Letters to the Editor

The Bomb in My Garden

I enjoyed Mines magazine and look forward to receiving it every quarter to find out about the school, my classmates and friends. One of the things I admired, and still do, about CSM is its enlightened atmosphere and focus on relevant issues rather than noisy and baseless ones.

The latest issue of Mines magazine (referenced above) that I received was a little strange I must say. The full page “promotion” of M. Obeidi’s novel about the bomb in his garden was a bit over the edge in my opinion. It has been a while since even the stubborn U.S. administration has given up on that excuse for invading and occupying Iraq and accepting its falsehood. Not to mention that the most collaborative Iraqi spies have admitted using these stories as a sales pitch to promote the invasion.

Please understand the reason behind this message. I would like to preserve my image of CSM and continue to belong to it; but just because an alumnus wrote a book, it does not make it worth featuring, especially when it is not based on realities.

Perhaps I have no right to criticize or that everyone is entitled to their opinion; but if you follow the news about newly disclosed information that was not shared with the American people three years ago, you would understand my position.

Please keep up the good work and I look forward to my next issue of Mines.

Tariq A. Al-Omari
BSc CPR Eng ’92

Editor’s note: Mr. Obeidi believed that there were no weapons of mass destruction in Iraq by the time of the invasion.
About Our Cover: Hydrates are formed on the sea floor under high pressure and low temperature conditions. They may be part of our future energy solution.
Field of Dreams:
Corn-based plastics have reached the big leagues

By Aaron Ferster

Corn on the cob. Corn niblets. Corn muffins. Corndogs. And now, corn containers. When the world’s largest retailer recently announced it is switching from petroleum-based plastic containers to those made of corn for its cut fruit, herbs, strawberries, and Brussels sprouts, it signaled that this new generation of plastic had reached the big time.

The environmental benefits of the new containers are expected to be huge, saving the equivalent of 800,000 gallons of gasoline and eliminating more than 11 million pounds of emissions. In addition, the process of extracting the building blocks of plastic from crude oil involves some highly toxic compounds. Not so with corn.

The new plastic is also easier to trash. Because of its natural makeup, this “bioplastic” is biodegradable. It breaks down naturally and can even be turned into “bioplastic” is biodegradable. It breaks down naturally and can even be broken down naturally and can even be composted. This is all good news for our landfills, where containers and packaging had reached the big time.

Turning corn into PLA is a multi-step process that starts with milling the kernels to remove starch and produce a natural sugar. Then, as in a brewery, that sugar is fermented into lactic acid (the same chemical that makes your muscles ache from overdoing it at the gym). Finally, molecules of lactic acid are linked together in long chains to form PLA.

The EPA-sponsored team focused on making PLA production more attractive to industry. They created and studied specialty-synthesized, research-grade PLA polymers, and worked to learn how to standardize production and quality control and quality assurance methods. Continuing under EPA support, the CSM researchers are now working to improve the properties of PLA using new advances in nanotechnology to make the first ever polymeric nanocomposites based on 100% renewable resources.

Living the Dream
As the technology advances, some big, exciting questions are on the horizon. Will “bio-refineries” begin to replace oil refineries? Will the Corn Belt of the future bring us as many raw materials for plastic and other products as we now get from imported oil? Now that corn-based plastics have moved into the marketplace, that future is clearly not just a pipe dream.

Call for Nominations
for 2007 CSMAA Awards

Do you know of someone who deserves special recognition for their work on behalf of the School and/or the Alumni Association? If so, please go to www.alumni/mines.edu/forms/awards/awards.htm to submit your suggestions.

Outstanding Alumnus Award
is given to an alumnus/a and CSMAA member who has contributed meritorious service on behalf of the Association.

Honorary Membership Award
is given to a person who has rendered distinguished service to the Association and/or the School. The recipient must be of good moral character and in good standing professionally, but does not have to be a CSM graduate.

Young Alumnus Award
is given to an alumnus/a who has received his or her degree in the past 5 years and who is no more than 40 years old. The criteria is based on service and potential to the School and Association.

Melville F. Coolbaugh Award
is given to a person who has made an outstanding contribution toward improving the image and enhancing the reputation of the School.
Celebration of Mines
More than 100 booths representing Mines’ clubs, organizations, recreational and educational activities filled Kafadar Commons in September for Celebration of Mines. A barbecue, games and entertainment drew a large campus crowd for the annual back-to-school event.

SPE in San Antonio
Mines’ Petroleum Engineering Department sent all its faculty and 115 students, the most students from any university in the world, to the Society of Petroleum Engineers (SPE) 82nd Annual Technical Conference and Exhibition in September. Held in San Antonio, the conference drew 9,300 industry professionals from around the world.

Highlights included six paper presentations by Mines professors, a first-place finish for Mines students in the annual Petrobowl competition among the world’s leading petroleum engineering departments, and a Mines alumni reception for 200 people with President Bill Scoggins as the guest of honor.

Hogan in Hall of Fame
John Hogan, LAS emeritus professor, was inducted into the East Palestine City School District Distinguished Hall of Fame in East Palestine, Ohio, on Sept. 8. As coach of the East Palestine High School Bulldogs, ’52 - ’54 and ’56 - ’58, he led the team to its first-ever undefeated, untied season championship in 1956 and to a five-year record of 38 wins and nine losses.

“You don’t talk about East Palestine football without mentioning the name John Hogan,” said Jeff Richardson, the district’s superintendent of schools. Hogan was the Mines NCAA representative for 29 years.

New Faculty
Thirty-one new faculty members were introduced at the annual faculty conference August 21 by Nigel Middleton, executive vice president for academic affairs and dean of faculty. Classes began August 22.

Fall Career Day
With Steinhauer Field House filled to capacity and companies turned away due to lack of space, Fall Career Day, held in September, was the largest ever hosted at Mines. Representatives and recruiters from 350 organizations talked with students about full-time employment as well as internships. “There’s a booming business in students seeking internships right now,” says Ron Brummett, Career Center director. He noted that today’s economic conditions, along with concerns surrounding the aging workforce, contributed to this year’s record participation, and he also credited the outstanding sub-development efforts of the Career Center staff.

New Year, New Professors

Golden Pizza
The City of Golden hosted its annual Miners’ Pizza Party in downtown Golden in August.

Hometown Welcome

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FIFI Hosts Halloween Fun

Mines’ chapter of Phi Gamma Delta (FIFI) and the Guild of the Children’s Diabetes Foundation of Denver hosted their annual Halloween Party in the Green Center on October 29. Party guests included children with diabetes and their families who enjoyed showing off their adorable costumes, decorating pumpkins and trick-or-treating for diabetic-friendly Halloween candy.

Mines Celebrates Homecoming

Students went prehistoric for Homecoming in October. Shouting “Yabba Dabba Mu,” which was this year’s theme, cavemen and women paraded down Washington Avenue on floats depicting barren lands dotted with volcanos and dinosaurs. Hundreds of alumni visited campus to enjoy the parade, barbecue, tailgating and the Orediggers’ football game.

Summer Field Sessions

Field sessions were a success in summer ’06. Seventy-two petroleum engineering students once again traveled to Massadona, Colo.; civil engineering students conducted land surveying using solar observations; and economics and business students made a choice between conducting their own study or joining a course that would challenge them to run a firm in a competitive environment.

In the Field

The Energy and Minerals Field Institute (EMFI) held its annual government field program in August for selected federal and state government personnel. Kicking off in Golden and concluding in Farmington, N.M., the program introduced the 23 participants to the geologic, technical, economic, environmental, social, institutional and political aspects of energy production. Topics included renewable energy, natural gas production from tight gas sands and coal beds, conventional coal mining and power generation, oil shale research, Western water law, Native American issues and environmental impact on national parks. Since 1978, EMFI has conducted similar programs to familiarize selected audiences with the realities of resource development in the western U.S.

