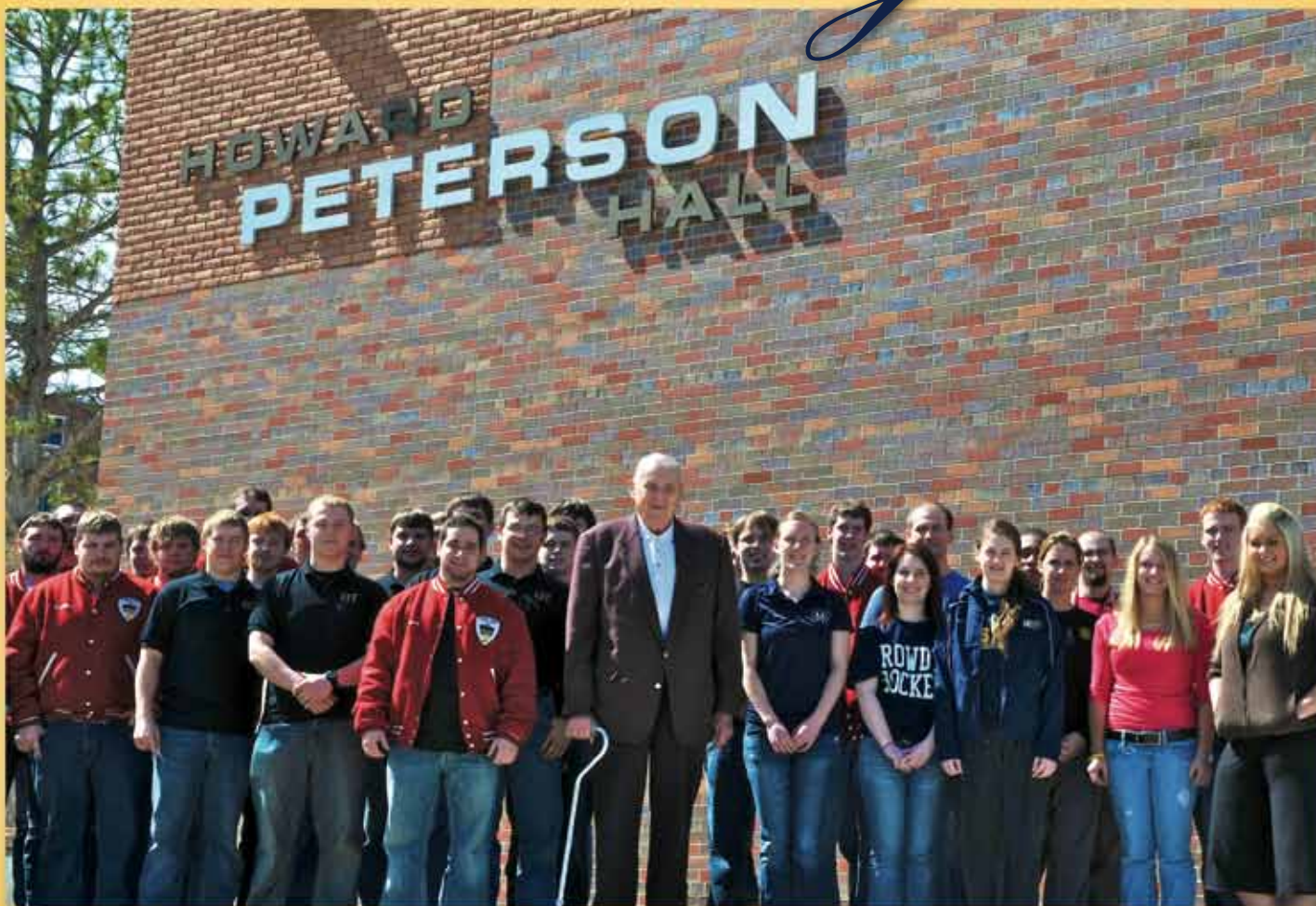


# THE HARDROCK™

SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY

SPRING/SUMMER 2011

## *A Living Legend*



- **ALSO IN THIS ISSUE:**
- FIGHTING AGAINST A SMALL GLOBAL INVASION
  - EXPANDING OUR REACH AND IMPACT
  - BUILDING THE DREAM
  - FACULTY PROFILE: DR. JAMES FEISZLI
  - ALUMNI CHAPTER OF THE YEAR — PIERRE, S.D.

# PERSPECTIVES



Dear Alumni and Friends,

From our outstanding faculty and staff, Mines students obtain a world-class education and have significant opportunities to gain practical experience, perform research and develop leadership abilities in their fields of study. Through our traditions we build a sense of community. In this issue of *The Hardrock*, we touch on these major strengths of the student experience at the School of Mines.

Readers will meet a familiar face as we pay tribute to an exceptional asset to the student experience, living

legend **Howard "Dean Pete" Peterson** (Geol50). Dr. Peterson has been with the School of Mines for 55 years, and his service exemplifies the individual attention and support our students receive as part of the Hardrocker family. We also honor another long-term contributor, **Rod Pappel** (ME77), whose 20 years as president of the SDSM&T Foundation leaves the School of Mines in the strong position we find ourselves today.

Our academic programs are transitioning to meet the increasing need for global perspective in science and engineering. "Fighting Against a Small Global Invasion," chronicles how associate professor Dr. **P.V. Sundareshwar's** research on an invasive aquatic species in a local waterway has connected him to researchers from Patagonia to New Zealand. In "Expanding Our Reach and Impact," we present the many ways the School of Mines fosters international connections so that all students and faculty have ready access to learning and research opportunities worldwide.

As we encourage students to broaden their geographic perspectives, we highlight an outstanding individual who leads students in expanding their horizons in music, Dr. James Feiszli, who has recently received several prestigious awards.

We present an update on our Building the Dream capital campaign's steady progress toward our goal of \$50 million, and announce the opening of an engineering design center in the Black Hills Business Development Center by Caterpillar, Inc., a long-time partner of the School of Mines. The Design Center expects to eventually employ up to 100 people and provide employment opportunities for School of Mines' graduates.

In alumni news, Dr. **Kathryn Johnson** (GEOL86) shares her thoughts as the newly-elected president of the South Dakota Board of Regents on top priorities for the Board in the upcoming year.

Finally, "Big Rivalry, Big Game, Big Win" recounts the tale of the Hardrocker football team's winning effort in bringing the Homestake trophy back home.

Enjoy this issue of *The Hardrock*, in which we celebrate the people and traditions that are the foundation of the School of Mines experience.

Sincerely,

**Robert A. Wharton**, Ph. D.

President

South Dakota School of Mines and Technology

**THE HARDROCK**

SPRING/SUMMER 2011

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Greetings SDSM&T Alumni,

By way of an introduction, I am a 1970 graduate, plus one half, in mechanical engineering. I came to the School of Mines from Lemmon, S.D. After graduation I spent my entire career working in the construction material supply industry in Rapid City, retiring three years ago. What follows are some observations on our beloved college after roughly 40 years of not being on my radar screen.



The campus is relatively unchanged except for the new buildings. The institutions of learning, including the faculty, are greatly improved. The graduates are much the same except they look much younger than I remember my colleagues looking. We have an exceptional President, Robert A. Wharton, Ph.D., who is moving the institution forward and is planning for growth in all areas. The Alumni Association and its fundraising partner, the SDSM&T Foundation, are both doing fine and are accomplishing their missions. At the halfway point in my one-year commitment to the Association as your president, a question I often hear is: "What are the differences between the Alumni Association and the Foundation?" Let me try to answer that question as I see it.

With a paid staff of two, the Alumni Association is a small organization that has the primary goal of keeping all alumni connected to each other, as well as to the college. It survives on small contributions from many alumni. We are the keepers of the traditions, the organizers of the fun and the grantors of recognition, for all alumni. To view all of the events that we participate in during a year, visit the new Web page, sign-in, and update your profile.

The Foundation is a larger organization of paid professionals who have the principal goal of raising money, primarily from large contributors, to support the university through scholarships, capital campaign contributions for construction projects and the acquisition of key adjoining real estate for future campus growth. The Foundation excels at generating and growing endowed money from major donors through the complex methods of estate planning and tax minimization strategies. Both organizations are an integral part of the past, present and future of the university.

As you have probably been notified, the Foundation is currently in the process of recruiting a new president due to the recent resignation of Rod Pappel (ME77), its leader for the past 20 years. For those of us in the Rapid City area, Rod has been a fixture at many events and initiatives associated with the university; and for many alumni and others in the community, the single most recognized individual from campus. He has served us well—always with a smile on his face and a twinkle in his eye—and will certainly be missed by all who have had any association with him. We at the Alumni Association wish him well in his future endeavors and sincerely hope he stays connected to the South Dakota School of Mines in the future.

Sincere regards,

Pete Birrenkott (ME71)

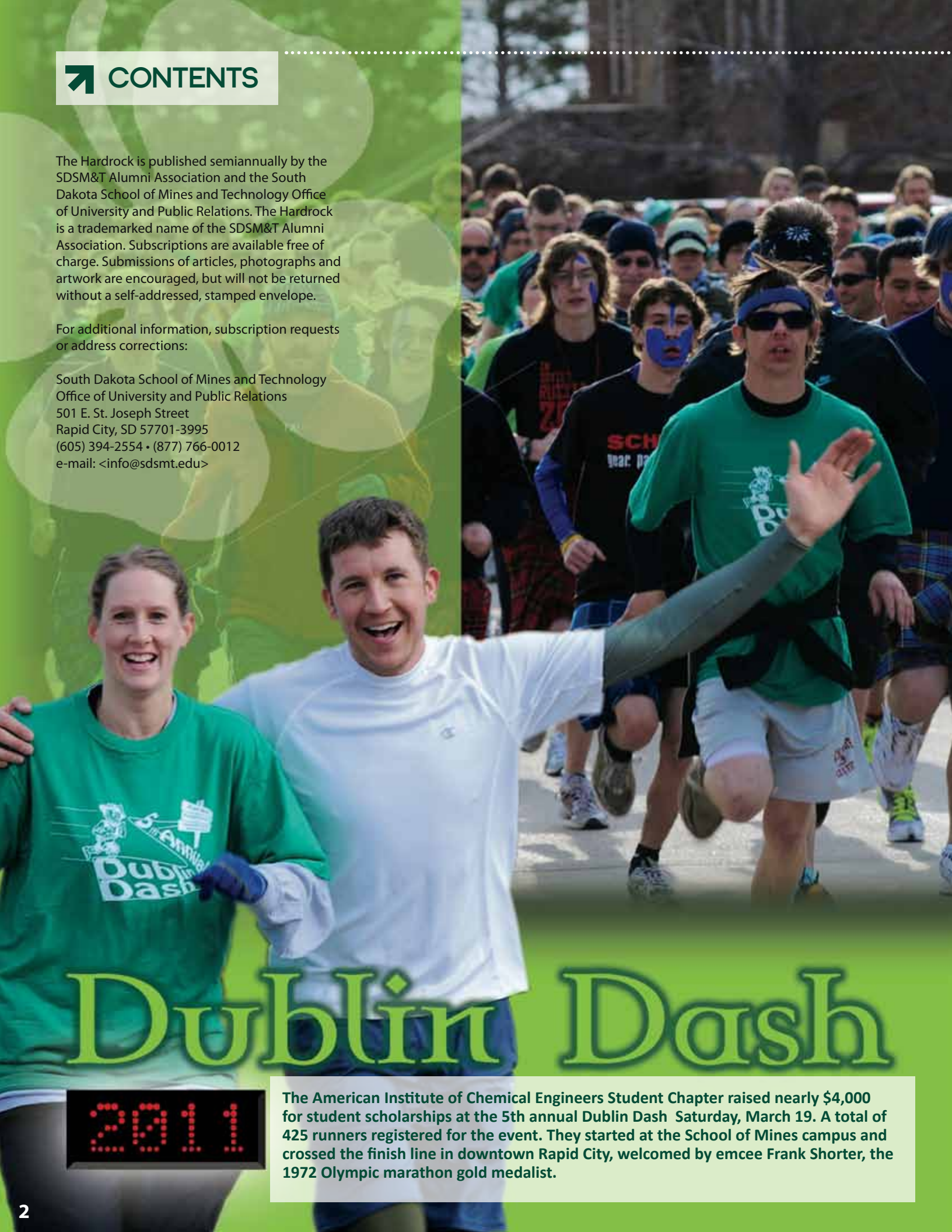
SDSM&T Alumni President

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# Dublin Dash

2011

The American Institute of Chemical Engineers Student Chapter raised nearly \$4,000 for student scholarships at the 5th annual Dublin Dash Saturday, March 19. A total of 425 runners registered for the event. They started at the School of Mines campus and crossed the finish line in downtown Rapid City, welcomed by emcee Frank Shorter, the 1972 Olympic marathon gold medalist.



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## Teaming to Train Future Engineers

The South Dakota School of Mines and Technology, Oglala Lakota College (OLC) and South Dakota State University (SDSU) were recently awarded a major cooperative grant from the National Science Foundation for an educational experiment titled "OLC/SDSU/SDSMT Pre-Engineering Education Collaborative" (OSSPEEC). The new program is designed to attract more Native American students into engineering fields and to provide them with greater support and mentorship while they work toward completion of an engineering degree.

Native American students in the program acquire their basic engineering training as freshmen and sophomores at OLC, after which they will transfer to either the School of Mines or SDSU as juniors for completion of their engineering degree. Curricula designed for the OSSPEEC program will include classroom instruction at all three campuses, online classes, real-world experiences through service learning projects and extensive interaction with cultural and community leaders.

A significant element in the OSSPEEC program will consist of a project-based service learning approach in which students identify critical needs or problems within their local communities and then design engineering solutions and work as a team to alleviate the needs or resolve the problems. Service learning projects will primarily pertain to issues such as water quality and quantity investigations, sustainability of natural resources, green energy alternatives, engineering construction projects and other topics related to natural resources and infrastructure in reservation communities.

The grant currently is approved for five years with a total support level of \$1.25 million awarded to OLC, \$825,000 to the School of Mines and \$825,000 to SDSU.

## ACM Team Earns Bid to World Finals

After matching up against more than 8,700 teams, made up of more than 26,000 students from 86 countries, the School of Mines landed a spot in the coveted top 100 and earned the right to compete in the World Finals of the American Computing Machinery (ACM) Programming Contest.

The team – **Matthew DesEnfants** (CSci, Clear Lake), **Randy Foudray** (CSci, Box Elder) and **Ethan Robish** (CSci, Strandburg) were initially scheduled to compete in February 2011 in Sharm El-Sheikh, Egypt; however, the competition was moved to late May in Orlando, Fla., when civil unrest erupted in Egypt.

The contest requires a unique combination of skills: to solve each problem, all team members must be able to write programs in C++ computer language; and each team needs members with algorithm development skills, strong mathematical ability and at least one person who is very skilled at debugging the programs that the team writes.

## Facilities Services Nationally Recognized for Sustainable Practices

ARAMARK Higher Education, the facilities and dining services provider at the South Dakota School of Mines and Technology, works to be a key environmental steward at the School of Mines and the 600 other colleges and universities it services.

