Dear Alumni and Friends,

Autumn is always an invigorating time of year as our students return to campus. This year we began the fall semester with several significant events.

During M-Week, we welcomed 419 new freshmen to the Hardrocker Family; the Fall 2011 Career Fair was the second largest in our history; and our Third Annual Mines Medal Dinner and Award Ceremony, which honored global biofuels expert Dr. Lee Rybeck Lynd, drew more than 475 attendees—a record number for this event.

October brought exciting developments on the School of Mines’ campus. We commemorated the opening of the world-class Chemical and Biological Engineering and Chemistry Building, and we presented our SDSM&T Campus Master Plan to the South Dakota Board of Regents. This plan will guide our expansion of university facilities and grounds over the next 30 years. Please see www.sdsmt.edu for more detailed information and other news highlights.

In this issue of the Hardrock, you will find stories about the generosity of alumni and friends enhancing the Mines experience and student success. We celebrate the 60th anniversary of the Hardrock Club, our athletic booster club, which has long provided financial support for Hardrocker scholar-athletes and honors students’ achievements by sponsoring the Annual Athletic Banquet.

Alumni who have fulfilled the promise of their education at the School of Mines are now providing great opportunities to today’s Hardrokers. Mary (CE77) and Lorin Brass (Met75) established the Brass LIFE Award, a scholarship that enables students to live and study abroad. This gift adds tremendous value to student success by providing the experience our students will need in their careers to compete globally.

The Grubby sculpture, dedicated during Spring Commencement Weekend, is a gift of long-time supporters Jim Green (ME73) and his wife, Connie. The Charlene and LeRoy Foster (GeolE71) family’s donation along with the contributions of several other benefactors provided key financial support for the construction of our LEED Gold Certified Paleontology Research Laboratory, which was renamed in June to honor outstanding alumnus and professor Dr. James E. Martin (Geol71).

In addition to our alumni, our faculty share their time and talent to give back to our community and state. Dr. Scott Amos, professor of Civil and Environmental Engineering, engages in extensive community service. Dr. Vojislav Kalanovic, Professor of Mechanical Engineering, brings entrepreneurship to the classroom and leads by example in building our local and state economy through his commercial ventures.

I am proud to bring you news of this semester’s exciting developments and truly grateful to lead and work beside faculty, staff, and alumni who are committed to achieving the growth, innovation, opportunity, and philanthropy that characterize our enduring legacy.

Sincerely,

Robert A. Wharton, Ph. D.

President
Dear Alumni and Friends,

The year has flown by quickly. Tim, Dee, and Paul deserve thanks for all they have contributed. They hear complaints and few compliments, yet they have done a great job getting through another year. Paul Gnirk (MinE59) has been associated with the campus throughout his entire career by selflessly committing time and resources in his roles as a student, professor, employer, and now as our Executive Vice President. Thanks also go to the Board of Directors, who all volunteer their time and interest in support of our Association. SDSM&T President Robert A. Wharton, Ph.D., and Acting Foundation President Lorin Brass (MetE75) both work hard for the university, as do all their dedicated staff members.

We began the year facing challenges that required some changes in our operations. The year was primarily focused on internal organizational matters at the expense of area meetings. One area of great progress was that we formally endowed the portion of our reserves in the Guy E. March Perpetuation Fund, including Lifetime Contributions. Only the earnings will be available to help with operational expenses in the future. We also made progress with our budget issues. We had an unsolicited major contribution from Margaret and Roger Walla (MinE71), which greatly helped our operating budget for the year. Roger, his sister Sharyl, and his brother Chris (MinE81), all attended the School of Mines during my approximate vintage. Their parents, Len and Margaret, also owned and operated the favorite ‘watering hole’ for a generation of Hardrockers called “Tom’s Place.” Many thanks go to Roger and Margaret.

Our alumni (approximately 15,000 strong) can help President Wharton’s Strategic Priorities, especially with the critical goal of growing the enrollment of qualified students. Please tell your friends and colleagues with college-bound children and grandchildren that our alma mater prepares leaders in life-changing professions and does so at an affordable cost with a virtual 100% placement upon graduation. In the current environment of job availability, this performance is reassuring for parents of college-bound seniors. In an environment of stricter entrance requirements, the college continues to maintain growth. There is increasing demand for our graduates and genuine enthusiasm amongst recruiters at the semiannual job fairs. Our graduates continue to work for America’s top employers, many of whom are international leaders in their respective industries.

Your new incoming alumni president for the next year is Joe Corbett (GeoE82). Joe, a decorated athlete and Hall of Fame inductee, comes to us from Casper, Wyoming. He is the principal owner and partner in an oil and gas consulting and production company. Joe is married to Cheri, and they have three grown children. He has shown great enthusiasm for his upcoming year as our leader.

Cheers,

Pete Birrenkott (ME70)
SDSM&T Alumni President
GRUBBY
May 6, 2011

Donated by James (ME 73) and Connie Green to the students at SDSM&T as a reminder of the hard-working, fun-loving spirit that has made this institution great.
School of Mines’ Students Gain Valuable Work Experience Through Summer Internships

Of the South Dakota School of Mines and Technology students who reported seeking an internship, co-op, or research position this summer, 70 percent were successful in obtaining a position, and 36 percent of the positions were located in South Dakota. A total of 275 School of Mines’ students worked for 127 employers in 34 states and Canadian provinces, which included 44 employers in 24 communities in South Dakota.

Students earned an average of $16.58 per hour, and some employers provided housing stipends and relocation expenses in addition to earned wages.

Organizations hiring School of Mines students include 3M, Barrick Gold, Bobcat, Cargill Incorporated, Cloud Peak Energy, John Deere, Kiewit, Microsoft, Nucor, and Peabody Energy. In addition to Fortune 500 companies, students interned with South Dakota employers Black Hills Power, Daktronics, Innovative Systems, POET, Raven Industries, South Dakota Department of Transportation, Trail King, and others.

School of Mines Earns Designation as One of Top 10 State Universities by Salary Potential

The School of Mines has been designated one of the nation’s “Top 10 State Universities by Salary Potential” in a report released by PayScale, a market leader in global compensation data. Mines’ graduates ranked fourth for their median starting salary of $56,700 and tenth for mid-career median salary of $96,300. This performance earned the University an overall ranking within the top ten.

“This report further confirms that a degree from the School of Mines provides an excellent return on investment,” said Dr. Robert A. Wharton, President of the School of Mines. “Our students graduate with superior practical experience, which they gain through our outstanding programs for internships and co-ops, undergraduate research, and engineering and science team competitions. These experiences give our students a competitive edge that is reflected in our higher-than-average placement rate and salary figures.”

PayScale’s 2011-2012 College Salary Report based its top-ten list on the annual pay for graduates who have earned bachelor degrees from 416 public universities. Starting graduates are defined as having two or fewer years of experience, and mid-career graduates as having 15 years of experience. For more information about the report, see www.payscale.com/best-colleges/top-state-universities.asp.

U.S. Bank Receives Mines Award for Outstanding Public Service

The School of Mines honored U.S. Bank with the 2011 Mines Award for Outstanding Public Service. Pat Burchill, Regional President, accepted the award on behalf of U.S. Bank from School of Mines President Robert A. Wharton, Ph.D., at the 60th Annual Honors Convocation on April 7, 2011.

U.S. Bank has long been committed to the Rapid City community. The Company provides sponsorships and foundation grants to organizations that include Junior Achievement, Regional Health’s Children’s Miracle Network and Hospice House, the American Heart Association, the United Way, the Children’s Care Hospital, and the Western Research Alliance. U.S. Bank employees serve on boards for the Community Development Corporation, the United Way, the Rapid City Regional Hospital, and the Rapid City Area Economic Foundation, and participate in numerous community service activities.

The School of Mines has especially benefited from U.S. Bank’s strong advocacy for academic and athletic programs at the University. The Company has sponsored the U.S. Bank Thanksgiving Classic basketball tournament for the past 12 years, served as the lead advertiser in support of the message center at O’Harra Stadium, and is currently supporting the School of Mines’ drive to Division II of the National Collegiate Athletic Association with a $50,000 contribution.

Former Astronaut Visits School of Mines’ Campus and Encourages Native American Youth to Reach For the Stars

For 19 summers, the School of Mines has hosted the South Dakota Gaining Early Awareness and Readiness for Undergraduates Program (SD GEARUP), a college preparatory program for Native American high school students. In June 2011, SD GEARUP and the School of Mines welcomed Commander John Herrington (Hon03) (USN, retired), the first Native American astronaut, to campus. The visit was Cdr. Herrington’s fifth trip since 2005 to meet with SD GEARUP students and to encourage them to aim high in their educational and life goals.

Cdr. Herrington spent nearly a week at this summer’s SD GEARUP program, which includes science, engineering, math, and technology classes; mentoring; and recreational activities.
activities. Students learned more about Cdr. Herrington and his experiences as mission specialist on the 16th shuttle mission to the International Space Station by interviewing him for the SD GEARUP radio show and interacting with him during class activities. Cdr. Herrington said that he wants to show the students what they can achieve if they continue to do well in school and finish their education.