M-Climb a Splash

The mountainside “M” got whitewashed again Aug. 21 as 880 freshmen and transfer students hiked up Mt. Zion carrying rocks and returned wearing a fresh coat of white paint. Joining the crew passing buckets of paint up the mountain was Mines President Bill Scoggins. This year’s total enrollment includes 3,209 undergraduates, 770 graduates and 77 non-degree students.

Constitution Day

At a September event recognizing Constitution Day, a student/faculty panel was assigned the question, “How would you rewrite the constitution for viability 200 years from now?” Changes that were considered included eliminating the Electoral College, increasing the number of senators, adding a three-member executive cabinet and reorganizing the format of the document.

Golden Welcomes Dr. Scoggins

A community reception to introduce Dr. and Mrs. Bill Scoggins to Golden was held at the president’s residence in September. Golden Mayor Chuck Busch was among the many guests at the reception.

Newmont CEO

Wayne Murdy, chairman and CEO of the Newmont Mining Corporation, was the first speaker selected for the William H. Erickson Distinguished Lecture Series. In his presentation, “Leadership and Mining in the 21st Century,” held at Mines Sept. 20, Murdy remarked on the state of the industry, described geopolitical, technical and recruitment challenges facing industry leaders, and addressed opportunities for mining engineering and earth sciences students.

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The School of Mines has entered into collaboration with the U.S. Department of Energy's National Renewable Energy Laboratory (NREL), Colorado State University and the University of Colorado to study renewable energy. The collaboration, called the Colorado Renewable Energy Collaboratory, was made possible in part by the governor’s office and the state legislature, which provided funding.

Mines President Bill Scoggins says, “I believe this is a great opportunity to enhance our leadership in the energy field. Mines has had a long collaboration with NREL in the field of solar photovoltaic energy and we are clearly world leaders. The collaboratory will help us build on our strengths.”

“The Colorado fuel cell center here on campus will also have a significant impact on renewable energy research,” he continues. “Currently, we have at least four research proposals under the collaboratory umbrella covering essentially all areas of renewable energy research. We look forward to making the most of this collaboration.”

The Collaboratory will receive up to $2 million per year for three years, beginning in fiscal year 2007. These monies can be used only as matching funds to enable the Collaboratory to qualify for federal and private research projects. NREL and the universities will pay for all overhead costs of the Collaboratory from their existing budgets. In addition, the legislation requires that, if the Collaboratory uses any state monies as matching funds, those monies must be repaid to the state as the Collaboratory earns income from technologies developed and transferred to private industry.

Renewable energy includes a broad range of current and potential energy sources, including solar and wind energy, biofuels that can be produced from agricultural crops and forest products such as ethanol and biodiesel; geothermal energy from beneath the Earth’s surface for heating and cooling; hydrogen fuel cells; and other emerging technologies. Federal, state and private investments in renewable energy research are increasing rapidly.

Although the formal establishment of the Collaboratory is still in process, NREL and the Universities have already joined forces to compete for a contract that will be issued by the U.S. Department of Energy for research on the utilization of solar energy.

The National Renewable Energy Laboratory is the Department of Energy’s primary national laboratory for renewable energy research and development. Colorado School of Mines, Colorado State University and the University of Colorado all have strong research programs in renewable energy and energy efficiency. By working in collaboration, these four Colorado institutions will enhance the state’s reputation as a renewable energy and energy efficiency leader.

The Collaboratory will emphasize the development of new technologies and the advancement of existing technologies for rapid transfer to private industry for commercial development. This research and technology transfer program will attract new renewable energy enterprises to Colorado, adding to the state’s economic vitality.
HYDRATES – AN ENERGY SOURCE FOR THE FUTURE?

By Maureen Keller

The burning snowball on the cover of the magazine could be the source of our future energy needs. It is a hydrate formed on the sea floor under high pressure and low temperature conditions. Water molecules form a cage that traps natural gas molecules such as methane, ethane or propane inside. When brought up to the surface, the hydrate begins to melt, and the trapped gases are released. “It feels like ice but it fizzes and pops in your hand,” says Simon Davies, one of the PhD candidates working on hydrates at Mines.

In the 1960s, naturally occurring hydrates were discovered beneath the permafrost of Siberia, and in the 1980s hydrates were also found on the ocean floor. PhD candidate Keith Hester BSc Chem Eng ’02 concentrates on those naturally occurring hydrates. These hydrates are of increasing interest due to their potential as a future energy resource and their role in seafloor stability and global climate change. On a recent trip to Barkley Canyon off the coast of Vancouver, Hester recovered samples of hydrates at a water depth of 850 meters. “In collaboration with the Monterey Bay Aquarium Research Institute (MBARI), we have been able to deploy Raman spectroscopy subsea to determine the geochemical composition in these hydrate mounds,” Hester says. India has found hydrates in the Andaman Sea and is currently trying to recover these hydrates as a potential replacement for conventional fossil fuels.

Another potential use of these natural hydrates would be to sequester CO2 while simultaneously recovering the natural gas. It might be possible to release the natural gas trapped inside the hydrates and use it for our energy needs by replacing it with the unwanted CO2 from the burning of fossil fuels and maintaining the CO2 hydrate on the ocean floor.

Hydrates in nature store natural gas, but they can also be synthesized to store hydrogen, as featured in a recent article in Science. These hydrates, storing hydrogen, could serve as a potential fuel for mobile applications, explains Dr. Laura Rovetto, a post-doctorate fellow. In simple terms, she explains, “Hydrogen hydrate in a refrigerated compression chamber might someday replace the fuel tank in your car. When the hydrogen stored in the hydrate is burned, it produces energy to run your car and instead of generating CO2 (greenhouse gas), the only by-product will be water.”

Tim Strobel BSc Chem ’04, also a PhD candidate, is creating hydrogen hydrates in the lab at pressures about 4,000 times the pressure on the surface of the earth. Raman spectroscopy is being used to study these hydrates’ characteristics and behavior. Hydrogen hydrates as a storage mechanism could enable our transition to a hydrogen economy.

In 1934, it was recognized that hydrates could form in oil and gas pipelines causing blockages that could result in major safety and economic problems. This led to the beginning of research into the formation of hydrates and the regulation of water in oil and gas lines. Simon Davies specializes in flow-assurance research and together with John Boxall, David Greaves BSc Chem Eng ’06, Nicholas and Patrick Rensing, are developing state-of-the-art models that can help engineers simulate hydrate formation and dissociation in pipelines. Although their work is part of an ongoing program, it is already being used by the industry, and has helped to save Chevron $30 million in one project alone.

The work being done at Mines’ Center for Hydrate Research is funded by an industrial consortium of eight energy companies – BP, Chevron, ConocoPhillips, ExxonMobil, Haliburton, Petrobras, Schlumberger, and Shell – and government agencies such as the Department of Energy, the National Science Foundation and the National Undersea Research Program. The strengths and talents of students and researchers at the Center are outstanding. Many have won national awards and are the best in their fields.

Mines’ Center for Hydrate Research, with Dendy Sloan as director and Carolyn Koh as co-director, is the largest such center in the western hemisphere and is currently developing world-class models that can help engineers simulate hydrate formation and dissociation in pipelines. Although their work is part of an ongoing program, it is already being used by the industry, and has helped to save Chevron $30 million in one project alone.

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Whatley keeps learning long after Mines

By Shannon Sharkey

Mitch Whatley BSc Pet Eng ‘77 nearly forgot about his first semester at CSM. He was working at his father’s drilling company when he realized he needed to be in Golden for the start of school in three days. Without a car and stuck in Utah’s Lisbon Valley, Mitch’s father, Leon, resolved to get his son off to college one way or another. Leon thought quickly and before Mitch knew it, he had hitched a ride with a mud engineer to the airport, was on a plane to Phoenix where he’d left his car, and finally was on the road to Golden. Before he left his dad behind, Mitch recalls, “We shook hands and that was that.” Thus the beginning of higher education for Mitch, something he would make a life-long pursuit.

