Smart Feet

Visions of Africa

New Department Heads
Welcome to the new Mines magazine.

This spring, Colorado School of Mines and the Colorado School of Mines Alumni Association signed a historic agreement to jointly produce Mines magazine and to distribute it to all alumni and friends of the School.

The new magazine you have in your hands is the result—a 48-page, four-color, quarterly publication that contains the most popular features from each of its predecessors, Mines Magazine and Mines Today.

We hope you like the new and improved coverage you are seeing in this quarter's Mines. The changes include a redesigned and updated look, more articles, in-depth looks at alumni and their activities, and much more.

The change is more than skin deep. This joint publication of the CSM Alumni Association and the Colorado School of Mines represents the interdependent relationship we have and our growing partnership. We intend to bring you the stories that you—our alumni and friends—care about from across the campus, as well as from alumni around the world.

Although our partnership on Mines is new, the CSMAA and the School have always been partners on many issues and levels. For example, by Colorado law, the Board of Trustees must have a minimum of four members who are Mines alumni. One member of Mines' Board of Trustees serves as a member of the CSMAA Board of Directors. And members of the CSMAA Board and the School's Board of Trustees serve on the Board of Directors of the CSM Foundation. These three groups all work together, dependently and interdependently, for the good of Mines.

Even as we make changes, our goal remains the same—to keep you connected to the School and each other. We look forward to hearing from you about your magazine—Mines.

Vicki Cowart
CSMAA President

Frank Eramian
CSM Board of
Trustees President

John Trefny
CSM Interim
President

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Comments and suggestions are welcome. They may be directed to the phone numbers or addresses listed below.

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Colorado School of Mines

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(303) 416-9488, ext. 3394;
between 8 a.m. and 5 p.m.

Alumni Events
Calendar

September

October

November

December

21 Denver section luncheon at Merrick and Company, 2400 S. Peoria. Presentation on Geographical Information Systems, 11:30 a.m.

21 Grand Junction section luanch. An informal alumni get-together at noon the third Thursday of every month at the Bookcliff Country Club, 2730 G Road. Call for information: John Howe (970) 242-4905 or Del Tolen (970) 256-1118.

23 Football: Mines hosts Ft. Lewis College at 1 p.m. Tailgate party at Brooks Field, 11:30 a.m.

7 Football: Mines at Fort Lewis College, Durango, Colo. Four Corners section event TRA.

13 Golden Lunch Bunch. An informal alumni get-together at the Buffalo Rose, 1119 Washington St., Golden, Colo., the second Thursday of every month, 11:30 a.m.

21 Football: Mines hosts New Mexico Highlands at 1 p.m. Tailgate party at Brooks Field, 11:30 a.m.

19 Grand Junction section luanch. An informal alumni get-together at noon the third Thursday of every month at the Bookcliff Country Club, 2730 G Road. Call for information: John Howe (970) 242-4905 or Del Tolen (970) 256-1118.

16 West Denver breakfast, 6:30 a.m. Sheraton Hotel, 137 Union Blvd., Lakewood, Colo. Speaker: CSM student body president. $8 at the door.

6 Holiday party, The Petroleum Club, 551 17th St., Denver. Reservations required, (303) 273-3205 or 3290.

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Mines marbles, the latest from the Miner’s Pick, went on sale for the first time during Reunion 2000. The marbles, each a spherical triangle, approximately 7/8 inch tall, come five to a velour bag, four blue and one white. They sell for $10 per bag plus $1.50 for shipping and handling.

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Golden, CO 80401; or call
(303) 273-3394 or
(303) 416-9488, ext. 3394;
between 8 a.m. and 5 p.m.
Although pain suppression is often the goal of medical attention, diabetics need to be able to feel their pain.

So a flexible sensor which fits inside the shoes or socks of diabetes sufferers has been designed by researchers at Mines to prevent diabetes patients from developing ulcers and burns that often lead to amputation.

The problem is extremely significant, according to Dr. Rahmat Shoureshi, the G.A. Dobelman Distinguished Professor of Engineering. Half of the amputations carried out in the United States are due to diabetes.

A tragic complication for people with diabetes is a loss of blood circulation to body extremities, such as the hands and feet. This leads to numbness and lack of feeling in these areas.

Consequently patients don't realize if their feet are too close to a gas fire, for example, or if there is a small stone in their shoes that they are treading on all day long. Normally the brain would direct that the stone be removed immediately, but without any sensation the stone remains. Left undiscovered it can result in ulceration eventually leading to amputation.

Shoureshi and research assistant Tim Romig ’00 have worked with physicians at the Denver Veterans Affairs Medical Center to develop user-friendly sensors that measure temperature and pressure over the surface area of the sole of the foot. Changes in these parameters can be used to predict the extent of potential ulceration.

The sensors can be linked to a handheld device, enabling the patient to monitor a color map of temperature gradients on the foot. The information can also be transmitted automatically to a clinic, where medical staff can page the patient to alert them as problems arise.

The research team is currently carrying out field trials with diabetes patients:

“Our long-term goal is a device connected to part of a nerve that still works normally, which would send a signal to the brain,” Shoureshi said. “The brain would then react in a completely natural way, with the patient once again feeling the pain in his or her foot.”

Shoureshi speculates that this technology could eventually be used for other conditions, too, such as lower-back pain.

And the military is even interested in combining it with robotics to develop exoskeleton suits for soldiers that would enable them to jump higher and see farther!

By Howard Stafford and Leah McNeill
Trefny named Interim President

Dr. John U. Trefny, vice president for academic affairs and dean of faculty at Colorado School of Mines, has been named interim president by the CSM Board of Trustees. Trefny has been a member of the CSM faculty since 1977. Named interim vice president for academic affairs and dean of faculty at Colorado School of Mines, has been appointed in June 1997. In making the announcement on June 26, CSM Board of Trustees President Frank Erisman stated: "Dr. Trefny was chosen to head the School for his leadership abilities in academics, research and the community. While serving as vice president, he led a successful endeavor to reform the Mines curriculum, an extensive effort which has been acknowledged by the Colorado Commission on Higher Education as a model for other educational institutions." He added, "John is respected and well liked on both the campus and in the city of Golden. Residents of Golden, he and his wife Sharon are widely known for their work on the Jefferson Symphony Orchestra Board and have participated in many other civic activities. We know John will do a fine job maintaining good relations with the Golden community, the CSM Alumni Association, and other friends of the School."

Accepting the appointment, Trefny said, "The School is in an excellent position for producing leaders in science, engineering and business who can use the current explosion in technology to help raise the standard of living around the world. I am looking forward to keeping Mines on a steady course for the next year or so, as our Board conducts a worldwide search for our next president."

Trefny has won several teaching excellence awards, including the James R. Weeks Award by the Colorado Alliance for Science in recognition for his leadership in science, technology and mathematics education in 1997. He also received the Excellence in Science Teaching Award in 1992 from the Colorado Association of Science.

Teachers for his work in helping determine the needs of future graduates, leading to improvement in K-12 science education. Trefny served as head of the CSM Department of Physics from 1990 to 1995 and has authored over 70 technical publications on such topics as quantum mechanics, solid-state physics, acoustics and direct energy conversion.

He holds a B.S. in physics from Fordham University and a Ph.D. in physics from Rutgers University. After a post-doctoral appointment at Cornell University, he taught at Wesleyan University before coming to Mines.

Marr receives Dow Outstanding Faculty Award

Chemical Engineering Assistant Professor David Marr received the Dow Outstanding New Faculty Award at the annual conference of the American Society for Engineering Education (ASEE) in St. Louis, Mo., on June 21.