Cdr. Herrington’s passion for bringing opportunity to Native American students has brought him full circle, and he has returned to pursue additional graduate work at the University of Idaho in an innovative Indigenous Science, Technology, Engineering, and Math program aimed at providing accessible graduate level education to Native Americans. Cdr. Herrington currently holds a B.S. in mathematics from the University of Colorado and an M.S. in aeronautical engineering from the U.S. Naval Postgraduate School.

While he works toward providing opportunities in graduate education for Native Americans, Cdr. Herrington continues to take time to encourage the younger students of SD GEARUP to take the important first step of enrolling in an undergraduate program. “If I have the chance to give a group of 16-year-olds some confidence and help them get to college and be successful,” Cdr. Herrington said, “I’m definitely going to take it.”

Team Successes/Competitions

SDSM&T’s student chapter of the American Society of Civil Engineers (ASCE) placed second overall in the 2011 ASCE Rocky Mountain Student Conference held April 1-2, 2011. The Hardrockers’ co-ed Mining and Mucking team nearly topped the competition at the 33rd Annual International Intercollegiate Mining Competition held in Reno, Nevada, March 18-19, 2011, with a second-place overall finish that included a first-place finish in the Swede saw and second place in the track stand and hand steel events. SDSM&T’s human powered vehicle team, Dynamic Revolution, took third place in the 2011 Human Powered Vehicle Challenge West at Montana State University in Bozeman, Montana, on May 13-15, 2011. SDSM&T’s Moonrockers excavated their way to honorable mention at the 2nd Annual NASA Lunabotics Mining Competition, a university-level contest in which teams design and test remotely controlled excavators, called lunabots. This year’s Lunabotics Competition was held May 23-28, 2011, at the Kennedy Space Center Visitor Complex in Florida. The Hardrockers programming team earned an honorable mention at the 35th Annual World Finals of the Association for Computing Machinery’s International Collegiate Programming Contest held May 27-31 in Orlando, Florida.
Strategic Plan
Investing in our Future for Student Success

In order to formalize the School of Mines’ strategy for growth over the next decade, President Robert A. Wharton, Ph.D., and executive leadership initiated a strategic planning process in 2010. When finalized, the plan will be publicly available on the School of Mines’ website.

The benefits of strategic planning to the School of Mines and its stakeholders are many. The inclusive planning process has laid the foundation for collaboration and the alignment of efforts. Through defining a vision and strategic priorities, the plan allows university supporters to readily connect the impact of their contributions with progress toward target objectives. With these and other benefits accruing now and into the future, the strategic planning process has been an investment well worth making.

With the completion of the Strategic Plan, the School of Mines has defined a vision for the university and a path toward the realization of that vision. Yet the plan itself is only a starting point; the task lies now for all stakeholders to embrace their role in executing Mission Forward 2020. In so doing, we ensure that the legacy of the ensuing decade is a position of vitality and relevance for the School of Mines.

Campus Master Plan:
Designing a Living and Learning Community of the Future

As an important part of planning for the future, the School of Mines has finalized a 30-year campus master plan. The campus master plan details recommendations for buildings, open space, roadways, and utilities infrastructure to meet the intended growth described in the Strategic Plan.

Key components of the master plan include new development west of campus consisting of student housing, a sports arena and events center, and an expanded student center; new teaching and research buildings along a north-south academic corridor between St. Joseph and St. Patrick Streets; and campus gateways that promote engagement with the surrounding community.

Building on the strengths of the existing campus and incorporating the best of modern design principles, the campus master plan provides the framework for creating a physical environment that supports long-term strategic objectives, such as serving more students, increasing our research program, fueling economic development, and fostering connections between the School of Mines and Rapid City. A complete copy of the campus master plan is posted online at http://president.sdsmt.edu/159948.
School of Mines Holds 163rd Commencement

The School of Mines welcomed James A. Green (ME73) as the 163rd commencement speaker (see related article page 8). After graduating with his bachelor degree in mechanical engineering, Green joined Caterpillar where he built a successful 37-year career. Most recently, Green served as general manager for program management and conformance for large power systems, a division within Caterpillar with more than $8 billion in annual engine sales. Green retired from Caterpillar in February 2011.

Mr. Green and his wife, Connie, have been long-time supporters of the School of Mines. Mr. Green has remained active on campus, serving on the Mechanical Engineering Board, chairing the University Advisory Board, championing the funding for the Caterpillar Student Excellence Center, and serving on the SDSM&T Foundation Board of Trustees. Together, the Greens have spearheaded the creation of the Grubby Green Plaza on campus (see related article page 9), and also created the Jim and Connie Green Center of Excellence for Advanced Manufacturing and Production (CAMP) Faculty Award and the James and Connie Green Scholarship at the School of Mines. Mr. Green was honored as a Distinguished Alumnus of the School of Mines in 2007.

Student representatives speaking at the spring commencement were Jerika Ihnen (IS11) and Patrick Satchell (IE11). More than 200 graduates received degrees, and returning members of the Classes of 1961 attended the ceremony to commemorate the 50-year anniversary of their graduation. President Robert A. Wharton presented alumnus David Berg (ME73) with the Guy E. March Medal.

This spring’s commencement ceremony introduced a new tradition of recognizing alumni who are celebrating their 75th or higher anniversary of graduating from the School of Mines. Of the five 75+ year graduates, Emil Belzer (CE34) and Ralph O’Neill (CE36) attended and were recognized at the ceremony.

In a separate Feathering Ceremony held on May 6, the School of Mines honored nine Native American graduates of the Class of 2011 for their academic achievement. The Feathering Ceremony is a traditional honoring process in the Native American/Lakota culture in which honorees receive eagle feathers to commemorate significant accomplishments. The School of Mines’ Office of Multi-Cultural Affairs hosts a Feathering Ceremony biannually in conjunction with the fall and spring graduation ceremonies.
Jim Green (ME73) couldn’t attend his own commencement ceremony when he graduated from the School of Mines. As soon as he had completed his degree in mechanical engineering in December 1973, Jim moved with his wife, Connie, to Peoria, Illinois, to begin what was to be a 37-year career with Caterpillar. Busy with his new job, Jim wasn’t able to take time off to return to the School of Mines the following spring for what was then only an annual ceremony.

Happily, Jim has made up for what he missed in 1973 not once, but twice. Jim attended the 156th commencement ceremony in fall 2007 during which he received the honor of Distinguished Alumnus. He returned again this spring to don a mortar board and robe for the first time and serve as speaker for the 163rd commencement.

“It’s a very interesting endeavor to pass on in 15 minutes the significant principles and values of a lifetime,” Jim said of giving the commencement address. “I was honored and humbled to have the opportunity.” In drafting his remarks for the occasion, Jim employed an approach that had never failed him: make it personal and speak from the heart.

On May 7, Jim spoke from his heart to the Class of 2011. He addressed many students that he and Connie had come to know personally and one student they knew particularly well: their son, Josh Green (ME11).

Six months earlier, upon receiving the invitation from School of Mines President Robert A. Wharton, Ph.D., to give the commencement address, Jim and Connie’s first concern was how Jim’s role would impact their son’s graduation experience. Josh, however, had no reservations about his father’s participation. “It just added to the day and to the celebration,” Josh said. “For me, it was one more thing that Dad and I could share.”

Josh (who brother Dustin calls “Jim Junior”) shares a lot with his father. Like his father, Josh studied mechanical engineering and, upon graduating, began his career with Caterpillar. Both also share a passion for the traditions of the School of Mines—especially the M-Hill climb. Josh experienced his first M-Hill climb as a toddler riding on his father’s shoulders. On M-Day 2010, they both came full circle as a newly graduated Josh hiked up the hill with his father by his side. Both wore their senior hats.

For the Green family, Saturday was clearly a day of celebration: Josh received his degree, and Jim lived out his wish of giving the commencement address at Josh’s graduation. The family’s eventful weekend, however, had actually begun the day before. On Friday, friends and family of the Greens gathered on campus for the dedication of the Grubby Green Plaza, a gathering place that features a six-foot bronze sculpture of School of Mines’ mascot, Grubby, donated by Jim and Connie.

Of the accomplishments celebrated by the Greens during graduation weekend, Grubby Green Plaza was the longest in the making. The story began in the summer of 1972, when the Old Prep Building, constructed in 1885 as the very first building on campus, was being demolished. With Connie’s help, Jim decided to save a piece of the university’s history by salvaging some of the bricks from the building. In small loads, Jim and Connie ferried 250 bricks in the trunk of their car to the family farm in Bridgeport, Nebraska, where, in a chicken house, the bricks were to patiently sit for 39 years.
Over the years, Jim and Connie deliberated on an appropriate fate for the bricks. At one point, Jim considered using them to build a wall in their home, but he and Connie ultimately rejected that idea because it didn’t do justice to the bricks’ historical significance. They felt that the bricks needed to return to campus to be used in such a way as to commemorate the Old Prep Building and the founding of the School of Mines.

When the idea came to the Greens of using the bricks as the base for a statue of Grubby, they knew right away it was the answer they had sought. What better tribute to Old Prep Building, the foundation of the physical presence of the School of Mines, than to use the bricks as a foundation for Grubby, the iconic symbol of the university’s origin?