In recognition of its sustainable efforts, worldwide cleaning



industry association ISSA has awarded ARAMARK Higher Education with the Cleaning Industry Management Standard (CIMS) Certification and CIMS-Green Building (CIMS-GB) Certification with Honors, making

it the first company in the higher education sector to receive both certifications with Honors for services provided nationwide.

At the School of Mines, ARAMARK Higher Education incorporates green cleaning activities such as the use of Green-Seal Certified cleaning products and ionized water for chemical-free cleaning. In addition, all disposals (towels, tissues and other items) are LEED-certified with 40 percent post-consumer content and 95 percent recycled content.



## Student Organizations Help to Feed South Dakota

Student organizations at the School of Mines banded together to feed South Dakota during the Martin Luther King, Jr. Day of Service.

On Monday, Jan. 17 – the 25th anniversary of the celebration of Martin Luther King, Jr. Day – students representing various School of Mines student organizations worked to collect canned and boxed food donations for Feeding South Dakota, a hunger relief organization working to end hunger in the state. Students were stationed at eight grocery stores, and collection areas were set up at several locations across campus.

The volunteers raised 818 pounds of food and \$360 to benefit Feeding South Dakota.

Student Organizations participating included CAMP, Campus Ministries, Circle K, India Club, Leadership Development Team, Rotaract and the Student Association.



## Team Successes/Competitions

The School of Mines took second place in Zone 3 in the Engineering Student Design Competition, also known as the Big Beam Contest...**Austin Wentz** (CSci, Summerset) competed against 3,537 students to take sixth place in IBM's Master the Mainframe competition...The School of Mines student team placed second in the American Society of Mechanical Engineering Student Design Competition Finals...The Ham Radio Club placed eighth in the Amateur Radio Collegiate Championship.

## Changing Cultures and Attitudes

While the United States has seen virtually no increase in the number of students entering engineering fields in the past 20 years, the number of engineering graduates from China and Japan has risen rapidly – an increase of 161 percent and 42 percent, respectively. Moreover, while other professional fields in the United States have seen increases in female participation, women continue to be underrepresented in engineering disciplines.

"To get the innovation we need in science and engineering, we need a bigger, more diverse pool from which to draw," said Dr. **Jon Kellar** (MetE84), principal investigator in the \$595,700 project "Culture and Attitude – Innovated Partnerships for Success," funded by the National Science Foundation. The project will seek to address these disparities by emphasizing gender equity while increasing the overall number of B.S. graduates in metallurgical and industrial engineering. The research team plans to achieve the project's objectives through



targeted recruitment strategies, a designated scholarship fund, student support services and a change in the delivery of classroom content.



# FIGHTING AGAINST A SMALL GLOBAL

## INVASION

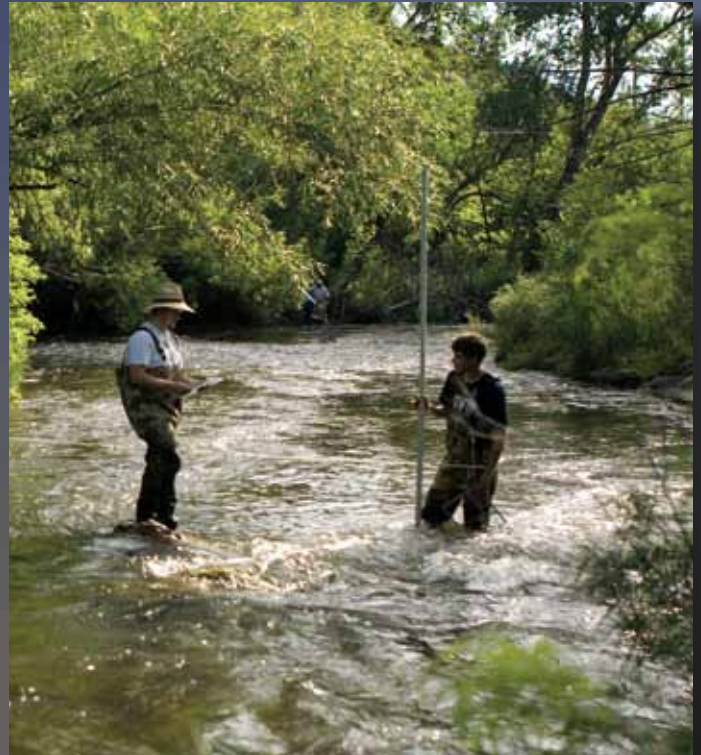
When Dr. P.V. Sundareshwar, an associate professor in the South Dakota School of Mines and Technology's Institute of Atmospheric Sciences, received a grant from the National Science Foundation in 2007 to study an aquatic nuisance lurking in the university's backyard, he began a scientific journey that would take him around the world.

Rapid Creek, an 86-mile-long tributary of the Cheyenne River, rises in the Black Hills and meanders through Rapid City on its way to join the larger waterway. Long a haven for fly fishers seeking brown, rainbow, and brook trout, the creek's delicate ecosystem began to falter in 2005 when blooms of the invasive diatom, *Didymosphenia geminata*, or "Didymo," were discovered.

Didymo blooms, unlike those of other algae, occur in nutrient-poor waters. "This is such an intriguing organism because it's a mystery why it grows so prolifically in an environment where key nutrients for growth are in such short supply," Sundareshwar says. "Unfortunately, it means that the natural beauty of these pristine waters is a key factor in their downfall." Although not harmful to humans, the blooms can potentially impact ecosystem health and the economy of many communities. Extensive blooms threaten fisheries in streams and rivers by altering the type and abundance of macroinvertebrates which form the food-base for fish.

The threat to Rapid Creek's fish population spurred the South Dakota Game, Fish and Parks to initiate a program to mitigate the spread of the Didymo blooms in Rapid Creek by dosing the waterway with nutrients. Sundareshwar, who also serves as the state carbon scientist for South Dakota and director of the School of Mines' Biogeochemistry Core Facility, utilized his NSF grant to study the impact of the program on the creek's ecosystem.

A single cell of Didymo is enough to start the diatom's invasive spread. As it grows, Didymo attaches to the streambed with a stalk. When the diatom's single cell divides during reproduction, the stalk also divides, and through this process, a thick mat of brown slime can spread quickly to cover entire streambeds. Eventually, the ends of the stalks tatter and shred into the waterway, often resembling clumps of tissue.



Research being done by associate professor P.V. Sundareshwar and School of Mines students on an invasive aquatic diatom found in Rapid Creek is helping to mitigate the threat that the organism poses to pristine rivers worldwide.



A single drop of water is enough to contaminate a waterway with Didymo, which can quickly spread to cover an entire streambed with a thick mat of brown slime, adversely impacting fish, aquatic plants and invertebrates.





“This is such an intriguing organism because it’s a mystery why it grows so prolifically in an environment where key nutrients for growth are in such short supply”

— Dr. P.V. Sundareshwar



*For his assistance in controlling the spread of the invasive diatom Didymo in Patagonia’s ecologically and economically important waterways, associate professor Sundareshwar received the Congreso Nacional Senado Medal, the highest civilian honor bestowed by the government of Chile.*

Didymo became a global problem when the diatom dramatically expanded from its native ranges in Europe, Asia and parts of North America to temperate rivers worldwide. It made its debut in the Southern Hemisphere in 2004, when it was discovered in New Zealand. The country quickly instituted management programs, but the diatom spread rapidly throughout South Island, which is now classified as a Controlled Area for Didymo by New Zealand’s biosecurity agency.

Much like the waterways of New Zealand’s South Island, the rivers of Chile’s Patagonia region are a prized national and international resource. Adventurers from across the world journey to the region’s pristine waters to fly fish, kayak and whitewater raft. In 2010, a group of kayakers on Patagonia’s Futaleafu River happened upon what looked like tissue paper floating in the water. Concern about sewage pollution quickly turned to dismay when the material was instead identified as Didymo.

The appearance of the diatom raised grave concerns for the recreation-based economy of the area—once introduced, the species cannot be eliminated, only mitigated. As the Chilean government began a race against the clock to control the threat, they turned to Sundareshwar for help.

Working with an international team of scientists and managers, Sundareshwar applied his expertise to the design and implementation of measures to prevent the diatom’s spread. These measures included creating protocols and training programs for detection, sampling and sanitation; developing tools and timelines for early detection and rapid response; and identifying critical areas for additional research, such as identification of factors that contribute to diatom blooms and methods for control, management and restoration of waterways already impacted by Didymo.

In recognition of his leadership role in the preservation of Patagonia’s rivers, the Government of Chile awarded to Sundareshwar the Congreso Nacional Senado Medal, the highest civilian honor bestowed by the nation. Sundareshwar continues to collaborate with the Chilean government and international scientists to control the spread of Didymo and help protect the integrity of these vital ecosystems.

Research recently completed by Dr. Sundareshwar suggests that the availability of iron may be a key determinant of the ability of Didymo to bloom in low nutrient waters. This discovery not only helps with the identification of water bodies that are susceptible to Didymo blooms, but also assists in the development of effective management strategies. Based on their research results, Dr. Sundareshwar and his team are currently developing a chemical cocktail that could potentially retard the growth of the diatom.

“Exploring the key variables and the impact the occurrence of Didymo in Rapid Creek has the potential for discoveries that may stem this organism’s prolific growth in other rivers, not only in this country but anywhere in the world,” Sundareshwar said. “This is how science is supposed to work — that research conducted at one small creek in South Dakota can translate across the globe.”

# Expanding Our Reach and Impact

The world today is a global marketplace where goods and ideas are shared across literal and cultural borders. It is becoming increasingly critical that students acquire the skills to be able to compete in this complex environment.

Engineers and scientists have a unique ability to work across these borders, even more so than in many other professions. By creating and fostering opportunities for cultural experiences, the School of Mines is ensuring that students have experiences that give them a better understanding of global issues and the tools to navigate an increasingly interdependent world.

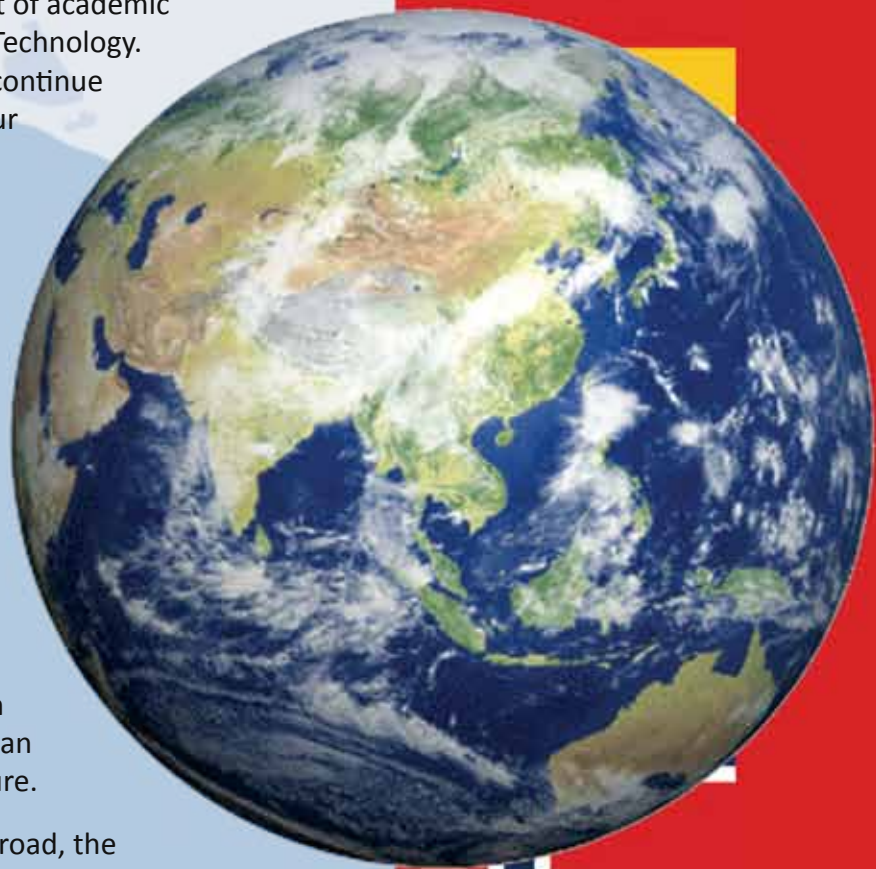
“We recognize that science and engineering are global professions,” says Dr. **Duane Hrnecir**, provost and vice president of academic affairs at the South Dakota School of Mines and Technology. “As we educate leaders in these fields, we must continue to find ways to put international experience in our curriculum.”

According to Hrnecir, it is critical for the university to establish, and re-establish, collaborations with universities around the world to make a seamless transition for students studying abroad and to welcome those from other countries to the School of Mines. “It’s really important for students to exchange views and create a modern context for science and engineering,” he says.

This exchange of ideas is already well underway, with the School of Mines currently hosting students from 27 foreign countries on campus. As the university grows its graduate and research programs, these international collaborations are an important facet for strategic growth into the future.

For School of Mines students looking to study abroad, the university has five exchange agreements with universities in Germany and Norway in addition to opportunities available through affiliated programs in Mongolia and India and those offered through the European Project Semester program.

Studying abroad isn’t the only international experience available to School of Mines students. Opportunities for research, competitions and community service are also options. In 2010, a team of students







participated in the International Intercollegiate Mining Competition in Kalgoorlie, Australia, and in recent years, members of Engineers and Scientists Abroad have traveled to Chile, Suriname and Mongolia to put their skills to work in humanitarian missions.

Fostering relationships for faculty members to travel and conduct research around the world is also an important facet in the School of Mines' international focus. In recent years, faculty members have served as Fulbright Scholars in Uganda and Germany, and the university has also welcomed scholars from other countries to our campus. In addition, faculty members travel across the world — to France, Denmark, Mongolia, Turkey, Chile, New Zealand, Namibia and even Antarctica — to teach and undertake research.

"International collaborations are a part of our strategic plan," Hrncir says. "They have always been a part of what we do, but now it's time to build them into our university's consciousness."

## PROFILE: Russian Delegation Visit

In just one example of an international collaboration bearing fruit, this past January, the School of Mines hosted a delegation of faculty and staff from the G. V. Plekhanov Saint Petersburg State Mining Institute and Technical University, Russia's oldest higher education institute devoted to engineering.

While visiting the School of Mines, the delegation met with faculty, staff and students to strengthen the partnership between the two institutions and to explore possible opportunities for faculty and student exchange programs, joint research proposals, future visits and technical conferences.