Since 1969, the Dow Award has been bestowed annually upon an engineering educator of outstanding ability who has recently entered the profession of engineering education.

Cost Management National Awards Program in June. These awards are presented by The American Council on Education (ACE) and the USA Group Foundation. CSM was selected from more than 120 entries. The prestigious awards program, held in Washington D.C., recognizes innovative strategies at colleges and universities that strengthen academic quality while containing costs.

The School's Multidisciplinary Engineering Laboratory (MEL) was cited as an exemplary program. "One way we trim costs is with our MEL, it integrates hands-on learning from a variety of disciplines - engineering, environmental science and meteorology - which translates into savings for these departments," explains Dr. Joan Goude, director of the Division of Engineering.

In addition to being featured at the June 12 awards ceremony, Mines will be highlighted in a publication of effective practices available later this year to U.S. colleges and universities and to the news media.

The USA Group Foundation is the research and philanthropic arm of USA Group, the nation's largest student loan guarantor and administrator. The foundation helps to advance higher education through support of research and sponsorship of programs and events in the country that strengthen academic quality while containing costs.

National renewable Energy Laboratory (NREL) endowed the scholarship fund last fall with an initial gift of over $25,000. An additional gift of $10,000 for the fund was announced by NREL in April. Other private and corporate contributions have brought the fund to just under $40,000.
Three honorary degrees were awarded: Dr. Mary Good, the interim dean of the College of Information Science and Systems Engineering, and Ralph Peterson, chief executive officer of CH2M HILL Companies, Ltd., an employee-owned organization of more than 8,000 people, operating in 100 offices, on six continents. Dr. Octave Levenspiel, emeritus professor of chemical engineering at Oregon State University. His primary interest is in chemical reactors, and his teaching, writing and research aims at finding general principles and methods for designing these units.

The Edmund C. Von Dietl Medal was presented to Dr. Penny Iwamasa, the principal process engineer for The Timken Company, an international manufacturer of highly engineered bearings and alloy steels. Distinguished Achievement Medals went to Gerald Grandey, president of Cameron Corporation; Bob Iordan, executive vice president of worldwide operations for Occidental Oil & Gas Corporations; and George Off, chairman of the board of Carolina Marketing Corporation. The Mines Medal, awarded to those individuals who have rendered unusual and exemplary service to the School, was presented to minerals management consultant Gary Hutchinson.

Engineering's Gosink receives 'Unique Woman Award'

Engineering Division Director Virginia Gosink received the "Unique Woman of Colorado Award for 2000" at a banquet on May 9 prior to the "Unicr Live Lives and Distinguishing Lecture" that evening.

The lecture series, sponsored annually by The Denver Post, featured Pakistan's Benazir Bhutto as the keynote speaker. Gosink is one of only a handful of female engineering department heads/deans in the United States. At MIT, she was one of 14 female students in a class of 1,100.

Women's experiences are focus of new Hennebach Professor

The experiences of women in different cultures are the research focus of Bella Vivante, the new Hennebach Visiting Professor in the Humanities for the 2000-2001 school year.

The first scholar of Greek and classical languages to serve as the Hennebach Professor, she is a classics scholar in the Humanities Program at the University of Arizona—Tucson.

HennebachProfessor Bella Vivante.

Having resided in several countries, she speaks or is literate in more than 10 languages, including Greek, Latin, Hebrew, German, French and Native American.

Muskogee Creek.

A graduate of Columbia University, she received her Ph.D. in classics from Stanford University.

During her academic career, Vivante has given nearly 75 lectures and presentations and has authored several publications.

In addition to her public Hennebach lectures on women's cultural experiences, she will teach a unique senior seminar on the roots of traditional cultures while at CSM.

Chicago Field Museum selects Mines for T. rex workshop

Last May Chicago's world-renowned Field Museum of Natural History unveiled Sue, the most complete T. rex ever found. She has a skull the size of a refrigerator and 13-inch teeth—an amazing dinosaur specimen the museum wants to share.

So they contracted with Colorado School of Mines to collaborate on designing and teaching a K-12 teacher's institute "Sue and Paleontology" this summer.

Why would a museum in Chicago, an international leader in evolutionary biology and paleontology research, select an engineering school in Colorado to help with teacher enhancement training?

The Field Museum wanted a high-quality hands-on/ minds-on program to provide K-12 teachers in the Chicago area with the information necessary to fully appreciate and understand the significance of 'Sue.'

According to Dr. Gary Bowne, director of the CSM Office of Special Programs and Continuing Education (SPACE), "With its vast resources, the Museum could obviously have created its own program, but because they were aware of the quality of our Denver Earth Sciences Project module, they decided to use our program in its entirety," he said.

The K-12 teacher enhancement program at Mines may be its best-kept secret. For over 25 years, SPACE has been training thousands of teachers around the country in curriculum-rich programs.
Bickart retires

Dr. Theodore A. Bickart, the 14th president of Colorado School of Mines, announced his retirement in May, effective July 31, 2000.

Dr. John Trefny, vice president for academic affairs, was named Interim President in mid-June.

The Bickarts were honored by the campus with a farewell reception on September 6 in the Green Center, where he was presented with a silver diploma and a spherical triangle desk ornament.

In announcing his plans, Dr. Bickart said he felt he had met his goal of helping the School transition from a period of long-term stability in the fields of applied science and engineering to an era of rapidly changing technology.

Born August 25, 1935, he joined Mines on August 1, 1998. Previously, he had been dean of engineering at Michigan State University. Prior to his tenure at Michigan, he was a member of the Syracuse University electrical engineering faculty for 26 years, serving as dean of engineering for over five years.
Faces at reunion 2000

Two hundred and thirty-seven alumni relived their days at Mines during an event-packed reunion weekend May 3-6.

Represented at Reunion 2000 were the classes of 1940, '45, '50, '55, '60, '65, '70, '75, '80, '85 and '90—with the spotlight clearly on the 66 members of the Class of 1950 who returned to campus for their Golden Anniversary. The class breakfasted with President and Mrs. Bickel, received commemorative Mines ties, posed for a new class picture on the steps of Guggenheim Hall, and received commemorative gold-on-silver diplomas during commencement ceremonies.

The Class of 1950—the second largest represented at Reunion 2000—paid tribute to "royalty" of its own at a barbecue at Ken and Nancy Earner's home. The class presented Dr. Anton Pegis, humanities professor from 1954 to 1982, with a silver diploma recognizing his honorary membership in the Class of 1960, and voted to endow an undergraduate scholarship in his name.

Recreation was in abundance for the alumni and guests at Reunion 2000: individual class receptions and dinners; tours of the campus and the National Earthquake Information Center; visits to various departments; tours of CSM's Experimental Mine and Ocean Journey; and drives to the cherished "M.

A favorite event was a golf outing at Westwoods Golf Club. It drew 43 alumni and their spouses—16 from the Class of 1960.

"Command Central" for the weekend was Hospitality Room #149 at the Denver Marriott West. There, CSMAA staff greeted alumni, handed them reunion packages and souvenirs, and let them mix, mingle and reminisce.

The culminating event was the All Alumni Banquet. Bill Mueller '40 presented the School with a check for $2,317,224 representing the total giving for the 11 reunion classes. Volunteer alumni who worked on the Planning and Reunion Gift committees were recognized, and several alumni were presented with awards.


"The alumni dinner is what I enjoyed most. It gave us time to get reacquainted with each other and to catch up on the last 10 years. Reunions are important for sharing memories from the past and our hopes for the future."

