredible difference to our department, to the faculty, and to our students. They fund scholarships, equipment, faculty positions, student design projects, and a wide variety of activities. We thank you for thinking of us and for your generosity.

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The Bridge Team at ASCE Rocky Mountain regional competition qualified for nationals.

### Colorado State University Students Take First Place at Regional Civil Engineering Competition

A team of 45 Colorado State University civil engineering students placed first at the annual American Society of Civil Engineers Rocky Mountain Regional competition held April 12-14 in Laramie, Wyo. Nine schools from Wyoming, Utah, South Dakota, and Colorado competed in the regional contest. Colorado State's first-place presentation of a nontechnical paper on ethical considerations in engineering earned student Eric Broughton the opportunity to compete in the 150th American Society of Civil Engineers National Student Conference in Madison, Wisc., in June. The 20 members of the Colorado State steel bridge design team, led by captains Jason Christensen and Andy Hunt, qualified for nationals by finishing first in the aesthetics portion of the contest and second overall.

In the concrete canoe competition, the 21-member Colorado State team led by captains Emily Magnuson and Ryan Taylor took first place for presentation, first in the men's canoe sprint race, and second overall, also qualifying the students to compete at the national conference.

This year was the first time in more than 15 annual competitions that Colorado State placed first in the overall conference.

### Julien Keynote Speaker at National Conferences

**Dr. Pierre Y. Julien** will be attending the 13th Congress of the Asia and Pacific Division (APD) of the International Association for Hydraulic Engineering and Research (IAHR) to be held in Singapore in August 6-8, 2002, as a keynote speaker. The topic of his paper will be "*Computer Modeling of Upland Erosion.*" The objective of the congress is to bring together researchers in the academic and research institutes; consultants and practitioners to share new developments, concepts, and practices; and to exchange views and experiences in hydraulic research and water resources engineering. All papers presented in the congress will be published in comprehensive proceedings.

The Korea Water Resources Association (KWRA) has invited **Dr. Julien** as the keynote speaker at their national annual conference to be held May 11, 2002, at the University of Inchon, Korea. His topic will be the general and future trend of sediment study and/or problems as well as introduction of sediment transport models.



#### Fall 2001 Graduates

Top row (from left to right): Brain Stribley, Keith Chadwick, Ken Haley, Omar Herrera, Jeremy Pankonin; Middle row: Heidi Williams, Carrie Burns, Sharon Howell, Sarah McCrea, Brandon Laurie, Cullen Kinoshita, Mark Henderson, Ted VanHolland, Curtis Templeman, Ryan Cheese; Front row: Michael Malvey, Corinne Wardel, Jackie Malone, Natasha Dueno.

Nikki Trzcinski (CE), Audrey Mendelsberg (CE), Rebecca Oline (CE), Jessica

### **Environmental Engineering** National Design Competition

Nine students traveled with Dr. Woods in April to Stockton, Calif., to compete at a national environmental engineering design competition. Although it the first time that Colorado State students competed in this competition, they did an extraordinary job! Students placed fourth with a design for a treatment unit that would produce drinking water from a polluted stream using materials found only on a desert island. Congratulations!





Spring 2002 Commencement group picture Front row (from left to right): Colleen Henderson (CE), Abigail Ortega (CE),

Mikunda (CE), Stephen Sanborn (CE), Coy Egbert (CE), Michael Gossenaer (BAE), Ryan Avery (CE), Nina Choy (CE), Kristina Beard (BAE), Colleen Winchester (BAE), Britney Michalski (ENV); Second row: Joshua Cook (CE), Paul Hendrickson (CE), Donny Frick (CE), Theodore Webber (CE), Geoffrey Ryan Taylor (CE), Sean McAtee (CE), Eric Broughton (CE), John Kienholz (CE), Eric Wachob (BAE), Stephen Jackinsky (BAE), Bethany Schilleman (CE), Kimberly Walsh (CE), Nicholas Boger (CE); Third row: Justin Schmitz (CE), David Huwa (CE), Joshua Duncan (CE), Sunny Rose (CE), Miranda Roskop (CE), Barry Snyder (CE), Sarah Root (CE), Laurel Duteil (CE), Dwain Jason Bartels (CE), David Andreas (ENV), Scott Fleming (CE), Brian Valentine (CE); Back row: Scott Wilkinson (CE), Scott Parker (CE), Chris Safford(CE), Jamis Darrow (CE), Sean Trottier (CE), Nicholas Tessitore

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