To create the statue, the Greens worked with a team identified by recently retired SDSM&T Foundation president Rod Pappel that included Black Hills Bronze, the region’s only fine art foundry, and sculptor Joe Kittel. The team started the project in the summer of 2009 and worked many long days in order to have Grubby ready to unveil the weekend of spring commencement. Connie recalls Joe Kittel “having his Christmas dinner with Grubby” in order to keep the project on schedule and Black Hills Bronze co-owner Grant Standard working around the clock on casting and finishing during the project’s final stages.

For his part, Jim participated by designing the statue’s base to include bricks from the Old Prep Building. His objective was to make Grubby “elevated but accessible.” Jim’s final design, a three-tiered platform, not only perfectly satisfied Jim’s intentions, but also used nearly every last brick he and Connie ferried away in the trunk of their car 39 years earlier.

The schedule for finishing Grubby Green Plaza left little room for error. Installation of the six-foot, 1,300-pound Grubby sculpture was planned for the day before the Plaza’s Friday dedication ceremony and a mere two days before commencement. Grubby took his place on campus without incident, and on the following beautiful spring day, President Wharton officially dedicated Grubby Green Plaza to the students, faculty, staff, alumni, and visitors of the University.

Since then, the Grubby Green Plaza has quickly become a focal point for campus and a favorite spot for photographs with M Hill in the background. But those who know the story behind the Grubby statue and his brick base understand that this addition to campus is much more than a photo opportunity; Grubby Green Plaza is a tribute to the history of the School of Mines and a symbol of the hardworking, fun-loving “miner spirit.” Grubby is a testament to Jim and Connie’s passion for and commitment to this institution and a special tribute to the graduates of the Class of 2011.
More and more Hardrockers are coming to the School of Mines from far beyond South Dakota state lines. Of the 2,312 students who enrolled for the fall semester of 2011, approximately 120 were international students from 30 countries. The School of Mines is expanding its international recruiting efforts to increase those numbers and further build diversity on campus such that all students—American and international alike—graduate fully prepared for living and working in an increasingly multicultural world.

Here we look at three personal stories to answer the question “What is it like to be an international Hardrocker?” One might expect the experiences of Hai Anh Vo (Hai Phong, Vietnam), Amit Kumar Gautam (New Panvel, India), and Hafiza Farzmi (Kabul, Afghanistan) to be as different as the countries, cultures, and backgrounds from which they come. Interestingly, however, the similarities of their experiences are more striking than the differences.

**HOW THEY FOUND OUT ABOUT MINES**

Every international Hardrocker’s story begins with the decision to come to the School of Mines. Although they came from as far away as opposite sides of the globe, Hai, Amit, and Hafiza each found out about the School of Mines through word of mouth.

Hai has the most unlikely personal connection: his high school chemistry teacher in the Philippines just happened to be Mines alumna Deborah Zimmerman (Chem80). Hai enjoyed studying chemistry, and Deborah suggested he check out the School of Mines. Hai took her advice, and after looking into several other schools in the U.S., he chose Mines for its engineering and science curriculum and reasonable cost.

Amit learned about the School of Mines from an Indian friend who was already studying here. Amit earned his master’s degree in India in bioprocessing technology and wanted to pursue a Ph.D. At his friend’s suggestion, Amit went to the School of Mines website and found a doctoral program in chemical and biological engineering as well as an established research program in his area of interest. He applied and was accepted to the chemical and biological engineering graduate program.

As for Hafiza, she was introduced to the School of Mines by the Rapid City families who hosted her over the course of the 2009-10 school year while she participated in a student exchange program at Stevens High School. When Hafiza returned to Afghanistan after her year-long high school program, these same families kept in touch with her and supported her in completing necessary tasks, such as acquiring her GED and taking the ACT, needed to return to the U.S. for college. With their help, Hafiza began her undergraduate studies in chemical engineering at the School of Mines this past spring.

**WHY THEY CAME**

Applying for admission to a university is daunting enough in one’s own country, and the task for these international students is far more complex, expensive, and challenging. Their presence at the School of Mines testifies to their strong motivation and the support they received.
The primary driving force for the three students interviewed for this story is the quality of the education. Hafiza said that she trusts that the information she learns here is current and relevant. Amit came to the U.S. and specifically to the School of Mines to access the expert faculty and world-class research facilities in his field of bioprocessing technology, an area of study that is not well-developed in India. Hai and all of the students agree that degrees from the U.S. are internationally recognized and offer them the most options after graduation for a professional career or additional studies.

The students see great benefits to studying in the U.S., but as one can imagine, they must overcome some difficulties in order to realize these benefits.

Even though all three students had received some instruction in English prior to coming to the U.S., their learning curve was very steep. Each arrived in the U.S. for the first time just before starting classes—Amit and Hai at the School of Mines and Hafiza at Stevens High School. Becoming accustomed to the speed, slang, and accent of American-English speaking professors and students was one of the greatest challenges to adapting to their new situation.

They agree that the first year is the toughest in adjusting to the language as well as the culture. They also agree that support from fellow students, friends and host families, and the faculty and staff of School of Mines was what got them through it. Hai, Hafiza, and Amit each expressed almost verbatim, “The good thing about Mines is that everyone is willing to help.”

Another common theme arose when the students were asked what advice they would give to newly arrived international students adjusting to life as Hardrockers. They all said that being open to asking for help and learning about American culture by participating in it are key to becoming integrated and comfortable.

Hai said one of the things he has done (and he encourages other international students to do) is to embrace the traditions of the School of Mines by doing such things as learning the school song and participating in M-Week. Hafiza said that at first she shied away from activities that seemed “weird,” but tested her assumptions and now advocates for “trying everything.” Amit shares her approach and is involved in a myriad of school and community groups including the School of Mines’ India Club and student senate; the local Red Cross chapter; and International Students Inc., an organization that assists in meeting the physical, emotional, and spiritual needs of international students.

Surprisingly, Amit’s and Hafiza’s initial response when asked about the challenges they faced as international students was to say that studying in the U.S. is less difficult for them than it was in their home countries. In Amit’s case, gaining access to faculty, laboratory equipment, and facilities, which is a critical component of his ability to succeed as a graduate student, is systematic and relatively easy at the School of Mines when compared to what he experienced as a master’s student in India. For Hafiza, studying in the U.S. is easier because of the political stability and safer environment.

Safety and access to resources aside, neither Amit nor Hafiza claim that studying at the School of Mines has been without difficulties. An obvious challenge for non-native English speaking international students is living and learning in a second language.

Amit had the most training in English before coming to the U.S. since children are taught English in the public schools beginning in first grade in India. In fact, as Amit pointed out, India has the second largest population of English speakers in the world behind the United States. Hai began learning English at age 17 while in high school and had only two years of instruction before coming to the U.S.

Hafiza didn’t have the option of learning English in school, so she took private lessons for two years beginning when she was 11 years old. She said it was common within her peer group to want to learn English, which she and her friends were exposed to through television. Hafiza was especially motivated because she dreamed of traveling to the U.S. to study. Although she was living in Pakistan at the time and was taught the prevailing British-English spoken there, she was aware of the difference in accent and was careful to cultivate an American accent in her own speech.

So, what is it like to be an international student on campus? It’s an adventure in adjusting to a new language and culture but a journey that, upon closer examination, is not so very different from that of any newly-arrived student. Although Amit, Hai, and Hafiza come from different countries, cultures, and backgrounds, they have all succeeded academically and built healthy social networks by working hard, asking for help and support when needed, and being open to trying new things and meeting new people—a set of principles that is a formula for success for all new arrivals at the School of Mines.
School of Mines Honors 2011 Mines Medalist
Dr. Lee Rybeck Lynd

The Mines Medal is a national award given annually by the South Dakota School of Mines and Technology to honor engineers and scientists who have demonstrated exceptional leadership and innovation. The 2011 Mines Medal recipient is Dr. Lee Rybeck Lynd, Paul E. and Joan H. Queneau Distinguished Professor in Engineering Design, an adjunct professor of biology and of earth science at Dartmouth College, and co-founder and director of Mascoma Corporation, a biomass energy start-up. Dr. Lynd received his award at the Third Annual Mines Medal Dinner and Award Ceremony on September 29, 2011.

Dr. Lynd is an expert on the utilization of plant biomass for the production of energy. His contributions span the science, technology, and policy domains, and include leading research on the fundamental and biotechnological aspects of microbial cellulose utilization. He has led an active research group in addressing these issues over the last two decades, and has authored over 100 technical papers as well as widely cited reviews, book chapters, and numerous patents.

Dr. Lynd is the inaugural recipient of the Lemelson-MIT Sustainability Prize and two-time recipient of the Charles A. Lindbergh Award. A frequently invited presenter on technical and strategic aspects of biomass energy, Lynd has testified before the United States Senate and has been featured in Wired and Forbes, on NOVA, and at the Nobel Conference.