-Ward Whiteman
Reunion Gift Committee Chair, Class of 1990

"A reunion allows you to reconnect with people who were so integral to your day-to-day life in the intense years as students. Old friends are important. It was also an excellent reminder of the time we all took to be a little crazy. Going to Mines was a lot of fun besides being a lot of work—sometimes we only conveniently remember the work."

-Roger Abel
Reunion Gift Committee Chair, Class of 1965
One of the first experiments to be carried out when the International Space Station opens for business over 200 miles above the earth's surface next year will be testing of manmade materials for use in bone reconstruction surgery.

Two Mines researchers, a physicist and a metallurgist, are collaborating to produce artificial bone material in the zero gravity conditions of space. Dr. Frank Schowengerdt and Dr. John Moore hope this will help create the desired characteristics to overcome the limitations of the current bone replacement materials.

In cases where patients' bones need rebuilding after an accident, or where genetic defects need correcting due to disease, surgeons currently must use animal bones, reconstituted bone, or even artificial material such as reconstituted ground-up coral, according to Schowengerdt, who is the director of CSM's Center for Commercial Applications of Combustion in Space.

Titanium metal and other artificial bone materials are currently used by surgeons, explains Moore, head of the Department of Metallurgical and Materials Engineering and director of the Advanced Coatings & Surface Engineering Laboratory at Mines. Although these materials may have the necessary porous structure to allow blood to flow through them, there are always problems, such as promoting natural bone growth and matching the mechanical properties at the interface between the natural bone and the artificial material.

Furthermore, because the porosity and elasticity of natural bone differ greatly in various areas of the body, current implant techniques take a long time to design and several hours to manufacture. Additionally, replacements need to match the properties of the original bone precisely. For instance, the stress loads on the tibia are far greater than needed on a cheekbone.

The Space Station experiments will establish the fundamental role that gravity plays in determining how a range of porous materials may be produced with ideal properties for bone replacement.

With this knowledge, scientists will be able to design materials that mimic the structures of real human bone precisely and to manufacture them to formulas that can be mass-produced and be readily available in hospitals.

The Mines team is working towards the day when hospital technicians can select the perfect match of artificial bone straight off the shelf and use it immediately on a patient, confident of no future complications.

Over the past months Moore and Schowengerdt have been experimenting with prospective suitable material compounds in the reduced gravity environment of NASA's "Vomit Comet" and then testing materials for bone compatibility. So far, they say, mixtures of a compound of titanium with other substances look promising because they are light and strong.

Calcium phosphate could also prove useful because it can be re-absorbed into the bloodstream as natural bone grows into it. A mixture of titanium and glass ceramics is also being tested. Early results show promising signs of in-bone growth rates.

The candidate materials must have precise and complex properties in order to be suitable. They need to be between 40 and 60 percent porous. The pores need to be between 100 and 500 microns in size. They also must be biocompatible and bioactive to encourage the growth of natural bone over them.

So selecting the right material is no easy task. But the Space Station results will provide vital information that will help write the basic rules from which these revolutionary new materials will be created.

By Howard Stabileford and Leah McNeill
Jertson wins District VII spring qualifier
Sophomore golfer Marty Jertson placed first at the District VII spring qualifier in his hometown of Phoenix, Ariz., April 17-18. Jertson, who prepped at Mountain Point High School in Phoenix, shot rounds of 69, 71 and 71 (211) to finish at-5 and win by four strokes.

As a team, Mines finished eighth out of 11 teams in Phoenix. Freshman Ray Rodriguez tied for sixth place with rounds of 75, 70 and 79.

11 athletes named All-RMAC
Following the 2000 spring season, seven baseball and four softball players were named to All-RMAC teams. The baseball team, which finished 14-37 overall and 4-20, had four second team and three honorable mention selections. After finishing at-5 and win by four strokes.

In addition, tennis player Geno Fallico and women's basketball player Kristin Dillard were selected as Mines' Phillips '66 Honor Student-Athletes for the 1999-2000 school year. Dillard, a senior, is majoring in chemical engineering and petroleum refining and currently has a 3.869 cumulative grade point average. Each year, Mines must have a 3.200 or better cumulative grade point average, be a starter or key reserve on the team and have been a student at their school for at least two consecutive semesters.

Men's tennis team wins 2000 RMAC championship
The RMAC men's tennis championship belongs to Mines this year with a 6-3 victory over rival Metro State in the title match of the RMAC men's tennis tournament in Grand Junction, Colo., April 22.

The Orediggers (17-5 overall, 5-1 RMAC) defeated host Mesa State 9-0 in the first round of the tournament and the University of Nebraska-Kearney 5-4 in the semi-finals to advance to the final match.

Singles winners for the Orediggers were David Rademacher, Brian Buck and Matt Walsh. Geno Fallico and Rademacher, Brad Howe and Kevin Yu, and Buck and Walsh won as doubles.

Other members of the team included Pat Calvert and Matt Reynolds.

Four track athletes earn All-American honors
Student-athletes Dayven Johnston, Eric Stillem, Jim Beideman and Ben Lengerich each earned All-American honors for their finishes at the NCAA II Outdoor Track & Field Nationals May 25-27 in Raleigh, N.C.

The four-man 1,600-meter relay team placed sixth with a school-record run of 3:13.64.

The RMAC are selected for this award. It is the highest academic honor an RMAC student-athlete can achieve. To be named to the RMAC's All-American list, a student-athlete must have a 3.200 or better cumulative grade point average, be a starter or key reserve on the team and have been a student at their school for at least two consecutive semesters.
the heart, which may lead to the need for the challenge of helping develop a better procedure. It is costly and potentially dangerous replacement during open-heart surgery, a choice for these life-saving devices.

A team of three CSM students took on the project in the Mathematical and Computer Sciences Department (MACS). Working with bioengineer Robin Shandas at Denver's Children's Hospital, they have developed a software program that provides a previously missing link in the process of developing a better heart valve.

Dr. Shandas wanted to conduct a finite element analysis on ultrasound images of experimental valves to determine how various valves hold up inside a pig's body. However, unenhanced ultrasound images are too indistinct for this type of study.

So the students have developed software that refines ultrasound data into high-resolution 3-D "pictures" that can be used, measured and otherwise studied for deformation of the valve by the heart muscle. In this way, Dr. Shandas hopes to test various designs and materials to develop a long-lasting flexible valve that is not so stressful in its host heart.

Other projects developed by MACS students this summer include:

- 3-D crystal modeling software to help scientists study why different metals crystallize into their characteristic lattice patterns
- "Showtime," a computerized service for real estate agents allowing them to use computers for after-hour and remote scheduling, canceling and viewing of their showings — something even using cell phones and palm-held computers to perform these functions
- Optimized hydrothermal scheduling, a model for power plants which will allow more cost-efficient operation

By Leah McNeill

“Students help develop better heart valves for children”

This project is typical for our summer field session. We try to find real-world problems for the students," says MACS Associate Professor Robert Underwood. "If they are commercially feasible, even better. But not only does this motivate the students but it provides them with valuable business experience in dealing with a client. It also looks great on their resumes when they start job hunting.”

Students help develop better heart valves for children

James A. Els, the new department head for CSM's Department of Chemical Engineering and Petroleum Refining (CEPR), Els's goal is to position CEPR in the top 25 percent of chemical engineering programs for graduates and research, while maintaining the top-tier status of the undergraduate program.

However, he realizes it will take some delicate balancing of the graduate and undergraduate programs in order to be successful in both.