Choosing CSM over an Air Force Academy appointment and an Air Force ROTC scholarship to any university with the program, Mitch decided to study petroleum engineering, a family tradition. Mitch’s father had established Whatley Drilling Company in 1952 and Mitch worked as a roughneck for his father during his summer vacations. “Having grown up in this environment, my decision to attend CSM was a no brainer,” Mitch reflects. “Pursuing engineering was in line with my passion for the industry and the opportunity to put my father’s business ahead.”

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A DVD is Worth 1,000 Words

By Hilary Brown

Ever thought about being in the movies or experiencing your 15 minutes of fame? Well the opportunity has come to Mines students. The Prospector is being resurrected and will make its debut next spring, this time as a DVD. For the first time since 2001, the Prospector is back in action with a new staff and a new look.

But rather than creating the traditional print version of the yearbook, the staff has decided to create an electronic version. The DVD format was chosen because of its appeal to Mines students and its low cost, according to Jenifer Doane, assistant editor. "The opportunity has come to Mines students. The minutes of fame? Well the opportunity has come to Mines students. The DVD will be split into sections including sports, clubs, campus life and special events, but it won't include headshots. When the DVD is played, it will open to a menu page. Viewers can select which section to watch or choose to play the entire DVD as a seamless movie."

Each section of the DVD will comprise several different features. The sports section, for example, will showcase varsity and club athletics. Different features stories could describe the football team, the women's soccer team or the volleyball team. A feature, about three minutes in length, will tell a story by incorporating video, photos and interviews. "With the old yearbooks you saw pictures. But with the DVD you can actually experience it," said yearbook staff member Sarah Casias, a senior in economics.

Prospector staff members volunteer between two and 20 hours per week to get the job done. To create the yearbook, students are using a Sony MiniCam and Apple iMac purchased with money from CSM's technology fee revenues. Video Yearbooks of the Rockies will help produce the yearbook and conduct the mastering of the video. Students will record footage for most segments. Professionals will handle editing and mixing will be done by students. Advisers will oversee the compiling, authoring and printing of the DVD. "This is a cooperative effort," says Doane. "The students are learning as they go."

The DVD format was chosen because of its appeal to Mines students and its low cost, according to Jenifer Doane, assistant director of student activities. Each DVD will cost $8.

A Whole New Ball Game at Darden Field

By Erica Siemers

During his 38-year career at Colorado School of Mines, baseball and basketball coach Jim Darden made a broad and lasting impact on the student-athletes whose lives he touched. To honor his legendary contributions to the Mines community, Mines’ baseball field was dedicated as Jim Darden Field in a ceremony held on October 21. Featuring new lights, a new press box, perimeter fencing, a backstop, an irrigation and drainage system, and restored flagstone seating, Darden Field is a fitting tribute to a coach who devoted his career to turning his players into hard-working engineers with outstanding character.

Three former players and friends of Coach Darden, Rob McKee PE ’68, Steve Chesbro’ ’64, and Bob Irelan PE ’68, have stepped up to the plate along with Jim’s widow, Genny, to fund a sizeable part of the cost of renovating Mines’ baseball facilities. Together, this group has contributed $500,000, leaving an additional $150,000 to be raised to complete the project.

“Mines’ primary purpose, of course, is to develop graduates with expertise in science and engineering,” said Chesbro, describing why he chose to give to Darden Field. He continued, "However, extracurricular activities like varsity athletics develop an individual’s sense of teamwork and commitment, which are also tremendously important attributes for building a successful career.”

McKee and Irelan agree that playing varsity baseball for Jim Darden was a central part of their outstanding college experiences, providing them with a great outlet for physical activity to balance Mines’ academic rigor. Darden expected the same work ethic and level of commitment from his players as he expected of his own teammates when he played professionally for the original Denver Nuggets in the 1940s. “Work hard and give your best effort. Give it all you got and never give up. These are the life lessons Darden instilled in his athletes,” said Irelan.

Beyond the pure thrill of playing ball under the lights, the ability to play night games will eliminate conflicts with students’ class schedules. Home double-headers have typically started at 2 p.m. to allow for sufficient daylight, causing student-athletes to miss afternoon classes. As another major benefit, the new perimeter fencing will conform better to current standards for playing collegiate baseball.

For more information about the baseball field, call Mines’ Athletic Director Tom Spicer at 303-384-2488. For more information about the dedication, call Mines’ Development Director Bob Francisco at 303-384-3400.
Engineering Leadership – Problem Definition and Solution

By Dr. Juan Lucena and Dr. Gary Downey

Quality engineering education can best be described as producing professionals who possess core competencies in engineering problem solving as well as in engineering problem definition. Efforts to call attention to the issues of globalization and diversity are important because the challenges these pose to engineering education overlap with one another as well as with a more fundamental challenge now facing the profession as a whole – the prospect of a decline in status and loss of opportunity for societal leadership. Thus, the point of view of existing structures of engineering education, globalization, diversity and leadership are variations of the same problem. All require engineers to work effectively with people who define problems differently than they do.

Engineers around the world have long measured their contributions to society primarily through technological outcomes and have defined quality education as technical preparation for technological innovation. Being labeled “problem solvers” is a distinctive strength of engineers. This identity remains at the heart of challenging proposals and models for engineers in the future. The Engineer of 2020 report issued by the U.S. National Academy of Engineering asserts that technology is the outcome of engineering. It explains that engineering “has been a key force in the improvement of our economic well being, health and quality of life through its role in the creation and implementation of technology.” Crucial to this image is the idea that engineers respond to calls from society as technical problem solvers, much as a consultant responds to clients. The report includes numerous examples of engineers being asked or called upon to take some particular action to help society, prevent catastrophe, and so on. As historian Ken Aldrich put it in discussing the origins of French engineering, “engineers are problem solvers who are ‘designed to serve.”’ Advocates for engineers have long celebrated the identity of technical problem solvers, claiming that service through technical action to help society, prevent catastrophe, and so on is the hallmark of the engineer.

However, might contemporary challenges to the engineering profession act as barriers to the success of societal leadership by emphasizing competencies that extend beyond technical problem solving? Might the still-dominant focus on technical problem solving be limiting the ability of the engineering profession to adapt to a changing world? In today’s world of globalization, diversity and leadership, engineers are challenged to work effectively with people who define problems differently than they do.

In today’s world of globalization, diversity and leadership, engineers are challenged to work effectively with people who define problems differently than they do. The work of problem definition in collaboration with others has always been an important component of quality engineering practice. But engineering educators have been able to demystify or ignore teaching problem definition because engineers have not had competition for their claim to being creative sources of technological innovation. While problem solving is seen as wholly technical, problem definition is seen as wholly non-technical, so problem solving has a core position in engineering education, mainly in the engineering sciences, while problem definition remains peripheral at best. To practice leadership in a world of globalization and diversity, engineering students need to learn both.

Over the past decade, reform in engineering education has addressed some of these world changes by making it clear to students that they can structure engineering problems in more than one way. Key efforts have involved increasing the amount of design content in the curriculum, shifting from “design-to-specification” to more open-ended problem solving, and increasing attachments to industry.

Since engineering problems do not solve themselves, engineers need to learn the role of people in the problem-solving situation is made apparent, the process takes on non-technical as well as technical dimensions. Since problem definition begins before technical problem solving, collaboration among people who define problems differently occurs before the technical work begins and involves more than the identification of requirements and constraints. However, the technical five-step engineering method (Givent, Find, Diagram, Equations, Solution) still taught in most engineering science courses includes no mechanism for addressing non-technical problem definition with people who think differently.

