Old-fashioned computing

I was visiting with my dentist a few months ago and the word “slide rule” came up. His young receptionist asked, “What’s a slide rule?” Immediately I resolved to immortalize my slide rule. And I now respectfully dedicate it to all Miners (past, present and future) in honor of the class of 1950.

The slide rule, photographs and bronze plaque (which says, “Early Day Computer: operation required intelligence; virus proof and crash proof; batteries not needed”) are mounted on a 1/8” slide of black walnut. The photograph in the upper left shows a rainbow coming down over a pumping oil well, circa 1953. In the lower right is a picture of an old wooden derrick in Montana about 1957.

The young receptionist now knows what a slide rule is. Mission accomplished!

Lou Amick PE ’50

Tributes to professors

David Rein’s article in the Winter 2004 Mines magazine about the Payne family’s generous gift establishing scholarships honoring three old-time professors brought back a flood of memories.

Paul Keating was the only one of the three that I had any personal experiences with and that was only for one course for one semester. Yet I have to rate him as the most influential teacher that I encountered at my years at Mines.

Irving W. Glater Met ’51

The article about the generous scholarship given by Jim Payne was great and the tribute to Dr. George Meredith evoked poignant memories. When I asked Dr. Meredith for career advice, he proceeded to analyze both my strong and weak points. His analysis was far from flattering but it sure seemed right on target. He suggested how some of my abilities might be helpful in some areas and showed me where some traits would be a hindrance in other areas. With these insights I was able to choose a branch of engineering that has kept me fascinated every day for over 40 years.

Richard D. Wyatt Geop ’61

Let’s raise Colorado’s infrastructure grade

Colorado’s infrastructure cannot remain invisible any longer. Last October, the state of Colorado received an overall grade of C+ in the first-ever infrastructure assessment given by the Colorado section of the American Society of Civil Engineers. This Report Card provides us with a valuable understanding of the 12 aspects of our infrastructure including dams and water supply, aviation, transportation, energy and the environment.

Because Colorado is competing with other states and countries to attract commerce and industries, an average rating is not acceptable. Commercial businesses are not attracted to states with restrictions that limit their ability to produce and deliver goods and services efficiently. Without an attractive infrastructure to attract these businesses, Colorado also loses in the creation and preservation of jobs.

Richard D. Wyatt Geop ’61

Correction: In the Winter 2004 issue of Mines magazine (Notes & Quotes, p. 29), we mistakenly referred to Wendall Fertig as a general. His rank actually was colonel.
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Voorhees Elected to National Board
Kent Voorhees, professor of chemistry and geochemistry, has been elected director at large to the Board of Directors of the American Chemical Society (ACS), the world’s largest scientific society. Voorhees will serve the remainder of the 2004 term, as well as a three-year term that will run from 2005 through 2007. Voorhees has been a councilor for the ACS Colorado section since 1982 and has leadership experience on the local and national levels of the society. The ACS, founded in 1876, is a self-governed individual membership organization with more than 159,000 members at all degree levels and in all fields of chemistry. The organization provides a broad range of opportunities for peer interaction and career development.

Name Changes by Degrees
The Board of Trustees has formally approved a name change for all graduate degrees offered in the Chemical Engineering Department. Master’s and doctoral degrees offered by that department will now be in “chemical engineering” rather than “chemical engineering and petroleum refining.” The undergraduate degrees were changed similarly several years ago.

Energy Research at the University of Wyoming. He has previously held industry positions with Unocal Corp., and he has an extended academic career record at Louisiana State University. CERI’s initial funding is through a charter partnership that includes Mines, the Colorado Governor’s Office of Energy Management and Conservation, and the Gas Technology Institute. CERI promotes research and educational activities through networking among all constituencies in the Colorado energy industries and universities. Nummedal responded to his appointment, saying: “I am very excited about this opportunity to join CSM, with its tradition of excellence in the energy and earth sciences, and to help build an energy research program around the strong core that already exists on the CSM campus. Logical areas of focus for a Rocky Mountains-based energy research institute include carbon sequestration and related enhanced oil recovery, the science behind natural gas exploration and production, hydrogen fuel cell development, and a diverse set of other issues both in fossil and renewable energy. Most important of all, CSM should continue its splendid tradition of looking for and exploring the newest and most promising ideas in our science. The world does not have an ‘energy crisis’ and we never will as long as we allow the best ideas to lead us into the future.”

Olson Honored for Innovation
David L. Olson, the John H. Moore Professor and professor of metallurgical and materials engineering, was honored by his peers as the year’s Faculty Senate Distinguished Lecturer. Olson’s lecture, “Transcending Degree Programs,” suggested a framework for innovative programming and a unique, worthwhile educational experience at Mines.

Looking for New Talent
Spring Career Day, held in February, featured a variety of exhibits representing a cross-section of industries, including energy, defense, aerospace, manufacturing, steel, high-tech, transportation and government. About 65 organizations attended the annual spring event, looking for great engineering, applied science, economics and business talent. Following Career Day was the first-ever recruiter reception—sponsored by Institutional Advancement, the Minority Engineering Program and the Career Center—to show appreciation to employers for their support of CSM students.

National Academy of Sciences Taps Hitzman
Murray Hitzman, Charles F. Postgate Professor and head of the Geology and Geological Engineering Department, was recently appointed to chair the National Academy of Sciences Committee on Earth Resources.

Students Challenged to Improve Water Quality
Student teams presented working prototype models of low-cost arsenic filtration systems to government officials in January. The project client was the International Center for Appropriate & Sustainable Technology, which challenged students to develop a feasible solution to arsenic contamination issues in the water supply of rural communities in the San Luis Valley of Colorado.

“Father” of Japanese Mineral Economics Is Visiting Scholar
Takashi Nishiyama, known in Japan as the “father of mineral economics,” is a visiting scholar in the Division of Economics and Business this spring. Until his retirement last year, Nishiyama was a professor in the graduate school of energy sciences at Kyoto University. He is a trained geologist who, over the years, developed a strong interest in the field of mineral economics.

CERI Appoints Director
Dr. Dag Nummedal has been appointed executive director of the Colorado Energy Research Institute (CERI). The appointment will begin July 1, 2004. Currently Nummedal is professor of geology and geophysics and director of the Institute for Energy Management and Conservation.

Changes
Name

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Wintry Fun at Eldora

More than 800 students, faculty, staff and their guests participated in this year’s Winter Carnival, held at Eldora in January. In addition to skiing, snowboarding, eating and drinking hot chocolate, the day included numerous games such as a human bowling, cardboard sled derby, snow sculptures, treasure hunts and an obstacle course.

To Cambridge on Scholarship

Vanessa Mitchell, Geophysics Department senior and McBride Honors Program member, has been awarded a Winson Churchill Foundation Scholarship to study next year at Churchill College, Cambridge University. According to Kay Geddens, director of the Office of International Programs, this is the first time a CSM student has been recognized by the Churchill Foundation. After her year at Cambridge, Mitchell plans to continue her studies at Stanford.

Minority Youngsters Check out Engineering

The Minority Engineering Program hosted its seventh annual Minority Engineering Conference in February. The conference introduced 7th through 11th grade minority students and their parents to the post-secondary educational process. They learned about Colorado higher education admission standards, precollege programs. The conference introduced 7th through 11th grade minority students and their parents to the post-secondary educational process. They learned about Colorado higher education admission standards, precollege programs. The conference introduced 7th through 11th grade minority students and their parents to the post-secondary educational process. They learned about Colorado higher education admission standards, precollege programs.

Alumnus Leads NSF

Arden L. Bement Jr., Met E ’54, was named acting director of the National Science Foundation. Former Director Rita Colwell resigned in February. Bement was previously director of the National Institute of Standards and Technology. He has held senior positions at the Defense Department and was the head of the School of Nuclear Engineering at Purdue University.