Objectives for the undergraduate program include the following:

- Improve the quality of undergraduate education by involving students in research projects, providing a better feel for their chosen field. The Research Experience for Undergraduates (REU) program sponsored by the National Science Foundation will help undergraduates participate in summer research projects.
- Urge more students to broaden their experiences through co-ops, international study and internships. Els would like to see the number of participants in these programs increase from 5 to 25 percent.
- Continue to refine the curriculum. Many chemical engineering students have expressed concern that after their junior year they have only been exposed to theory in their classes and have not had an opportunity to have hands-on experience within chemical engineering.

New department heads envision strengthening top programs

James A. McNiel, a professor of physics at CSM, is the new head of the Physics Department, which has 170 undergraduate and graduate students, as well as nearly 20 faculty members. His vision is to deliver high-quality education and research, by ensuring that all activities and actions promote excellence in the department's three core missions:

- Planning for the future, McNiel has devised a three-fold plan:
  - The first component addresses the undergraduate science courses. Currently all undergraduate students must take nine credit hours of physics, a recent increase from seven hours.
  - Because Physics I, II and III support the entire curriculum, it is important for the department to deliver high quality learning experiences," he said.
  - The second departmental goal focuses on improving an already strong undergraduate physics major program. This will be accomplished by having greater depth and breadth of elective courses, and improved mentoring of students within the department's "mixed advising model," where student advising is done in concert with engineering faculty.

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By Misti Brady
Stones that fall from heaven

Meteorite collection donated to CSM's geology museum

In the early 1800s, two Yale professors on a visit to Connecticut witnessed a large meteorite fall to earth. No one could quite believe it. Thomas Jefferson, then president, reportedly commented, "It's easier to believe two Yankee professors would fall from Heaven than that stones would fall from Heaven." A century later, Harvey H. Nininger saw another large meteorite streaking across the sky. His reaction was to see if he could find it. A museum authority at the time told him he could spend a lifetime looking for meteorites and he'd be lucky to find one. On his first excursion, he found two! Chasing down meteorites became a hobby, then turned into his life's work. He amassed the world's largest personal collection of meteorites and turned the study of them into a science.

Nine autographed copies of Nininger's books and 14 meteorite samples have been donated to CSM's geology museum by a close friend of Nininger's, Alexis McKinney and his wife, Irene, widow of P. H. Stevenson, EM '23. In addition to meteorites, the collection includes trinitite formed at ground zero of the first atomic blast in Alamogordo, N.M., and polished spheneidum mounted on star-shaped aluminum inside for possible use as decorations in Las Vegas' Stardust Lounge.

"We have a small and very fine, very complete meteorite collection," says Ginny Mast, curator of CSM's geology museum. "This [collection] is a great complement. There is one of every kind of meteorite—stony, stony irons, nickel irons and iron-nickel rock that looks volcanic."

"Meteorites are so popular now," Mast continues. "Twenty years ago it was gold everyone wanted to find. But because of the Mars meteorite [a recent discovery showing the possibility of water on the Red Planet], they have become the darling of collectors. Today, their value is totally out of sight."

Throughout the 1920s and 1930s, Nininger devoted much of his time to tracking down meteorites throughout the western United States and Mexico. Although not lucrative at first—in 1925-26 he and his wife, Addie, and their three children lived in a homemade trailer—Nininger did forge for himself a unique career. He began his search in his native Kansas by visiting out-of-the-way community schools and attending small town gatherings sharing his theories. He was an excellent speaker and his lectures included a display of meteorites. His enthusiasm for the subject was so richly rewarded by his audiences, many of whom led him to strange rocks turned up by Kansas plows. One year, his lectures yielded 31 meteorites brought in by people who had heard him speak. In this way he also discovered a 770-pound meteorite, the second largest recovered meteorite in the world.

Nininger's success at locating meteorites was due in part to the search method he devised. After a meteorite had been spotted, Nininger followed up eyewitness accounts by drawing their lines of sight on a map. He would begin searching where the lines intersected. His collection eventually included many thousands of meteorites from hundreds of "falls," Nininger was more than a collector. He had a doctorate in zoology from University of California and was teaching biology when meteorites caught his attention and he switched sciences. During his study of meteorites, he developed radical new theories that were at first scoffed at. Nininger was the first person to conduct a complete excavation of a meteorite crater, one he found in Haviland, Kan. He also demonstrated that the meteorites collide with Earth about 1,000 times more often than previously believed. He offered proof that different meteorite "falls" overlap and that it's possible to identify a meteorite by its fall. In 1942, Nininger suggested that the shape of space-vehicle nose cones be patterned after meteorites, which they later were. He also correctly predicted that when astronauts landed on the moon they would find deep, impact-created dust, a surface pulverized by meteorites, asteroids and comets.

In 1950, Nininger established the Nininger Laboratory in Denver and later was curator of meteorites at the Denver Museum of Natural History, where he also temporarily housed his meteorite collection. Several years later, he and Addie founded the American Meteorite Museum near Sedona, Ariz. Nininger thoroughly studied the Meteorite Crater in Arizona and determined that when great meteorites strike the Earth, they explode outside their craters rather than burrow into them. Previously, scientists had spent years looking inside craters for the meteorites that caused them. In the late 1950s, Nininger sold part of his collection to the British Museum of Natural History and eventually negotiated with the National Science Foundation to sell the remainder to Arizona State University at Tempe before he and Addie retired.

Nininger helped found the Meteorological Society, an international organization that honored him in 1966 by naming a complex sulfide of iron, manganese, magnesium, calcium and chromium found in meteorites "Niningerite." A fossil discovered in 1926 at the Grand Canyon also was named after him. In 1986, a National Geographic article entitled "Invaders from Space" featured him.

To celebrate Nininger's 95th birthday, the scientific community named asteroid 2421 "Nininger" to honor him. He proudly described it in a note to McKinney as "of moderate size, 25 miles in diameter, equal to 10 or 15 Pikes Peaks rolled into one."

Nininger was the first scientist to theorize that Earth's geography was shaped by impacts from outer space, a theory so accepted today it is used to explain the extinction of dinosaurs. In the early 1930s, though, most scientists believed the moon's pitting and scarring were the result of volcanoes, not meteoric bombardment. The same was thought for Mars and Mercury. But Nininger believed that Earth would also appear pitted and scarred if set for its vegetation and oceans. Once again, his theories turned out to be right.

By Maureen Keller

Ginny Mast, curator of CSM's geology museum, holds one of the collection's meteorites. It may not look exciting, but meteorites have become valuable and sought after.
VISIONS OF AFRICA

As the sun creeps over the African horizon, you might find Joe Longe exploring the Great Sand Dunes of Namibia or perusing over a billion-year-old granite. A professional nature photographer, Longe is also a Geological Engineering graduate from CSL.

Each year he roams from the archives of Utah to Africa, capturing the earth’s wonder and secrets. Several groups of eager Americans, who yearn to see Mother Earth through Longe’s eyes, participate in his workshops held all over the globe. For more of Longe’s “Dramatic Light Nature Photography,” see http://www.dramaticlightphoto.com.

By Matti Bandy
Mullen High School students to CSM's experimental mine for a tour, "says high school teacher Michael Thomas. "Some of the students in a work shift at Edgar Mine, it also influences their pass a mine health and safety test. to the visit, students prepare in the lab at Mullen, and they must complete two-thirds of a work shift. The recipient of a number of scholarships and awards, including the Colorado Engineering Council Graduating Senior Award, notes, "I am impressed with the depth of Mr. Thomas' knowledge and with his unparalleled enthusiasm for teaching. I hope he will work with us for many years, bringing the best minds and the most talented individuals to Mines." Thomas asks his students to report on their college experiences. "I want to keep tabs on what is going on in the university classrooms so that my instruction prepares them. One thing I know is that they have to learn to generate formulas, not memorize them. I tell my students if you depend on memorizing, you're dead." Thomas also follows the successful careers of those he has taught. "He is a truly gifted and determined individual who lives to see his students go on and do great things," says former student Lorraine Miller, BSc Min 1996, who is now an engineer/shift supervisor for Phelps Dodge Corp. in Morenci, Ariz.