Dr. Lynd has studied the production of transportation fuels from inedible, cellulosic biomass since 1979. His focus has been one-step microbial conversion of cellulosic biomass without added enzymes. In 1996, he proposed to call this method “consolidated bioprocessing” or “CBP,” which is now the accepted term for this processing strategy. In that same year, Dr. Lynd was lead author on the most widely-cited review addressing CBP, and he has authored other prominent reviews since then.

Today, CBP is “widely considered to be the ultimate low-cost configuration for cellulose hydrolysis and fermentation” (Breaking the Biological Barriers to Cellulose Ethanol – A Joint Research Agenda. U.S. DOE, DOE/SC-0095, Washington, D.C., 2006), and appears...
poised to enable the long-anticipated emergence of a cellulosic biofuels industry. While the rise of CBP from obscurity to prominence is the result of many people’s efforts, Dr. Lynd is the leading technical expert on both fundamental and applied aspects of CBP.

Since the 1980s, Dr. Lynd has been active in analyzing the role of plant biomass in a sustainable world. From 2002 to 2009, he co-led the “Role of Biomass in America’s Energy Future” project, which played a central role in raising expectations for biofuels. Motivated by a desire to bring clarity to biofuel land use issues at the global scale, Dr. Lynd initiated and serves as chair of an international project entitled “Global Sustainable Bioenergy: Feasibility and Implementation Paths.”

In 2006, Dr. Lynd co-founded Mascoma Corporation with colleague and former Dartmouth professor Charles Wyman. They received initial investment from venture capitalist and Sun Microsystems co-founder Vinod Khosla. Since then, Dr. Lynd has served the company as chief scientific officer and member of the board of directors. Mascoma employs 90 people, has raised $100 million in private investment and $50 million in government funds, has partnerships with GM, Marathon Oil, and Chevron, and is at the forefront of efforts to commercialize cellulosic ethanol plants.

PROFILE:
In addition to honoring today’s leaders in engineering and science, the Mines Medal Dinner and Award Ceremony raises funds for supporting future leaders through the Mines Medal Graduate Student Fellowship.

Rahul R. Bhosale is the recipient of the 2011 Mines Medal Fellowship. Mr. Bhosale began his doctoral program in chemical and biological engineering at the School of Mines in January 2009 under the mentorship of Drs. Rajesh Shende and Jan Puszynski. Mr. Bhosale’s research project is entitled “Novel Redox Materials for Hydrogen Generation by High Temperature Water Splitting.”

His work focuses on the development of novel forms of commercially viable energy sources, an area critical to the United States and the world. His research has gained national attention, and in 2010, he received the runner-up award for outstanding student paper from the American Institute of Chemical Engineers (AIChE) – Nuclear Engineering Division and a third place prize for his poster at the AIChE - Fuels, Petrochemicals and Energy poster session. He is the lead author of three peer-reviewed journals, five conference proceedings, and has given eight oral and eight poster presentations.

Erin Handberg (CSc06) received the Mines Medal Fellowship in 2010. Since receiving her fellowship, Ms. Handberg completed a master’s degree in physics in May 2011, and she has continued her work toward a Ph.D. in nanoscience and nanoengineering, which she anticipates completing in May 2012. In addition to coursework and research over the past year, Erin has collaborated with her research group to prepare three manuscripts for submission to Physics Review B.

After completing her doctoral program, Erin hopes to acquire a faculty position and teach physics at the university level. In support of her goal, she used a portion of her Mines Medal Fellowship award to attend the summer 2011 meeting of the American Association of Physics Teachers conference in Omaha, Nebraska.
Mary Brass (CE77) gave her husband Lorin (MetE75) an atlas as a graduation present when he finished his bachelor degree at the School of Mines. The gift expressed Mary’s hope that she and Lorin would explore the world together, a hope that ultimately came true in the form of an eight-year overseas adventure that has enriched their own lives and inspired them to provide School of Mines students with similar opportunities through the Brass LIFE Award.

Lorin and Mary met as undergraduates at “Tech.” Their first move as a couple was to California, where Lorin began a master’s program at the University of California, Berkeley. The seeds of the family’s journey abroad were planted when Lorin accepted a job with Shell Oil after completing his graduate degree. Mary, who had inherited a love of travel from her father, was particularly excited that Lorin chose Shell, a firm that offered the possibility of international travel.

Traveling abroad became a reality when Lorin was offered an overseas posting in The Hague, Netherlands. At that time, Lorin had worked for Shell for 20 years, and the family, which now included three daughters, was accustomed to moving. “Being in the petroleum industry, you always knew that because of transfers, either you or your friends would move away at some point; it’s just the nature of the business,” Lorin said. “Mary and I made a point with our daughters to be very positive about change, and that was helpful when we decided to accept the opportunity in The Hague.”

And so the family was off on their life-changing journey. Working and socializing with people from all over the world enriched Lorin’s and Mary’s lives in countless ways. They agree that some of the most poignant revelations engendered by their life abroad came from learning how Americans are viewed by the rest of the world and seeing how aware people globally are of world events and of happenings in the U.S.

Lorin and Mary’s daughters, who were in the 10th, 8th, and 6th grades when they moved to The Hague, had equally influential experiences. They interacted daily with students from 52 countries at The American School of The Hague, the international school from which they eventually all received their high school diplomas. As a testament to their positive response to living abroad, the only daughter who initially expressed reluctance to the family’s overseas move went on to attend and earn her college degree from the University of London.

After completing his assignment in The Hague, Lorin retired from Shell, and he and Mary moved back to Lennox, South Dakota. Although they have been stateside for five years, the Brasses’ appreciation of the value of their time spent abroad has never waned. Their experiences, combined with their desire to give back to the School of Mines, motivated them to establish a scholarship for international studies—the Brass Leadership Involvement Foreign Experience (LIFE) Award.
Since its inception in December 2007, three students, **Teneil Ryno** (MetE11, Wood), **Chris Dollarhide** (ChE, Pipestone, Minn.), and **Clint Kling** (MinE, Belle Fourche) have completed their own international journeys through the support of the Brass LIFE Award, and a fourth student, **Jerry Farke** (ME, Armour) will be leaving for a semester in Denmark in the spring of 2012.

The Brass LIFE Award has been a winning proposition for benefactors and beneficiaries alike. For the Brasses, the award has brought the satisfaction of living out their passion and of getting to know the scholarship recipients. “The students’ stories are always very rewarding,” Mary said. “They’ve all gone overseas with the attitude we were hoping they’d have, and all have come back with the fresh perspective on themselves and the world that we found to be such an important part of our own experience.”

For students like Teneil, who would not otherwise have been able to pursue international studies, the award provided the means for an “unforgettable” semester in Norway that she feels will help her be successful in her career as well as her personal life. “Studying abroad was an experience that I cannot put a price on,” she said. “While learning about other cultures, I learned a great deal about my own. It’s an experience I will always remember.”

The legacy of the Brasses’ overseas journey and the gift it inspired them to give to School of Mines’ students may extend well beyond today’s scholarship recipients. In a manner that bodes well for future generations of Hardrockers, the Brass LIFE Award has cultivated in awardees the desire to follow the Brasses’ lead in giving back. While talking with Mary about his LIFE Award, Jerry said he plans to “do the same for others” as soon as he is able.
Dr. Vojislav Kalanovic balances his time as a highly regarded mechanical engineering professor at SDSM&T with a passion for entrepreneurship. He leads by example in bringing the educational and economic benefits of his research activities and commercial ventures to the School of Mines, Rapid City, and the State of South Dakota.

Dr. Kalanovic, who is Serbian-American, received his Bachelor of Science and Master of Science degrees from the University of Belgrade and his Ph.D. from Clemson University. He speaks French, Serbian, Italian, and English. He joined the School of Mines in 1991 and is past chair of the Mechanical Engineering Department.

Dr. Kalanovic has combined his work as a professor and researcher in the field of robotics and industrial automation with his entrepreneurial aspirations by developing marketable applications for his inventions. One of Dr. Kalanovic’s most successful commercial ventures has been the development of the first-ever modular robotics system for jewelry processing. Dr. Kalanovic’s product, the VDK 1000, performs automated polishing and is capable of picking up a ring, polishing and grinding it, and replacing it in its tray before picking up the next ring.

The VDK 1000 system is in use by Wal-Mart and has also been used for nearly five years by local jewelry manufacturer Mount Rushmore Jewelry – Riddle’s Group, one of the most modern and sophisticated jewelry manufacturers in the United States. Larry Riddle, one of the company’s owners, said that the machine helps to achieve considerable savings in production costs. “This is really the first type of machine of its kind, and it is remarkable that it was developed in Rapid City,” Mr. Riddle said.

The robotic VDK 1000 system is now marketed and manufactured by Dr. Kalanovic’s company in association with the School of Mines as joint clients of Tech Ventures, a solely-owned corporation of the SDSM&T Foundation. Dr. Kalanovic’s company makes regular contributions to the Department of Mechanical Engineering and, by including other university faculty in product development and research, enables the department to participate in the firm’s entrepreneurial activities.
Dr. James W. Sears, director of the Additive Manufacturing Laboratory, is one of several School of Mines’ faculty members who has worked with Kalanovic on projects of substantial commercial significance. Some of the systems on which they have collaborated are in use today at Sandia National Laboratory and at Wright-Patterson Air Force Base in Ohio. The next marketable suite of technologies on the horizon for Kalanovic and his collaborators is likely to come from research they are conducting on laser deposition of materials for aerospace and biomedical applications.