Race to First

CSM won first place in the state for its formula-style race car presentation in the February competition of the Colorado student section of the Society of Automotive Engineers (SAE). Mines won third overall in the 11-team competition that included Formula SAE, as well as Aero Lift, Mini-JaJa, Walking Machine and Clean Snowmobile presentations. Formula SAE is an interdisciplinary engineering challenge to design, build and compete a small prototype race car that delivers reliability, ease of maintenance and high performance. The competition gives students the opportunity to work through an entire design process as an engineering team. CSM’s team captain is Jared Dean. Presentations at the state competition provided an overview of project goals, approaches to overcoming obstacles, accomplishments and the management of budgets and schedules.

Short Takes

“Can I Kiss You?”

Author and lecturer Mike Domitrz spoke with students in March about intimacy issues based on his book, _May I Kiss You?_ A Casual Look at Dating, Communication, Respect & Sexual Assault Awareness. In addition to motivating individual students, Domitrz works with schools to help improve their overall campus culture. The presentation was sponsored by Student Life, Student Development & Academic Services, the Office of Student Activities, the Athletics Department and the Order of Omega.

In addition to catapulting at conference

Students celebrated the Lunar New Year in dance and other entertainment.

in the race car competition, SAE places restrictions on the car frame and engine to test the students’ knowledge, creativity and imagination are tested.

Eight seniors designed the winning prototype race car in the competition among Colorado universities.

Eleven seniors designed the winning formula-style race car in the competition among Colorado universities.

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Minority Youngsters Check out Engineering

The Minority Engineering Program hosted its seventh annual Minority Engineering Conference in February. The conference introduced 7th through 11th grade minority students and their parents to the post-secondary educational process. They attended workshops on Colorado higher education admission standards, financial aid and precollege programs. Students also worked on a hands-on engineering project, building a simple catapult to launch marshmallows.

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EM ’32, a member of Mines’ Century Society, donated $1,000 to help fund the ongoing refurbishment efforts.

McClure was a leader of the group of Mines students who first illuminated the “M” 72 years ago. A Blue Key member in 1932, Jim was instrumental in, as the ’32 Prospector reported, helping “the Mine’s dream come true.” Working at times in ankle-deep snow, McClure and his classmates erected the original transformer, strung the wire, and in the end, created an enduring symbol of Mines pride.

Arthur F. Helbig EM ’66 is production manager for Bogaty Access Komit, LLP, a large open cast coal mine in Ekibastuz, Kazakhstan. He sends this report:

Kazakhstan was one of the republics of the old Soviet Union, which got its independence in 1992. The official language is Kazakh, but in the northeastern quadrant where I work, the primary language is Russian.

Kazakhstan has all types of landscapes from high mountains in the south to prairie land in the north to the Caspian Sea in the west. The city where I live is Ekibastuz, which in Kazakh means “two horse heads of salt.” The city, population 140,000, was founded in the late 1800s at the site of a coal deposit discovery. Legend has it that the man credited with the discovery was on a trek to obtain salt from one of the many salt pans in this area. While sitting around his campfire, he noticed that the rocks near the fire started to burn. He left two large lumps of salt to mark the location of his discovery before returning to his village, hence the name Ekibastuz.

Underground mining was carried out here from the late 1800s until 1954 when open cast mining began. The city has some motorway in that it was once the location of one of Stalin’s gulags where Russian writer Aleksandr Solzehitsyn was interred. The landscape around Ekibastuz is prairie, similar to that of southern central Canada. There are few trees and the land is too alkaline to support extensive farming. In winter, cold winds come down from Siberia to the north. The climate is dry with only minor snow cover. Woman dress in long fur coats and the men wear Russian shpakas, or fur hats. You can see people pulling small sleds to and from the shops on snow-packed roadways towing groceries or kids.

Many of the roads are paved in Kazakhstan and the stores have numerous consumer items. Kazakhstan President Nursultan Nazarbayev has high ambitions of turning his country into the commercial center for Central Asia. To this aim he is constructing an ultra-modern new capital city, Astana, about a three-hour drive west of Ekibastuz. Of the former Soviet republics, Kazakhstan is considered one of the most progressive new nations.

The coal deposit at Ekibastuz has some phenomenally thick coal seams. The three main seams total 570 feet in thickness. The largest seam alone is 340 feet thick. The mine utilizes bucketwheel excavators and electrified in-pit train haulage to direct-load the coal for shipment to power plants in both Kazakhstan and Russia. In 1998, the mine produced 88.1 million metric tons of coal while still under governmental ownership. This record production earned it a place in the Guinness Book of Records.

Lyngra ’92 Makes Music in Dhahran

By Molouk Ba-Isa

There is nothing like a beautiful melody to lift the spirits on a dreary day. Unfortunately in Saudi Arabia not every child gets the chance to learn. But a new interactive piano method created by Sarah (Powell) Lyngra BSc ’83, Pet ’92 could bring the opportunity for everyone, both children and adults, to experience the joy of playing music.

“As a piano teacher for children as young as 4- and 5-year-olds, I became frustrated with the methods being promoted to teach new learners to read music,” said Lyngra. “Young children cannot read. However, this does not mean that they should not play a musical instrument. In fact, to develop perfect pitch, enhance the synaptic connections in the brain and stimulate the nerve endings in the fingers, children as young as 3- or 4-years old should be playing the piano. Unable to find a piano method ideal for use with young children, I set out to develop one myself.”

Lyngra began her quest to create the ideal piano teaching method in Copenhagen where she was teaching piano to 4- and 5-year-olds who spoke French. She hit on the idea to break down musical instructions. "As a piano teacher for children as young as 4- and 5-year-olds, I became frustrated with the methods being promoted to teach new learners to read music,” said Lyngra. “Young children cannot read. However, this does not mean that they should not play a musical instrument. In fact, to develop perfect pitch, enhance the synaptic connections in the brain and stimulate the nerve endings in the fingers, children as young as 3- or 4-years old should be playing the piano. Unable to find a piano method ideal for use with young children, I set out to develop one myself.”

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Miners on Tour

Petroleum students Grant Schindler, Ali Husain, Chris Stolte and Josh Chevalier traveled to the Middle East together recently. Husain, whose family hosted the group, is a native of Kuwait. “We all believed that we would never have an opportunity like this again,” all of us able to take that much time off and traveling to the Middle east with a Middle-Eastern,” said Schindler.

The four young men also traveled together to Dubai and Egypt. They are back on campus to finish their senior years.
Lyngra’s interactive piano method works as an adventure story to teach the fundamental concepts of reading music. Titiled Sarah Nikolay’s Incredible Discovery of Magicland, the book takes parent and child on a musical journey into a fantasy land where the Purple Dragon, Red Giant, and Brown Beethoven help new learners understand the core ideas in reading music. Yellow Cat is the guide on the musical journey and from the beginning he gets the new learners off to a quick start, telling them that there are no more lefts and rights to remember. Instead they should think of the notes on the piano keyboard as moving up and down. As for the notes themselves, the white keys on the keyboard are assigned one of seven color-coded characters. These characters are permanent fixtures throughout the story. “I teach piano to 55 students weekly, mostly in groups of three or four at a time,” Lyngra said. “The children are quickly able to associate the keys and the colors. In my books the music itself is written with the required color superimposed over the body of the note instead of the music being printed in standard black and white. In this way the children instantly recognize which note to play. Using standard methods, new learners usually have to decipher the music rather than play it.” Lyngra added that her new interactive method works equally well with children, adults and even individuals with learning disabilities. “By replacing the complex letter combinations and simplifying the music layout I have found that all new learners are able to immediately focus on the delight of making music, rather than the tedium of picking out the melody,” Lyngra remarked. “The students learn the music concepts in the storybook and then they exercise their new knowledge in the accompanying practice book. As they move through the story, the layers of knowledge build one upon the other until, by the conclusion of the tale, the students are able to read music in the standard form.” This was a very special project for Lyngra as she was not only able to involve her students in the development of the new learning method, but her mother, Beatrice Joan Wilson Powell, used her artistic talents to illustrate the story. The first two books in the series have just been printed and the next two books should be completed in fall 2004. “My goal is to bring the pleasure of music to everyone,” Lyngra said. “Parents don’t even need a music teacher to begin using my method with their children. With my books and a simple electric piano, every parent can introduce their children to the joy of playing a melody.”