Phelps Dodge Corp. in Morenci, Ariz.
Denver's J.K. Mullen High School is a Catholic college preparatory school. Thomas, B.A., M.S., teaches geology, physics and chemistry at the school. He describes himself as "an academic gypsy," but says his favorite niche is mining. In addition to teaching, Thomas consults for mining companies. With income from his consulting work and donations from major companies including Marathon Oil, Thomas and his students have built a well-equipped laboratory, unlike any other. According to Thomas, it is probably the only high school in the United States that has three atomic absorption spectrophotometers. "If you teach, you have to love what you do. Kids know when you connect, when you love your subject, and your excitement is catching," says Thomas. "You maybe can't be up and ready to fly everyday as a teacher, but if you are up a good part of the time, you've got it whipped." Always learning, Thomas constantly adapts his curriculum, doing whatever it takes to keep his courses interesting, relevant and current. Just don't ask him to take you on a mine tour.

By Marsha Konegni
Learning by Fishing

Matthew Lengerich, center

The family camping trip is perhaps the greatest adventure known to the American family. So it was with my family each summer. Every other weekend, packing up the trailer, off we would go, to some unknown destination for days of exploring, eating, fishing, hiking and just plain fun.

Matthew and his dad

So much was learned on these trips. How to pack a pop-up tent, a map, or a substance—is never really beautiful in itself, although functional and practical for sure. Without this knowledge makes it enjoyable to the engineer is the process and experience that went into the design, and what we learned in getting there.

"Be quiet, you'll scare the fish" had so many meanings. It was also my dad's way of teaching me how to enjoy being outside, and about how powerful being alone with your thoughts can be. It was on those trips that the first engineering instinct became evident. I would spend entire afternoons building pools, dams and bridges on the river.

Before I leave I would like to thank those professors, faculty, family and friends who have helped teach this lesson that education is a journey with no final destination. Those who have challenged us to look beyond the question of "how" and to ask the harder question "why." To those who have pushed us to change our focus from the first grade to understanding the concept.

I am not sure it really matters if you're quiet when you're fishing. I don't think the fish really care. In the future, though, I hope to take many more family camping trips, and should I have the privilege of having a son, I will tell him the same thing my father told me: "Be quiet. You'll scare the fish."

By Matthew Lengerich

For International Space Station

This year his prospects include Bulgaria or a return to China. Although semi-retired since 1994, John T. Corson Geop E '58 still works a few months a year, usually in an exotic location. Last fall he spent three months in the Republic of China performing a feasibility study on a proposed 1000-kilometer railroad. The Chinese government wants to build a line between Hefei and Xi'an, home of the famous terra cotta soldiers, and was borrowing $190 million from the Asian Development Bank. As a condition of granting the loan, the bank required an outside group of consultants to review the proposal. China is building the $3 billion line to open up the plains beyond Xi'an to development and to gain better access to major coal fields located north of that city.

"I was surprised they gave it to us," says Corson about his firm being chosen to participate. "It was only three months after we [the U.S.] had bombed their embassy [accidentally during a NATO raid in Yugoslavia]." Corson says the Chinese weren't eager to see any of the consultants because "they knew we were better than they." They had spent many years developing their own sophisticated feasibility study. But they tolerated the consultants as a condition of the loan.

As one of five consultants on the project, Corson had the task of reviewing the environmental impact study. He was given two reports—1,100 pages, semi-translated—and had to condense them into an 80-page document. "It took weeks just to pick out what they were saying because the English was so convoluted," he says. In the end, the consultants approved the project and recommended the bank proceed with the loan, which it did.

The Chinese people "were very intent on being hospitable," says Corson, although sometimes he wished they weren't. Although most of his time was spent in Beijing, Corson did visit every major city along the proposed railroad route. "Every town we came to had a big banquet for us serving all kinds of rare delicacies. At one place they served a whole turtle, cooked instant. I tried to say no but they said as the guest of honor, I had to eat it," Corson managed a few bites before passing it on. "I didn't like it," he adds. In another incident, Corson sprained a back muscle while working out in a gym and had trouble walking. "Every night they'd bring me different doctors who would massage me until I was really in pain."

Since his semi-retirement began, Corson has worked in New Guinea, Vanuatu (in the South Pacific), Thailand and Romania. This year his prospects include Bulgaria or a return to China.

Corson '58 Consults in Mainland China

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than 80 scientists and engineers, including quite a few Mines alumni. "Underwriting the safety and reliability of nuclear weapons is a comprehensive job," he says. "I engage in what is arguably the most sophisticated computer modeling in the world. We develop the experiments that provide data for the models. It's a synergy between advanced materials characterization and the sophisticated computer modeling done elsewhere at Los Alamos. Looking at the end of underground nuclear testing, the models have a saying, "If you can't shoot it, you have to compute it.' Our group's role is to physically investigate the materials.'

Because of the radioactive nature of the materials, nuclear weapons degrade over time. Radioactive materials corrode from the inside out in addition to corroding from the outside in. "The radiotopic reactions influence diffusion, allotropic phase stability, mechanical properties, etc.," explains Axler. "Therefore, the prediction of mechanical and structural property changes draws weighty materials science challenges. On many occasions, we have enlisted the expertise of the Mines Metallurgical and Materials Engineering Department under Dr. John Moore. Those collaborations have allowed us to use unique resources needed in complex problem-solving. For example, specific corrosion problems have been addressed with our colleagues in the Advanced Ceramics and Surface Engineering Laboratory (ACSEL), a consortium hosted out of the Metallurgical and Materials Engineering Department at Mines." Axler came by his job at Los Alamos serendipitously. He received a chemistry degree from S.U.N.Y. at Cortland, N.Y, in 1975. "I was on a cross-country motorcycle trip but I ran out of money in Santa Fe [N.M.] on my way to California," he says, "so I started working as a technician at Los Alamos doing metal purification." Apparently, Axler took to the work because Los Alamos then sent him to Mines for his master's and doctorate degrees. "The education I received at Mines was very powerful and very vocational," Axler says. "I honestly say that on a regular basis, I use the majority of what I learned at Mines in my current job." Axler fell in love with Colorado and one day plans to retire there. He can be contacted at materials@att.net.

People

Warren '48 drives a school bus

After retiring at age 56 from his position as a chief metallurgist, Milton "Gene" Warren Met E '48 now finds himself back at work, this time behind the wheel. "It's just one of those things," he says about returning to work. "I retired too early." Today, Warren drives a school bus for Lifeline Passenger Services in Seyrnn, Conn. "I'm providing a public service and there's nothing better than that," he says. "As a whole, the retired men that work here are some of my best employees," says Pam Newton, Warren's supervisor. "They're punctual, always willing to help out, reliable. It's a pleasure to work with them." Warren has been working since he was 12 growing up in Alabama, but still had to undergo rigorous testing. "It's not easy to become a school bus driver at any age," says Newton. In addition to written tests and driving tests, Warren had a Department of Transportation physical. "I'm in good shape," he reports. "When I know I'm not as sharp as I was, I'll quit."