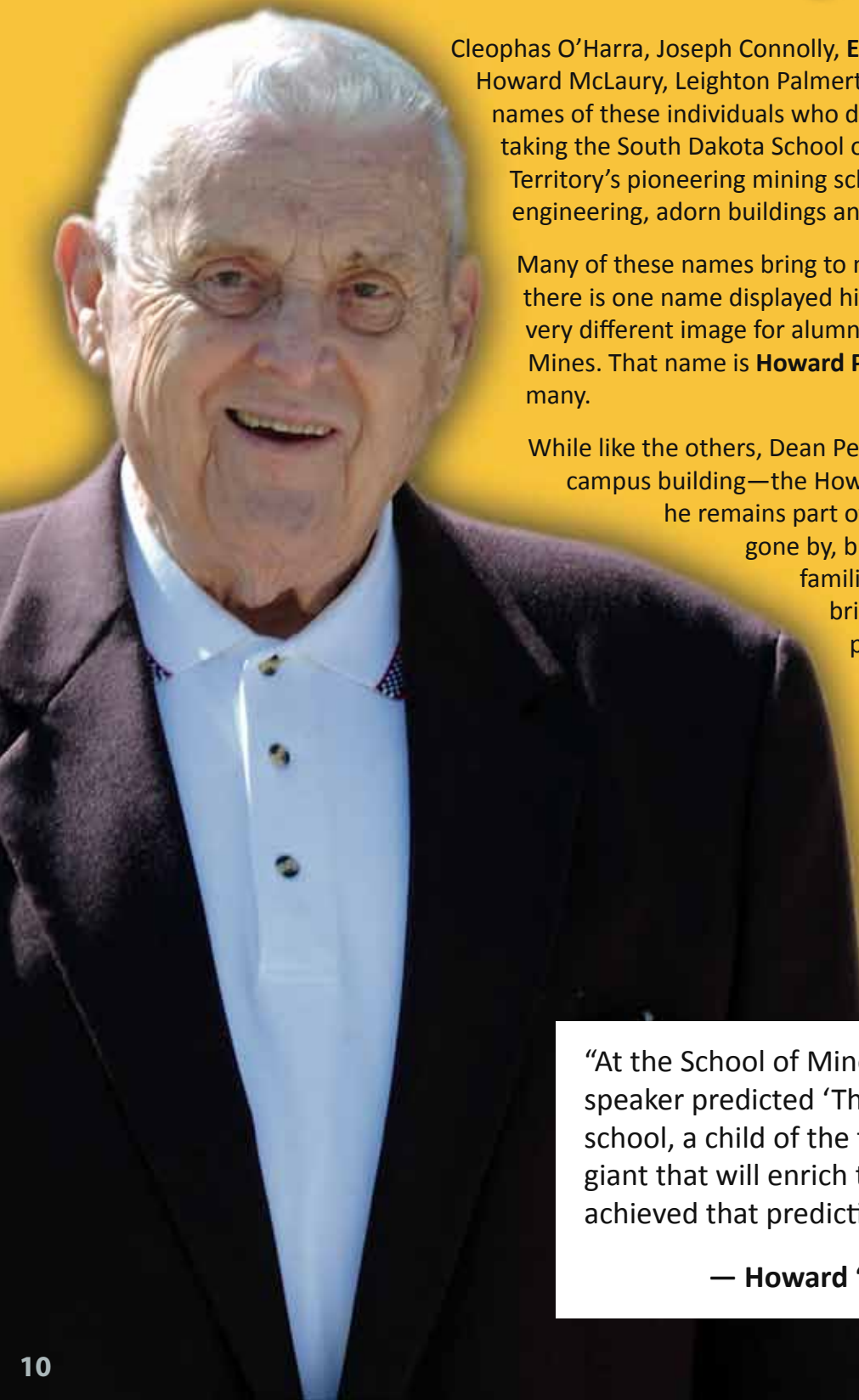


As a result of this visit, a group of School of Mines students was invited to present their research at the Russian institute's International Conference of Students and Young Researchers, April 20-22, 2011. Dr. **M. R. Hansen** (CE69), professor of civil and environmental engineering, led the group. Prizes were awarded in each of nine working groups, with School of Mines students claiming two awards. **Jennifer Ward** earned first place in the "Topical Issues in Mining of Ore and Nonmetallic Minerals" category with her research of a mine feasibility study, and **Andrew Kelley** earned second place in the "Metallurgy" category with his research on lead-free solder.



(L-R) **Andrew Kelley** (MetE, Rapid City), **Jennifer Ward** (MinE, Surprise, Ariz.), **Kristina Proietti** (GeolE, Rapid City), **Bryce Pfeifle** (M.S. Geol Rapid City), Dr. **M.R. Hansen** (CE69).

# A Living Legend



Cleophas O’Harra, Joseph Connolly, **Earl Dake** (CE24), **Guy March** (EE22), Howard McLaury, Leighton Palmerton, **Homer Surbeck** (MetE24) — the names of these individuals who dedicated their lives and careers to taking the South Dakota School of Mines and Technology from Dakota Territory’s pioneering mining school to a global force in science and engineering, adorn buildings and plazas throughout campus.

Many of these names bring to mind stories of the distant past, but there is one name displayed high on a building wall that conjures up a very different image for alumni, faculty and students of the School of Mines. That name is **Howard Peterson** (GeolE50), or “Dean Pete” to many.

While like the others, Dean Pete’s name features prominently on a campus building—the Howard Peterson Hall, dedicated in 2004—he remains part of the university not as an icon of times gone by, but as a regular campus presence, a familiar face to today’s students, and a living bridge from the university’s past to its present.

Dean Pete’s long association with the School of Mines began in 1946 when he arrived at the university as a freshman, one of the few traditional students in a sea of returning World War II veterans.

“I always thought I’d go to college and my folks supported the idea. I had a cousin who had gone to

“At the School of Mines’ dedication in 1885, the main speaker predicted ‘There will be a day when this school, a child of the territory, will become a lusty giant that will enrich the world of science.’ We have achieved that prediction!”

— **Howard “Dean Pete” Peterson** (GeolE50)





Mines and I liked math and science so I thought engineering sounded good.”

Being from the small town of Alpena, S.D., Peterson hadn’t taken any chemistry or physics courses and had only one year of algebra. He was advised to consider going to Mines early to complete some prerequisites during summer school. Three weeks after high school graduation, Howard Peterson the student, arrived at Mines. He took his first math class in the Old Prep building. During one class, the professor asked how many of the students were just out of high school. “No one raised their hand except me, little old Peterson. I was scared, threatened and homesick.”

Overcoming his initial jitters, Dean Pete completed his summer classes and began an electrical engineering major in the fall. Early on in his EE studies, he found himself in a lab course in which most of the students were veterans who had acquired a lot of experience in electrical applications from their time in the service.

“Those vets didn’t have time for nonsense. They worked hard, were dedicated and wanted to graduate and get a job. They were tough competition. I was so slow compared to them, it scared me out of electrical engineering.”

Peterson changed his major and received his bachelor’s degree in geological engineering in 1950. After graduation, he got a job working in oil exploration in Rawlins, “a tough little town” in south central Wyoming where Peterson and his wife soon determined that wasn’t the lifestyle they wanted. Peterson decided to try a career in education instead and obtained his teaching certificate.

With his background from Mines, Peterson qualified to teach high school-level math, physics and chemistry. He took his first job as a teacher at Redfield High School. During his 6 years at Redfield, Dean Pete became interested in guidance counseling and earned master and doctoral degrees in education.

A defining moment in his life happened when then School of Mines dean of students, Dr. Palmerton, visited him in his Redfield High School chemistry classroom and offered him a job at Mines to help with counseling and placement.

“You look back and don’t know how or why things happened, but that moment made my life, my career. I walked home from school that night and I was almost turning cartwheels. I couldn’t wait to tell my wife we were going back to Rapid City and the School of Mines.”

And so after an absence of only seven years, Dean Pete returned to the School of Mines in 1957 to take the position of assistant dean of students. Dr. Leighton Palmerton held the dean of students position until 1969, when he handed over the duties of dean to Peterson.

During his 35-year tenure at Mines, Peterson played a central role in supporting generations of Hardrockers, and it is a difficult task to find someone associated with the School of Mines who doesn't have a memory that includes Dean Pete.

"Dean Pete is like everyone's favorite uncle — he knows you, knows your family and he knows all the things you never wanted your parents to know about your

years at the School of Mines," **Marlene Nelson** (ME74) says. "And he remembers all of it for 37 years, in my case, and counting. I have three brothers and one cousin who have graduated from the School of Mines and whenever I see him he

asks about them by name, knows where they live and work and what's going on in our hometown — absolutely remarkable!"

Remarkable is a description that **Dianne Dorland** (ChE69) would agree with. "I think that Dean Pete has been a touchstone for many students, a stabilizing force in that crazy world we called 'college' as we tried to grow up while earning an education," she says. "With the passage of years, I look back on his dedication to the students and the

institution and I think, what wisdom and integrity he had even in the toughest of situations."

Peterson's retirement in 1992 didn't end his service to the university. He remained active as a mentor and student advisor, a member of several university boards and as chairman emeritus of the SDSM&T Foundation Board of Directors, chairing the Foundation's first capital campaign in 2003-04. Today, he continues to impact lives as the university's honors scholarship coach, helping students develop their résumés, career goals and personal and philosophical objectives in order to qualify for prestigious scholarships.

For more than 50 years, Dean Pete has dedicated

his life to championing the university's success, touching the lives of thousands who will forever carry his living legacy.

"He is the consistent presence," Nelson says. "He's the glue — he connects us all across the generations of students

who have graced the halls of the South Dakota School of Mines."

When asked how students today differ from those with whom he worked during his 35-year career, Dean Pete said that they are much more traveled, more educated and have had many more opportunities.

"But, basically," he continued, "the students today are the same. They are the nicest, most decent, hardworking and sincere kids. I love them all."





# History & Traditions

With a 126-year history, the School of Mines has deep-seated traditions that build from one year to the next, tying each class together with shared memories. These traditions weave the fabric of the university.

## A few of the traditions that carry on today:

### Picnic

In 1912, students carried their lunches for an impromptu picnic during the building of the “M” on the hill. Today, this tradition is represented during the annual President’s Picnic, held during Welcome Week. The picnic serves to introduce new students to School of Mines traditions – learning the school song and receiving their beanies.



### Beanies and Senior Hats

Started in the early 1900s, beanies are a familiar School of Mines tradition. After receiving their green and yellow beanies (once purple), the “frosh” wear them constantly until M-Day, when they run a lap around the track during halftime and officially become freshmen. As for senior hats, derbies and cowboy hats were in fashion until the early 1930s. Senior hats as they are recognized today began appearing in 1934.



### M-Hill climb

One of the most cherished Mines traditions is the M-Hill climb. In 1912, a group of 75 students and faculty scaled Cowboy Hill to build the iconic M, using more than 100 wagon loads of rock. For more than 10 years, students climbed the hill each year to pull weeds sprouting between the rocks before they were replaced with concrete in 1922. Today, students carry on the tradition by climbing the hill each fall to whitewash the M.



### M-Day parade

Pictures of School of Mines parades appear from 1921 or earlier in university archives. From the early days of horse-drawn carriage floats, today the annual M-Day parade attracts hundreds of people to line the streets to watch student-built floats pass by.



# BUILDING THE DREAM

The past several months, the SDSM&T Foundation and university personnel have continued to spread the news of the success of the Building the Dream capital campaign through many campaign “launchings.” Building the Dream, which began in 2004, will raise \$50 million for scholarships, faculty, the student experience and capital improvements.

“The common misconception is that tuition, fees and state appropriations cover the costs of operating this university,” says **Brad Johnson** (CEE92), vice president of development, SDSM&T Foundation. “Many of the experiences and routine activities that students, faculty and administrators have in the course of an academic year are only possible through a variety of designated spending accounts donors have provided through the Foundation.”

Alumni who gathered at the gala banquet during the 2010 All-School Reunion in July were the first large group to publicly learn of the Building the Dream campaign. Since that time, alumni from across the United States have had the opportunity to attend small group functions and get together with their fellow Hardrockers while at the same time familiarizing themselves with the campaign.

“We give people the opportunity to stay involved with the campus,” Johnson says. “From this continuous process, both on campus and off, we hope to find alumni, families

and friends who feel their education added value to their lives and who now believe it is worth an investment to see that young people following in their footsteps have access to the same opportunities at the School of Mines.”

In addition to the alumni gatherings that are taking place across the country, faculty and staff learned more about the campaign during a campus launching held in October. Johnson played his guitar and sang humorous renditions of old crowd favorites to the room filled with faculty, staff and students who afterwards settled in to watch the Building the Dream video.

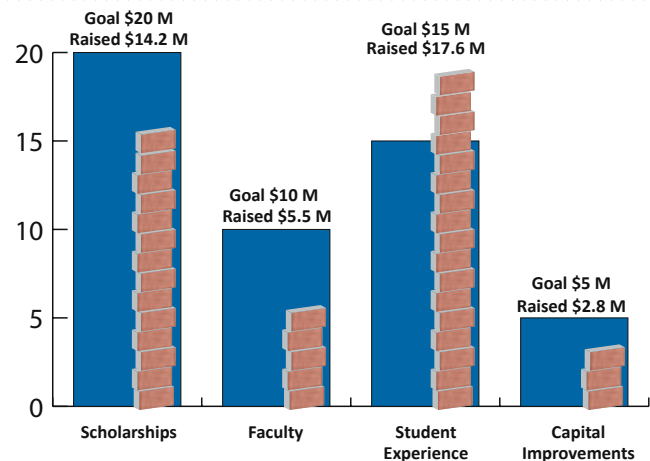
A month later, students were invited to the Surbeck Center Ballroom to learn more about the Building the Dream campaign as well. After a free lunch, students snacked on popcorn while watching the Building the Dream video, provoking consideration of the important role each can play after graduation.

“Traditionally, the face-to-face outreach of the School of Mines has focused on alumni, which of course will remain an important part of what we love to do—but recently we have joined forces with the Student Association and student leaders to educate as many students as we can before they leave campus,” adds Johnson.

For more information about the campaign or to contribute, visit <http://foundation.sdsmt.edu/Page.aspx?pid=440>.



As of April 30, 2011, more than \$40.2 million has been raised toward the Building the Dream campaign goal.



## Pappel Leaves Solid Legacy

After 20 years as the president of the SDSM&T Foundation, **Rod Pappel** (ME77) will step down June 30, 2011.