Reprinted with permission from the Arab News (www.arabnews.com).
Modern civilization’s quest for a sophisticated, constructed environment is creating immense challenges in the engineering of the Earth. Understanding the Earth’s subsurface resources and infrastructure is key to planning for the future. We must balance our current needs for minerals, water and energy with the needs of future generations. Sustainable development is the goal—finding the balance between taking what we need today while at the same time protecting the resources for future generations. Promoting stewardship of the Earth for a sustainable global society is part of Mines’ mission statement and one of its primary goals.

Subsurface science and engineering deals with the properties and presence of rock materials, minerals and subterranean water. At Mines, it also focuses on the depths that might be reachable with existing or imagined excavation or probing technologies. In addition to learning about extractable materials, the subsurface is studied to gain an understanding of how rock materials behave over time so that suitable below-ground structures can be built.

The advancement and development of the technology and engineering of extraction, construction and remediation is another facet of subsurface science and engineering. This includes identifying and delineating deposits, designing mechanical equipment for tasks like drilling, excavating and tunneling, and designing equipment for handling and transporting rock and minerals. It includes equipment and processes for cleanup as well as techniques to transport and support people working in harsh underground environments.

Much research on campus addresses these issues. For the coal-mining industry, Mines scientists and engineers are working to reduce coal dust, a dangerous pollutant for miners working underground. Redesigned cutting heads have resulted in a 20 percent to 30 percent reduction in the amount of dust generated. Another research project is developing new borehole mining technology for energy sources such as lignite, sub-bituminous or bituminous coal or uranium. The new technology is more environmentally friendly, will not create major disturbances on the Earth’s surface, and can be applied to methane production or the natural gas industries.

Researchers in various departments are working to produce methane from coal beds and from other non-conventional resources because natural gas burns cleaner than coal, the major source of today’s energy. Coal-bed methane, which is formed during the conversion of biomass to coal, has gone from a low-value by-product to an actual target of exploration. Coal bed methane production is important for two reasons. First, if high quality methane is produced, it can be directly fed into the gas pipeline and contribute to energy needs. Second, producing methane from coal seams results in safer and less expensive mining activity if the coal seam is subsequently mined. Less ventilation will be required to dilute the excess methane and less methane will be released into the atmosphere. So, greenhouse gas emissions are reduced at the same time as additional energy is being produced.

Other research focuses on ways to recover natural gas from coal seams. CSM research is developing specific methods of extracting gas from thin and deep seams. Previously, extracting gas from such coal seams was not economically feasible, but with rising gas prices, it now is. The main new use for natural gas is to generate electricity. During the 1990s, most new electricity generation capacity was natural-gas fired. This puts a tremendous demand on a relatively inflexible natural gas supply, which historically has been a by-product of oil production.

Joint efforts between various departments also have produced research that simulates bulk material flow through drawpoints, openings in the rock where material such as ore or waste rock is removed. A critical problem is to design the geometry of the drawpoint (i.e., its size and shape) so that the blocks of ore or waste rock will flow freely. If the rock gets clogged in the opening, its removal is extremely hazardous to miners. Another extensive research program has been conducted with various mining companies and manufacturers to develop
A coal seam burns. Oil derricks are used for a better look. Beverly Hills dressed up an oil derrick for a better look.

For mechanical mining of high strength rocks, appropriate cutting tools and machinery for mechanical mining of high strength rocks. Mechanical mining of such materials would make the excavation process safer and less expensive by eliminating drilling, blasting and bulk material handling systems. Other researchers have employed off-the-shelf (GPS) technology to improve collision-avoidance techniques in large, open-pit mines.

Other CSM research has resulted in a practical new approach to determine the size of the pillars for deep coal mines. Utilizing the support action provided by crushing (yielding) coal, mines can be designed with smaller-sized pillars resulting in a safer and higher extraction of coal reserves. In many cases, it also will allow extraction of coal from those deep coal beds. Conventional design of mines at large depth (more than 1000 feet) would require excessively large, thus highly stressed, pillars, which can damage the mine roof. Some of the deep coal seams may not be mined safely and economically if the yield pillar design is not applied. Mines researchers also are using remote sensing techniques and seismic imaging to more accurately determine where petroleum and/or natural gas reserves may be found. They can use data from drill holes to directly test the subsurface. Electromagnetics and gravity are other geophysical techniques used to do underground imaging. These techniques can help find water, as well as energy sources. Measurements from surface and boreholes can be used to predict water flow and quality. Water resources in fractured rocks are also important because as the world population is growing, water levels in wells around the world are declining. Some of these water systems may not sustain the current demand, but it is difficult to determine sustainability and manage these resources because evaluating groundwater systems in fractured rocks is very expensive. CSM researchers are developing methods that use inexpensive, readily available data, coupled with computer modeling techniques, to characterize ground water systems and assess their sustainability.

Other researchers experiment with ways to store carbon dioxide – greenhouse gases – underground to aid with potential global warming. And water research may find ways to store water underground rather than in surface reservoirs as is currently common. How steep can an embankment be made before it starts to slide or cave in? How much load can be supported by the ground before some maximum settlement criterion is exceeded? CSM researchers are using computer models to assess the impact of statistically defined soil properties on geotechnical design. The statistical approach is particularly attractive in geotechnical analysis, because soil is one of the most variable of all engineering materials, yet site investigation data is often limited. Furthermore, there are other variable factors to be considered, such as drainage conditions and loading intensity. These more sophisticated approaches should lead to less conservative designs, which save money while preserving safety.

Researchers at CSM’s Kroll Institute of Metallurgy are currently working on a variety of industry-sponsored research programs including: an investigation of gold heap leach solution-ore interactions, magnetic separation studies on a vanadium containing titan-magnetite ore, pyrometallurgical recycling of electronic scrap, studying secondary leach systems for precious metals extraction, cyclone reduction of taconite (iron ore) fines, and a research program to benchmark the Kroll process for titanium extraction from ilmenite/rutile ore and evaluate other upcoming processes for titanium extraction based on molten salt electrochemistry. Industry-driven, new and innovative mineral processing and extractive metallurgy technology is being developed that will help society develop needed Earth resources in an economic and environmentally acceptable manner.

These and other research projects at CSM contribute to the larger and multidimensional goal of sustainable development in which we seek a balance that preserves the sophistication of our own lifestyles for future generations.

By Maureen Keller

Mines’ Mission Statement

The Colorado School of Mines . . . shall have a unique mission in energy, mineral, and materials science and engineering and associated engineering and science fields . . . This mission is achieved by the creation, integration and exchange of knowledge in engineering, the natural sciences, the social sciences, the humanities, business, and their union, to create processes and products to enhance the quality of life of the world’s inhabitants. The School is consequently committed to serving the people of Colorado, the nation, and the global community by promoting stewardship of the Earth upon which all life and development depend.

By Maureen Keller

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By Maureen Keller

By Maureen Keller

By Maureen Keller

By Maureen Keller

By Maureen Keller
By Carly Williams

"Nepal was awe-inspiring, with so many contrasting images and feelings. In juxtaposition with the incredible warmth of the people and the beautiful mountain setting was the cold of the river polluted with raw sewage and the garbage in the streets," said CSM Associate Professor Ron Cohen.