Currently, Warren's schedule includes two routes—a 100-mile trip to deliver a special-education student to school in the morning and back home in the afternoon, and a 10-mile trip midday to deliver two other special-education students. The 200-mile trip takes him seven hours.

Warren recently moved to New England to be near his three sons but he had lived in Florida for 20 years. While there, he wrote a non-destructive testing manual for NASA. In addition to his degree from Mines, he also holds a degree from Washington University in St. Louis. After graduation from Washington and before attending Mines, Warren served in the U.S. Navy in Guam where he worked with Henry Fonda and played tennis on the admiral's fancy courts with Bobby Riggs and Don Budge.

Hesselbarth '73 helps inner-city residents

"I was a typical college student trying to figure out 'Who am I and what am I?"" says Dennis Hesselbarth BSc Met '73 about his college days. "I went to Mines because they offered me the biggest scholarship!"

Although Hesselbarth has never been employed as an engineer, he hasn't shied away from hard work. Today he is pastor of the Evangelical Free Church in a depressed neighborhood in Wichita, Kan. "I'm still an engineer type," he says. "I even keep a mechanical pencil in my shirt pocket, when I'm wearing that kind of shirt." Hesselbarth's congregation is small—about 40 to 50—but he plays a significant role in the community according to an article in The Wichita Eagle. His community, called Hilltop, is a run-down area built as temporary housing during World War II. Sixty years later, the neighborhood still struggles with its "temporary" stigma. Homeowners don't upgrade their homes and landlords don't maintain their properties well for fear the city will decide to condemn the whole area. "Probable if it wasn't for Dennis, the situation would be worse," a local resident told the Eagle. "In fact, his everlasting optimistic outlook is a good influence to a lot of people." After graduation from Mines, Hesselbarth decided to spend a few years working for Campus Crusade for Christ. "Two years became three, then four," he says. "After about five or six years, I decided to burn my slide rule behind me." Hesselbarth earned a master of divinity degree from the Denver Seminary. He and his wife then moved to the Watts area of Los Angeles and the experience "got to our hearts," he says. When the opportunity to start a ministry in another depressed urban area arose, they decided to take it on and moved to Wichita.

In this kind of ministry, helping people develop is the focus," Hesselbarth says, and his rewards are watching people in the community succeed. "I owe a lot to my Mines years," Hesselbarth adds. "When I was interviewing for a job after graduation, the thing I heard over and over from interviewers was 'anyone who made it through Mines knew how to work hard, could learn, had a degree of flexibility and could work in a team setting.' That's the part of Mines I use all the time."
During World War II, he served as a major in the U.S. Army. Kan. During World War II, he served as a major in the U.S. Army. Gardner was raised in Denver, Colo. and lived in Pauma Valley, Calif. since last year. He died in Moscow for burial.

According to Kats, she had earned a master's degree in petroleum engineering with a “Red Diploma” (4.0 grade point average) from the Oil and Gas Institute in Moscow. She worked as a research assistant at CSM to gain American citizenship. Gardner had spent five years in the U.S. Army, seven years in the Denver Water Department. He worked for Battelle Memorial Institute and a member of Brookhollow Methodist Church in Houston. Gardner is survived by his wife of 65 years, Charline Higheiger Gardner; a son, a daughter, six grandchildren and five great-grandchildren.

George T. Gould was a world traveler, who had been employed for 50 years. He is survived by his widow, Prora Lee, and three children.

Charles M. Schneider was an independent consultant in Lakewood, Colo.

Richard C. Panesi was a member of the Alumni Association.


Donald G. Ashe Met E has retired as president of Ecolaire Pump Co. and lives in Oklahoma City.

Louis Landers Louis L. Landers E ‘50 died in his sleep May 17 at the age of 74. He had just attended his 50th class reunion earlier in the month. Landers was retired from Aucasta Inc. where he had been employed for 30 years. He is survived by his widow, Prina Lee, and three children.

Charles M. Schneider Charles M. Schneider Jr. EM ‘48 died March 23 at the age of 75. Schneider was an active member of the Alumni Association and was a member of Sigma Phi Epsilon fraternity. In 1951 he married Winifred Wimberly. He served in the Navy and was an engineer with Shell Oil. Schneider is survived by his widow, two sons, a daughter and three grandchildren.

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George T. Gould PE ’32 died earlier this year. He had been president and owner of Gould Engineering Co. and was an active member of the Alumni Association.

Richard C. Panesi Richard C. Panesi EM ‘34 died Nov. 11 after open-heart surgery. He was 86. According to his widow, Rena, “He was always happy and proud that he received such an extensive education from the Colorado School of Mines.”

George T. Gould was the retired chief engineer for the Denver Water Department. He worked for the department for more than 50 years. He also spent five years in the U.S. Army Corps of Engineers in Alaska and the Alaskan building the Alaska Highway.

He enjoyed traveling, fishing, gardening and time with his family,” says Mrs. Panesi.

“Never did he have to travel he was always happy to return home. He was highly respected in his work and many coworkers told me at his service that he had hired them when no one else would because they were Japanese Americans. They said, “He was a man of high integrity and morals and I hope I can pattern my life after him.”

Panesi is survived by his widow, a son, four stepdaughters, a stepson, a brother and a sister.

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Robert N. Wagner BSc
Pet is vice president of engineering for Chuckie Oil Resources Inc. in Keller, Texas.

David S. Wilkinson BSc
Goep is senior DSP software engineer for Sytek Inc. and Colleen R. Wilkinson BSc '85 is a geophysical consultant for Wilkinson Research. They live in Golden, Colo.

1987
A Michael B. Perron BSc
Met is a business analyst for Masco Corp. and lives in Broomfield, Colo.
Joanna M. Forbes BSc
Math is product marketing engineer for Agilent Technologies Inc. and lives in Loveland, Colo.

J. Scott Kinnsbrough BSc
Chem is a senior compliance specialist for Clean Water Co. He lives in Cape Coral, Fla.

Sven Steven M. Tarts BSc
Goep is an environmental engineer for Thermoteknix in Bellingham, Mont.

Kurt A. Ranzinger BSc
Geol is a software engineer for GeoLogic Systems and lives in Louisville, Colo.

Mats Marquardt Westergaard BSc
Goep is a senior geophysicist for Vector Resources Inc. in Houston.

J. Steven Zueker MSc
Geol is an exploration geoscientist for Harrords Natural Resources Inc. in Golden, Colo.

1988
Patricia Gloria Chambers BSc
CPR is vice president, operations for Tengo Technologies Ltd. in Boulder, Colo.

Paul A. Ferrer BSc
Goep is a graduate student at University of Arizona in Tucson.

Daniel H. Silverman MSc
Eng is a project manager for Petroleum Infrastructure Corp. in Houston.

Denis M. Vidmar BSc
CPR is an OIM for Xiom Mobile. Inc. in Houston.

1989
Gregory R. Cahill BSc
Geol is a geoscientist for Navigant Consultants in Brownfield, Tex.

David A. Elbercomb MSc
Env Sci is supervising hydrologist for Montana Water Mining Group in Steamboat Springs, Colo.

Michael L. Longhow BSc
Eng is a materials engineer for Ritcey Petroleum Inc. in Helensville, Kan.

Andrew R. McDonald BSc
Eng is a sales representative for Seabag in Hinesville, Ga.

Beth Menting-Nahama BSc
Pet is a vice president for Aero Energy and Joseph A. Nahama MSc '86 is senior consultant for Hatam Natural Gas. They live in Bakersfield, Calif.

David J. Mulligan BSc
Eng is a senior systems engineer for Agilent Technologies Inc. and lives in Pittsburg, Calif.