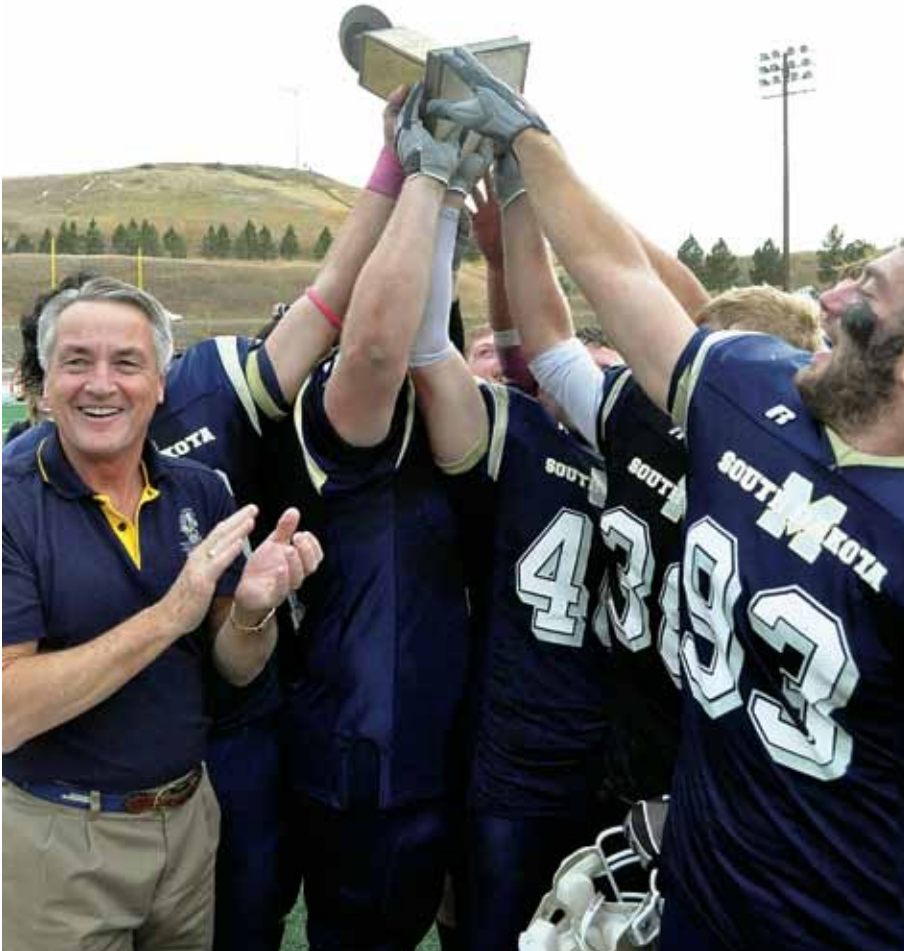
Through his two decades at the helm of the Foundation, Pappel led the efforts to raise more than \$84 million in private donations to support the institution. His leadership benefited every aspect of the university, including scholarships, faculty support, department support, athletic programs, the renovation and construction of campus buildings and the expansion of the campus boundaries. Annual contributions and Foundation assets grew more than tenfold during this time.

As the Foundation enters a new era, its success is ensured in large part to the legacy of growth and achievement that Pappel leaves behind.



# ▮ BIG RIVALRY, BIG GAME, BIG WIN

## Hardrockers Recapture the Homestake Trophy



The football game that brought the Homestake Trophy back to the School of Mines this past fall will go down in history as one of the greatest games ever played between the Hardrockers and arch rival Black Hills State University (BHSU). The Hardrockers recaptured the trophy from the BHSU Yellow Jackets in a dramatic 23-20 double overtime win.

"The trophy and tradition go back to 1946. It's one of the longest standing rivalries in college football history," head football Coach Daniel Kratzer said. "For our Hardrocker team, students and alumni, this is one of the most important ball games of the year."

And one of the most exciting, as this past fall's back-and-forth battle kept fans on the edge of their seats. The Hardrockers scored first with a 33-yard field goal from junior Andy Smith. Mines senior Trevor Roberts added to the team's momentum by delivering a 30-yard touchdown pass to Jonathan Trista that put the Hardrockers ahead 10-0 at the end of the first quarter.

BHSU answered with a touchdown in the second period and tacked on another in the third to put them out in front 13-10. A resilient Hardrocker team stepped up in the fourth quarter, and with less than two minutes remaining in the game, marched the length of the field to tie the game at 13-13 with a 22-yard field goal by Smith.

The two rivals traded touchdowns in the first OT. BHSU led with a 30-yard TD pass. Mines responded with senior Everett Brill bulldozing his way in from one yard out to tie the score at 20-20 and send the game into double overtime.

In the second OT, Smith built a 3-point edge for the Hardrockers by kicking a 23-yard field goal. Senior Tom Lunzman sealed Mines' 23-20 win by intercepting a BHSU pass in the end zone and running the interception down the sideline to the far corner of the field, where he was met by a host of teammates and fans.

At the conclusion of the game, a packed O'Harra Stadium cheered as President Robert Wharton presented the Homestake Trophy to Hardrocker seniors and the rest of the Mines football team.

Although the Homestake rivalry is a treasured part of Hardrocker football, fans at this past fall's game may have attended one of the last trophy match ups. Both Hardrockers and BHSU are transitioning out of the NAIA and the Dakota Athletic Conference to NCAA Division II. BHSU has joined the Rocky Mountain Athletic Conference, and the Hardrockers are still weighing their conference options.

At least for now, the rivalry will resume Sept. 17, 2011, at 6 p.m. on Dunham Field in O'Harra Stadium, and if Coach Kratzer and his team have anything to say about it, the Homestake Trophy will stay with the School of Mines for the foreseeable future.



Commencement speaker  
Kathie L. Olsen, Ph.D.



Student speaker  
Anastasia M. Baker (MetE10)

## School of Mines Holds 162nd Commencement

The School of Mines welcomed the Honorable Kathie L. Olsen, Ph.D., vice president of international programs at the Association of Public and Land-Grant Universities, as speaker during the 162nd commencement on Saturday, Dec. 19, 2010.

Previously, Olsen was confirmed by the U.S. Senate as the deputy director and chief operating officer of the National Science Foundation (NSF). Olsen has also served as the senior advisor to the NSF's chief human capital officer; associate director and deputy director for science in the Office of Science and Technology Policy; chief scientist for the National Aeronautics and Space Administration; and other high-level positions.

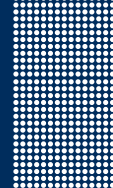
During the ceremony, **Anastasia M. Baker** (MetE10) represented the student body, and five alumni were honored with Distinguished Alumni Awards, given to graduates who have made outstanding contributions in their professions and to the School of Mines.

The 2010 Distinguished Alumni were L-R: Rear Admiral **William Pearson** (CE64), Dr. **Alan Pelton** (MetE77), **Paul Ching** (M.S. GeolE73), **Richard Frank** (ME63) and **Gaurdie E. Banister, Jr.** (MetE80) not pictured.





# FACULTY PROFILE



## James D. Feiszli, Ph.D. Director of Music, Professor of Humanities

James D. Feiszli holds a bachelor of music education in voice from Mount Union College, a master of music in music history and literature from the University of Akron and a doctor of musical arts in choral music from Arizona State University. In 1983, he joined the South Dakota School of Mines and Technology, where he oversees the music program, directs three choirs and the brass choir and teaches applied voice. He is active as a tenor with Dakota Voices, his six-voice vocal ensemble. Feiszli also served as chair of the then newly-formed Department of Humanities at the School of Mines from 1994-1999.

Students and alumni under his direction have appeared throughout the United States and Europe at professional music conventions, competitions, the National Cathedral in Washington, D.C. and in concert tours to Germany, Austria, Switzerland, Ireland and Italy. He has also been a guest conductor, adjudicator, consultant, lecturer and vocal soloist throughout the United States and Europe.

A number of organizations have recently honored Feiszli's outstanding service, including the South Dakota Music Educators Association (SDMEA) with the Meritorious Service Award; the South Dakota Chapter of the American Choral Directors Association with the 2010 Lifetime Achievement Award; and the School of Mines with the Presidential Award for Outstanding Professor.

### What drew you to the School of Mines?

**JF:** All music educators and most music professionals spend a great deal of time agonizing over the fact that society in general does not support the fine arts as they should be supported. Any western civilization, music appreciation, art appreciation or intro to humanities course will focus on the great works of humanity that have elevated the human race to a higher plane of existence. When these great works are examined, it becomes clear that they would not have happened without patronage from some segment of society.

As I began to look for jobs after graduate school, I saw the advertisement for a director of music at the School of Mines. I asked about the school, heard of its reputation and thought that if I could teach these people to love music, they might support it in schools and communities for their benefit and for their children's benefit. So I took the job, thinking I'd be here maybe five years and move on.

### You are recognized as a driving force in the global choral world. So what has kept you here for nearly 30 years?

**JF:** Truthfully, it hasn't seemed that long. I was the first chair of the Humanities department and that consumed four years. Then I taught humanities courses for two years before taking the choirs back. Since then, I've been rebuilding that program. Now it's better than it ever was. We're attracting a very high caliber of student since raising the admissions standards and it shows in the music arena.

### How has music at the School of Mines changed since you arrived?

**JF:** When I arrived in 1983, music was not part of the academic curriculum. My goal in coming to the School of Mines was to create an environment wherein music would be a valid component in the education of scientists and engineers. To that end an entire program—justification, curriculum, courses, methodology, evaluation procedures, essential facilities, instructional materials and equipment—had to be devised, approved, obtained and implemented.

I created the philosophical and curricular basis for the offering of music at the School of Mines as an academic subject. New ensembles were developed to provide better educational experiences. Ensemble rehearsals became classes, laboratory experiences in aesthetics. The performance ceased to be the objective of ensemble courses. Instead, the focus became the development of creative abilities and holistic perception, knowledge of Western and non-Western cultural traditions and history and development of self-esteem through better self-perception.

### Why do you feel it is important to provide musical opportunities to engineering and science students?

**JF:** It makes them better scientists and engineers. Music involves holistic thinking rather than linear thinking. All of the greatest minds in history were also involved in the arts.

## BACTERIAL CEMENT

### //MEET THE EXPERT// .....➔

Dr. Sookie Bang is a professor of chemical and biological engineering. Bang earned bachelor's and master's degrees from Seoul National University and a Ph.D. from the University of California, Davis. Her specialty is microbiology, with an extensive record of research of discoveries at the micron level. Her work with bacterial cement recently earned her the No. 4 spot on a list of the top 25 baby-boomer inventions that have changed the world, joining innovations like the artificial heart, the Internet and rechargeable lithium ion batteries. Today, she also researches extremophiles — bacteria that thrive at high temperatures — in the 8,000-foot-deep proposed Deep Underground Science and Engineering Laboratory. These microorganisms show incredible promise for the development of thermostable antibiotics and for new types of biofuel conversion.



### //WHAT IS BACTERIAL CEMENT?//

In the modern world, we are surrounded by concrete — buildings, sidewalks and more - and cracks caused by weathering and freezing water pose a constant repair challenge. Commonly used sealants, such as epoxies and resins, are temporary and often environmentally unfriendly solutions.

Bang found a solution in the soil bacterium *Sporosarcina pasteurii*. In a naturally-occurring process, this organism reacts with elements to form a microbial calcite. Bang and colleagues theorized — and proved — that by encouraging and speeding this natural biological reaction, the resulting calcite precipitation would provide an effective and integrated patch to the damaged areas.

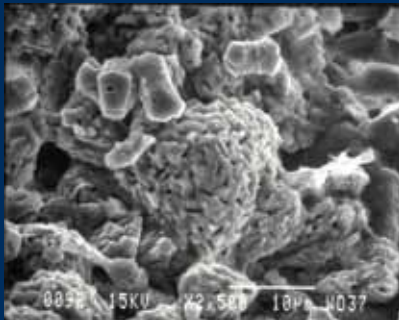
This bacterial cement is an environmentally safe, inorganic substance that remains in the environment for an extended period of time with no adverse effects. The bacteria will continue to grow and become a self-healing concrete as long as nutrients are available and simply lie dormant when they are not.

### //OTHER APPLICATIONS?//

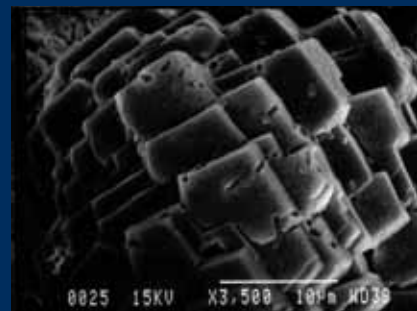
Supported by a series of research grants from the National Science Foundation, Bang has demonstrated the success of this approach far beyond concrete — granite structures (including crack remediation at Mount Rushmore), compressible soils, airborne dust particles and surface erosion prevention — have all seen positive results. Most recently, Bang's team partnered with Korea's Samsung Construction and Trade Corporation to demonstrate mineral cementation's effect on urban construction dust control.



*Sporosarcina pasteurii* capable of inducing calcite precipitation



Bacteria-induced calcite crystals surrounding sand particles



Distinct rhombohedral crystal structure of calcite embedded with bacteria



Dr. **Jim Stone**, assistant professor of civil and environmental engineering, and **Lance Larson** (M.S. CE10) co-authored the paper, "Sediment-bound Arsenic and Uranium within the Bowman-Haley Reservoir, North Dakota." It was accepted for publication in the journal *Water, Air, & Soil Pollution*. Stone also submitted the paper "Influence of Physiochemical and Watershed Characteristics on Mercury Concentration in Walleye, *Sander Vitreus*, M.," that was accepted in the journal *Bulletin of Environmental Contamination and Toxicology*.

Stone and **Christopher Dollarhide** (ChE10) presented the paper, "Life Cycle Assessment of a Modern U.S. Northern Great Plains Swine Production Facility" at the Life Cycle Assessment X Conference.

Dr. **M.R. Hansen** (CE69) and **Brady Wiesner** (CE09) have had their abstract, "Direct Tension Testing of Concrete—A New Method," accepted for presentation at the fib PRAGUE 2011 conference.

Dr. **Jennifer Benning**, assistant professor of civil and environmental engineering, co-authored the paper, "Enhancement of Phthalate Emissions from Vinyl Flooring Due to Partitioning to Particles," presented at the Annual American Association for Aerosol Research Conference.

The textbook *Traffic Engineering*, Fourth Edition, by Roger P. Roess, Elena S. Prassas and William R. McShane, references the freeway weave area operation research of Dr. **Joseph Fazio**, associate professor of civil and environmental engineering. Fazio also co-authored the paper, "Case Study of Pedestrian Risk Behavior and Survival Analysis" for the reviewed *Journal of the Eastern Asia Society for Transportation Studies*.

Dr. **Andrea Surovek**, associate professor of civil and environmental engineering, and **Philip Knodel** (CE09) had an abstract accepted for presentation at the Structural Stability Research Council 2011 Annual Stability Conference. Surovek and **Jennifer Walz** (Math09) also had an abstract accepted for the conference.

Surovek has also been selected as the chair of the Metals Technical Administrative Committee for the American Society of Civil Engineers Structural Engineering Institute.

**Bryce Pfeifle** (Geol, Rapid City) presented the paper, "Arsenic Speciation in Sediment and Pore Waters of the Historical Mining-impacted Belle Fourche and Cheyenne River Floodplains," at the Eastern South Dakota Water Conference.

**Christopher Dollarhide** (ChE10) and **Katie Aurand** (EnvE, Rapid City) co-authored the paper, "Determination of Environmental Impacts of Antimicrobial Usage for U.S. Northern Great Plains Swine-Production Facilities: A Life Cycle Assessment Approach", for the *International Journal of Life Cycle Assessment*. Dollarhide is also a co-author for the paper, "Life Cycle Assessment of a Modern Northern Great Plains U.S. Swine Production Facility," recently accepted in the journal *Environmental Engineering Science*.

The student chapter of the **American Chemical Society** has received a Commendable Award from the national organization for the 2009-10 academic year. The recognition is awarded based on the chapter's activity in community, campus and national-level events.

In Fall 2010, School of Mines students formed two new dynamic, minority student organizations. Both organizations — the Society of Hispanic Professional Engineers (SHPE) and the National Society of Black Engineers (NSBE) — hope to substantially increase the representation of minorities in engineering and science fields.