Because of globalization, the freedom that has enabled engineers to construe technological service to society as leadership is now eroding. Other fields and professions are laying claim to technological development as a significant component of their work. As a result, an engineering profession that defines its core as consisting only of technical problem solving faces the real risk of declining into technical support. This is happening because other fields of science have turned toward technology. For example, the numbers of patents awarded to universities have increased from 250-350 patents per year in the 1970s to more than 3,200 in 2001. This growth was centered not in engineering but primarily in the life sciences and biotechnology. Also, the U.S. National Academy of Engineering stopped interpreting applied science as a separate funding category in the 1980s and introduced the Science and Technology Centers in 1987 to “respond to rising global competition.” By the 1990s, it had rewritten program descriptions to include technological developments as desirable outcomes and recently added the requirement that project summaries demonstrate not only “innovation” but also “broader impacts.” Scientists applying for federal funding now have to prove the usefulness of research to society. Finally, the shift of emphasis from the physical sciences to the life sciences and information technology has reduced the time delay between the creation of new scientific knowledge and its appearance in technology.

Another challenge to the claim of technological leadership for engineers is the mass production of engineers in such countries as Egypt, India, China. These countries are effectively producing engineers as technical support personnel who work for low salaries in support positions. A third challenge is the explosive growth in information technology that has resulted in the creation of new scientific knowledge and its appearance in technology.

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One Engineering Culture Another way to meet this challenge is to teach students that they can structure engineering problems in more than one way. Key efforts have involved increasing the amount of design content in the curriculum, shifting from “design-to-specification” to more open-ended problem solving, and increasing attachments to industry.
Bob Weimer: Legendary Geoscientist and Lifelong Educator

“What greater joy can one have than to know that your work has had an impact on people’s lives?”

Dr. Robert J. Weimer, Professor Emeritus, Colorado School of Mines

Over the past 50 years, Bob Weimer has cultivated the kind of joy that comes from teaching and helping others. An internationally respected authority on stratigraphy and sedimentary geology, he has also understood the importance of mentoring and inspiring students. Weimer has made major contributions to the growth of the field and its application to oil and gas exploration. More significantly, he has influenced thousands of students as an esteemed teacher and treasured mentor. Bob continues his commitment to teaching as an emeritus professor, contributing to the Reservoir Characterization Project and various advisory committees, and leading tours on the Mines Geology Trail, which he personally designed and funded. Bob and his wife, Ruth, also sustain a remarkable philanthropic commitment to Mines, having donated nearly every year since making their first gift in 1966. From 1979 to 1983, Bob was chairman of the Faculty Gift Committee for the Resource Fund, Mines’ first capital campaign.

Geologist, Teacher and Role Model

From a young age, Bob was attracted to the teaching profession. “In the small eastern Wyoming town where I was raised, teachers were leaders in all of us, the people we most wanted to emulate—role models in present tenses. They gave us a view of the outside world through books and by the example of their lives that was a window to the future.”

Bob’s own future would take a focus on the Earth’s past, with his chosen pursuit of a career in geoscience. He earned his B.A. and M.A. in geology from the University of Wyoming and a Ph.D. in geology from Stanford University. Bob and his wife, Ruth, later moved to the Denver area, where Bob worked as a consultant. When he was offered a position in 1957 in Mines’ Department of Geology and Geophysical Engineering, Bob was thrilled to be able to fulfill his lifelong aspiration to teach.

As he developed his expertise in petroleum geology and the Upper Cretaceous stratigraphy of the Western U.S., Bob earned a reputation in the geology field for his broad, visionary work. Not only was he an outstanding researcher and valuable mentor to his undergraduate and graduate students, his workshops for industry professionals also helped establish Mines’ continuing education program, now known as Special Programs and Continuing Education (SPACE).

“The number of times Bob Weimer is cited is unbelievable,” says Steve Sonnenberg PhD Geol ’81 when asked to describe his former professor’s influence on the geology profession. “His work continues as the guiding light for stratigraphy and sedimentation in the Rocky Mountain region.”

The extent of Bob’s work has been recognized with awards from numerous international professional organizations including the 1996 Distinguished Educator Award from the American Association of Petroleum Geologists and the 2006 Legendary Geoscientist Award from the American Geological Institute. In addition, he included among the nation’s most recognized scientists as a member of the National Academy of Engineering. The School has awarded Weimer the Mines Medal (1983), the Brown Medal (1990) and the Coolbaugh Memorial Award (1995). He was also recognized as an Honorary Member of the Colorado School of Mines Alumni Association, an honor reserved for a select few faculty members.

When asked to reflect on his most important contributions, Bob Weimer responds in a way that his former students might predict. “I have been privileged that my career achievements have been recognized by the many geological societies I have associated with. However, being an educator first and foremost, I think when my former students organized WeimerFest, that was the ultimate honor.”

Organized in 2004 by Steve Sonnenberg and Jim Emme MSc Geol ’81, WeimerFest brought together nearly 200 of Dr. Weimer’s former students to celebrate the career of the venerable teacher. The three-day event featured sessions on geoscience topics presented by a spectrum of earth scientists who had been privileged to study with Bob. WeimerFest also provided a forum for former students to tell stories about the powerful influence Dr. Weimer has had on their lives.

Jim Weber MSc Geol ’71 remarks that even though Dr. Weimer is a world-renowned leader in his field, “He was never intimidating and encouraged his students, to engage in cooperative scientific effort toward learning the truth” when faced with a problem. Weber also reflects on Bob’s talent for contacting with a wide variety of people, from college freshmen to CEOs. “When you’re talking with Bob, he makes you feel that you are the most important person to him at that moment. You have a real dialogue, which is rare today.”

Former Colorado School of Mines Trustee Tom Henderson Geol E ’61, MSc Geol ’63 gives Bob Weimer much credit for the training that resulted in his contributions in the industry and at Mines. “Bob and other great professors at Mines gave me the basic skills and confidence so that I had no problem for exploring and finding commercial quantities of minerals anywhere in the world.”

Bob makes a point of noting that his lifetime achievements have been made possible by significant behind-the-scenes support from Ruth, “the silent second worker.” When Mines hired him, he says, “They gave us two for the price of one!” The couple met as undergraduates at the University of Wyoming, where she majored in journalism. They were married while each worked on their master’s degree at UW. At Mines, Ruth joined the Faculty Women’s Club and served as its president in 1971. She also hosted many student dinners at their home, helping to make Bob’s students feel like a valued part of their family.

A Philanthropic Commitment to Mines

While acknowledging that committed teachers and engaged students are the most essential elements of a rewarding education, Dr. Weimer also understood first-hand the impact of financial resources in sustaining a vibrant community of learning.

The couple established the Loren Weimer Memorial Scholarship as a memorial to a son who lost his life in a climbing accident in 1971. The scholarship is designated for graduates of Golden High School attending Mines. According to Bob, “It is important for Mines to have a strong relationship with the high school in its own community and to actively encourage local students to pursue engineering and science. This scholarship program is one effective way to accomplish that.”每年 Weimer has used a portion of his personal income and additional contributions from the Weimers over many years, the scholarship has grown from a one-year award to a four-year award, covering half the cost of tuition. Their other three sons are graduates of Golden High. As a natural resource engineer, Tom is an assistant secretary for the U.S. Department of Interior; Paul occupies the Bruce D. Benson Chair in Petroleum Geology at the University of Colorado, and Carl is a physicist and technical manager for Ball Aerospace in Boulder.

Bob and Ruth have also extended their generosity to the Department of Geology. The Robert and Ruth Weimer Fund for Sedimentary Geology helps to cover staffing expenses associated with the department and provides scholarships. The Core Laboratory supports both graduates and undergraduate instruction in petroleum geology, subsurface sedimentary geology, petroleum geophysics and petroleum engineering.