The need for advanced environmental studies in Nepal led Cohen, of the Environmental Science and Engineering Division, and Mohan Dangi MSc Env Sc '02 to Kathmandu in December. There they initiated the Environmental Pollution Control Engineering Global Pathways Project and signed a memorandum of understanding with the Institute of Engineering (IOE), Tribhuvan University (TU).

Dangi, the project's spearhead, grew up in rural Nepal in the town of Dhikpur and eventually moved to Kathmandu, which he said gave him different perspectives. "I want to transfer technology anyway, anywhere I can to help developing countries. I'm actively advocating it in Nepal," Dangi said. For the Global Pathways Project, Dangi said he was "interested in recruiting serious people who would make a promise and keep it."

Cohen fit that description. He and Dangi spent a lot of time working on the project and preparing for presentations before they left for Nepal. "Mohan wants so much to do something for Nepal. He is driven," said Cohen. They directed their focus toward four main goals:

- Suggest alternative technologies to eliminate arsenic in the water supply. The polluted runoff and rivers running through Kathmandu have created many environmental problems.
- Build an environmental curriculum for IOE. According to Cohen, the curriculum will be practical, advanced and complete.
- Develop an environmental course that can be taken by all diploma students. Every student needs to be educated on critical environmental issues in Nepal.
- Decrease failure rates in math and science courses. High failure rates are occurring partly because 80 percent of a student's grade is based on the result of one final exam, given by an exam "master." More exams or homework assignments would burden Nepalese professors who must work second and third jobs to augment their meager teaching salaries.

Partners with Mines in the project are Red Rocks Community College, the National Renewable Energy Laboratory and IOE's Center for Pollution Studies. Funding for the project was provided by the United States Agency for International Development and the Associate Liaison Office.

Once in Nepal, Cohen and Dangi met TU faculty, viewed the facilities and presented the new curriculum. Partners with Mines in the project are Red Rocks Community College, the National Renewable Energy Laboratory and IOE's Center for Pollution Studies. Funding for the project was provided by the United States Agency for International Development and the Associate Liaison Office. "They gave me good and pointed feedback," Cohen added. A hands-on approach—similar to the practical education provided by Mines—was taken in developing the new course for engineering students.

In addition, other steps were taken to help increase the retention of students. Texas Instruments™ donated 45 graphing calculators to be used as learning tools in the classrooms. Tom Niehoff, a Red Rocks Community College instructor, will teach math and calculus at IOE for a semester. A book drive in Colorado by Dangi and his brother, Kiran Dangi, resulted in a donation of 350 books to support the new curriculum, and demonstration kits are being developed. Dangi also raised $3,000, which will be matched in Nepal, to provide 10 King Birendra Memorial Scholarships to poor and needy children, representing rural and hilly districts of the kingdom.

Although some of the environmental problems in Nepal may be buried too deep within culture and tradition to be solved immediately, the relationship between TU and CSM stays strong through continuous communication and commitment to kept promises.

Garden at Lumni Hotel.

Simpson Enjoys Historic Career

This year, only one person in the country qualified for both NCAA Division II Cross Country National Championships and NCAA Division II Swimming National Championships: Gretta Simpson, a CSM senior. Simpson didn’t begin her collegiate career at Mines, but she has certainly left her mark here. Following graduation from Grand Junction High School, Simpson went to the University of New Mexico. But after one year, she decided it wasn’t right. “I wanted to come back home to Colorado to a smaller school where I could swim,” Simpson said. “Mines was a step down from Division I and enabled me to focus on my studies as well as swim.”

Her first year here in 2001-02, Simpson became the first female swimmer to compete at nationals although she didn’t earn All-American honors that year. But she did one year later, in 2002-03 by placing seventh in the 100 Fly in a time of 57.80. “Mentally, I was more ready for nationals the second and third times around,” she said. “I knew what to expect and had more confidence in my ability to swim.”

Simpson represented the CSM swimming program for the final time at the 2004 NCAA II National Championships in Buffalo, N.Y., from March 17-20. She swam in four events and earned All-American accolades by placing 13th in the 100 Freestyle and 16th in the 100 Butterfly.

Head Coach Dave Hughes knew this could be Simpson’s best season. Simpson and teammate Trisha Malberg were flirting with the idea of running cross country. Malberg decided she would and after much debate, Simpson decided she also would join the cross country team. “It was a tough decision for me because I felt like I wasn’t being a good leader for the swim team,” Simpson said. “But the cross-country team made me feel like my running was important, so I decided to join the team.”

“I realized that being part of the cross-country team was important and didn’t want to hold her back,” Hughes said. “Gretta had a plan and I had to trust her judgment.”

As it turned out, running cross country may have been the best thing to happen to Simpson. She helped the Harriers to the NCAA II National Championships for the first time in School history. The team placed 14th at nationals and finished the season at 16th, the highest ranking in School history. In addition, Simpson learned several valuable lessons. “Running cross country helped me build my endurance and was great conditioning,” Hughes said.

Then she would like to go to graduate school, but she also has Olympic aspirations in the triathlons (running, biking and swimming). Last summer, Simpson competed in several triathlons, won her age division and placed in the top 10 overall. “I’ve been working with a coach at the Colorado Triathlon Center and think it is a realistic goal for me to attain,” she said.

Brennecke Selected for RMAC Hall of Fame

Former Head Football Coach and Athletics Director Fritz Brennecke has been selected to the Rocky Mountain Athletic Conference Hall of Fame Class of 2004.

It marks the second consecutive year that Mines will be represented with a member of the Hall of Fame class as former Oredigger running back Lloyd Madden Geol E’41 was elected to the Hall in 2003.

Brennecke will be honored at a dinner and ceremony in Colorado Springs July 10.

The head football coach at CSM from 1947-1969, Brennecke led his squad to Rocky Mountain Conference titles in 1951 and 1958. He also served as the Athletics Director from 1947-1976 and was the National Association of Collegiate Directors of Athletics (NACDA) District 7 Representative from 1971-75.

Brennecke was inducted into the NACDA Hall of Fame in 1997 and served as an executive committee member for the NACDA as well. In addition, Brennecke was inducted into the Colorado Sports Hall of Fame in 1980.

By Greg Murphy, Sports Information Director
Retired mining engineer Robert T. Beckman EM ’57, MSc Min ’63 keeps busy in a variety of ways, but his most creative outlet is carving. He has carved more than 50 lifelike birds, a craft he’s been honing for about 25 years.

Beckman starts with bass wood from a linden tree, which is as hard as pine but has a less prominent grain. He works from photographs and uses a band saw to outline the shape of the bird. He does power carving using Dremel-like tools and uses carving knives for the details. He also uses high-tech wood-burning techniques to outline the feathers. The results are extremely detailed and lifelike birds.

Each piece can take up to 150 hours to make, but Beckman carves for the joy of it. Before he retired, carving was a hobby he could take on the road and do in his motel room at night. He has sold a few pieces, but carves for his own pleasure, not profit. It’s mostly relatives who are the lucky recipients of his work. Beckman won a blue ribbon at a show at the Jefferson County Fairgrounds for a carved duck decoy with outstretched wings, but he hasn’t shown his work publicly in several years.
Bednar ’61 Wins Distinguished Service Award

The International Society of Explosives Engineers presented its Distinguished Service Award to David H. Bednar EM ’61 in February. The honor is given to an individual who has made an outstanding contribution to the field of explosives engineering. ISEE President Tom Watts (left) presented the award saying that Bednar (right) was an innovator and true entrepreneur of the explosives industry and a leader in introducing and pioneering significant advancements in blasting for both underground and open pit mining.