Dr. **Roger Johnson**, professor of mathematics and computer science; Dr. **Donna Kliche** (Ph.D. AES10), associate professor in the Institute of Atmospheric Sciences; and Dr. **Paul Smith**, interim director and professor emeritus in the Institute of Atmospheric Sciences, have co-authored the article, "Comparison of Estimators for Parameters of Gamma Distributions with Left-Truncated Samples," published in the *Journal of Applied Meteorology and Climatology*.

**Tiara Mueller** (IE, Rapid City) is one of three students nationwide selected to receive the \$2,500 National Pathfinder Scholarship from the National Federation of Republican Women. This scholarship was established in 1985 in honor of former First Lady Nancy Reagan.

Dr. **M.R. Hansen** (CE69), professor of civil and environmental engineering, has been selected as the inaugural recipient of the William V. Coyle Professorship. The professorship honors William V. Coyle, a 1946 School of Mines civil engineering graduate and professor and civil engineering department head at the School of Mines for 18 years.

**Kalli Dinger** (MetE, Hecla) has been awarded the 2010 Mineral and Metallurgical Processing Division's Richard R. Klimpel Scholarship from the Society for Mining, Metallurgy and Exploration. Dinger will receive a \$3,000 scholarship.

District VI of the Council for Advancement and Support of Education has named the School of Mines the Bronze Award winner for Excellence in Graphic Design— Series or Multiple-Piece Project, Four or More Colors. The award recognizes the design work on the Mines Medal printed materials (program, save-the-date, invitation and more).

Dr. **Sangchul Bang** has had two papers published: "Inclined Loading Capacity of Suction Piles in Sand" in the *Journal of Ocean Engineering*, and "Horizontal Capacity of Embedded Suction Anchors in Clay," in the *Journal of Offshore Mechanics and Arctic Engineering*.

Dr. Bang also had a paper accepted for presentation at the 2011 ASCE Geo-Frontiers Conference. The paper, "Microbiologically-induced Soil Stabilization for Fugitive Dust Control Through *Sporosarcina pasteurii* Application," was coauthored by Dr. **Larry Stetler** (GeolE79), professor of geology and geological engineering, and Dr. **Sookie Bang**, professor of chemical and biological engineering.

Dr. **Jim Sears**, director of the Additive Manufacturing Laboratory, was inducted into the 2010 Black Hawk College Alumni Hall of Fame. Inductees are chosen based on outstanding success and distinction in their chosen field, humanitarian service and completion of at least 30 college credit hours at Black Hawk College.

**Daun Davids** (M.S. RIAS, Rapid City) was awarded a \$10,000 American Indian Science and Engineering Society (AISES) Google Scholarship for the 2010-11 academic year. Davids also received \$1,000 for her second place finish in the AISES national conference graduate sessions poster competition.

The **Mount Rushmore Battalion** Army Reserve Officer Training Corps (ROTC) was recently recognized with a Certificate of Excellence as the Most Improved ROTC program for its size in the 3rd ROTC Brigade, which covers 10 mid-western states and 40 ROTC programs. The School of Mines is one of three host schools for the battalion.

**Jerald Farke** (ME, Armour) is the 2011 recipient of the Lorin and Mary Brass LIFE (Leadership Involvement Foreign Experience) Award. The \$15,000 scholarship will support Farke in studying abroad for at least one semester.

Dr. **Haiping Hong**, research scientist IV in materials and metallurgical engineering, was awarded United States Patent No. 7,871,533 for "Carbon Nanoparticle-Containing Nanofluid."

**Eric Musil** (ME10) presented "Advanced Materials Processing of a RC Landing Gear" at the Pierre Poster Session, held Thursday, Feb. 24, at the State Capitol in Pierre, S.D. Fifteen students from South Dakota colleges and universities were selected to participate.

School of Mines First Lady Dr. **Carolyn Fassi**, **Lucas Haan** (ME, Rapid City) and **Melanie Jeppesen** (IS09) have been designated as Paul Harris Fellows by Rotary International.



## Bear Butte

Bear Butte is a geological butte feature located in western South Dakota that was established as a state park in 1961. An important landmark and religious site for the Plains Indian tribes long before Europeans reached South Dakota, Bear Butte is called Mato Paha, or Bear Mountain, by the Lakota Sioux. To the Cheyenne, it is Noahvose, the place where Maheo (God) imparted to Sweet Medicine (a mythical hero) the knowledge from which the Cheyenne derive their religious, political, social and economic customs. The mountain is sacred to many indigenous peoples, who make pilgrimages to leave prayer cloths and bundles tied to the branches of the trees along the mountain's flanks. Other offerings are often left at the top of the mountain. The site is associated with various religious ceremonies throughout the year. The mountain is a place of prayer, meditation and peace.







## Geological History

Bear Butte is not strictly a butte (created primarily by erosion of sedimentary strata), but a laccolith: an intrusive body of igneous rock, uplifting the earlier sedimentary layers, which have since largely eroded away. This is the result of the intrusion of magma into cooler crustal rock in the Black Hills area during the Eocene period. In this, Bear Butte shares a similar geological history with other formations in the region, including the Black Hills, Devils Tower, the Missouri Buttes and some parts of the Rocky Mountains. It is possible that when the intrusion was emplaced, some magma may have breached the surface, forming a volcano; however, it would have eroded away long ago.


The peak rises 1,253.5 feet above the surrounding plain and is 4,426 feet above sea level.

Photo by Jesse Nelson, SD Tourism  
[www.travelsd.com](http://www.travelsd.com)



# Graduates Find Opportunity in School of Mines Backyard

In October 2010, a new occupant set up shop in the Black Hills Business Development Center (BHBDC), a business incubator, located on the South Dakota School of Mines and Technology campus.



Caterpillar Inc., a long-time partner of the School of Mines, has opened the Black Hills Engineering Design Center to provide additional engineering support services for Caterpillar's U.S. operations. The new facility joins the company's existing engineering design centers in Chennai, India, and Champaign, Ill.

The Black Hills Engineering Design Center will initially occupy 3,100 square feet of office space within the BHBDC. The company expects to move into its own facility within five years and employ up to 100 people.

Rapid City and the BHBDC were a natural fit for Caterpillar, according to facility manager **Wayne Baumberger** (ME96). "We needed to create a U.S.-based facility that was geographically centered in an area with a cost-competitive, business-friendly environment," he says. "Also important was an available workforce of people with high mechanical aptitude and hands-on backgrounds. The Black Hills region fit all of those needs."

According to Baumberger, the facility's proximity to the School of Mines is another benefit. "The School of Mines has been very helpful in getting this project off the ground," he says. "Now that we're up and running, we are looking forward to working together on new initiatives, like technical development for our staff." Another plus, he says, is the availability of School of Mines students for future employment.

"Caterpillar has heavily recruited at the School of Mines for many years because the graduates typically have hands-on, real-world experience coupled with an outstanding educational experience. Put those two together and you can put these people into industry and they can work right away," Baumberger says. "The CAMP program is an excellent example in how the School of Mines has taken a lead in developing students who take projects from concept to production."

Currently, the center employs graduates from the School of Mines, Western Dakota Technical Institute and Black Hills State University, providing these employees a chance to put their highly competitive skills to work in Rapid City.

**Brandon Kadrmas** (ME09) is a recent graduate who jumped at the chance to do just that. After graduating, he took a job in North Dakota, but kept an eye out for engineering positions in the Black Hills. The new Caterpillar center was the opportunity he was seeking. Today, he serves as a design technician, using 3-D modeling software Pro-Engineer to create drawings, part models and assemblies.

"Right now, I'm using Pro-E to perform finite element analysis in order to determine stresses on different A-frame designs. I was fortunate to get this project. It's challenging, and I like a good challenge," he says. "The School of Mines definitely gave me the tools and the motivation to do the things that I'm able to do now."

Wayne Baumberger (ME96)



"Caterpillar has long been one of our leading partners and recognizes our heritage in preparing leaders in engineering and science," said School of Mines President **Robert A. Wharton**, Ph.D. "This is a great opportunity for both of us to work together and further one another's success as we make a difference both locally and globally."



# Johnson Elected to Head Board of Regents

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The South Dakota Board of Regents elected Kathryn Johnson (Ph.D. Geol86) as its new president for the position's one-year term that began April 1, 2011. "Our public universities play a critical role in producing a competitive workforce and building a more robust economy for South Dakota," Dr. Johnson said. "During these challenging times for public higher education, I am pleased to advocate on behalf of a system I feel so strongly about."

A board member since 2005, Dr. Johnson brings personal insight about the connection between public universities and economic development to her work as Regent. After earning her doctoral degree in geology from the School of Mines, Dr. Johnson founded Environmental Concepts, a Rapid City firm that provides consulting services to industry, business and government in areas of geochemistry and geohydrology as applied to permitting for resource development, environmental impact statements, site investigations, contaminant fate and transport modeling, and water remediation.

Dr. Johnson's highest priority as president of the Board of Regents will be stabilizing funding for the Regental system. "Investment into our public universities is critical to arresting the trend of cost-shifting to students, providing adequate capacity for our increasing enrollment, and allowing retention and recruitment of our top-notch faculty and staff," she said.

Another focus area for Dr. Johnson will be maintaining the growth and vitality of the research enterprise at the state's public universities. "The numbers very clearly show the benefit to South Dakota's economy and its industries from the contracts and grants that come to the universities," she said. "The Regents will work with the governor and legislature to keep the research activities and graduate programs strong at SDSM&T and our other universities."



**"During these challenging times for public higher education, I am pleased to advocate on behalf of a system I feel so strongly about."**

**— Dr. Kathryn Johnson (Ph.D. Geol86)**

# Class Notes

## 1930s

**Ralph O'Neill** (CE36) proudly shares: "I live in my house in Custer and I take care of myself. I do very little cooking. My family of four children – daughter Eileen Cofell lives in Custer, daughter Charlene McCoy lives in Lead, son Randy lives in Rapid City and son Ken lives in Houston, Texas. I feel good, though I have lost weight and strength. I turned 103 years old in November. For meals I go into town or to a friend's house for some, my daughter Eileen cooks some and I get lunches at home."

## 1940s

**Romauld Bachmayer** (ChE40) tells: "I celebrated my 94th birthday in October with family and friends. I really enjoy reading the Hardrock."

**Lloyd Darnall** (CE44) sends in: "I enjoyed the Reunion last summer. I have been to all of them and I hope I can still make the next one. Thank you to all the folks who make the affair such a success."

**Donald Dittman** (ChE42) announces: "I was 91 years old in January. I made it to the 2010 All School Reunion last July in Rapid City while recovering from a broken arm. I planned on trying to make it to Florida for the winter."

**Geraldean Fluke** (Phys48) passes on the announcement of a recent honor: "I was recently inducted into the South Dakota Hall of Fame for 2010."

**Wilbur Manuel** (MetE42) sadly informs: "My wife Helen passed away in April, 2010. We were married for 68 years!"

**Lewis O'Neal** (GeolE48) tells: "My dear Elsie passed away in May 2010."

**Don Schoessler Sr.** (ChE49) submits: "In June 2010, Olive and I moved to a senior retirement community in the Twin Cities of Minnesota. We are enjoying our new home, but regret leaving friends in New York that we have known for 52 years. We are, however, now able to participate in the Twin Cities alumni meetings."

**Christ Woods** (CE48) shares: "I enjoyed a review of current school activities and progress on the "Building the Dream" campaign by Brad Johnson (EE92) while visiting the Twin Cities. He also updated us on the Deep Underground Science and Engineering Laboratory. It was also nice to see that 60 percent of the students are from South Dakota."

## 1950s

**John Barger** (EE54) states: "Hilde and I are healthier than we have the right to be. Hilde keeps busy with Curves, cards and household chores, and I golf twice a week and volunteer at Knights of Columbus. Our kids are scattered across the

country, so we make coast-to-coast auto trips most years to check up on our four children and seven grandchildren."

**Thomas Beyer** (GeolE53) sadly announces the passing of his wife Rose Marie Beyer on Aug. 5, 2010, from lung cancer in Fallbrook, Calif. They were married 57 years on April 14, 2010.

**Darrel Boyd** (GeolE51) shares the unfortunate news that his wife Maurine passed away on Nov. 3, 2010, after complications from a severe stroke.

**Wilfred 'Hezzy' Brown** (GenE51) updates: "We are both holding our own!"

**Carl Buttemeier** (EE59) mentions: "I have been doing consulting for B/E Aerospace in Anaheim, Calif., by email. Our 17-year-old granddaughter is the reigning singles champion in tennis and has a full four-year scholarship to Gonzaga University in Spokane, Wash."

**Art Childers** (CE51) shares: "I am the chaplain at the Sons of the American Legion (SAL), Post 176, Springfield, Va., as well as SAL Chaplain for the 17th District in northern Virginia. I also am on the Board of Trustees for Friendship United Methodist Church, Falls Church, Va. Additionally, I am on the Veteran's Committee at Elk's Lodge, Fairfax, Va., and spending time at Virginia, West Virginia and Washington D.C. Veteran's Hospitals."

**Roger Dean** (CE57) tells: "I am still with ADNET Systems Inc. in support of international training."

**Victor Dosch** (EE51) updates: "We are downsizing to a three-bedroom home so that everything can be on one floor, two blocks away from our current residence. All the children and grandchildren are scattered to the four winds leaving their stuff for storage. Our biggest problem in moving is getting rid of all their stuff."

**Al Dougal** (CE50) sends in: "I have moved into a retirement home here in Plano, Texas. I got tired of living alone and fixing all my own meals. The name of this place is The Conservatory. So I have actually moved about eight miles west, but still in Plano. Plano is now 250,000 people compared to 3,500 when I moved here and 86,000 when I retired 25 years ago. Dortha is still in the nursing home in McKinney with Alzheimer's and remains about the same. She is in a wheelchair and still knows me and her daughters, but says very little."

**Frank Dvoracek** (EE54) submits: "I continue to work as a tour guide at Gold Bug Park and Mine in Placerville, Calif. I also volunteered for work at the El Dorado County Museum in Placerville."

**John Garrison** (CE51) says: "Jan and I just returned from North Carolina. We walked trails to waterfalls and viewed



the fall colors. The Black Hills are great for doing this, but it is a long way from Vero Beach, Fla. We try to limit the trails to less strenuous ones.”

**Alvin Genzlinger** (CE56) advises: “No changes for me, just getting older.”

**Al Gilles** (GeolE52) tells: “I was fortunate to be able to go on the eighth South Dakota Honor Flight from Rapid City on September 23, 2010. We had a very enjoyable time in Washington, D.C.”

**Duane Gustad** (MetE59) posts: “I got married again this past summer, to Bernie.”

**Jim Hayes** (GenE59) updates: “All is fine here in Arkansas – ready for spring. We made it to Rapid City for my 55th high school reunion last September and spent two weeks in the Hills. Hope to do so next year as well.”

**Charles ‘Dave’ James** (ME51) mentions: “Lori and I are just enjoying retirement here at Air Force Village West in Riverside, Calif. We do appreciate contact with **Holly Maudsley** (ChE95) on Southern California alumnus news.”

**Bruce Johnsen** (CE59) shares: “Another interesting year of working to make family businesses and partnerships more peaceful and productive with some fascinating trips between. Jerusalem was special not only for spiritual and historic reasons, but also the opportunity to meet with representatives of Israeli and Palestinian peace-promoting organizations. What a huge task they have undertaken. Many thanks for all you do keep us together in the Alumni Office.”