Kalanovic makes a conscious effort to bring his knowledge and experience in technology commercialization into the classroom to benefit School of Mines’ students. He believes entrepreneurship fosters creativity, ingenuity and improvement of life through technical solutions and financial success. By incorporating entrepreneurship into coursework, the School of Mines can further its role as a generator of clean, high-tech companies in South Dakota and local employment opportunities for graduates.

Of the many parts he plays in academia and industry, Kalanovic says he considers himself first and foremost an engineer who enjoys applying scientific knowledge and ingenuity to develop solutions for technical and practical problems. “From this perspective, I am an inventor,” he said.

He also strives to achieve the ultimate proof of the quality of his solutions through commercial success and market demand. “From that standpoint,” he said, “I am an entrepreneur.”

Finally, as a professor, he strives to impact students by sharing his theoretical knowledge and practical experiences as both engineer and businessperson. “In this important role, I am very much an educator,” he said, “and one that, through leading by example, inspires the next generation of Hardrocker entrepreneurs.”
The Leroy and Charlene Foster family’s philanthropy is evident on the School of Mines campus, most notably in the university’s new Paleontology Research Laboratory. The family’s generous pledge of the single largest gift the School of Mines has ever received to support scholarship and research helped turn the dream of the $8 million paleontology building into reality.

Leroy Foster (GeolE71) and his son, David (Geol06), share a passion for paleontology and geology and a love of the School of Mines. Their generous donation was made on behalf of the entire Foster family including their son, David, and daughter and son-in-law, April and Matt Smart. The Fosters are also proud of the family’s other ties with the University, which include Leroy and Charlene’s niece and nephew, Linda Foster (GeolE03) and Forrest Foster (ME02).

Charlene Foster addresses the attendees at the renaming ceremony of the James E. Martin Paleontology Research Laboratory in June 2011.

Charlene said she and her husband have been on board with the project to construct the world-class laboratory from the very beginning because of their son and because of the “tremendous work of Jim Martin,” a former School of Mines professor of geology for whom the facility was recently renamed.

During the Laboratory’s ribbon cutting ceremony in September 2011, Dr. Robert A. Wharton, President of the School of Mines, thanked the Fosters for their vision and leadership.

“‘The Foster family’s esteem for the faculty, researchers, and students here at Mines is evident in such a grand commitment,’” Dr. Wharton said.

Additional funding for the teaching and research facility was provided by the State Higher Education Science Laboratory Bond Bill and generous donations from the Frank M. and Gertrude R. Doyle Foundation and other donors.

Even with the Fosters’ pledge, there is still a vast need for additional funding to support the on-going operating costs of the Laboratory. The Fosters have issued a challenge to other alumni and friends of the University to match or add to their pledge.
On June 3, 2011, the School of Mines’ new paleontology laboratory was officially renamed the James E. Martin Paleontology Research Laboratory. Dr. Martin, who retired in 2010 as professor of geology and executive curator of the Museum of Geology at the School of Mines, said he was quite honored. “I spent a lot of time with the University, and we’ve taken the paleontology program from a very small regional program to one of the largest in the country.”

Dr. Martin graduated with a bachelor degree in geology from the School of Mines in 1971 and a master’s in paleontology in 1972. After completing a Ph.D. in geology from the University of Washington in 1979, he returned to the School of Mines to begin a successful 31-year career at the University. Dr. Martin’s many achievements include receiving the SDSM&T Distinguished Alumnus Award in 2004 and induction into the South Dakota Hall of Fame in 2008.

At the June 3 renaming ceremony, Dr. Robert A. Wharton, President of the School of Mines, said, “The naming of this facility adds to the heart and spirit of the human quest for knowledge that the Paleontology Research Laboratory serves, and no one embodies this heart and spirit more than Dr. James E. Martin.”

“I spent a lot of time with the University, and we’ve taken the paleontology program from a very small regional program to one of the largest in the country.”

— Dr. James E. Martin (Geol71)
Neutrino Day at Sanford Underground Laboratory: Saturday, July 9, 2011, the Sanford Underground Laboratory presented the 4th annual Neutrino Day, a free science festival that celebrates new experiments being installed in the former Homestake Gold Mine in Lead, South Dakota. The School of Mines is a leading partner in transforming the mine into a world-class laboratory to further exceptional research and discoveries. For more information about the lab, see www.sanfordlab.org.

Poised to be a major U.S. Department of Energy research facility, the Sanford Underground Laboratory is located in the former Homestake Gold Mine in Lead, South Dakota. The School of Mines is a leading partner in transforming the mine into a world-class laboratory to further exceptional research and discoveries. For more information about the lab, see www.sanfordlab.org.

578 visitors enjoyed science lectures, kids' activities, tours, and high-definition video conferencing with scientists a mile underground. Mark your calendar now to join Sanford Underground Laboratory for the 5th annual Neutrino Day scheduled for Saturday, July 14, 2012. Catch a shuttle to the lab at Homestake Visitor Center at 160 W. Main Street at the Open Cut in Lead.
A video crew prepares to interview School of Mines geology graduate students Jason Van Beek and Tessa Jones.

About this photo: The streak of light in this long exposure photo of the Transition Cavern at the 4850 Level (4,850 feet underground) in the Sanford Underground Laboratory was created by light from the photographer’s headlamp, and the circular flashes were made by the camera’s strobe flash.

AT THE SURFACE:
A scientist prepares to lower the LUX dark-matter detector into a tank during a test at the LUX surface lab. The detector will be installed underground next year.

AT THE 4850 LEVEL:
A scientist in a cleanroom prepares an electroforming bath that will produce the world’s purest copper.

A video crew prepares to interview School of Mines geology graduate students Jason Van Beek and Tessa Jones.
Modern Re-creation of a Samurai Sword

//MEET THE EXPERT//

Dr. Jon J. Kellar (MetE84) is professor and head of the Metallurgical Engineering Department. Dr. Kellar earned both bachelor and master’s degrees from the School of Mines and a Ph.D. from the University of Utah. His research expertise includes mineral processing, applied surface chemistry, and polymer matrix composites.

//STUDENT INVOLVEMENT//

Dr. Kellar and his metallurgical engineering students first became interested in Samurai swords after watching a NOVA special entitled, “Secrets of the Samurai Sword.” The excitement generated by the program ultimately inspired Dr. Kellar and four other metallurgical engineering faculty at the School of Mines to lead junior- and senior-level undergraduate students in metallurgical engineering on a project to re-create a Samurai sword.

//WHAT MAKES A SAMURAI SWORD UNIQUE?//

Samurai swords are made via an ancient blacksmithing technique that involves forging, shrinking, bending, welding, and quenching. A unique characteristic of the Samurai sword is that it is made of two different types of steel: a low-carbon steel is used in the core to give the sword its toughness, and a high-carbon steel is used in the sleeve to give the blade its sharpness. The characteristic curve of the sword is created by different cooling rates during the quenching of the front and back edges of the sword and by manipulating reactions of the low-carbon core and high-carbon sleeve to the quenching process.

//RE-CREATING THE SWORD//

For the project, the student research team split into four groups. Under the guidance of Dr. Kellar and other faculty advisors, each group worked on one of four steps in the sword-making process: (1) processing of raw material from the Homestake Mine in Lead and other Black Hills locations to make the iron ore feed material; (2) constructing a furnace to refine the iron oxide into usable steel; (3) homogenizing and heat treating the low-carbon and high-carbon steel; and (4) designing the forging process to weld the low-carbon core to the high-carbon sleeve.

//THE FIRST SAMURAI SWORD OF THE BLACK HILLS?//

“It takes an experienced Samurai five months to create one good sword,” Dr. Kellar said. “We’ve made steady progress since we began our project, and we’re now very close—probably within a few months—to completing the very first Black Hills Samurai sword.”
Dr. David Salem, director of the Composite and Polymer Engineering Laboratory and professor of chemical and biological engineering, Dr. William Cross (MetE84), associate professor of materials and metallurgical engineering, and Dr. Marc Robinson, assistant professor of civil and environmental engineering, were recently awarded $750,000 by the National Aeronautics and Space Administration Experimental Program to Stimulate Competitive Research, or EPSCoR, for their project titled “Structural Thermal Insulation Composites.”

Dr. Molly Gribb, P.E., department head and professor of civil and environmental engineering, was named a Fellow by the American Society of Civil Engineers (ASCE). ASCE Fellow designation is one of the highest honors civil engineers can receive from their peers. Dr. Gribb was recognized for this achievement by ASCE President Kathy Caldwell at a reception held in Rapid City on July 29, 2011.

Ms. Christy Horn joined the School of Mines as the vice president for university relations. Ms. Horn was previously the director of Corporate & Foundation Relations at University of North Alabama.