Most recently, Bob and Ruth donated a parcel of real estate with a value of $520,000 to the CSA Foundation to endowment the Robinson-Adams Scholarship. Eighty percent of the gift established a charitable remainder trust and the other 20 percent was given to the Loren Weimer Memorial Scholarship and the Weimer Fund for Sedimentary Geology.

“From several points of view,” noted Dr. Weimer, “creating a charitable remainder trust through the sale of this piece of real estate, which was a non-producing asset, made perfect sense for us at this point in time.” A charitable remainder trust distributes income to a donor or other beneficiaries for life or for a specified term of years, with the balance of the assets released to charity upon termination of the trust.

In October, the Weimers were inducted into the Silver Level of the Mines’ Centennial Society in recognition of their extraordinary philanthropic leadership. Their dedication and close association with the School, says Mines President Bill Scoggin, “demonstrates the importance of the Mines legacy to Bob and Ruth’s community.”

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By Ericia Siemers
CSM Athletics fall 2006

CSM Athletics Inducts 11th Annual Hall of Fame Class

The Colorado School of Mines Department of Athletics inducted its 11th Annual Hall of Fame class Sept. 15 at a dinner and banquet in the Ben Parker Student Center. The group was recognized at halftime the following day at the CSM football game. Following are the inductees of the 11th Athletics Hall of Fame class.

Anne (Ralph) Bevington

Anne (Ralph) Bevington BSc CPR Eng '91 lettered in women’s basketball from 1987-91 and was a three-time all-conference honoree. She led the RMAC in scoring (16.6 ppg) in 1987-88 and that total ranks as the fourth highest for a single season at CSM. Her career average of 14.2 points per game ranks third all-time at CSM and her 8.5 rebounds per game is fourth all-time in a career at CSM. During the 1987-88 season, Bevington dished out 95 assists which ranks fifth on the CSM single season list.

Mike and Cathy Carr

Mike PLL ’57 and Cathy Carr were inducted as Outstanding Supporters of CSM Athletics. The couple established the Michael E. Carr Scholarship Endowment in 1983, which has helped the football program grow to contend in the RMAC and win the 2004 RMAC title and a berth in the 2004 NCAA Division II national playoffs. Mike was a three-year letterman in football and graduated in 1957 with a degree in petroleum engineering. He was a member of the M-Club, Intramural Club Sports and Kappa Sigma. Mike and Cathy are active members of the Community Hospital Foundation in Oklahoma.

Scott Goodale

Scott Goodale BSc CPR Eng ’82 was one of the most decorated grapplers in CSM history. He is a three-time All-American and earned Academic All-American honors in 1986. In 1994, Goodale placed seventh at the NCAA Division II National Championships. He followed that with a fourth place showing the next year before winning the national title in 1997. In 1996, his national championship helped CSM to a seventh-place finish in the team standings. A team captain in 1995 and 1996, Goodale was the RMAC and West Regional Champion in 1996.

The 1980-81 Men’s Basketball Team

The 1980-81 men’s basketball team, led by the late CSM Hall of Fame Coach Jim Darden and Bob Pearson PLL ’59, posted the best record in School history at 21-6. The squad advanced to the NAIA District 7 Tournament and went 2-1 with wins over Fort Lewis and Denver University. The team lost to Western New Mexico in the District Championship game, but had defeated WNMU two times during the regular season. In addition, Darden’s team won the NAIA Division I Championship and a berth in the 1976 NCAA Division II national playoffs. Mike PLL ’57 and Cathy Carr were inducted as Outstanding Supporters of CSM Athletics.

Russ Truby

Russ Truby BSc Pet Eng ’79 earned four letters as a defensive tackle on the football team from 1973-75 and 1975-76. During his senior season, Truby earned NAIA First Team All-RMAC, All-District VII and All-American accolades. In 1975 and 1976, Truby served as a team captain and was named Outstanding Team Defensive Player. Truby also was named the Most Outstanding Freshman.

Fall Sports Updates

FOOTBALL: The Orediggers are 1-3 overall and 0-2 in conference play through four games of the 2006 season. The team opened with a loss at nationally ranked Waidmann before knocking off Fort Hays State in the home opener. CSM then dropped games to Adams State and Chadron State. Junior Derek Dykstra has caught 28 passes for 309 yards and two touchdowns, while senior Bryan Floresco has 301 total yards from scrimmage. Junior Martin Richardson has posted 23 tackles, including a team-best 3.5 sacks.

Volleyball: The Orediggers volleyball team stands at 9-8 overall and 4-5 in the RMAC. CSM was 3-5, but rebounded to win five of its next eight to get back to .500. Included in that win total was a 3-2 triumph at 22nd-ranked Nebraska-Kearney. It marked the first time CSM beat a program history (1-20). Junior Ashley Pagel has posted 86 assists, 99 kills and 207 digs to lead the squad. Senior Amanda Rebol has recorded 175 kills, 182 digs and 83 blocks, while freshman Kathy Edmiston, the Preseason RMAC Freshman of the Year, has tallied 145 kills.

MEN’S SOCCER: The men’s soccer squad stands at 7-3-1 overall and in second place in the RMAC at 5-2. After opening the season with a loss to Northeastern Oklahoma and a win at with St. Edwardsville, the Orediggers have gone on to win seven of nine matches. One of those losses came at the hands of the defending Division II National Champion, Fort Lewis 1-0. Junior Craig Thompson is tops on the team with 16 points and seven goals. Junior defender Brian Law has tallied 13 points on six goals and one assist, while senior goalkeeper Kevin Galloway has recorded three shutouts.

WOMEN’S SOCCER: The CSM women’s soccer team is in its second season of play and first in the Rocky Mountain Athletic Conference. The team is 4-4-3 overall and 1-3-2 in conference play. The team is currently in sixth place out of nine teams. Freshman forward Kayla Mitchell leads the team with 10 goals, three assists and 12 points, while sophomore Mikayla Barringer has recorded 10 points on four goals and two assists.

CROSS COUNTRY: Both the men’s and women’s teams have gotten off to outstanding starts. The men’s squad is ranked sixth in the country and won the Woody Greemo Invitational in Lincoln, Neb., on Sept. 16. The team defeated 27 other schools, including several Division I teams. Senior Joel Hamilton won the overall event, while senior Greg Reindl was third. The Orediggers also had three others in the top 12. The women’s team began the season ranked 17th in the country and placed 12th at the event in Lincoln. Seniors Serena Gardiner and Melanie Peddle led the women’s squad.

The sport summaries are for games concluded through Sept. 25. For complete results, standings, statistics, schedules and rosters, please visit the Colorado School of Mines athletics website at http://athletics.mines.edu

Winter Sports Schedules

MEN’S BASKETBALL

Nov. 17 Northwest Nazarene 8 p.m.
Nov. 18 Caldwell College 8 p.m.
Dec. 1 S.Tech 7 p.m.
Dec. 15 N.M. Highlands* 8 p.m.
Dec. 16 Western N.M.* 7 p.m.
Dec. 20 Fort Lewis 6 p.m.
Jan. 12 CSU-Pueblo* 8 p.m.
Jan. 13 Adams State* 8 p.m.
Jan. 23 Johnson & Wales 7 p.m.
Jan. 26 Chadron State* 8 p.m.
Jan. 27 Nebraska-Kearney* 6 p.m.
Feb. 2 UC-Colorado Springs* 8 p.m.
Feb. 3 Colorado Christian* 8 p.m.
Feb. 23 Metro State* 8 p.m.