**Robert Kenner** (GeolE52) updates: “I had a stroke two years ago then had a pacemaker put in last year. **Todd** (CE83) is in town working for RESPEC, **Scott** (CE77) also is in town teaching at SDSM&T. Patricia has dementia and suffered a stroke as well.”

**Leo King** (ME59) mentions: “It is said – better late than never. Well, maybe. There has been much water flow beneath the bridge since my last response. I am trying to retire from retirement. I am quite healthy, not wealthy; too soon old and too late smart. Our oldest son Wayne died instantly on April 24, 2008, in a motorcycle accident near Blythe, Calif. My wife of 59 years Jessie passed away suddenly on March 17, 2010, in Mesa, Ariz., where we spent most winters for the past 20 or so years. I enjoy the good fortune to be ‘above the grass’ and I am still riding my Goldwing (two wheels) at age 82!”

**John McCorkle** (ME59) sends: “No major change except that we got another year older. We had college graduations of two granddaughters and one granddaughter’s wedding. The wedding was at the same time as our 50th class reunion, so of course we could not make it. We did get to visit my good friend **Bert Thomsen** (GeolE59) later in Arizona and he

filled me in on it. Sorry to have missed it. We enjoy getting news from SDSM&T to keep up on things.”

**Leland Nitteberg** (ME51) informs: “During November 2009, I moved from Kennewick, Wash., to Longview, Wash. I now reside in a basement apartment in the home of my daughter Marilyn and family.”

**Bill Richardson** (ME59) says: “I’ve quit working, and we’ve moved from Tucson, Ariz., to Las Vegas, Nev., to be near the kids. Our great granddaughter lives three blocks away. Shirley and I are in good health, ready to explore Las Vegas and all of Nevada. Exciting times, indeed!”

**Len Shafranek** (ChE51) continues to battle Parkinson’s disease, but he and wife Donna welcome all visitors at their home in Rapid City.

**John Shoemaker** (CE59) advises: “Still doing a little traveling, otherwise just hanging out.”

**Robert “Bob” Smith** (EE54) shares: “In November I took my sons to San Diego, Calif., for a few days. Eric and I drove out and I flew in the other two boys, Dan and Paul, in from Phoenix, Ariz. The weather was great; we took in a lot of air and marine stuff plus went up twice to Pt. Loma. This photo is outside our hotel at Ocean Beach. Dan and I are the single guys in the center.”



(l to r) Paul Smith, **Bob Smith** (EE54), Dan Smith and Eric Smith

**Horton ‘Curley’ Steinmeyer** (EE50) recently went to live at the Colorado State Veteran’s Home in Aurora, Colo. He has had Alzheimer’s and several small strokes during the last 10 years. He is still very proud to have been a Mines graduate, according to his wife Irene.

**Ralph Teslow** (CE52) proudly submits: “We now have five grandchildren and two great grandchildren!”

**Bert Thomsen** (GeolE59) tells: “I really enjoyed the 2010 reunion, especially the decade luncheon gathering of class members from 1957 to 1961. Thanks go to Paul Gnirk (MinE59) and Jay Brink (EE56) for arranging that event.”

# Class Notes

**Ronald Varilek** (CE57) shares: "We enjoyed the reunion and seeing my friends. Rapid City is always a good place to be and the school is moving in the right direction. I am sure the word will eventually get out to all parts of the U.S., and people will realize what a quality education can be had at a very good cost in a nice place to live."

**J. Fred Voight** (CE51) informed the Alumni Office that his dear wife, Mildred Voigt, of nearly 60 years, took her Lord's hand in October 2010. Mildred battled Parkinson's Disease for an extended time.

## 1960s

**Pete Aberle** (GeolE61) updated us via email: "I retired from my regular job in 1994. I was with the U.S. Bureau Of Reclamation for 33 years as a civil/geotechnical engineer, where my primary job was grouting dam foundations. For the last 17 years of my career I was the Bureau's chief grouting engineer. Since my retirement I have worked as a consulting grouting engineer and am keeping very busy. Not building new dams, but fixing old ones. My work for the Bureau was very interesting and because it was so interesting I am still doing it."

**Roger Abrahamson** (ME66) sends in: "My wife Bobbie and I experienced a trip of a lifetime to the Holy Land (Israel) from Nov. 30 to Dec. 9, 2010, experiencing where Jesus was born, lived, taught, crucified and resurrected. We stayed in Bethlehem and on the Sea of Galilee. It was truly an awesome trip. My grandson Nathan turned 13 and says he wants to be an engineer. I am hoping he will go to SDSM&T!"

**Theodore Andrews** (CE62) updates: "Our year was pretty routine, until September when I had some medical problems, but I am doing pretty well now. Therapy will be ongoing, but we had a very nice family Christmas."

**Clarence "Fred" Beauvais** (CE66) reminisces: "I really enjoyed the Reunion this last summer, catching up with friends from long ago."

**Ralph Benbow** (Phys64) says: "We just returned from a tour of Germany of places important to Martin Luther and J. S. Bach. We also saw the Passion Play in Oberammergau, which was very interesting."

Gloria and **Vern Bump** (GeolE61) were curiously absent from this year's Pierre Tailgate Party. The word at the Legion Hall was that they were at the South Dakota Governor's inauguration. However, recent photographic evidence sent to the Alumni Office indicates they may have been enjoying points outside South Dakota this winter (see photo). Truth be known, Vern sent this photo of their trip to Mexico during their "Spring Break" in March 2011. Thanks for the warm thoughts, Vern. We missed you in January too!



*Vern Bump (GeolE61) and Gloria Bump in Mexico*

**Carl Coad** (Math60) reminisces: "I attended the graduation ceremony on May 8, 2010, and was one of the 50-year graduates. I enjoyed the three-day program, the ceremony and seeing some classmates I had not seen in a long time. I missed the 2010 Alumni Reunion because that would have been my third trip to Rapid City this past year, as I was there in January for a funeral as well."

**James Crouch** (MinE68) mentions: "It has been a good year and uranium is up. We think our company has a future in mining. Everywhere we go we run into alumni **Randy Powell** (MetE75), **Al Frank** (MinE76) and **Stuart Collins** (MinE85). We are moving forward with Roca Honda in New Mexico and the gas hills with **Tom Ochsner** (MinE78) and **Nick Bielstein** (MetE07). Let's have an alumni gathering in Casper!"

**Lynn Englehorn** (ME66) tells: "Thanks to SDSM&T I have had a very successful career working for consulting engineering companies in Chicago, Kansas City and St. Paul. I have been retired now for 10 years and have three children and eight grand children. We now enjoy living on the lake in Colfax, Wis."

**Gary Erickson** (CE66) shares: "We spend our winters in Arizona and summers in Minnesota. This will be our first year in Casa Grande, Ariz., where we purchased a home this past summer. We always enjoy the alumni gatherings in Arizona when I can attend. I played golf last winter with **Dan Hoshino** (ME65), **Jerry Brown** (CE65) and **Mike Gustafson** (ChE65). I am trying to connect with alumni **Mike Gilbertson** (ME66) who recently moved to Dell Rapids, S.D., near my hometown of Brandon, S.D. All four of these alumni are Triangle fraternity brothers of mine."

**Alan Freiberg** (ME68) updates: "I am still working part time (every other week) for Petro-Hunt/Pursue Energy near Jackson, Miss. I still fly my airplane frequently. I turned 65 in November and have signed up for Medicare – ugh! My son Trent and family are still living in Shanghai, China,



for their sixth year now. Like everything, even two of my grandchildren were 'Made in China.'"

**Donald Goeres** (ME66) sends in: "As a part of my retirement activities I am a tour guide at the John Deere Engine Works in Waterloo, Iowa. Meeting John Deere friends and customers from around the world has been interesting."

**Lloyd Greiner** (EE63) and Bernita recently celebrated their 50th wedding anniversary by taking a trip to Hawaii. Lloyd recalls it was a tough go as a married student at Mines, but they succeeded.

**Alfred Huehl** (EE63) advises: "I retired in June 2004 from the Army Space & Missile Defense Command where I worked several years on the development of radiation hard end microelectronics. Since retiring, I have kept helping at our church and teaching high school math. In May 2009, Wilma and I visited our second son Dale and his wife while he was stationed at the National Training Center at Fort Irwin, Calif., and got to see a training exercise in a simulated mid-east village. Dale is now a colonel on his second tour in Iraq."

**Andy Johnson** (MetE64) shared this news: "The birth of granddaughter, Anna Lynn Wolcott on March 11, 2010, was the major event of the year. Judy and I enjoy immensely helping Heather and Jeff take care of her when we are at our condo in Phoenix from November through May, and when they come to visit us in the Cincinnati area in the late summer or early fall. Continuing to do some consulting for several Fortune 500 companies, primarily in the area of government program management."

**Gary Johnson** (Geol63) shares: "Research on Permian-age sharks continues on a limited basis. Most of my time is being spent organizing the 12th International Symposium on Early/Lower Vertebrates, hosted by the Shelter Museum of Paleontology at Southern Methodist University (SMU) in Dallas, Texas, next June. Fortunately, I get help from colleagues at SMU. Besides the conference, I am leading a four-day field trip in the Texas Lower Permian, probably the richest area in the world for vertebrate fossils of that age. So far, I have not had to give up beer and darts at my local pub."

**Gary Keffeler** (ME68) announces: "Life has been good to the Keffeler clan. We will soon have our 13th grandchild enter the family. She will be the second girl adopted from China. If all goes well, we will see her Dec. 7, 2010. That should be a great Christmas present."

**Gary Lower** (ME69) says: "I came to coastal California in 2008 as operations manager for Venoco, Inc. in charge of operations for both onshore and offshore Santa Barbara channel oil and gas operations."

**Bashir Master** (ME67) says: "We celebrated the birth of two grandsons last June, one to our daughter Tara and her husband Zac and the other to our son Yousef and his wife Sarah. My wife Barbara is now a qualified naturopathic doctor."

**Robert Miesen** (CE61) mentions: "We really enjoyed the five-year reunion and seeing so many friends. The school, Rapid City and the Black Hills really add to the benefits of returning to see everyone."

**Richard Moen** (MetE62) announces: "We're both finally transitioning into retirement, but not without a few professional interruptions along the way. We just returned from a 16-day tour of Turkey – what a great place to visit and become informed about the real Turkish people. They were wonderful hosts. We plan to be in South Dakota next September to attend our Miller High School Reunion at Palmer Gulch in the Black Hills and to visit family and friends across the state."

**Robert Nelson** (CE61) says: "Norma and I recently returned from a cruise through the Panama Canal. Interesting to note this civil engineering marvel (now 95 years old) is still working flawlessly."

**Neil Olien** (Phys60) reminisces: "We immensely enjoyed the 50-year commencement in May and the five-year reunion in July. They were both very well organized, interesting and fun. It was good to hear more about the DUSEL Project and it was nice to climb M-Hill again! I want to send a big thank you to Tim and Dee in the Alumni Office, as well as the Foundation staff."

**Glen Oveson** (EE63) posts: "Everyone is doing well. We enjoyed the 2010 reunion very much. You folks did a wonderful job!"

**Larry Pater** (ME66) submits: "I have retired and I am enjoying doing projects and a little blast noise consulting."

**Milford Peterson** (CE61) sends in: "I went on our annual pheasant hunt in South Dakota near Clark, the first week of November, with my oldest son John hunting primarily in Clark County. My left eye continues to be a problem, but with my dominant eye on the right, I could still shoot. Jackie spent the week in Sioux Falls, S.D., with her mother and family."

**Richard Peterson** (CE64) informs "We are enjoying the simple life here on the Keya Paha River and looking forward to the 50th graduate reunion in 2014."

**Gary Radford** (ME60) submits: "We attended the July reunion and had a great visit. We also spent some time in the Hills and Rapid City area."

**Carol Reed** (Geol66) announces: "I retired on Oct. 1, 2010,

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and moved back to Rapid City. We are currently getting settled in the new home.”

**Francis Reuer** (ME65) posts: “After spending 43 years in the health care facility construction and certification area, I have retired to my home in Cheyenne, Wyo. Our three sons live in the area as well.”

**Noel Rickard** (ChE69) reminisces: “2010 was a very difficult year. In February our 15-year-old Westie dog Bonnie passed away. Judy and I missed her greatly for some time. In the spring, Judy went to see a doctor and found out she had stage four lung cancer. She started chemotherapy and was doing better. Then on June 13, she had a stroke and passed away in the hospital the next morning. It has been very sad around the Texas ranch.”

**Harlan Rosin** (ME63) shares: “I have been retired for eight years now and am having a great time. I am staying busy with six grandkids, remodeling, cars, wood working and some consulting for Rapid Transit Air Conditioning. Janet continues to work and we are still in Montgomery, Ala.”

**Ted Smolik** (MetE63) says: “Bonnie and I purchased and remodeled a home in Sun City West. Consequently we will continue to spend winters in the Arizona sun. I am still working on a couple of early-stage gold mining projects. One is located in British Columbia and the other in the Northwest Territories. It is very interesting and challenging to keep up with new ideas and technologies.”

**John Synhorst** (EE68) tells: “We thoroughly enjoyed a cruise to Antarctica in January 2010. It certainly makes us understand the nature of global changes. We also spent time in Brazil, Argentina and Chile.

**Everett Trevor** (Chem65) updates: “I am boarded in pulmonary and sleep medicine and still have my private practice. Our son William is completing his post-grad year in dental at Harvard. Our daughter Cary is teaching English as a second language at San Diego State. My wife Mary is working as an oncology nurse specialist.”

**David Wagner** (ChE69) says: “I am in my 41st year with 3M. In July 2010, I relocated back to 3M in St. Paul after spending three years in the Boston area at Venture Tape Corp., a wholly-owned subsidiary of 3M Company. My wife Vera and I occasionally play golf with Nancy and **Larry Mohr** (Phys66) who are members of the same gold club.”

**Richard Wheelock** (EE61) as submitted by his wife Susan: “Dick retired from Northrop in 1990. He and I moved to Chehalis, Wash. He keeps busy playing with computers and golfing. He had a stroke last year, so memory is a bit jumbled now, but he works at relearning things he lost. He does remember to play golf three times a week.”

## 1970s

**Paul Below** (GeolE78) shares: “I frequently have lunch with some friends including Dan Enger (ME78). I changed employers in 2009. I went from a huge multinational to a small privately-owned firm. I am doing statistical analysis in support of large software projects.”

**David Bratzel** (Chem77) updates: “I continue to work for Jacobs Engineering. We are part of a team that won a \$5B/four year contract this past year in support of the environmental cleanup mission of radioactive waste at the Hanford Site in Washington. I see several former SDSM&T friends regularly. My son will graduate this spring from MIT with his master’s in mechanical engineering from the Institute of Atomistic and Molecular Design, and plans to continue to pursue his doctorate. I still visit the Black Hills on a regular basis to visit family in Lemmon and Spearfish.

**David Cappa** (CE74) mentions: “I retired from the Chicago Transit Authority and am working part-time as a consultant. We have a new grandson, Tyler, who joins my granddaughter, Macy.”