In 1969, Bednar founded Viking Explosives & Supply, Inc. Viking developed and patented systems for de-watering and lining blasting holes. These systems were a vast improvement over the existing systems and offered significant blasting cost reductions to mines and quarries throughout the world.

Chuber ’52 Named Aapg Honorary Member

The 31,000-member American Association of Petroleum Geologists has awarded Stewart Chuber Geol E ’52 honorary membership. The award is presented to AAPG members who have distinguished themselves by their accomplishments and through their service to the profession of petroleum geology.

Chuber explored for hydrocarbons with Mobil Oil in Libya and later joined FrancoWestern Oil Co., and then Buttes Gas and Oil and Fire Resources. He also holds master’s and doctorate degrees from Stanford University. He is presently an active independent geologist in Schulenburg, Texas.

Watson ’50 is Mr. October

Carl Watson PE ’50 is Mr. October in the 2004 Gentlemen of Exemplar Colorado Lutheran Home calendar. According to his write-up, the retired petroleum engineer’s perfect weekend is a gorgeous, sunny day on the road for a leisurely drive listening to Perry Como. “He’ll usually end up somewhere breathtaking so he can indulge his passion for photography,” we’re told. “Then, after snapping a few pictures of the landscape, he’ll cast his line into the lake or just relax with a good book.”

Strack ’81 Wins SEG Award

Kurt M. Strack Bsc Geol ’81, president of KMS Technologies – KT Industries Inc. in Houston, has received the Reginald Fesenden Award from the Society of Exploration Geophysicists in recognition of his instrumental role in the development and implementation of through casing resistivity and 3D induction logging, which allow identification of bypassed hydrocarbons behind casing and in thinly laminated sand-shale sequences. These technologies were made possible through the application of state-of-the-art seismic acquisition and processing principles to the borehole environment. Strack received the award during the SEG’s 2003 International Exposition in October in Dallas.
SEVEN HONORED BY CSMAA

MELVILLE E. COOLBAUGH AWARD

FRANK STEPHENS JR. MET E ’42, chairman and CEO of Iron Carbide Holdings Inc., became interested in the potential of iron carbides as an iron and steel raw material while working as a research engineer at Battelle Memorial Institute after graduation. At the time, the material was not economically feasible. When Stephens returned to Golden, Colo., to become executive vice president for Hazen Research in the early 1970s, he worked on a way to make low-cost production of iron carbide. Helping him were CSM Professors Don Williamson and John Hager. In 1983, Stephens was ready to commercialize his idea. He obtained financing to buy back the patents from Hazen and licensed numerous major steel companies for building iron carbide plants. Because of his success, Stephens is known throughout the steel industry for his process developed with the assistance of CSM. Iron carbide has been used around the world as a substitute source of primary iron for steelmaking furnaces. Iron carbide provides an economical method of producing high quality, environmentally sound iron for steel production.

Stephens’ father, Frank Sr. EM ’39, and brother, William Met E ’39, are also Mines alumni. Stephens was a Mines Medalist in 1981 and received his honorary doctor of engineering in 1996. He served as chairman of the extractive metallurgy division of the American Institute of Mining, Metallurgical and Petroleum Engineers (AIME). He is a registered professional engineer and a member of the American Institute of Chemical Engineers.

OUTSTANDING ALUMNUS AWARD

MARSHALL C. CROUCH III GEOL E ’67 is founder, president and geological engineer for White Eagle Exploration in Denver. The firm, founded in 1974, has been active for 30 years developing oil and gas exploration and development projects in the Rocky Mountain, mid-continent and Alaska regions. Crouch began working in the oil and gas industry in 1964 for Plains Exploration and later moved to Kansas-Nebraska Natural Gas. He has long been an active member of the Alumni Association and is currently serving his second two-year tour on the CSM Foundation Board of Directors and serving on the Alumni Association Board of Directors. In the past, he served on the CSMAA Board in all officer positions including president. He was made an honorary member of the Association in 1990, and has helped plan all of his class reunions. Crouch has been active with the Rocky Mountain Association of Geologists (RMAG) and other geological and petroleum engineering societies, serving on numerous committees as a member or as chair. He received the Distinguished Service Award from the RMAG in 1995. He has also been active with CSM’s Potential Gas Agency for more than 15 years.

YOUNG ALUMNUS AWARD

ROXAN MACKENZIE HAYES BSC ENG ’95, P.E., has volunteered many hundreds of hours to the CSM Alumni Association and the Alumni Admissions Representative Program. Both she and her husband, Matthew B. Hayes BSc CPE ’95, P.E., have been active in the Association since graduation. Over the years, Hayes has attended college-night fairs at area high schools, presented Mines Medals and helped host freshmen send-off parties. She has served on the CSMAA board of directors two separate terms: one as Gulf Coast regional director and one as Rocky Mountain regional director.

Hayes was recently elected to serve as president of the Colorado section of the American Society of Civil Engineers, representing 3,300 civil engineers in the state. She is a senior civil engineer for Larimer County, Colo., and is the manager of the development review group for the engineering department. Roxann and Matt have an infant daughter, Breanna.

HONORARY MEMBERSHIP AWARDS

CHARLES “CHUCK” BAROCH MET E ’54, who also holds master’s and doctorate degrees from Iowa State University, has about 30 years of experience in research and development, manufacturing, engineering, marketing and new product development for the mining, metallurgical, environmental control and nuclear- and fossil-power generation businesses. In addition, he has more than 20 years of executive management experience including profit and loss responsibility. He is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers, the Colorado Mining Association, and is a registered professional engineer in both Ohio and Colorado.

In addition to his career, Baroch has a long history of civic involvement. He currently is in his second term as mayor of Golden, Colo., and is working for better relations between the city and the School. Baroch has served on the Golden City Council since 1996 and before he became a politician himself, helped other candidates run for office.
Honorary Membership Awards continued

PAUL B. DAVIS ‘EM ’39 set up Davis Engineering Service in Del Norte, Colo., in 1948 and has been serving the San Luis Valley ever since. His company has provided highly regarded civil and mining engineering and land and mineral surveying and consulting services since then. Davis is retired, but his son manages the Del Norte office and a branch office in Pagosa Springs, Colo., is run by his grandson, Michael M. Davis BSc Eng ’90.

In addition to his degree from Mines, Davis worked in numerous mines as a laborer so that he could learn all aspects of mining. He is a registered professional engineer and land surveyor in Colorado and other states and is also a commissioned mineral surveyor. He surveyed, designed and supervised construction of the water and sewer systems of many of the towns in and near the San Luis Valley. He did preliminary studies and designs of many of the dams built by the state’s wildlife division from the 1960s to the 1970s. Davis is also one of the most knowledgeable people of the history of mining in the San Luis Valley and the history of the land grants in southern Colorado.

STANLEY DEMPSEY is chairman and chief executive officer of Royal Gold Inc. in Denver. He attended Mines for one year before transferring to University of Colorado where he earned degrees in geology and law. He is a renowned expert in mining law, which includes public lands, environmental ethics, mineral royalties and mining finance, and is a staunch supporter of CSM.

Dempsey has operated small mines in Colorado and Montana and was employed for many years by Climax Molybdenum Company in various capacities including senior vice president. He also has served on various boards of directors including the Colorado Historical Society, where he has been chairman for three years, National Mining Association and Colorado Mining Association. His association with Mines includes serving on the board of directors of the CSM Research Institute and the Geotechnical, Energy and Materials Corridor and was a member of CSM’s Trustee Development Council.

BONNEY SAYRE, the widow of Robert H. Sayre Jr. EM ’34, who died in 2002, has always championed Mines. She was married to Bob for 62 1/2 years. Over the years, Sayre spent a lot of time in tents and mining shacks while her husband staked mining claims in various areas throughout the west.