WOMEN’S BASKETBALL

Nov. 22 South Dakota 6 p.m.
Dec. 9 Colorado College 6 p.m.
Dec. 15 N.M. Highlands* 6 p.m.
Dec. 16 Western N.M.* 6 p.m.
Dec. 20 Buena 7 p.m.
Dec. 30 Kansas Wesleyan 4 p.m.
Jan. 12 CSU-Pueblo* 6 p.m.
Jan. 13 Adams State* 6 p.m.
Jan. 26 Chadron State* 6 p.m.
Jan. 27 Nebraska-Kearney* 6 p.m.
Feb. 2 UC-Colorado Springs* 6 p.m.
Feb. 3 Regis* 6 p.m.
Feb. 23 Colorado Christian* 6 p.m.
Feb. 24 Metro State* 6 p.m.

WRESTLING

Nov. 18 Jack Hancock Invitational 9 a.m.
Jan. 18 Nebraska-Kearney 7 p.m.
Feb. 3 N.M. Highlands* 7 p.m.
Feb. 14 Chadron State* 7 p.m.
Feb. 25 RMAC/NCAA II Regional All Day

INDOOR TRACK AND FIELD

Feb. 2 UC-Colorado Springs* 6 p.m.
Feb. 3 Regis* 6 p.m.
Feb. 14 Chadron State* 8 p.m.
Feb. 25 RMAC/NCAA II Regional All Day

MEN’S CROSS COUNTRY

Nov. 11 Colorado College 7 p.m.
Nov. 28 Mesa State (women) 8 p.m.
Dec. 1 S.Tech 7 p.m.
Dec. 14 N.M. Highlands* 7 p.m.
Dec. 15 Western N.M.* 7 p.m.
Dec. 17 Fort Lewis 6 p.m.
Jan. 12 CSU-Pueblo* 8 p.m.
Jan. 13 Adams State* 8 p.m.
Jan. 23 Johnson & Wales 7 p.m.
Jan. 26 Chadron State* 8 p.m.
Jan. 27 Nebraska-Kearney* 6 p.m.
Feb. 2 UC-Colorado Springs* 8 p.m.
Feb. 3 Colorado Christian* 8 p.m.
Feb. 23 Metro State* 8 p.m.

WOMEN’S CROSS COUNTRY

Nov. 19 Colorado College 7 p.m.
Nov. 28 Mesa State (women) 8 p.m.
Dec. 1 S.Tech 7 p.m.
Dec. 14 N.M. Highlands* 7 p.m.
Dec. 15 Western N.M.* 7 p.m.
Dec. 17 Fort Lewis 6 p.m.
Jan. 12 CSU-Pueblo* 8 p.m.
Jan. 13 Adams State* 8 p.m.
Jan. 26 Chadron State* 8 p.m.
Jan. 27 Nebraska-Kearney* 6 p.m.
Feb. 2 UC-Colorado Springs* 8 p.m.
Feb. 3 Colorado Christian* 8 p.m.
Feb. 24 Metro State* 8 p.m.

SWIMMING AND DIVING

Nov. 11 Colorado College 7 p.m.
Nov. 28 Mesa State (women) 8 p.m.
Dec. 1 S.Tech 7 p.m.
Dec. 14 N.M. Highlands* 7 p.m.
Dec. 15 Western N.M.* 7 p.m.
Dec. 17 Fort Lewis 6 p.m.
Jan. 12 CSU-Pueblo* 8 p.m.
Jan. 13 Adams State* 8 p.m.
Jan. 23 Johnson & Wales 7 p.m.
Jan. 26 Chadron State* 8 p.m.
Jan. 27 Nebraska-Kearney* 6 p.m.
Feb. 2 UC-Colorado Springs* 8 p.m.
Feb. 3 Colorado Christian* 8 p.m.
Feb. 23 Metro State* 8 p.m.

Softball

Feb. 16 CSM Twilight Open 3 p.m.
Feb. 10 CSM All-Comers 8:30 a.m.
Feb. 24 Metro State* 6 p.m.

INDIAN FALL 2006

Athletics
Mines students no longer need to scavenge their dorm rooms for loose change or await the care package from home with that precious roll of quarters. With a BlasterCard in the possession of every Mines student, laundry can get done with a quick swipe of a card!

The BlasterCard, appropriately named for Mines’ mascot, is the official identification card for CSM and it packs a lot of utility. The system has been in use for just over a year, but took five years to plan. Other college campuses across the nation have been using card systems that allow for door access and food and book purchases. The old Mines ID card could do nothing more than identify its user. Even at its minimum, the BlasterCard is more advanced.

The BlasterCard is still an ID card, but now the card can open locked doors to dormitories or academic buildings simply by holding the card three inches away from a proximity reader. The card grants admission to certain athletic games or special educational events (provided student activity fees have been paid). The BlasterCard will also keep perfect track of a student’s meal plan and it can be used for purchases. Most students opt to establish a BurroBucks account on their BlasterCard. A BurroBucks account is a fund that holds money deposited by way of a credit card, debit card or cash. Money can be deposited by a student or his or her parents, either at a card management center on campus or online. By doing this, the BlasterCard functions like a debit card does, provided it is used at places that accept it. The laundry facilities in the dorms and Mines Park accept the BlasterCard, as well as most copy machines. The card will buy a student a meal at all three eateries in the Student Center or an after class snack at any of the 50 vending machines at Mines. The student bookstore will take the BlasterCard, as will some of downtown Golden’s merchants. Each time the card is wiped, money is deducted from the BurroBucks account. Who knows what may be BlasterCard’s next convenient utility?

**Why Pay Taxes on IRA Distributions You Don’t Want?**

Are you forced to pay income taxes on “minimum required distributions” from your Individual Retirement Account—even though you don’t need or want the income? Thanks to a new law, you may now be able to make charitable gifts from your IRA while decreasing your taxable income from the account. Consider the following:

- **If you are 70 1/2 and older,** you may transfer up to $100,000 per year from an IRA directly to qualifying charitable organizations such as the Colorado School of Mines Foundation.

- **Unlike normal withdrawals,** the amount you donate is excluded from your taxable income—**provided that it is distributed directly from the account to the charity.**

- The charitable distribution counts against your “minimum required distribution,” so you can reduce your taxable income from the account for the year.

Although you don’t receive a charitable deduction for the gift, you don’t need one—because your gift has been excluded from taxable income in the first place. Your tax benefit is assured from the outset.

Several conditions apply, so please contact Mines or your advisor before taking action. But don’t wait too long—qualifying distributions are allowed for 2006 and 2007 only.

For further information, contact:

- **Chris Wenger**
  Director,
  Planned Giving
  (303) 273-3140
  cwenger@mines.edu

- **Susan Delahunt**
  Planned Giving Officer
  (303) 273-3709
  susan.delahunt@is.mines.edu

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Joy Turbo Compressor

**FOR SALE**

- Model 4MSGP-12 bx
- Serial #: BF-6496
- Only 1,460 hr of operation
- House indoors
- Manufactured in 1978
- Passed factory inspection in 1991
- Removed from service in 1993

This is a four-stage centrifugal compressor designed to compress 22,500 acfm of air to 200 psig with a 5,500-hp motor. The unit will be sold as a complete system and will include motor, control system, inlet valve, inlet filter, tube oil system, bypass valve, exhaust silencer, and motor breaker. This compressor has been stored dry. It is in excellent condition, has very low hours, and this model is still manufactured by Cooper.

For more information, contact: MSE Technology Applications, Inc. (406) 454-7420, email steve.bryson@mse-ta.com

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**MINES FALL 2006**

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EnCana Oil & Gas (USA) makes a $2 million gift to support the construction of Marquez Hall.

EnCana Oil & Gas (USA) has given $2 million toward the construction of Marquez Hall, the new, state-of-the-art Petroleum Engineering building planned at Mines. The gift, to be made in annual payments of $400,000 during the next five years, bolsters the School’s current campaign to raise $40 million to secure funding for the new facility and endowments for operations and scholarships. The School will honor EnCana’s gift by naming two laboratory facilities within the 75,000 square-foot building for the company.