Dr. Scott Amos, professor and program coordinator of the construction management program, recently received a “President’s Volunteer Service Silver Award” signed by President Barack Obama for his work with the South Dakota Committee of Employer Support of the Guard and Reserve (ESGR). Dr. Amos, a retired naval officer, serves as Ombudsman, state employer outreach chairman and member of the state executive committee of ESGR.

Dr. Andy Detwiler, professor and research scientist in the Department of Atmospheric Sciences, received the Thunderbird Award from the Weather Modification Association at the association’s annual meeting in April 2011 in Park City, Utah.

Dr. Charles Kliche (MinE74), professor of mining engineering, authored the chapter entitled “Slope Stability” in the third edition of the Society for Mining, Metallurgy, and Exploration Mining Engineering Handbook published in spring 2011. Dr. Kliche was also associate editor and technical reviewer for the handbook.

Dr. James Feiszli, director of music and professor of humanities, was named chair of the national committee for technology by the American Choral Directors Association (ACDA) in a unanimous vote by the ACDA Executive Committee on July 1, 2011. ACDA is the largest association of choral directors in the world.

Dr. Jan Puszynski, professor of chemical and biological engineering, was honored with the Medal of the 100th Anniversary of the University of Technology in Wroclaw, Poland, on May 24, 2011, during his invited trip to Europe.

Dr. Dimitris Anagnostou, assistant professor of electrical and computer engineering, has been awarded a Young Faculty Award from the Defense Advanced Research Projects Agency, the research agency of the U.S. Department of Defense.

The School of Mines co-hosted the 5th International Industry Summit on Mining Performance held May 10-12, 2011. The keynote speakers included Jagannath Rao, president of the Industrial Solutions Division of Siemens Industry Inc., and Colin Marshall, the CEO of Cloud Peak Energy.

The School of Mines’ “Back to the Future” Research Experiences for Undergraduates (REU) program hosted a poster exhibition on August 5, 2011, featuring student research projects in metallurgy and materials science, many of which have historical, social, or artistic themes. REU is a 10-week summer research program for undergraduate students funded by the National Science Foundation.

Academic achievements of Hardrocker scholar-athletes for the 2010-11 academic year include: 42 percent of Hardrocker scholar-athletes earned Dakota Athletic Conference (DAC) academic honors; 25 scholar-athletes received National Association of Intercollegiate Athletics (NAIA) All American Academic status; six out of 12 teams won NAIA All Scholar Academic Team Awards; women’s basketball finished 12th in the nation in academic standing out of 290 NAIA women’s basketball teams with a team GPA over 3.40; and women’s volleyball finished in the top 15 out of 280 NAIA women’s volleyball teams with a team GPA over 3.60.

Mr. Anthony Kulesa, senior civil engineering student, received the Bill Craig Scholarship from the Black Hills Chapter of the South Dakota Engineering Society for the second year in a row.

Mr. Jaron Noisy Hawk, a freshman in interdisciplinary sciences and member of the Oglala Sioux Tribe, was one of 20 students chosen from more than 100 applicants nationwide to attend the prestigious Native American Pre-Law Undergraduate Scholars Summer Program from June 5 - July 2, 2011, hosted by the University of New Mexico School of Law in Albuquerque, New Mexico.

Mr. Kaleb Nielsen-Sheffield, a student in civil engineering, took first place in at the South Dakota National Association of Teachers of Singing statewide competition.

Mr. Stephen Kilber, a senior in civil engineering, received a $5,000 scholarship for the 2011-12 academic year from the American Institute of Steel Construction Education Foundation.

The Hardwokkers team from the School of Mines helped the American Cancer Society raise more than $9,485 through Relay for Life held June 10-11 in Rapid City. Of the 44 teams that participated, the Hardwokkers came in sixth place, raising more than $3,525.
Scott J. Amos, Ph.D.
Professor and Graduate Coordinator for Civil Engineering and Construction Management Programs, Department of Civil and Environmental Engineering

As the recipient of the 2011 Virginia Simpson Award, Scott J. Amos, Ph.D., is yet another example of how School of Mines’ faculty and staff contribute to the greater good of the community and state. This award recognizes involvement by faculty or staff with the Rapid City community.

Dr. Amos is a professor and graduate coordinator for civil engineering and construction management programs in the Civil and Environmental Engineering Department. In his off hours, he sets a standard for service by volunteering in a number of different roles.

While not completely comfortable with being in the spotlight for his service, Dr. Amos is happy to spread the word about two particular organizations he is especially proud to be involved with -- Employer Support of the Guard and Reserve (ESGR) and the South Dakota chapter of the U.S. Green Building Council (USGBC).

As a retired military officer, he enjoys supporting ESGR and working with members of the National Guard and Reserve. Don Kelpin, South Dakota ESGR State Chair, said Dr. Amos is an outstanding and dedicated volunteer who has already performed more than 348 service hours this calendar year.

“Volunteers like Scott ensure this organization can continue supporting our employers and service members,” Mr. Kelpin said.

After retiring from almost 20 years of military service, Dr. Amos has found that his work with ESGR provides an outlet for his expertise. As the ESGR Employer Outreach Coordinator, he works with the employers of service members and his students.

“It gives me a good bridge to the industry and works out really well as a great networking tool.”

Dr. Amos is also the Vice Chair of the Board of Directors and the Education Chair for USGBC, and promotes green building through sustainable construction. As the Education Chair, he is in the process of rolling out a statewide training program to help professionals and interested individuals attain credentials.

Molly Gribb, Ph.D., professor and head of the Department of Civil and Environmental Engineering, said her co-worker is a great role model for students because they see that his commitment to serving the community is genuine.

“Many students see Scott off-campus through his involvement with the National Guard,” Dr. Gribb said. “To see him in both roles is an especially effective way to drive home the point that service should be a part of any professional’s life.”

Dr. Amos said he manages his busy schedule by being a good juggler, but Dr. Gribb attributes his effectiveness to his “boundless energy. He gives the University his all during the week, and then spends an entire weekend with the Guard only to be back to work ready to go on Monday.”

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For 60 years, members of the Hardrock Club have been providing athletic scholarships for School of Mines students. The Club's financial support accounts for nearly 18 percent of the university’s total scholarships.

The Hardrock Club was formed in 1951 by a group of local businessmen and School of Mines’ coaches. In 1989, Thomas Rudebusch became the group’s first executive director. Mr. Rudebusch and a seven-member executive board oversee the organization. Hugh Boyle (CE79) is the current president of the executive board. Athletic Director Dick Kaiser and the SDSM&T Foundation help the club with its fundraising goals.

The Hardrock Club’s approximately 400 members include alumni, former athletes, area businesses, and friends of the University, as well as people who have no formal association with the University but enjoy attending Hardrocker athletics events.

In addition to providing scholarships, the Club sponsors an annual alumni golf tournament in April, a spring Athletic Banquet Program at the School of Mines, and co-sponsors the Rapid City Community Golf Tournament with the SDSM&T Foundation. The Hardrock Club also built the university’s Christensen Hall of Fame and has provided program support through funds for recruiting and supplementing coaching salaries with donor-directed contributions.

In 2001, in conjunction with the Club’s 50th anniversary, the Club conducted its first ever fundraising campaign and exceeded their $1 million goal by raising $1.25 million over three years. With the School of Mines’ upcoming move from National Association of Intercollegiate Athletics (NAIA) to National Collegiate Athletic Association (NCAA) Division II, the Club set a new five-year goal in 2010 of raising $12 million for scholarships to meet immediate needs and to create an endowment for future needs.

“We have a lot of loyal supporters who understand the importance of athletics to this University.”

— Tom Rudebusch

Anyone wishing to make a donation or seeking more information is asked to contact Tom Rudebusch at (605) 394-2601 or via email at thomas.rudebusch@sdsmt.edu.

Hardrock Club Celebrates 60th Anniversary

“In 60 years in existence, the Hardrock Club is an important part of the University, and our support of the athletic department has been very important to its development,” Mr. Rudebusch said. “This is especially true for the move from NAIA to NCAA Division II,” he added. “We have a lot of loyal supporters who understand the importance of athletics to this University.”
1930s

The daughter of Irene and Emiel Belzer (CE34), Becky, writes that Irene and Emiel “have moved to an assisted living facility and both are doing very well. Emiel is 99 years young and Irene is 97. They celebrated their 74th wedding anniversary on June 23, 2011. They are both totally devoted to each other and so much in love. They both passed their acuity testing; spell the word “world” backwards in 10 seconds; multiply 4x3 and divide by 6; etc. Nothing wrong with their mental process! When sending them an email, please use a large font size in the message and send the email to their ebelzer3@aol.com address. They are living at the West Hills Assisted Living Facility in Rapid City. Irene says they are living at the “Ritz.” Emiel says he has to stay alive to take care of his wife. Life is beautiful.” Thanks go to Becky for this wonderful update and inspiration!

1940s

Ken Hall (MetE43) announced, “I just turned 92 and live with my wife Betty in southern California. We enjoy our two dogs and the beautiful weather. We are fortunate that two of our daughters live nearby. We fondly regard our days in South Dakota!”

James Laughlin (EE47) shared, “We have moved into a retirement home to be closer to our son Gary and his family.”