Thomas A. Oliver BSc
Chem is a hydrogen consultant for Pacific Western and lives in Lakewood, Colo.

Stephen R. Baddeley BSc
Eng is executive director of Midland Grouting and Construction Corp. in Midland, Texas.

Janice (Poirier) Nelson BSc

Jerome M. Polling BSc
Eng is executive director of Midland Grouting and Construction Corp. in Midland, Texas.

Math is executive director of New Development Management Co. He lives in Highlands Ranch, Colo.

Shelby Stanton BSc
CPR is a program designer and trainer for Lockheed Martin Corp. and lives in Los Alamos, N.M.

Samuel S. Rouabah BSc
Eng is a senior engineer for Ramboll Technology and Engineering Inc. and lives in Aurora, Colo.

William Wagner UT
BSc is a control systems engineer for Mountain Peak Control and lives in Lakewood, Colo.

J. Ben Wensley MSc
Eng is a systems programmer for FORL in Austin, Texas.

1991
Sujoy Wirjadiaputra BSc
CPR is now Syarau Nirya Simnowicz. He is an associate with Enron Europe Ltd in London.

Bryan Wayne Baird BSc
Eng is a senior business analyst for Raytheon Engineering Services LLC in Denver.

Patrick S. Carlin BSc
Eng is project engineer for Soils and Materials Consultants Inc. in Arvada, Colo.

Russell A. Krishnath BSc
Eng is senior environmental engineer for Delfin Energy Field Services Corp. in Dermer.

Scott A. Gustobon BSc
Eng is a mechanical engineer for Merrick & Co. in Los Alamitos, Calif.

Gillisser L. Franklin BSc
Eng is an engineer for Naco Chemical Co. in Lincoln, Neb.

Amy Doran In'Neill, BSc. Eng
married. CPT Patrick. Daniel Plahm, US Army, July 29 at the St. Elizabeth of Hungary Church in Denver. Plahm, of Colorado Springs, is a 1996 graduate in environmental engineering of the U.S. Military Academy at West Point. He currently attends law school at the University of Colorado School of Law in Boulder, Colo.

Stephen D. Buck BSc
Pet is vice president of Great Plains Stainless, Inc. in Tulsa, Okla.

Budi Natsumadja MSc
Env Sc is managing director of Maritime International Pratama, PT in Jakarta, Indonesia.

Carla (Maguire) Guatfield BSc
CPR is a process designer for Lockheed Martin Corp. and lives in Los Alamos, N.M.

Samuel S. Rouabah BSc
Eng is a senior engineer for Ramboll Technology and Engineering Inc. and lives in Aurora, Colo.

Kristen M. (Morahan) Jerger BSc
Eng is project manager for Veolia in Denver, Colo.

1995
Roxanne (MacKenzie) Harris, BSc Eng is a consultant to the Province of British Columbia. Matthew R. Harris, BSc. CPR, works for Dohrmann & Associates and telecommutes as a design engineer for Phoenix Exchange. They live in Pagosa Springs, Colo, and can be reached by e-mail at roxandmack@yahoo.com or roxhuray@yahoo.com.

1996
Daniel M. Edwards BSc
CPR is a process engineer for Baker Helicopter Therapeutics in Boulder, Colo.

Patrick L. Wilt BSc
Eng is a project coordinator for the Department of Public Works and Traffic in Colorado. K. Edwards BSc '91 is a 1st lieutenant in the U.S. Army Corps of Engineers in Germany. Their e-mail address is bsd9808@humburg.de.

Patrick F. Mee MSc
Eng is an economist for Totalchina S.A. His business address is Paris—La Défense. His e-mail address is daniel.freed@total.com.

Tammiter S. Stover BSc
Eng is a geosynthetic specialist for Contech Construction Products in Wilmington, Del.

1998
Shawn D. Green BSc
CPR is a mechanical engineer for RMH Group in Lakewood, Colo.

Courtney L. Smith BSc
Eng is a librarian for the University of Colorado, Boulder. In 1998, she earned her license as a Colorado Registered Professional Librarian. The wedding ceremony was followed by a dinner reception at The St. Regis in West Hollywood.

Ted Stockman '43
Frank Erisman '65
Ross Breyfoogle '79
Stan Gradinar '74

A Full-Service International firm with offices in Denver, Boulder, Colorado Springs, Salt Lake City, and London.
Whisler '84 named chairman of Phelps Dodge

J. Steven Whisler MSc Min Ec '84, Mines Medalist '94, president and chief operating officer of Phelps Dodge Corp., assumed the additional role of chairman of the board at the close of the company's annual shareholders meeting in May.

Whisler began his career with Phelps Dodge in 1976, when he joined Western Nuclear, Inc., an affiliate of Phelps Dodge. He has held numerous positions with the company and its subsidiaries during the past 25 years. In 1981, he joined Phelps Dodge's exploration and international mining group.

Whisler was elected vice president and general counsel of the corporation in 1987 and joined the company’s senior management team in 1988. He was elected president of Phelps Dodge Mining Company, the company’s mining and metals division in 1991, a director in 1995, and president and chief operating officer in 1997.

Throughout his career, Whisler has been active in various community, business and educational endeavors. He has served as a member or on the boards of directors of many organizations including the Phoenix Thunderbirds, Barrow Neurological Institute, Metropolitan Phoenix YMCA, Scottsdale/Paradise Valley YMCA, The Heard Museum, Rocky Mountain Mineral Law Foundation, Western Regional Council, Arizona Town Hall, Arizona State University Dean’s Council of 100, CSM’s Visiting Committee and the Montana Tech Foundation.

Frank Seeton EM '47 wins Lifetime Achievement Award

Frank Seeton EM ‘47 is the recipient of the first Arthur C. Daman Lifetime Achievement Award, an honor created by the Colorado MPO (Minerals Processing Division) of SME (Society for Mining, Metallurgy and Exploration). The award was created to recognize lifetime achievement in the mining industry and is given to those individuals who have contributed significantly to the image of the mining industry, promoted goodwill both within and outside the industry, and made a significant impact on the mining industry in other property development, equipment design or engineering services.

The recipients of this award are to be of the highest professional and ethical standards and must have character that is above reproach. The award is named in memory of the founder of the Denver Equipment Co., Arthur C. Daman EM ‘15, Medalist ’56, Hon Mem ’65.

The inaugural presentation was made at the 50th annual meeting of the Colorado MPO section in May at the Broadmoor Hotel in Colorado Springs, Colo. Two similar awards were given posthumously at the same time Seeton was honored.

Retired humanities professor emeritus Anton G. Pegis receives honorary membership in the Class of 1960, presented by Bruce Heister MetE at their class reunion dinner in May. Pegis, who also served as CSM vice president for development and student affairs, was the first person to be given honorary membership in the class. "The course, History of Western Civilization, that he taught opened my eyes and my life to literature—history, philosophy and much more," says Ken Larner Geop E ’60, Medalist ’81, who hosted the class dinner. "He is the youngest 90-year-old you could imagine—right down to his unchanged gentlemanly ways and appreciation for continued learning. In addition to awarding Pegis a "silver diploma," the Class of ’60 set up an endowment in the CSM Foundation for the Anton G. Pegis Scholarship Fund for undergraduates.

Photos: Doug Baldwin
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In addition to his degree from Mines, Whisler holds a bachelor of science degree from University of Colorado and a juris doctorate from University of Denver College of Law. He also completed the Harvard Business School's Advanced Management Program. He is a certified public accountant and is a member of the Society of Mining Engineers (AIME) and the Mining and Metallurgical Society of America. Whisler is a director of the Burlington Northern Santa Fe Corp. and the Southern Peru Copper Corp. and is chairman of the Copper Development Association.