**Joseph DeMarcus** (MetE76) sends in: “I have worked for Freeport MacMoran (formerly Phelps Dodge) for 29 years.”

**Ray Dennis** (CE77) shares: “After 28.5 years with Xcel Energy at the Monticello Nuclear Generating Plant in Minnesota, I retired on a Friday in August, drove 1,000 miles and then started a new career on Monday with Westinghouse near Pittsburgh, Pa. I now have two favorite NFL teams – the Vikings and the Steelers. Between the two teams they have won six Super Bowls. My new position is titled program manager in the boiling water reactor component engineering group. Let me know if your reactor needs some component engineering.”

**Dan Eisenbraun** (CE76) Press release: “Dan Eisenbraun was looking for a place to start his career when he graduated in 1976 with a civil engineering degree from the South Dakota School of Mines and Technology in Rapid City. The Scotland native returned to his home area, founding Eisenbraun and Associates in Yankton. The engineering and surveying firm has grown to 23 employees, serving clients throughout the region. In addition, Eisenbraun has won professional awards and held state and national positions in his field. He and his wife Patti have lived in Yankton for more than 30 years where they raised their three children – Kristin, Jeff and Brandon. In recognition of his efforts, Eisenbraun has received this year’s Frank Yaggie Award from the Yankton Area Chamber of Commerce. The Frank Yaggie Award is presented annually to an individual who has shown a total commitment to making Yankton the best that it can be. Eisenbraun has served in many capacities during his time in Yankton for various boards, non-profits, civic organizations and his church. Eisenbraun said he made



the right move 35 years ago, as he considers Yankton “an attractive, progressive community.” “We are very grateful to be living here. We have always enjoyed it,” he said. “Patti and I have said many times, it’s wonderful to raise a family in Yankton. I can’t imagine living elsewhere.”

**Mark Fiegen** (ChE79) tells: “The nest is basically empty. Jane got married and is living in St. Louis going to grad school at Washington University. Ann graduated from Xavier and moved to Boston to start grad school at Harvard. Karen moved to the U of M campus as a freshman. The kids are studying history, virology and fashion design, respectively. No engineers – I am not sure where we went wrong.”

**Jack Hale** (ME74) announces: “I retired from DuPont on Aug. 1, 2010!”

**Arvid Halvorsen** (ChE73) submits: “My wife Vigdis and I visited the Alumni Office and the chemical engineering department on the Sept. 23, 2010, during a trip to the U.S./ Midwest. It was nice to visit SDSM&T and to see Rapid City again after 37 years. There were changes to observe, but many things appeared to be the same. It brought back a lot of good memories. We live in Drammen, Norway. I took early retirement from Norsk Hyrdo three years ago after 25 years with the company. I am now an independent consultant in addition to devoting a lot of time to Transparency International.”

**Jeffrey Hohle** (GeolE78) announces: “We bought a house in the Black Hills and look forward to making the move from Texas in the next couple of years!”

**Brian Hoop** (MetE77) retired from Caterpillar in October 2010 after more than 33 years. His first order of business was hiking a leg of the Robert Trent Jones Trail and he has been having a blast golfing ever since.

**Yvonne Hoop** (MinE78) says: “I still tutor adults in English as their second language two mornings a week and am taking painting classes to give that other side of my brain a work out. Our daughter Emma is working on an industrial design degree at Georgia Tech.”

**Robert Howe** (EE72) sends in: “I am remarried and back on the saddle. Between Evie and me, we have seven children and 17 grandchildren. We are looking forward to retirement; I plan to leave John Deere in 2012. We will then move to Sioux Falls, S.D.”

**Patricia Koepp** (ChE74) updated: “Darwin Koepp (ChE74) retired on Aug. 3, 2010, after 35 years in the chemical industry for E.I du Pont, then since 2004 for INVISTA, a division of KOCH Industries. He started out as a process engineer and finished spending the last three-and-a-half years of his career as site manager for the Victoria, Texas, INVISTA site. We are looking forward to spending time

with family, traveling and hitting the golf courses and tennis courts.”

**Kim Malthesen** (MetE77) shares: “We celebrated the arrival of our first grandchild, born to our son Nolan and his wife Brooke. Cole Avery was born on Oct. 21, 2010, weighing in at eight pounds, 11 ounces.”

Triangle and School of Mines alumnus and PolyOne CEO **Steve Newlin** (CE75) opened the New York Stock Exchange on Monday, Aug. 16, 2010, by ringing the Opening Bell in Manhattan. Newlin was accompanied by several other executives from PolyOne ([www.polyone.com](http://www.polyone.com)) and his son, Grant. A Wall Street advisor informed Newlin that the daily ringing of the bell is viewed by more than 100 million people every day. PolyOne, a premier global provider of specialized polymer materials, services and solutions, was formed in 2000 by the consolidation of The Geon Company and M.A. Hanna Company; and accordingly celebrated its 10th anniversary last year. PolyOne Corporation, with 2009 annual revenues of \$2.1 billion, is headquartered outside of Cleveland, Ohio. Congratulations go to Steve and PolyOne on these milestone events.



*Steve Newlin (CE75)*

**Larry Pearson** (ME72) tells: “Retirement continues to treat us well. We are wintering in Arizona again this year. Enjoying warm weather, sunshine, golf and occasionally fly fishing for Arizona trout.”

**Michael Psiropoulos** (MinE76) reminisces: “I had a great time at the Reunion. I was amazed at how Mines has changed.”

**Don Swanson** (CE74) updated us on his family: “Daughter Michelle Swanson (ME01) changed jobs in January of this year and is enjoying the change. Recently she was notified that she was named as one of the “Top 20 Under 40” in the Mountain States Construction magazine. It highlights the best of the best young professionals in the construction

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and design industries. Also, Michelle and **Dominic Miller** (CSc00) are engaged and wedding is set for June. Just a dad doing some bragging. Bonnie is not doing very well; lots of pain so travel is out of the question. We both want to get back to Rapid but that is on hold until the pain is under control.”

**Doyle Tubandt** (ChE75) via press release: “Doyle Tubandt has been appointed president and chief operating officer of Muscatine Foods Corporation according to an announcement from Gage A. Kent, Chairman and Chief Executive Officer. Doyle will be responsible for operational leadership of Muscatine Foods and their family of companies. He joined the company in 1978 as an Operations Superintendent, and has held numerous positions including the Sr. VP GPC Operations role, spent time as executive vice president of sales and marketing and most recently served as president of Grain Processing Corporation. He and his wife, Cindy, reside in Muscatine. Muscatine Foods Corporation is parent company to and provides management and administrative services for Grain Processing Corporation; Kent Nutrition Group, Inc. and Precision Foods, Inc.”



*Doyle Tubandt (ChE75)*

**Gary Veurink** (ChE72) submits: “The first half of my 35-year career was spent at Dow Chemical Co. and at retirement I held the title of corporate V.P. for manufacturing and engineering, was a corporate officer, a member of the office of the CEO and reported to the CEO. I have moved on to the second half of my career in the non-profit world. I am working as COO for a ministry based in the Washington D.C., area called International Justice Mission (IJM). IJM does work for the poor in the developing world to bring justice on the oppressed by taking their cases through the legal system. Our family is doing well. We have three grown children and eight wonderful grandchildren. We enjoyed seeing everyone at the Five Year Reunion this past summer.”

**Joseph Vig** (CE71) says: “Not a family note, but many thanks to **Larry Simonson** (EE69) and his tireless work for the institution and all alumni. Our get-together in Yankton, S.D., is not high in numbers, but we appreciate his efforts to gather us and the info he provides. Here at Kolberg-Pioneer, Inc. we are fortunate to have about 10 Hardrockers employed.”

**David Wentland** (CE73) proudly submits: “We became grandparents in January 2010 to a beautiful little girl named Penelope.”

**Don Wrede** (CE79) shares: “We are still skiing every chance we get! Via a recent trip to Aspen, Colo., I achieved the dubious milestone of having skied at 60 different ski areas in my life. These include 12 areas on three extended trips to Europe, seven areas in Canada (including a week-long helicopter skiing trip in 1982) and 41 in the western U.S. My wife Mo (Maurine), air traffic control manager at Rapid City Regional Airport and my best ski buddy, follows closely behind with a total of 48. I cannot keep up with her on a powder day. We just like to explore different areas every year. I hope to make it to 100 areas before my bad knees finally give out. We still ski every weekend at Terry Peak with alumni **Rob Corner** (CE78) and **Neal Schlottman** (CE79). We have also had the wonderful fortune of being acquainted with great friend **Carl Laco** (Math74). Carl’s goal in obtaining his master’s in meteorology was to become snowmaking supervisor at Jackson Hole, Wyo. Carl got that job in 1981 and was in that position for nearly 30 years. We have made many trips to Jackson Hole over the years and Carl has graciously drug our weary carcasses all over that mountain, leading us to his secret stashes. Carl is the best skier we know and a true Jackson Hole legend. I doubt that anyone knows that mountain or the surrounding mountains better than Carl. I am still working as a senior civil engineer at TSP Inc. here in Rapid City.”



*Maurine and Don Wrede (CE79)*



**Gary Young** (ME71) informs: “We finally retired and are planning to be “snowbirds” traveling between Omaha, Neb., and Phoenix, Ariz. We lost most of our retirement savings with Enron (20 year career), but opened my firm (Encompass Energy) after Enron fell and saved enough for a modest retirement. Good luck to all Miners in these trying economic times.”

## 1980s

**Brian Chleborad** (ChE84) via Glenn C. Barber & Associates, Inc. press release: “Brian Chleborad is both an idea man and an implementer with a rich background in sales, new product implementation, team management and project supervision. Brian has a proven track record for integrating products and concepts into projects yielding value added solutions to complex problems. Chleborad’s degree from the School of Mines and working for such companies as Dow Chemical and Golf Inc. gives him a diverse knowledge base to successfully lead projects from the idea stage to the final walk through. As a LEED accredited professional, Mr. Chleborad has taken the responsibility of sustainable design site planning and LEED design and documentation. With Brian’s leadership GBA Inc. built its first Certified Green Building for South Dakota Housing Development Authority in Pierre, S.D. Having experience in project management, scheduling, estimating, materials procurement and facilitation as well as team management, Brian is an integral part of the GBA management team.”

**Patty Dressler** (ChE82) shared this greeting: “Hello! Anyone traveling through Bismarck, N.D., or Murdo, S.D., is welcome to stop by and visit Mike and me. My youngest is a freshman at SDSM&T this year. Go Becca! My oldest moved to Fort Collins to finish up college. Life is better than ever.”

**Thomas Evans** (EE81) posts: “I retired from Boeing on July 30, 2010. We then moved from Enumclaw, Wash., to Buffalo, Mo., in August 2010. I married Dianne on Sept. 18, 2010.”

**Ray Greff** (MinE81) proudly tells: “My son Zane is a junior in electrical engineering at SDSM&T.”

**Susan Hoines** (GeolE87) advises: “My father, **Ellis Hoines** (EE57), passed away last March. Everyone else in my immediate family continues to live in Sandia Park, N.M.”

**Tony Jensen** (MinE84) served as the master of ceremonies at the National Mining Hall of Fame and Museum. He presented a Prazen statue to keynote speaker Frank McAllister, the chief executive officer of Stillwater Mining Company and a life member of the National Mining Hall of Fame and Museum.

**Todd Kenner** (CE83) as provided by RESPEC: “RESPEC is pleased to announce the appointment of Mr. Todd Kenner to the position of president, effective Jan. 1, 2011. Mr. Kenner joined RESPEC in May 2009 following a very successful career at PBS&J where he was president and COO of the consulting firm of 4,000 employees with international experience on high-profile infrastructure projects. Mr. Kenner brings a wealth of knowledge and capabilities to RESPEC with over 25 years of consulting experience in successfully building and leading high-performance businesses and executive teams. Mr. Kenner received his bachelor’s degree in civil engineering from SDSM&T and was recognized for his career accomplishments with the awarding of an honorary Doctorate of Public Service from SDSM&T in 2006. Throughout his career, Mr. Kenner has been committed to public service. He has served in leadership roles in professional societies and community boards. Mr. Kenner is a registered Professional Engineer in several states.”

**Daniel Mulally** (EE87) states: “I am still working for Air Dat on in-site atmospheric sensors on aircraft for weather forecasting. I am in Rapid City most of the time.”

**James Ness** (CE83) says: “I am still working at Monroe & Newell Engineers, Inc. I am trying to make a living in a small, private company that does not do much government work. It will get better. After hours we stay busy with two kids, one in middle school the other in high school, and all of their activities. We still love Denver and the surrounding areas!”

**John Norby** (Geol84) says: “My wife, Cynthia, and I have a business contracting to the exploration mineral industry. I work as an exploration geologist, she as a data and office manager. We have lived in Spring Creek, Nev., outside of Elko, since 1996. I have worked mostly in gold, in several western states, and in northern Michigan. I also enjoyed zinc-lead-silver exploration in the Red Dog camp on the tundra of northwest Alaska, copper-zinc exploration in the Appalachians (where Cynthia and I met in northern New Hampshire), lignite work in the Gulf coast sediments and coal-bed methane drilling in northwest New Mexico (and the food there). I continue to fall back on my basic geology skills taught to me by the professors at Mines. Thanks to them for providing me the basis of a professional life. Our three children are grown. Aaron graduated from and Andrew is a junior at Montana State University in Bozeman. Anne is at Great Basin Community College in Elko and working at a veterinary clinic. Over the years, we have crossed paths with geology colleagues from the classes of the mid-1980s – good guys.”

**Joseph Novotny** (ME82) announces: “Newlywed! Carrie and I were just married on Aug. 6, 2010.”

# Class Notes

**Mark Rantapaa** (GeolE87) shares: "I am still at Barrick Goldstrike, for 19 years now. I recently moved from engineering superintendant to operations superintendant."

## 1990s

**David Carda** (ME91) says: "Sarah and I are enjoying our 10th year back in Yankton, S.D. I am working with many SDSM&T alumni at Kolberg Pioneer, and Sarah works for Mount Marty College as the dean of students. The kids are growing fast, and it is always good to see alumni in Rapid City or when they visit Yankton. We had fun at the 2010 Reunion and are looking forward to the 2015 Reunion as well."

**Bob Griffith** (ME91) shared this note: "It is nice to be back in Omaha, but the winters here are not as nice as they were in Mississippi. I am still working for Cargill on a reliability excellence project team. My son Dan graduated from Ole Miss and finally found a job in IT that he was interested in. Our two grandkids, Blake and Alyssa, are great to have over."

**Justin Griffin** (ChE96) announces: "Shannon and I welcomed the arrival of our second child, a new baby girl. Maison Riley Griffin was born Sept. 24, 2010, at St. Vincent's Hospital in Santa Fe, N.M. She weighed six pounds 10 ounces and was 19 inches long. Maison's brother Maclain is now three years old. The family makes a home in Los Alamos, N.M. where I work for Los Alamos National Laboratory's international threat reduction group to find and secure unwanted radioactive sources from all around the world."