Richard ‘Dick’ Wiggin (GeoE49) informed, “Our son Christopher passed away in Denmark where he lived for 35 years. The whole family visited to say goodbye.”

1950s

Betty and Jay Brink (EE50) hosted a mini alumni gathering at their Sun Lakes, Ariz., home for a few of the 1950s alumni on February 9, 2011. Pictured from left to right are Ed Bearg (GenE58), Al Liffengren (ME57), Duff Erickson (MinE55), Loren Henry (CE55), Harold Nelson (GenE58), Jay Brink (EE56), and Bernie Hoogestraat (GeoE56).

Allen Brugman (GeoE56) shared, “I am now 81 years old and still kicking. I have been retired for 20 years from Unocal (now a part of Chevron). I lost my wife, Lee, in 1996. I have seven grandchildren and six great-grandchildren. I enjoy southern Louisiana, except the hurricanes, but I have lost track of how many there have been in 42 years of living here.”

Harlan Isaak (Phys57) mentioned, “I love living in San Clemente, Calif. I retired about ten years ago. About three years ago I found out I had breast cancer and fortunately it had not spread through my body. It was a tough year, but after chemotherapy and radiation, I was found to be cancer free. I have five wonderful grandchildren, three of which live close by and two live in Portland. Life has been good to us, and I hope I can get back to South Dakota sometime to visit SDSM&T.”

Richard Larson (EE54) has been battling Alzheimer’s for the past seven years.

John Mohr (EE56) told, “I went to Kennedy Space Center hoping to see the launch of the shuttle Discovery. It did not happen. However, I met my fellow classmate from 1956, Rodney Iwan (EE56) and his wife Charlotte. The tour group I was with included Lowell Grissom, who is NASA Astronaut Gus Grissom’s younger brother.”

David Papcke (GeoE58) shared, “We are still operating our tree farm in the Hills. However, with the lumber market down and the pine beetles munching, it has been interesting.”

Reuben Rieger (EE58) wrote, “Marilyn and I are still enjoying our retirement from AT&T here in Greensboro, N.C. We enjoy visiting our daughter, Tami, in Boston and our son, Ricky, in Columbus, Ohio.”

Jack Roadifer (GeoE55) stated, “I am enjoying retirement and currently volunteering at the Math and Science Center in Grand Junction, Colo.”

Bill Tucker (GeoE56) sends in, “General James M. Dubik (Ret), the past Commander of the Multinational Security Transition Command in Iraq, joined my firm as Senior Advisor in 2009 and has added considerably to our capabilities in Iraq. I visit Iraq two to three times a year with clients, and security is provided by a UK security firm, who picks us up at the airport and accompanies us to all of our meetings. We stay in a secure compound occupied by three security firms within the Green Zone and have not had any incidents on our trips to Iraq. Iraq is a very interesting part of the world, and I had not been there prior to the end of major combat operations in 2003 when I made my first trip.”

Jan Waage (ME58) sent a notice regarding his 80th birthday celebration that was held on August 14, 2011, and was published in the Aftenposten, the leading national
newspaper in Norway that is issued daily from Oslo. The translated article reads, “Civil Engineer Jan Waage is 80 years old. Waage was educated at the South Dakota School of Mines and Technology and worked the two first years after graduation as a project engineer in the U.S. After returning to Norway, he was employed as the chief of the Development Department at the Horten Verft, Horten, Norway, followed by employment as an executive at the Kongsberg Våpenfabrikk, Kongsberg, Norway. Mr. Waage has been member of the board of Norway’s Civil Engineer’s Society for the Tønsberg Chapter and later for the Kongsberg Chapter.” Jan returned to campus in 2008 for his 50-Year Reunion, and he was a pleasure to meet. Congratulations to Jan on his distinguished career and birthday milestone!

1960s

Larry Baruth (ME66) shared, “Livestock are gone, so we wintered in Lake Havasu City, Ariz., where we socialized with Terry Rothenbuehler (ME66) and his wife Barb.”

Tom Crooks (GeoE66) told, “Retirement for me provided more opportunities. I started my clock repair shop in 2004 and provide services for about a 100 mile radius. My wife and I also grow thornless red raspberries and have a ‘you pick’ operation. This year we are starting with strawberries and gourmet garlic in addition to the raspberries. It is amazing the amount of produce that can be raised on less than five acres at 4,200 feet in the Wallowa Mountains. We are keeping busy!”

Bill Green (CE61) emailed, “After 52 years building a life together, Kay and I have moved into our retirement home in Rio Vista, Calif. In that time we have raised three children and claim five grandchildren. I have been a soldier and a civil engineer, mostly working on airports. Kay has been my wife, life partner and homemaker through it all. We are looking forward to many more years together. I read the spring/summer issue of the Hardrock featuring “A Living Legend” about Dr. Howard “Dean Pete” Peterson (GeoE50). Thank you for that story. Every student at the School of Mines since 1957 knows Dean Pete. We have all been privileged to know him, and we all know the story is much deserved. He and I both arrived in Redfield in 1952—he taught math and science and I was in the seventh grade. He became my basketball coach and science teacher as I worked my way through junior high and high school. He and my roommate Jerry Thompson (CE61) and I came to Mines together in 1957, which was no accident. “Pete” recruited us. He inspired us to be better than we thought we were, and he was always available to help us get there. Kay, her brother Jim Marlow (ME61) and I had coffee with Dean Pete last summer in Rapid City. He’s still the same wonderful person we have known since Redfield. He is truly a living legend and a very dear friend.”

David Hammond (GeoE69) has returned to his mineral economics consulting practice, following the February 2010 acquisition of International Royalty Corporation (IRC) by Royal Gold for $700 million in cash and shares. David was part of the founding team of IRC, serving as interim CFO during the Company’s 2005 IPO on the Toronto Stock Exchange and later as VP of Strategic Planning. He is also teaching short courses at the University of Arizona in the J. David Lowell Institute for Mineral Resources. The latter has taken him to universities in Turkey in both 2009 and 2010.

Ron Jeitz (CE69) earned a position on the National Sporting Clays Association (NSCA) Briley National Sub Gauge Team and was selected Captain of the 2011 Briley National Sub Gauge .410 Bore Veterans, a prestigious honor that is conferred based on shooting achievements. Ron will be recognized at the Hall of Fame Banquet on October 27, 2011, during the 2011 National Championship.

Elaine Klappal (Phys69) emailed, “After taking early retirement at Lucent Technologies in 2001, I was offered a job by a friend who is the head doctor at The Allergy and Asthma Center. After working there for six years, I combined my earlier technical writing experience plus the experience working in a medical office, and found a position in the orthopedics industry as a medical technical writer. I have been working at Biomet Orthopedics in Warsaw, Ind., for four years as a Clinical Research Technical Writer. Biomet is one of the four largest manufacturers of orthopedic joint replacement devices in the world, including artificial hips, knees, shoulders, elbows, and other joints. I am enjoying it a lot, and do not mind the 45-mile commute each morning and evening, which is mostly through farming country on good roads. In addition to work, my son, daughter-in-law and
granddaughter moved in with me when my granddaughter was just 2 months old. She is now almost 6 years old, so I have been like a third parent to her, and have been helping to raise her. I enjoy all the time I get to spend with her, especially since I never had any daughters of my own!”

**Artemas Marty** (CE61) shared, “I worked for the U.S. Forest Service as a civil engineer for 31 years. During that time, I held eight different jobs in three states and Washington, D.C., as a branch chief of environmental engineering for the Forest Service. In 2007, Arlene and I moved to Rapid City where we now reside. We have two daughters and three grandchildren.”

**Charles Mize** (ChE67) retired after 35 years with Pure Fishing in Spirit Lake. He spends time running dogs in retriever field trials as a hobby. He spends winters in Texas and Georgia with friends in the field trial games, and spends summers in Spirit Lake and at their place on Strawberry Hill between field trials.

**Jay Preszler** (ME65) updated, “Rita and I have spent the winter months in Las Cruces, N.M. We returned to our new summer home in Bison, S.D., in mid-April. We had our usual good time attending last summer’s alumni gathering at Mines. Retirement is great. I do not miss my old John Deere career one bit. Now every day of the week is a holiday! Best regards to all our Mines friends.”

**Bob Rasmussen** (ME65) sent in, “During the winter we move to Arizona. I work in PGA golf tournaments in Tucson and see Danny Hoshino (ME65) as he also works at the tournament. I have been retired since 1998.”

**William Rederick** (EE63) wrote, “It is nice when every day is Saturday! My first wife Jorgie passed away in February 2006. I met a fine lady via eHarmony – a nurse, Bonnie, and we married in September 2007.”

**Noel Rickard** (ChE69) informed, “My wife Judith passed away in June 2010. I cannot believe that I have been retired for four years.”

**Tim Sagen** (EE66) posted, “Although I am a happy resident of Colorado, I still visit the Black Hills often as I own a residence in Sturgis.”