“EnCana is excited to participate in the construction of this new, world-class facility and believes it will enhance the School’s fine petroleum engineering program, better serving the needs of students, the School of Mines and the oil and gas industry for years to come,” says Jeff Wojaehn, president of EnCana Oil & Gas (USA).

EnCana USA is an exploration and production subsidiary of the EnCana Corporation, based in Calgary. With headquarters in Denver, EnCana explores for and produces oil and gas in Colorado, Texas and Wyoming, including the Piceance Basin of Western Colorado.

Mines President Bill Soggins says, “EnCana’s generous gift will help us to build on our track record for success in generating outstanding graduates with top-notch research in the critical field of energy. We are truly honored to count EnCana among Mines’ strongest philanthropic partners.” EnCana’s gift helps ensure Mines’ leadership in the exploration and production of energy resources for the future.
Many government agencies are interested in understanding or promoting science education. The Department of Education’s Title I program gives funding to schools that have a high concentration of poor kids, but have mainly focused on reading. They would like the focus to expand to include math and sciences. So the Department went to the NSF for expertise on how kids learn those subjects.

The State Department was interested in exporting science and technology education to the Muslim world, so it too approached the NSF for information. It wanted Olds’ group to provide materials that could easily and inexpensively be translated into Arabic and would draw on cutting-edge knowledge. The idea was that exporting education would be a non-threatening way of exerting some influence in the Arab world.

The NSF brings together academics from all disciplines and creates opportunities for various governmental agencies to work with them. “As a governmental bureaucracy, things move slowly,” says Olds. “But in other respects, it’s like being in the best graduate school in the world.”

Mike Gooseff, left, and graduate student Melissa Northcott measure soil moisture in Antarctica.

Gooseff uses the Taylor and Wright Valleys of Antarctica as natural environmental laboratories. “The absence of precipitation and aquifers allows us to focus on a couple of key processes,” he says. “We look at the soils adjacent to the water to gain an understanding of how the movement of water through soil affects the microbiological communities. Because the soils are pretty static and there is almost no precipitation, the streams provide the only vector for moving nutrients from the landscape to the lakes. Also, we can study how the streambed materials break down the minerals that make up the streambed. Understanding the fundamentals helps us transfer the knowledge to more complex systems.”

Once scientists gain an understanding of how a simple system works, they can apply it to what might be happening in a more complex environment, such as Clear Creek in Golden, where other factors such as vegetation and precipitation play a role. “An ecosystem is very sensitive to small changes in climate. If we know how a system works, we can potentially know how to respond to changes. We’re trying to develop a simple conceptual model of how hydrogen microbial ecology and biogeochemicals function across riparian zones.”

The Tallest Structures on Earth

Civil Engineering Professor Vaughan Griffiths spent a half-year sabbatical at the University of Sydney in Australia, supported by a Coffey Geotechnical Scholarship. Griffiths conducted research on foundations for offshore oil and gas platforms that are the tallest structures on earth. “At more than 3,000 feet above the sea floor, they are over twice the height of the Sears Tower in Chicago,” he says. Griffiths worked on finite element models of stresses and deflections due to wave and wind forces on the platforms. “Some of the most challenging problems in geotechnical engineering lie in the foundations of offshore structures. We’re going deeper and deeper to find out!”

The last five weeks of Griffiths’ sabbatical was spent as an Enskine Fellow at the University of Christchurch in Canterbury, New Zealand, which included teaching an advanced geotechnical engineering course to graduate students. “A sabbatical enables you to get exposure to other ideas,” says Griffiths on the value of sabbaticals away from Colorado. “You gain new perspectives that are brought back to your home institution.”

Where are the Women in Computer Science?

Associate Professor of Computer Science Tracy Camp spent her sabbatical earlier this year as a Fulbright Scholar at the University of Canterbury in Christchurch, New Zealand. “I was primarily there for technical research, to work with an internationally known expert in the field of computer network simulation,” she says. Camp’s research project was titled Credibility of Network Simulations. “It was my first sabbatical in 12 years of teaching and I was starting to get burned out. It was good to get away and become refreshed.”

In addition to her technical research, Camp also promotes women in the computer sciences. “The percentage of women going into math, science, and engineering fields has been going up for years, but the percentage of women going into computer science has been going down significantly,” says Camp. “We currently have the lowest percent in 20 years and it’s expected to go down even more.”

As a response, last year Camp formed a Mines student chapter of the international organization Association for Computing Machinery, Committee on Women in Computing (ACM-W). She formed this ACM-W Chapter at CSIM because “women in computer science need mentors, role models, and other women in their field to form connections.” Part of Camp’s Fulbright project in New Zealand addressed this issue; she studied the country’s demographics and presented six changes New Zealand universities should make to encourage more women in the field. As a Fulbright Scholar, she gave 11 lectures at universities in New Zealand, half of which were on her technical research and half of which were on women in computing.

Mike Gooseff, left, and graduate student Melissa Northcott measure soil moisture in Antarctica.
Welcome to the CSMAA’s New Associate Director

The Alumni Association has a new full-time associate director of geographic and special programs, Serena Aernie, as of Sept. 18. She will be responsible for developing section events and volunteers as well as the Student-Alumni Association’s mentor program. She replaces Bob Pearson, who retired as a half-time staff member on June 30. We asked her to introduce herself to alumni.

What are your plans for the Mines Alumni Association?

In my role at Colorado School of Mines, I will be working with sections and affinity groups around the world. In addition, I will have the opportunity to work with Mines students and alumni in the newly created Alumni-Student Mentoring Program. There are a lot of alumni in the Mines community who are eager to be involved and my job is to make that happen! From San Francisco to Lima, Peru, there are many ways for alumni to stay engaged with Mines.

How do you plan to approach the job?

In my opinion, there are three main strategies to keep alumni engaged with School of Mines; to partner alumni with alumni; and to facilitate meaningful interaction between graduates and students. When all of our programs fall within these parameters, our Alumni Association will be unstoppable!

I have heard it said many times in alumni relations that the strength of an alumni organization is in its chapters/sections. That’s because the best recruiting agents are graduates! I will work with Admissions to involve alumni in the admissions process. In addition, our sections will add value to CSM by becoming ambassadors at the local level. One of my goals is to equip section leaders and alumni volunteers with current CSM information. Another priority is to build a vibrant networking community in our key section areas.

What a talented alumni association we have at Mines! As we continue to build the mentoring program, it will be remarkable to see how students’ lives are enhanced by the partnership they share with Mines alumni.

What relevant experience do you bring to Mines?

I was the director of alumni and donor relations at Avila University in Kansas City, Mo., and the regional development director at the United States Air Force Academy in Colorado Springs.

What is your educational background?

I received my undergraduate degree from Hannibal LaGrange College in Christian education. My education helped prepare me for a career in alumni relations because I learned to build programs that mobilize volunteers to accomplish a mission.

We’re very pleased to have you here. In closing, do you have a message you’d like to share with alumni?

I look forward to engaging as many alumni as I can. Together we can work to make Mines a stronger world-wide community. Feel free to write, call or visit with your ideas!

For more information about becoming a mentor or a section volunteer, contact Serena at serena.aernie@is.mines.edu or stop by the alumni office in Golden at 1600 Arapahoe Street.
MARION S. "JACK" BELL EM ’49 died July 26 at home surrounded by his family. He was 84. The Denver native attended South High where he won the state wrestling championship in his weight class. He cut short his studies at Mines to enlist in the Marine Corps and was a pilot in the Pacific during World War II. After his tour, he returned to Mines and married Annette Koerter and they had two children. After graduation, Bell joined Phelps Dodge, working his way up to president of the Phelps Dodge Refining Corporation. CSM honored Bell in 1963 by awarding him the van Duist Gold Medal for outstanding achievement. Active in many civic and professional organizations, he served as president of the United Way of El Paso, Texas, from 1973-76. El Paso honored him with its Conquistador Award. He was a lifelong sportsperson and an avid aviator who found time to fly with the Skytypers all over the country. After retirement, he volunteered at the Ware Air War Museum. He was elected to the El Paso Aviation Hall of Fame in 2002. Bell is survived by his widow, a daughter, a son, four grandchildren and a brother.