Sayre still faithfully attends CSMAA section meetings in Grand Junction every month. Once a year, she and others get together to clean litter from four miles of highway. Two miles are for the School and the other two are for SME. After the job is done, Sayre and the other volunteers have a picnic. Together, the Sayres endowed a Mines scholarship fund for students and after Bob Sayres died, Bonney donated his athletic equipment to the School.

CSM invites nominations and applications for the position of director of Alumni Relations/executive director of the Alumni Association. The School has an enrollment of 2,600 undergraduate and 700 graduate students with approximately 16,000 alumni worldwide.

Responsibilities: The director serves as the chief executive of the School's Office of Alumni Relations and of the CSM Alumni Association (CSMMA), and reports directly to the School president. The director is also accountable to an independent Board of Directors of the CSMMA. The director supervises a small group of full-time professional and support staff, several part-time staff and volunteers.

Qualifications: Bachelor’s degree, documented successful experience in progressively responsible management positions, and experience supervising staff and managing budgets. Excellent leadership, interpersonal and communication skills are required. Experience working in alumni relations is desirable as is experience recruiting and leading volunteers.

To Apply: Alumni and other individuals who are familiar with the School and its mission are encouraged to apply. Salary will be commensurate with experience and qualifications. Applicants should submit a letter of application, a resume and a list of three professional references with phone numbers. Review of applications will begin on June 15.

CSM is an equal opportunity employer committed to enhancing the diversity of its faculty and staff and encourages nominations of women, minorities, veterans and individuals with disabilities are encouraged to apply.

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Three days after the book is released and available in bookstores, the price will increase to $61.95. Please allow 6-8 weeks for shipping and handling, or send direct orders to Colorado School of Mines Press, 1500 Illinois Street, Golden, CO 80401. All orders will be shipped via the U.S. Postal Service. Prepaid orders only. Payment must accompany all orders.


Order Your Limited-Edition Copies Today!
Colorado School of Mines received gifts of $25,000 or more from the following individuals between December 1, 2003 and February 29, 2004.

A final distribution of $203,338 was received from the estate of Allan Caplan for the Geology Museum.

Steve ’64 and Dolly Chesbroe made a gift of $50,000 to the Chesbroe Distinguished Chair in Petroleum Engineering.

Charlie Fitch ’69 supported the Chemistry and Geochimistry Department through a $50,000 gift to purchase laboratory equipment.

Robert ’68 and Ann Irelan made a gift of $25,000 as part of their four-year, $100,000 Transforming Resources campaign pledge. Their gift included $5,000 for the Mines Annual Fund, with the remainder designated for the Irelan Family Endowment for the McBride Honors Program.

A gift of $40,000 received from Alfred Ireson ’48 was matched with an additional $5,500. Of this, $3,500 was put toward the Mines Annual Fund and the remainder designated for the Ireson Family Endowment for the John U. and Sharon L. Trefny Resources Program.

Carolyn Mann made a gift of $50,000 to the Main Endowed Graduate Fellowship in Geology.

J. Robert Maytag has made payments of $112,500 toward his $175,000 Transforming Resources pledge. Mr. Maytag’s contribution will go to the Mining Department to fund the Max Bowen Mineral Processing Lab.

Steve Mooneyy ’86, president of the CSM Board of Trustees and a Guggenheim Society member since 1996, made a gift of $25,000 toward his $100,000 Transforming Resources campaign pledge. His gift will primarily support construction of the Recreation and Wellness Center, with $1,000 directed to the Annual Fund.

Steve Mooneyy ’86, president of the CSM Board of Trustees and a Guggenheim Society member since 1996, made a gift of $25,000 toward his $100,000 Transforming Resources campaign pledge. His gift will primarily support construction of the Recreation and Wellness Center, with $1,000 directed to the Annual Fund.

Edwin Peiker, Jr. ’54 made a gift of $25,000 to the Mines Annual Fund in honor of the Class of 1934 50th reunion.

Charles ’61 and Louanne Shultz made a $134,000 Transforming Resources campaign gift, creating the Charles and Louanne Shultz Athletics Scholarship Endowment Fund with $131,000 and designating the remainder to the Mines Annual Fund.

John and Sharon Trefny made a gift of $25,000 toward their $100,000 Transforming Resources campaign commitment to create the John U. and Sharon L. Trefny Endowment for Curriculum Advancement.

Helb ’29 and Dodie Young established a charitable remainder trust with a cash gift of $67,000. The trust is their second at Mines, and both will support the Young Environmental Issues Symposium Fund.

Colorado School of Mines received gifts of $25,000 or more from the following corporations and foundations between December 1, 2003 and February 29, 2004.

Anadarko Petroleum Corporation’s gifts totaling $45,000 support the Geology and Geophysical Engineering Department, the Geophysics Department, the Petroleum Engineering Department, and the School’s Society of Petroleum Engineers (SPE) student chapter.

The Boeing Company has donated a portfolio of innovative laser technology patents to Mines’ Center for Earth Materials, Mechanics and Characterization, housed in the Petroleum Engineering Department. The patents will help strengthen the Center’s plans to develop and market a field-ready laser drilling system.

The Viola Vestal Coulter Foundation gave gifts totaling $108,000 to support the following: the Coulter Chair in Mineral Economics, the William Jesse Coulter Instructorship in Mineral Economics, the Viola Vestal Coulter Instructorship in Mineral Economics, the Mineral Economics Department, and the School’s Society of Petroleum Engineers (SPE) student chapter.

The Phelps Dodge Foundation contributed $30,000 to the Phelps Dodge- Gonzales Endowment for Excellence in Mining Engineering.

Shell Oil Company and the Shell Oil Company Foundation have contributed $130,500 for departmental support, the Career Center, the Minority Engineering Program’s summer programs, and minority scholarships through the Shell Incentive Fund.

Ivanhoe Property Bequest to Benefit Colorado School of Mines received gifts of $25,000 or more from the following between December 1, 2003 and February 29, 2004.

Ivanhoe Mines Ltd. has made a gift of $32,955 to benefit the Department of Geology and Geophysical Engineering.

Ivanhoe Mines Ltd. has made a gift of $75,000 to support Dr. Robert L. Siegert’s research and educational activities in the area of on-site and alternative wastewater treatment.

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Metro Denver

The annual alumni association meeting was held in February and the new association president, Art Biddle ’93, was inducted. Other events in the metro-Denver area include a men’s basketball reunion and a women’s basketball reunion in January, a wrestling reunion in February, and a mixer at Woody’s in Golden, Colo.

North Carolina

The Raleigh section met at the North Carolina Museum of Natural Sciences to tour an exhibit of artifacts from the Titanic.

Florida

The Florida Bone Valley section met for its Florida Bone Valley phosphate plant tour and picnic.

International

Canada

Alumni in Canada met for breakfast at the Cordilleran Roundup in Vancouver in January.

Class Reunion on Mt. Whitney

by Richard Chinn BSc Met ’84, MSc Mat Sci ’95

Doug Chinn BSc CPR ’79, Dave Abbott BSc GeoP ’83, Geop E ’99 and I had discussed an assault on California’s Mt. Whitney for quite some time and last spring, we got a permit for a one-day attempt in August.

Doug was employed by Sandia National Laboratories and living in California at the time. Dave is a self-employed geophysicist consultant and programmer in the Denver area. I work for the U.S. Department of Energy in Albany, Ore. We rendezvoused in Oakland and drove to Lone Pine, Calif., where we had reserved a spot at a campground. John Wayne and other screen legends have been filmed riding horses and shooting outlaws among the boulders between Lone Pine and the Sierra Crest. We slept under the stars and watched Mars move across the Milky Way, unfettered by city lights.