Throughout his career, Whisler has been active in various community, business and educational endeavors. He has served as a member or on the boards of directors of many organizations including the Phoenix Thunderbirds, Barrow Neurological Institute, Metropolitan Phoenix YMCA, Scottsdale/Paradise Valley YMCA, The Heard Museum, Rocky Mountain Mineral Law Foundation, Western Regional Council, Arizona Town Hall, Arizona State University Dean's Council of 100, CSM's Visiting Committee and the Montana Tech Foundation.

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Photos: Douglas Baldwin
Following is a sampling of gifts received between December 21, 1999, and June 30, 2000.

Individual Gifts
Johanna P. Collester, widow of Stewart M. Collester '49, contributed an additional $65,550 in appreciated securities to the Collester charitable remainder trust that gives Colorado School of Mines an irrevocable 50 percent interest currently valued in excess of $1.6 million. The balance of the trust remainder will go to other charitable interests. The trust will make quarterly payments to the Preston for their lifetime. The trust was established with appreciated securities, a strategy that allowed the Preston to re-invest for additional income without paying capital gains tax.

In addition to the trust, Bill and Janet have made annual contributions to the Renewal Fund, an endowed scholarship fund for students in their junior or senior year. Bill and his classmate and close friend, Robert W. Waterman, Jr., established the fund in 1993.

Family Research Endowment, which supports Engineering Design. The endowment is also the beneficiary of a $1.4 million trust set up through 5th Street Estates. J. Don Thomson '55 established the J. Don Thomson Endowment for Engineering Senior Design Group with a gift of $100,000 and a pledge of $100,000. James N. Warren '55 gave $52,000 to the Mines Annual Fund.

Corporate and Foundation Gifts
The following companies donated computer software to the Petroleum Engineering Department during the 1999-2000 academic year: Computer Modeling Group, HALLiburton Company, Kappa Engineering, Master Engineer, Merxek Projects Ltd., NRI Technologies, Schlumberger, Scientific Software Intercom, Inc., and Theta Enterprises. With a gift of $75,000, the Adolph Coors Foundation provided scholarships to 17 students in the Minority Engineering Program.

A $25,000 gift from ARCO Technology and Operations Service is funding Geophysics fellowships for two graduate students.

The Baker Hughes Foundation contributes $52,000 to the Baker Hughes Scholarship Program for 17 scholarships in the Department of Engineering and the departments of Chemical Engineering and Petroleum Refining and Processing.

A gift of $30,000 from BP Amoco Production Company provided support to the Department of Geology and Geological Engineering's Moss Venture Fund.

Gifts totaling $25,000 from Burlington Resources Foundation are supporting the departments of Geology and Geological Engineering, and Petroleum Engineering.

DuPont Company continues to support the graduate fellowship in Geology Department.

Francis J. Labriola '52 contributed $250,000 to the Charles R. Fogarty Scholarship Fund.

John P. Lodder '82 contributed $40,000 in stock and cash to support the Engineering Industry Endowment. Carolyn Moak contributed an additional $50,000 to the John and Carolyn Moak Graduate Fellowship in Geology Fund.

J. Robert Mutyag contributed $175,000 to support the CSM Auditorium Scholarship.

A cash gift was recently distributed from the estate of Robert H. McMullen.

Isabel McNeill contributed $50,000 to establish the Harry L. McNeill Endowed Scholarship Fund.

F. Steven Mooney '56 contributed $25,288 to support graduate students to the Mines Annual Fund.


John P. Neshoba '40 made a gift of $50,000 to establish the John V. and Charlotte Newhouse Geology Endowment Fund in honor of his 50th reunion.

Prior to his death in March, Willard R. Sater, Department of Physics.

Rockefeller Brothers Fund, Inc. contributed $25,000 to the biofilm research of Dr. Junko Munakata Makar. Schlumberger-Doll Research continues its support of the Department of Geophysics with a cash gift of $25,000. The SBG Foundation contributed $25,000 to the Scribner Department of Chemistry.

Marc Jager, a graduate student in Chemical Engineering and the Hazen Research Professor in Donaldson Extraction Metallurgy.

The following companies focusing on environmental issues will enjoy their graduation experience as much as I did mine."

"I remember my first gift to Mines; I made it in 1956" said Barrett, who for the past 15 to 20 years has been soliciting contributions to the Mines Annual Fund and the 1990 Reunion Giving Committee. "It was very small, $5, but I knew that every dollar was important to Mines and would be used to benefit the students. To me, my fondest memory of Mines was ’getting out’ (graduating). Hopefully, the students who will be awarded this scholarship will enjoy their graduation experience as much as I did mine."
Southwest Region

Arizona

More than 25 people attended the CSM special mine tour put on by Phelps Dodge at its Morenci, Ariz., mine in June. The tour was led by Lorraine Miller BSc Min '96 and Matt Reilly BSc Min '87 and Harry "Red" Conger BSc Min '77. Everyone enjoyed the competition and learning experience of playing Copper Jeopardy, seeing the massive operations and getting together with fellow Miners.

West Texas

The newly rejuvenated Midland-Odessa section hosted a picnic supper for the petroleum engineering field-testing group in May. John Gould BSc Pet '80, MSc Mm Ec '95 and Aimee Edwards BSc Pet '96 coordinated the event with the support of Chevron, BJ Services, Antero Production (Larry Gillette, BSc Pet '76), Gel Technologies Corp., and Rex Marshall BSc CPR '80. Food and drink was provided to alumni, faculty, family friends and students. Tim Thompson Geol E '97 and Mike Bauschbach BSc CPR '80 had planned to attend but didn't make it. Look for another get together this fall!

Gulf Coast Region

Houston

More than 50 alumni friends and family attended a Houston Astros vs. Colorado Rockies baseball game at the new Enron Field in May. Vicky Jackson BSc Pet '92 organized the event and provided the photograph.

Metro Denver Region

Denver

The 16th annual Art Meyer Memorial Golf Tournament, held June in Arvada, Colo., raised nearly $6,500 for CSM's financial assistance program, boosting the total amount raised to more than $95,000 since the event was started.

Ninety-eight people played 18 holes but no one won either of the hole-in-one prizes ($10,000 and a trip). Prizes raffled off at this year's event included a large-screen color television, patron passes for two to Sprint International golf tournament, teeth whitening by a local dentist, a gigantic bottle of wine, dinner at local restaurants and more.

The tournament was named in honor of Pierrepont "Art" Meyer Geol E '50, who along with Ed Warren Geol E '50, founded the event.

Thank you

To all who participated in the Colorado School of Mines Alumni Association's 16th Annual Golf Tournament to support the CSMAA Student Financial Assistance Program.

Corporate sponsors:

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CSM Professor David Matlock
Chuck Melbye '50, Western Strothers Corp.
McLemore Pump, Inc.
Doug Miller '62, Applied Research Concepts
Mines Annual Fund
Mutual of Omaha
M.S. Patton Jr. '60, Graybull-Patton Co.
Project Assistance Corp.
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Wells Fargo—Golden

And special thanks to members of the 2000 golf committee:

John F. Bauer III '84,’’80, chairman
Bob Francisco, co-chairman
Lynn Brown '50
Kathy Breit and Jemies Strong, CSMAA staff

Prizes and Donations:

Applejack Liquor
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Denver West Village
Whether attending chemical engineering classes or cheerleading at football games, Traci and Trisha Olson double their efforts at Colorado School of Mines. The twins are juniors this fall.