ROBERT "Bob" LANGE EM ’49 died June 20 in Tulsa, Okla. He was 74. Lange grew up in Chicago and graduated from Morgan Park High School. While at Mines he was a member of Pi Kappa Alpha and during his senior years, he also met his wife, Clara. Lange’s professional designations included Society of Mining Engineers, International Institute of Rock Mechanics and Institute of Shaft Drilling Technology. The time he spent in the West provoked a lifelong love, appreciation and respect for the outdoors. His early professional life was spent underground hard rock copper mines, including the extremely hot Magma Mine, and in underground uranium mines in New Mexico. In 1963 he joined Fraser & Kuipers’ PB K&B and worked in construction of mined underground cavens for storage of petroleum products. His mining engineering career gave him the opportunity to travel worldwide as he pursued his profession with zeal and dedication. Lange’s many hobbies included boating, hiking, fishing, hunting, knife-making and hiking. He was a regular on Free Wheel. His volunteer activities included the Iron Gate Kitchen, Oxy Nature Center and Project Early Settlement. Lange is survived by his widow, four children and three grandchildren.

JOHN H. ARMSTRONG MET E ’39 died January 20 at home in Sylva, N.C., after suffering a ruptured aneurysm. He was 74. He grew up in Minnesota and attended Carleton College in Northfield, Minn., before attending Mines in 1939. Following his retirement in 1971, he negotiated for storage of petroleum products. His professional life was responsible, he headed the U.S.-Sudan oil concessions with heads of state from China, Indonesia, the Sudan, Nigeria, the Philippines and Ethiopia. Following the discovery of oil in the Sudan, for which Nelson was principally responsible, he headed the U.S.-Sudan Business Council and helped the Sudanese government produce this discovery. In 1976, he was awarded the Colorado School of Mines Distinguished Service Medal for individual merit. After retiring in 1985, Nelson went into the independent oil business in Tulsa, Okla., then to Houston, then San Francisco. His contacts around the world led to work in Latin America, Canada, France and Africa, including contract negotiations on behalf of several foreign governments. While living in Geneva in the mid-90s, he commuted to Moscow and in Siberia where he assisted in the development of Russian oil fields. He was active in international oil and the arts, a sports fan and a faithful follower of San Francisco’s sports teams. Nelson is survived by his widow, Alice, a son Mark BSc Pet Eng ’84, a daughter, a stepson and many friends.

Also in Memoriam
From his window in Hill Hall, David Matlock, Mines professor of metallurgical and materials engineering, looks out at Stratton Hall and has photographed it in every season. Built in 1902, Stratton Hall today houses the Liberal Arts and International Studies (LAIS) Division. It was named in honor of Winfield S. Stratton, a prominent Colorado Springs mining and construction industrialist, who had donated $25,000 to the School. Stratton made his fortune prospecting in the Cripple Creek area of Colorado.

Stratton Hall was carefully renovated in the mid 1980’s to maintain the historic external appearance while completely updating the internal space. Every student who has graduated from CSM since 1902 has probably passed through this building as it has housed many departments and campus activities, including the Basic Engineering Department (now the Division of Engineering), Math Department (now the Department of Mathematical and Computer Sciences), labs for metallurgy and drafting, and LAIS.
Englewood, Colo. 1966, DSc CPR Eng 1968
Development Corporation and a full
Utah.
1957
1950
1943
1948
Development in Aspen,
July 4th Veterans Parade in Aspen,
1936
Graham W . Howard Jr. Met E
is semi-retired in
Rocklin, Calif.
Harry M. Losee Jr. Geop E
is retired in
Cypress, Texas.
Robert M. Jones EM
is retired in
Dravosburg, Pa.
Edward S. Smida BSc Geol Eng, MSc
has been named principal by the
software manager for San Microsystems Inc.
Golden, Colo.
William L. Wilson Jr. EM is staff
metallurgical welding consultant for
ConsolPHOENIX in Houston.
2008
Scott R. W. Dalley BSc Pet Eng owns
Daisy Consulting in Monroe, Wash.
Dorothy L. Hert Bent. Geop Eng, MS
Ead 97 is project manager and
senior environmental engineer for
Pacific Writer's Technology Ltd. in
Lakewood, Colo.
Brian J. Lindsey BSc Geep Eng is a
general manager of services for BP in
Houston.
Scott S. Smith BSc Pet Eng is
a project manager for ExxonMobil in
Houston. 
John R. Warland BSc Pet Eng is
president of the Hess Corporation in
Houston.
Abe M. Scalur BSc Pet Eng is unique
site operations for the Hess Corporation in
Houston.
Stuart M. Webster BSc Pet Eng is
a project manager for Forest Oil Co. in
Houston. 
Aubrey M. Mardigian BSc ME, MSc
is president of Solar Home & RV Inc. in
Steamboat Springs, Colo.
Michael L. Bagge BSc Geep Eng is
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Corporation in Houston.
Michael M. Berg BSc Met Eng is
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Stuart L. Witte BSc Met Eng is
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Hydrocarbons in Fremont, Calif.

1968
Edward L. Briggs BSc Met is a
sic quality assurance engineer for
Washington Group International in
Calgari, N.M.
Fredrick W. Paddack Jr. EM is a
project engineer for Texas Tech in
Lubbock, Texas.
Alejandro Rodriguez-Gonzalez MSc
Min. Eng, PhD Met 74 is retired in
Ohio, Ohio.
Theodore A. Smith EM is a
senior mine development engineer for
Mosaic Fortillers LLC in Mulderry, Fla.
Bernard J. Tidley MIcP is software
architect for Stillway Software and
Instrumentation in Lakewood, Colo.
Simon T. Sinimmon EM is
general manager of Touray Metal Minauld in
Oslo, Utah, Norway.
1969
R. J. Blais EM is retired in
Houston.
1957
Robert M. Jones EM
is retired in
Cypress, Texas.
Harry M. Losee Jr. Geop E
is retired in
Houston.
1948
Donald A. Craig EM is retired in
Aurora, Colo.
1950
William L. Payne Jr. P.E. is retired in
Englewood, Colo.
1936
Michael J. Jones EM is a consultant for
Time Airspar Ridge LLC in Vermillion, S.D.
1957
Bruce M. Jones EM
is president of national accounts
for Environmental Support Solutions Inc.
in Tempe, Ariz.
1964
Loyce E. Bellini BSc, MSc CPR Eng
is a corporate senior consultant for
Continental Learning Group in
Conyers, Ga.
Edward A. Tarth EM
is a ground
Triumph Tower in Paso Robles, Calif.

1968
C. Fred. Jones BSc Met is a
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civil & environmental engineer for
Utah.
1950
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Mary E. Moser BSc, MSc CPR Eng
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J. David Hanley Jr., BSc Eng is a design engineer with SunCor Energy.
Does your company match charitable contributions for current and retired employees? Depending on your company’s policy, the match could be as much as 3:1.

Last year, matching gifts brought in over $300,000 to support the talented students, distinguished faculty and pioneering programs that bring distinction to Mines.

Ask your human resources representative if your company has a matching gift program, or visit www.matchinggifts.com/mines. When you make a donation, you will be recognized for the combined total of your gift plus your employer’s match.

For additional information, please contact
Rosie Turner
Director of Annual Giving
303.273.3153
Rosie.Turner@is.mines.edu
Flintstones was the theme for this year’s Mines Homecoming festivities!