Arising at 3 a.m., we drove to the Whitney Portal trailhead at 8,300 feet to begin our hike some two hours before dawn. The trailhead parking lot was crowded; 200 permits are issued each day. We had headlamps but I turned mine off because I was among several other hikers with headlamps. Big mistake! I stepped too close to the edge of the dark trail and went down after barely half a mile. I gouged my foot and lost some hide on my shin, but after a few biblical words, we gouged my foot and lost some hide on my shin, but after a few biblical words, we

We passed through two campsites, both equipped with solar-powered septic systems. Mt. Whitney, the most climber-dreaded fourteenner in the world, gets 10,000 hikers annually. The sewage treatment problem is formidable and helicopters are used to change the septic tanks. By mid-morning, we arrived at 13,777-foot Trail Crest, a saddle where the ridgeline of the Sierra Nevada intersects the eastern and western trails. The ridgeline is also the county line and the eastern border of Sequoia National Park. We passed scores of people in both directions.

The last 2.5 miles was a narrow, steep path among boulders and hard-packed dirt, but the snow was gone and the route was easy to see. We passed behind the summit of 14,496-foot Mt. Mather. The trail turned west as neighboring Mt. Russell came into view and the slope decreased. In the distance we could see the ramshackle hut built by scientists for the Smithsonian Institution in 1909. Altitude sickness was taking its toll but the summit was within reach!

The three of us spread out but all made it to the 14,497-foot summit shortly after noon. The skies were blue in every direction and the wind was negligible. We saw fourteeners to the north and south, Nevada and the White Mountains to the east and two national parks to the west. At any one time, 20 or so people stood on the summit – marked by six brass benchmarks and a plaque – all proud of their accomplishment. We took pictures and forced ourselves to eat. We were hungry and thirsty from the exertion, but at the same time nauseated by the altitude.

We had made the summit, but our hike was only half done. On the way down, we stayed together and maintained a good pace. We encouraged several other hikers who were on their way up.

When we arrived back at the car, it was nearly 7 p.m. Sore, tired and hungry we drove north to Bishop for supper and a hotel. I removed my boots to discover my badly swollen right foot had a palm-sized bruise. Doug and Dave were in good shape other than a few minor blisters. A shower and a bed never felt so good.

We had a very satisfying breakfast at Erick Schat’s Bakkerý in Bishop. We admired the salt towers at Mono Lake briefly. The lakes in the Owens Valley have been greatly affected by the development in faraway Las Angeles. We drove back to the Oakland airport while listening to The Who and Pink Floyd CDs, in a throwback to our formative years, sort of.

We parted company at the airport and returned home satisfied with our all-Mines get-together at the highest point in the country outside of Alaska. We are already talking about doing it again on another state summit in 2004.

Alumni in Canada met for breakfast.

Florida Bone Valley picnic

Florida Bone Valley phosphate plant tour

Men’s Wrestling Reunion

Men’s Basketball Reunion

Alumni in Canada met for breakfast.

2004 CSMAA Executive Committee: from left, John Schwartzberg ’88, Kathy Altman ’80, Art Biddle ’61, Roger Newell ’71, Alan Mercan ’79.

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In Memoriam

WILLIAM “BILL” ALLEN JR. G EOL E ’47 of Camano Island, Wash., died Aug. 3 after a year-long battle with brain cancer. He was 79.

WILLIAM H. KOHLER EM E ’41 of Grand Junction, Colo., died Jan. 11 from pneumonia resulting from complications of Parkinson’s. He was 85. Born in Buffalo, N.Y., Kohler moved with his family to Craig, Colo., as a small child. He was valedictorian of his high school and earned a scholarship to Mines. While working as an engineer of mining, Kohler lived in various places including Butte, Mont., Bishop, Calif., Urvan, Rifle and Grand Junction, Colo., and Winnemucca and Reno, Nev. He also lived in Stamford, Conn., while working in New York City. In his long tenure of exploration work for Union Carbide, he traveled the world from Canada to South America and Africa.

JOSEPH R. GIBERT MET E ’48 of El Sobrante, Calif., died Oct. 29, a few days shy of his 90th birthday, after a courageous battle with lung cancer. He was 76.

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offshore seismic crew. Three years later he became manager of operations for Chevron-Geophysical. In 1956 he was made vice president and manager of operations for Chevron and remained in that position until 1963 when he became chief geophysicist in the exploration department of Western Operations. He later became assistant to the vice president and general manager. In 1969 he was named president of Chevron Geosciences, retiring in 1984. Stommel was active in industry and civic affairs and held membership in the American Association of Petroleum Geologists and the Society of Exploration Geophysicists. His hobbies included fishing, reading, investing, smoking his pipe, inventing household gadgets and fixing everything around the house himself. Stommel is survived by his wife of 59 years, Margaret, two daughters, two sons, 10 grandchildren and two great-grandchildren.

CHARLES B. HART EM ’73 2003

JOHN P. DEMPSEY MET E ’49 APRIL 27, 2003

GERALD A. GIESEKER BSC MET ’72 AUGUST 2003

HAROLD “Hal” W. STOUTER EM ’51 died Nov. 8 in Jeffersonville, Ind. He was 77. Stoutier was a project manager for Essex Cement Company, retiring after 30 years. A veteran of the U.S. Army, he served in World War II with the 10th Mountain Division. He received the Infantryman’s Medal and Bronze Star while serving in the 10th Mountain Division. He was born in Denver and graduated from South Denver High School. While at Mines, he lettered in tennis. After graduation, he married Edith Craig and they moved to Bridgeport, Conn., where he was a metallurgical engineer with Remington Arms Plant. Turner was then transferred to Lakeok, Colo. His next move was to University of Chicago where he was engaged in criticality measurements. From there he moved to Oak Ridge, Tenn., where he was a metallurgist. In 1944, Turner moved to Richland, Wash., to work at the Hanford plant. He also worked for Dupont, General Electric, Ballistic Northwest and Westinghouse Hanford before retiring in 1977. Turner was a member of two bowling leagues and was an avid golfer. He was a past president of the Columbia River Basin Chapter of the American Society for Metals and a member of CSMA, Kiwanis Club and Salvation Army Advisory Board. His wife passed away in 2006. He is survived by two daughters and a son. Turner’s family members included a number of Mines graduates: father-in-law Allen Craig ’14, brothers-in-law Clyde Penney ’36, 40 and Donald Craig ’48, nephews Bruce Craig ’70, ’75, ’80 and niece Penney ’36, ’40 and Donald Craig ’48, Turner’s family members included a number of Mines graduates. Margaret, a son, three daughters and five grandchildren.

Epsilon. He is survived by his wife of 52 years, Margaret, two daughters, two sons, 10 grandchildren and two great-grandchildren.

LOUIS D. TURNER MET E ’41 died Jan. 8 in Kennewick, Wash., a few weeks shy of his 90th birthday. He was born in Denver and graduated from South Denver High School. While at Mines, he lettered in tennis. After graduation, he married Edith Craig and they moved to Bridgeport, Conn., where he was a metallurgical engineer with Remington Arms Plant. Turner was then transferred to Lakeok, Colo. His next move was to University of Chicago where he was engaged in criticality measurements. From there he moved to Oak Ridge, Tenn., where he was a metallurgist. In 1944, Turner moved to Richland, Wash., to work at the Hanford plant. He also worked for Dupont, General Electric, Ballistic Northwest and Westinghouse Hanford before retiring in 1977. Turner was a member of two bowling leagues and was an avid golfer. He was a past president of the Columbia River Basin Chapter of the American Society for Metals and a member of CSMA, Kiwanis Club and Salvation Army Advisory Board. His wife passed away in 2006. He is survived by two daughters and a son. Turner’s family members included a number of Mines graduates: father-in-law Allen Craig ’14, brothers-in-law Clyde Penney ’36, 40 and Donald Craig ’48, nephews Bruce Craig ’70, ’75, ’80 and niece Penney ’36, ’40 and Donald Craig ’48, Turner’s family members included a number of Mines graduates. Margaret, a son, three daughters and five grandchildren.