**Jeff Massie** (EE96) proudly tells: "I am currently engaged to a wonderful woman and we are planning to get married

this winter after the first of the year. Most of my free time is running the children around to all of their various activities. I have been working at Micron for 13 years now and still love my job. I started in the fab and became the photo-lithography tool owner for the Boise fab and have then moved from the manufacturing side into R&D. I am currently a design verification engineer, which means I try to break and find flaws in the memory chips before customers do."

**Randy Rauch** (EE92) and wife Mary Pat celebrated their 15-year anniversary on July 1, 2010. Randy started his new job at Stryker Medical in Kalamazoo, Mich., in October. He is a senior supplier quality engineer, and he is so impressed with the integrity and work philosophy of the company. Daniel, age 14, started his freshman year of high school. Michael, age 13, won the "pitch, hit and run" competition in his age group at Tiger Stadium in July. Rebekah, age nine, and Anna, age eight, are in third grade and keep busy with dance and basketball.

**Dawn Recker** (Chem98) updates: "I accepted a position as a pharmacist with an independent pharmacy in Muscatine, Iowa. So I am no longer a Wisconsin "cheese head." It is nice to be closer to family and be able to visit them a little more often."

**Amanda (Sampson) Richardson** (Math99) sent this note: "I got married this past year and recently changed my name. I am now Amanda Jean Richardson, married to Brandon Richardson."

**Steve Schlabsz** (ChE99) mentions: "Thought I would forward this picture on to you. This fall a few of us got together in North Dakota for the opening pheasant season. It was a beautiful warm weekend and a good chance to get together and share stories about the old days."



*Maison Riley Griffin*



*Pictured (l to r) are alumni: Jonathan Urbach (ME98), Scot Larson (ChE97), Steve Schlabsz (ChE99), Jaysen Schock (ME90) and Greg Lofstedt (ME73)*



**Tricia Schwaller** (EE98) announced “I got married Dec. 31, 2010, in Roseville, Mich.”

**Deborah Sloat** (IS94) proudly informs: “**Brandon Quiett** (CE04) graduated from Portland State University in August with a master’s degree.”

**Mitchell Slusarski** (IE95) sent this note: “I have been at US Bank for two years now in private banking and really enjoy my new career. My wonderful wife Lyndsi is a physician assistant in dermatology at the Rapid City Medical Center. We have a two-year-old son Baron, whom we’re grooming to be a Hardrocker.” Mitch is also on the board and treasurer of the Alumni Association.

**Rhenda Strub** (ChE92) via Glenn C. Barber & Associates, Inc. press release: “Olympia City Councilwoman Rhenda Strub announced that she will seek a second term. Strub, 55, has worked as an environmental consultant and was elected to the City Council in 2007. Among her priorities are stimulating market-rate housing downtown, bringing the nonprofit group Artspace to Olympia to develop artist workspace/housing and working with other jurisdictions to reduce homelessness. Before she was elected, she spent time on the Thurston County Planning Commission. She has also been active with the Thurston County Democrats. She said she decided to run again “because I truly enjoy it, I am good at it and I enjoy it.”

**Justin Tomac** (IE93) sent this greeting: “Big ‘Hi’ from Kansas City. It was good to see a lot of people at the Reunion. We just added No. 7 to the family, four boys and three girls (Vincent, Benedict, Philip, Natalie, Isabella, Ivan and Juliana). We are planning on being in the Dakotas the week before the 4th of July for my parents’ 60th wedding anniversary. Who knows – we may be in the Black Hills area for a day.”

## 2000s

**Jeff Comrie** (ME09) via press release: “Melinda Wells and Jeff Comrie, both of Rapid City, S.D., announce their engagement. Melinda is the daughter of Amber and Brian Wells of Spearfish, S.D. Jeff is the son of Paul and Susan Comrie of Pendleton. Melinda is a 2005 graduate of Spearfish High School and a 2010 graduate of South Dakota State University in nursing. She is currently employed at Rapid City Regional Hospital as a registered nurse. Jeff is a 2005 home school graduate and attended Pendleton High School and Blue Mountain College while in high school and living in Pendleton. He is a 2009 graduate of South Dakota School of Mines and Technology in Rapid City in mechanical engineering and is currently working to complete his master’s degree in mechanical engineering, also at the School of Mines. He is presently employed by the university in research. The couple is planning a June 26, 2011, wedding in Spearfish, S.D.



*Melinda Wells and Jeff Comrie (ME09)*

**Tyler Cowning** (IS00) updates: “I am currently in the master of science program in civil and environmental engineering at SDSM&T.”

**Michael Grave** (ME09) tells: “I moved to Yankton, S.D., after graduating in May 2009 to manage the Lewis and Clark Resort. I am currently continuing my education at USD, working on my MBA and loving life.”

**Timothy Jacobson** (CSc03) proudly announces the arrival of their new baby girl Sarah Jeannette Jacobson, born on July 6, 2010.

**Jeremy Smith** (ChE00) shares: “I have relocated yet again. After 10 good years with Lafarge, with stops in Pennsylvania, South Carolina and most recently New York, it was time for a career shift. I left the cement industry in June and am now working for Calgon Carbon Corporation (CCC) in eastern Kentucky. CCC works heavily with filtration systems, and the division I am in focuses on manufacturing granular and powdered activated carbon. I am currently a production coach with responsibilities for the line that re-activates spent carbon. The family is enjoying our new home. My wife, Sara, and our two children, Kathryn (12) and David (two) are settling in quite nicely. It is definitely a change of pace compared to upstate New York, but so far the change has been for the better. We are looking forward to good things to come.”

**Michelle Swanson** (ME01) was recently notified that she was named as one of the “Top 20 Under 40” in the Mountain States Construction magazine. It highlights the best of the best young professionals in the construction and design industries. Also, Michelle and **Dominic Miller** (CSc00) are engaged and their wedding is set for June. Please send us a photo from the wedding. Congratulations to you both!

# AREA MEETINGS

1. Pittsburgh, Pa., alumni and guests: (front row, l to r) **Susan "Booty" Banks** (GeolE75), Drew Gildemeister, **Teresa Gildemeister** (IE94); (back row, l to r) Monique and **Steve Uttecht** (EE92), **Dennis Poage** (EE67), **Ray Dennis** (CE77), Tom Banks, **Dave Gildemeister** (MetE93), **Suresh Santhanam** (M.S. Metro79), **Ron Jeitz** (CE69)

2. Rapid City Tailgate Party for Mines vs. BHSU football game (seated, clockwise around table) **Ken May** (CE61), Nancy May, **Les Larson** (CE58), Doty Brown, Sue Larson, **Jerry Brown** (CE65); (background) **Bob Kelley** (CE58) and June Hermanson

3. Rapid City Tailgate Party for Mines vs. BHSU captures Black Hills State Vice President of University Advancement **Steve Meeker** with SDSM&T Alumni Association banner (again!)

4. Spokane, Wash., Northwest Mining Association conference: (l to r) **Paul Gnirk** (MinE59), **Gene Skinner** (GeolE53), **Dave Shaddrick** (Geol71), **Tim Vottero** (Chem84)

5. Spokane, Wash., Alumni Social: (l to r) **Craig Eggerman** (GeolE73), **Bill Bond** (M.S. Geol82), **Bob Tridle** (Chem81), **Paul Gnirk** (MinE59), Barbara and **Ross Grunwald** (Geol64), **Dave Shaddrick** (Geol71); (not pictured) **Scott Flage** (IS07), Evie and **Gene Skinner** (GeolE53), **Tim Vottero** (Chem84), **Ken Wrede** (MinE77)

6. Seattle, Wash., Alumni Dinner: (seated, l to r) Yuan Si, **Wes Snaza** (ME08), **Ward Zimmerman** (ME50); (standing, l to r) **Tim Vottero** (Chem84), John Meeker, **Vern Abild** (EE50), Pat Abild, **Caroline Zebroski** (ME85), **Paul Gnirk** (MinE59); (not pictured) **Jeanne Deaver** (ME96), **Terry Heil** (ME55)

7. 2010 Chapter of the Year – Pierre Alumni Tailgate Party group photo

8. Pierre Alumni Tailgate Party: (l to r) **Paul Gnirk** (MinE59), **M.R. Hansen** (CE69), **Dale Healey** (IE06), **Dan Painter** (CE90)

9. Pierre Alumni Tailgate Party check-in table: (l to r) **Jim** (GeolE71) and **Jeanne Goodman** (GeolE79), **Steve Johnson** (CE83)

10. Pierre Alumni Tailgate Party door prize drawing emcees **Paul Gnirk** (MinE59) and **Steve Pirner** (CE72) at kids table



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# AREA MEETINGS

11. Pierre Alumni Tailgate Party cooking contest evaluation and review board: (l to r) **Jim Goodman** (GeolE71), **Nayer Syed** (M.S. Geol94), **Mike Cepak** (MinE76), **Steve Pirner** (CE72)

12. Pierre Alumni Tailgate Party cooking contest winners: (l to r) **Tracy Painter** (CE91), **Aaron Tieman** (GeolE03), **John Ullmann** (ME05), **Dustin Witt** (CEng05), **Dale Healey** (IE06), **John Childs** (CE92), **Marc Macy** (GeolE04), **Chris Jundt** (CE85), **Lisa Rombough** (CE00)

13. Pierre Alumni Tailgate Party "senior" **Wally Larsen** (MinE53) with "frosh" **Chelsey Miller** (CE10) and **Adam Bruscher** (CE10)

14. Pierre Alumni Tailgate Party-goers **Dan** (CE90) and **Tracy Painter** (CE91)

15. Denver, Colo., SME Conference – Four of 35 School of Mines students who attended SME: (l to r) **Crystal Croston** (MinE, Gillette, Wyo.), **Lukes Koerner** (MinE, Sturgis), **Sean Dereski** (MinE, Canada), **Conlan Nelson** (MinE, Brighton, Colo.)

16. Denver, Colo., SME Alumni Social alumni: (l to r) **Bob Neufeld** (ChE71), **Pete Birrenkott** (ME71), **Kevin Hegerle** (MetE74), **Charles Snyder** (ME63)

17. Denver, Colo., SME Alumni Social attendees **Earl Hoskins** (Mine56) and **Shirley Hoskins**

18. Denver, Colo., SME Alumni Social attendees: (l to r) President **Robert A. Wharton**, Ph.D., Alumni President **Pete Birrenkott** (ME71), Foundation Vice President **Brad Johnson** (EE92), Foundation and Alumni Representative **Ron Jeitz** (CE69), Laurie and **Kim Haarberg** (MetE79)

19. Houston, Texas, Alumni Social: (l to r) **Breanne Lundin** (ChE08), **David Jackson** (ME70), **Bob Miesen** (CE61), **Lorraine Padden** (EE83), **Bill Barber** (ChE70), **Joel Guillaume** (ChE97), **George Young** (Met71), **Ernest Anoma** (MinE78); (not pictured) **Holly Guillaume** (CE01) and **Ian Lundin**

20. Houston, Texas, Alumni Lunch: (l to r) **Ian Lundin** holding Elle, **Tim Vottero** (Chem84), **Bert Fedt** (GeolE55), **Breanne Lundin** (ChE08) holding Maelle, **Bob Miesen** (CE61)

21. New Orleans, La., Alumni Dinner attendees: (l to r) **John Chikos** (CE75), **Pete Birrenkott** (ME71), **Glen Bornhoft** (ME74), Cheryl Bornhoft, **Bob Heier** (ME73)

22. New Orleans, La., Alumni Dinner group photo at Salvatore Restorante



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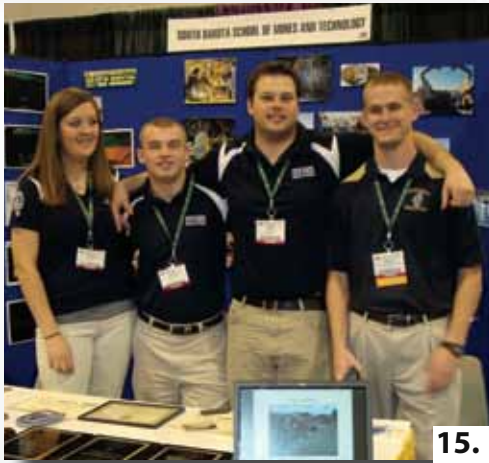


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# Memorials

Sympathies and condolences go to the families and friends of the following alumni and former faculty and staff for their loss. Complete memorials may be found under the Class Notes section at <<http://alumni.sdsmt.edu>>.

**Clair R. Brich** (EE49)  
**B. Russell Britzius** (former faculty)  
**LeRoy H. Cook** (ME57)  
**John E. Fritz** (EE42)  
**H. Eugene Haley** (MetE44)  
**James R. Hartman** (former staff)  
**J. Harmon Heidt** (GeolE77)  
**Roger D. Holst** (GeolE54)  
**Orville J. Johnson** (EE43)  
**Todd A. Johnson** (former staff)  
**Raymond E. Langen** (GeolE47)  
**Bob Looyenga** (former faculty)  
**Jack S. Ludington** (Hon77)  
**Charles L. Lutes** (EE56)  
**Mary Lou Mauch** (Chem72)  
**Wilber O. Manuel** (MetE42)  
**Robert H. March** (MetE44)  
**Perry Marteny** (former faculty)  
**Charles W. Miller** (Chem75)  
**Mary L. Mydler** (MinE78)  
**Forrest A. Myhres** (CE58)  
**Donald Nixon** (former staff)  
**Sidney C. Oakleaf** (EE52)  
**Frederick L. Raubach** (GeolE55)  
**G. Wayne Reinmuth** (EE49)  
**Robert L. Sandvig** (ChE44)  
**Arthur J. Schnose** (EE44)  
**Cecil M. Stephens** (ChE38)  
**Svein O. Strommen** (EE72)  
**Wayne A. Tittle** (GeolE81)  
**Carl G. Ulvog** (GeolE50)  
**Martin M. Warvi** (CE57)

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# Save the Date

## Mines Medal

Dinner and Award Ceremony  
Honoring Dr. Lee Rybeck Lynd

Paul E. and Joan H. Queneau, Distinguished Professor in  
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Dartmouth College

September 29, 2011



### About the 2011 Mines Medal Recipient

Dr. Lee Rybeck Lynd is the Paul E. and Joan H. Queneau Distinguished Professor in Environmental Engineering Design and an adjunct professor of biology and of earth science at Dartmouth College, professor extraordinary of microbiology at the University of Stellenbosch, South Africa and director and chief scientific officer of Mascoma Corporation, a biomass energy start-up he co-founded.

Lynd is recognized as one of the world's leading experts in the biological conversion of pretreated biomass into ethanol and other fuels. The central aim of his career has been to help establish a commercial industry producing sustainable and societally beneficial transportation fuels from cellulosic biomass.

His contributions span the science, technology and policy domains, and include leading research on fundamental and biotechnological aspects of microbial cellulose utilization. A frequently invited presenter on technical and strategic aspects of biomass energy, Lynd has testified before the United States Senate three times and has been featured in Wired and Forbes, on Nova and at the Nobel Conference.

### About the Mines Medal

The South Dakota School of Mines and Technology launched the Mines Medal Award Program to honor engineers, scientists and researchers who have demonstrated exceptional leadership and innovation. The award highlights the significant role these individuals play in our society ensuring our global preeminence in engineering and science.

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