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William A. Jursik BSc CPR is an industry analyst for EmissionsRebates and Supply Inc. in Sobabobo, Va.

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Robert B. Hyder BSc CPR is a drilling engineer for ExxonMobil in Bay City, Tex.

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Brian D. Dibble BSc CPR is a staff印章 for Petronas Carigali Sdn. Bhd. in Kuala Lumpur, Malaysia.

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John D. McCarthy BSc CPR is a manager of marketing and sales for Bodies Solutions in Golden, Colo.

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Douglas G. Barr BSc Eng is a drilling engineer for Sherritt International Corp., in Vancouver, B.C.

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Robin L. Schott BSc CPR is a senior engineer for the Deerpoint Co., in Terraza, Calif. Robert D. Scott BSc Phd, BSc Math is in the U.S. Navy and is a student at the Massachusetts Institute of Technology.

1997

Kirk A. Amstol BSc CPR is an operations planning engineer for ConocoPhillips in Sumner, Texas. Michael T. Barth BSc Eng is an equipment engineer for Allied Semiconductors in Colorado Springs. Susan Evans BSc CPR completed her master’s in engineering management from Drexel University in December. She is a quality engineer for ALZ (a Johnson & Johnson Co.), in Vacaville, Calif., and spent the summer of 2003 helping to start up ALZ’s new pharmaceutical plant in Ireland. Charles L. Ferris BSc Math is senior software engineer for Linux Entertainment Inc., in Boulder, Colo. A.Z. Scott Goldberg BSc pet is an associate in the business transactions section for Jackson Walker LLP in Dallas. Prior to law school, Goldberg was a petroleum engineer in the oil and gas industry. She completed her master’s in environmental management from City University.

1998

Jennifer Huber BSc CPR; married Scott Edick Nov. 6 in Colorado Springs. The couple resides in Monmouth, Colo. Jennifer is an engineer with Colorado Springs Utilities and Scott is a firefighter/patrolman in Castle Rock. Crissy Tommori Macdonald BSc.

1999

Aaron J. Atherton BSc CPR is a senior analyst for Asian American Applications International Corp., in Liberal, Kan. T. Thoby Taylor BSc Eng is a digital systems consultant for Agilent Technologies Inc., in Portland, Ore.

2000

Francis Amos MSc CPR, PhD MSc ’00 is a mechanical engineer in the building and fire research laboratory for the National Institute of Standards & Technology in Gaithersburg, Md. Jonathan J. Bennett BSc Gogp is a defense systems engineer for Lockheed Martin Corp., in Lakewood, Colo. Jason A. Brockner BSc Eng is a senior project analyst for Quest Service Corp., in Denver. Andrew M. Capra BSc Eng is a pharmacy tech at Sutter Pharmacy in Lakewood, Colo.

2001

Ryan C. Hogle BSc CPR is a controls systems engineer for the Army Corp., in Birmingham, Wash. Christopher A. Jarrett BSc Eng received an MBA from Oklahoma City University. David W. Loring BSc, MSc & Tech Mgmt ’92 is an engineer for Mine Ventilation Services Inc., in Lakewood, Colo.

2002

Brian A. Adams BSc Mnr is a reliability engineer for Kennecott Energy in Helena, Ore. Laura M. Redelich BSc Chem married Steven K. Salas June 15 in Denver. Jordan A. Cates, daughter of Misty (Jackson) Cates BSc Eng, was born October 2011. “Being only 2 years old, her abilities of finding things around the house have her mother on her way to becoming the next Mrs. student in our family,” says her mother.

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by Fred Nagel `EM '40

The Alaska-Canada (ALCAN) Highway, an inland route, came about because of the Japanese threat to Alaska during World War II. Because it was wartime, the road was a military project.

The construction of a military road is vastly different than that of a civilian road, even back then. A military road is not a four-lane highway or even a two-lane road with respectable grades, curves and drainage. It’s merely a passageway through which you can push, pull or drag military vehicles and equipment.

One of the military units involved in the construction of the highway was the 35th Combat Engineers, of which I was a member. Our task was to construct a military road from Dawson Creek, British Columbia, Canada, to the Elmdorf airbase in central Alaska nearby Fairbanks – a distance of about 1,500 miles or roughly the same distance as between Denver and New York. My unit was responsible for constructing the south end of the highway.

I ended up working on the highway by mistake. When, while taking my ROTC refresher course at Ft. Leonard Wood, Mo., I learned volunteers were being sought for an assignment in the Pacific Northwest, I signed up. I had asked around and the consensus was that “Pacific Northwest” meant California or Oregon.

To my dismay, I found our destination was, instead, British Columbia, Canada. My group of 30 or so volunteers traveled north and west by train for about six days, arriving in Dawson Creek, B.C., in inescapably, British Columbia, Canada. My group of 30 or so second lieutenants traveled north and west by train roughly the same as the distance between Denver and New York. My unit was responsible for constructing the south end of the highway.

One challenge was the numerous bridges and culverts that needed to be built. The entire stretch of highway was over a mile apart along the tentative highway route. When the construction of a military road is overtaken. When the construction of a military road is 20-25 miles long, you run into a lot of problems: the spring thaw caused the mud up to one foot deep along sections of road built over muskeg. But work did progress and slowly the ALCAN road began to become year-round passable. Not good, but passable. In late spring, the U.S. Bureau of Public Roads took over maintenance of the highway and began hiring private contractors to improve alignment, grades and drainage.

During my stay in the frigid north, I ran into a former company, Margaret G. Churchill MSc Env Sc, is another story. Canadian highway project and sent to Camp White, Washington. It was called the CANOL project because it was established to be a Canadian oil source. Our 35th Engineers began construction of another road that was to connect Alaska with the United States.

Later that year, our company was pulled off the road. Those days were -62 degrees F. That day I got above -50 degrees F and one of those days was -62 degrees F. That day I was at Watson Lake when a trucker came into our Quonset hut cursing and holding a bottle of whisky practically frozen solid.

In early spring 1943, I was put in charge of a dump truck detachment and a small truck-mounted power shovel to locate gravel pits and apply the gravel as a base and road surface. It seemed a losing battle: the snow thaw caused mud up in one foot deep along sections of road built over muskeg. But work did progress and slowly the ALCAN road began to become year-round passable. Not good, but passable. In late spring, the U.S. Bureau of Public Roads took over maintenance of the highway and began hiring private contractors to improve alignment, grades and drainage.

During my stay in the frigid north, I ran into a former maintenance company. While renewing our friendship, he broke out some 180-proof alcohol that we mixed with orange juice to make a beverage. Afterward, I returned to my tent, climbed into my arctic sleeping bag, and became violently ill. I left the tent to go outside, but as soon as the below-zero cold hit me, I forgot why I had come out and crawled back inside to sleep it off.

Later spring 1943, my battalion moved above the Arctic Circle to the Yukon Territory near Whitehorse to begin construction of another road that was to connect the ALCAN highway with a gas pipeline from Ferrolium Wells. It was called the CANOL project because it was built to be a Canadian oil source. Our 35th Engineers took over from another outfit and I was talked into signing for a tractor that was stuck on a frozen lake, but still in good condition. A few days later I learned that it was the lake, not on it. It’s probably still there.

Later that year, our company was pulled off the Canadian highway project and sent to Camp White, Ore., where we were assigned to pick potatoes – but that is another story.
A dance and drum performance set toes tapping at the National Society of Black Engineers cultural celebration, held in the Student Center during Black History Month.