**Carroll Wills** (ChE61) emailed, “Just wanted to thank the Mines staff for the fantastic job they did for the Class of 1961 Reunion. All their hard work and planned activities were excellent. My wife Rosario and I really enjoyed our old acquaintances and the events. Thanks for making us part of the Connie and Jim Green (ME74) Grubby Dedication. Great job, Jim and Connie! Besides M-Hill and an extended tour of the beautiful Black Hills, our week vacation at Mines and the Hills was truly memorable. Thanks again.”

### 1970s

**John Becker** (MetE74) updated, “Both daughters are married. Sara is a pharmacist and Melinda is beginning medical school in the fall. Linda is an RN. I retired from AK Steel in March 2009, but returned in April working as a contractor employed by Phoenix TEQ.”

**David Berrien** (EE75) advised, “The Berrien family continues to reside in Bloomington, Minn. I am still employed by Seagate Technology as a Sr. Staff Engineer in the Reliability Department and just celebrated my 34th year with Control Data/Seagate. My wife, Diane, is an Account Executive with Ceridian. Our daughter, Nicole, graduated from Academy of Holy Angels High School and started her freshman year at the University of Minnesota this fall. We travelled to South Dakota in July to visit my brother Dennis Berrien (Chem73) who recently retired from farming.”

**Steven Eggum** (EE72) proudly announced, “I am the papa to five wonderful grandchildren and … I am RETIRED!”

**Michael Flood** (Chem77) says, “Peggy and I are doing great. Our two grandchildren come to visit us about twice a month. We always look forward to that. I retired from Colorado Air National Guard in 2007 and seem to be busier now than when I did not have any weekends. If ever in the Loveland, Colo., area, let us know.”

**Dennis Kalvels** (EE73) sadly shared, “My beloved wife, DiAnn, recently passed away from an illness. I miss her terribly.”

Selwyn Resources Ltd. announced that it has expanded its management team with the addition of **Lin Kramer** (MinE78), Mine Operations Manager, at the ScoZinc mine in Nova Scotia. Mr. Kramer will work in mine refurbishment activities and oversee all aspects of the operation including the mine, mill, maintenance, and engineering. Mr. Kramer has extensive experience in mine management, planning, and engineering in the U.S. and Canada with a number of mining companies including Bucyrus International, Agrium, and Rio Tinto.

**Glenn Lambert** (ChE73) advised, “I moved from West Virginia back to Mitchell, S.D., in June.”

**Steve Pirner** (CE72) shared, “I was honored to have Governor Dennis Daugaard ask me to stay on as Secretary of the S.D. Department of Environmental & Natural Resources, and the S.D. Senate recently confirmed my appointment. Therefore, I get to stay on and work with our 174 dedicated and professional state employees, which include more than 20 SDSM&T graduates. We look forward to helping the Governor grow South Dakota’s economy while ensuring South Dakota’s high quality environment is protected.”
Linda Pirtle (ChE79) submitted, “We are preparing for an “empty nest” as Cody graduated from high school in May and is off on his own.”

Bonnie and Don Swanson (CE74) celebrated the wedding of their daughter Michelle Swanson (ME01) and Dominic Miller (CSc00) on June 11, 2011, at Raccoon Creek Golf Course in Denver with many other Hardrocker alumni. (See the “2000s” section of these Class Notes for more photos.)

Bonnie and Don Swanson (CE74), Michelle Swanson (ME01), and Dominic Miller (CSc00)

Clyde Yancey (M.S. Geol78) sent the photo below from his annual fishing trip to Northern Ontario will fellow Mines alumni.

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Kelly Ammann (ME88) told, “I have been enjoying life in beautiful Boulder, Colo. I am now working on starting a new company to specialize in the development of products in the orthopedic area and offer general contract product development of medical devices. I enjoy skiing, mountain biking, and hiking. Be sure to say hello if you are in the area.”

Donald Anschutz (GeoE82) reminisced, “I cannot believe it has been 29 years since I attended SDSM&T, and I have to say I really appreciate the opportunity having that degree from Tech has offered me throughout my career. After spending 22 years chasing the corporate dream, I decided to branch out and start my own company in 2004, PropTester, Inc., an independent laboratory and consulting company specializing in qualifying fluid and proppant performance. I really enjoyed the challenge and reward of building a company from the ground up into a domestic and internationally recognizable service. In December 2010, I was offered the lead role from a financial group that wanted to finance a new ceramic proppant venture to supply ceramic proppants to the emerging oil and gas shale plays throughout the U.S. The opportunity was too great to pass up, so I left the company I poured my heart into for a chance to do it all over again. In January 2011, we formed PyraMax Ceramics, LLC, appropriately named by my wife, Teresa, to represent the strength and longevity of a pyramid. The corporate office will be based in Houston, so any Tech grads in the area feel free to stop by to say hello.”

John Coddington (EE84) announced, “On June 8 of last year, Ana and I were blessed with a third child, Richard. We call him Ricky, and he is named after his grandpa Coddington, who is an SDSU alumnus.”

Dag Danielsen (ME84) visited the campus with his family last summer and shared that he “really enjoyed it and the visit in Rapid City and surrounding areas.” He emailed, “The Italian restaurant you recommended was brilliant (Botticelli’s). Thanks. I got the chance to visit lot of ‘old’ places and even got invited inside the house we stayed in the second year on Taylor Avenue. We also ‘emptied’ our wallets in the bookstore for some SDSM&T clothes and accessories the second day. Also, thank you for sending the Hardrock E-News.”

1980s

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Ty Gaub (ChE84) proudly shared, “Monica and I became grandparents on April 7, 2011, when Adalynn Fay Pena was born to our daughter, Leoni, and her husband Jeremy. Everyone did fine. Fortunately Monica and I get to see Adalynn frequently as Leoni and Jeremy live close by.”

Snowden Hernandez-Linares (CE82) updated, “We moved to Orlando in 1984. Our two sons are graduates of the University of Central Florida and of the University of Florida. Both are married and live close by. We love it here, but often we talk about going back to Rapid City for a vacation. I am the president and owner of Easy Turf, LLC, and DBA Easy Grass of Central Florida. We represent SynLawn and Astroturf, the premier manufacturer and supplier of natural looking artificial grass. I love my work, since it is a ‘green’ product that conserves water and eliminates the need for pesticides and fertilizers, thus helping our environment and our world!”

Michael Manke (MinE81) shared, “We have four grandchildren, Caitlin Buckley, Jody Sutton, Erin Sutton, and McKenna Hitson.”

Renae and Larry Mettler (EE89) celebrated the wedding of their daughter Hannah to Jeremy Simon. Both Hannah and Jeremy will be graduating from SDSM&T in May 2012. The wedding was in Aberdeen on August 20, 2011. Rachel and Hannah are sisters. Larry and Renae also have a son, Joseph, who is a junior in high school. He will likely be a Hardrocker also! Thanks go to the bride’s father and Larry Simonson (EE69) for the photo and write-up.

Jacqueline A. Sargent (EE89) sent in, “We are now in Austin, Texas, and enjoying the mild winters. Daughter Ericka Oberembt (CE04) is only two and a half hours away in Houston. I joined Austin Energy as Sr. VP of Power Supply and Marketing & Operations in August 2010, and Don joined me here in Austin in November 2010. He is still with West Plains and working from home. Our son Clark Oberembt (ME06) is in Denver and a newlywed. He married Jessica Rodriguez in March 2011. Ericka is still with Bechtel and visits us when she can get away. Life is good!”

Mark Wenckus (CE83) shared, “Our family moved to Pennsylvania while I was working for a worldwide supplier of hydraulic turbines. My wife, Billie Jo, is an elementary school teacher. I started an independent consulting firm 15 years ago and continue to consult, troubleshoot, and provide application engineering to the hydroelectric industry thanks to SDSM&T.”

1990s

Bruce Boehrs (ME91) proudly shared, “We are pleased to announce that Nathan Boehrs joined our family on April 20, 2011. He was born on August 2, 2000, in Ukraine. We

Eric Richardson (EE85) was named the new Director of Continuous Improvement for Textron. He will have responsibility for project alignment, collaboration around strategic business priorities, and driving critical problem solving across the enterprise to ensure the greatest business impact. Eric joined the Textron team in 1990 and has held various positions of increasing responsibility at Cessna, Textron Corporate, and Bell Helicopter. Most recently, Eric served as an Advanced Continuous Improvement Leader for Integrated Operations. Prior to joining the company, Eric spent five years at Boeing supporting several military programs, followed by 15 years at Cessna in various engineering roles including serving as a Citation Jet Experimental Test Pilot. Beyond Cessna, he worked at Textron Corporate as the Director of Textron Six Sigma.

Eric Richardson (EE85)
thought our family was complete, but God asked us to consider the blessing of another child who was in need of a family. We cannot imagine our family without him. The whole story can be found at our adoption blog at http://www.motorcyclemama5.wordpress.com.”

**Josh Daiss (CE97)** has made his career at Recreational Adventures Co. (RAC), the largest franchisee of KOA campgrounds. After growing up in Hill City, Josh attended the School of Mines and worked for the Mt. Rushmore KOA/Palmer Gulch Lodge during the summer. After graduation, he started his career at the Harpers Ferry, W.Va., KOA as the assistant manager, moved on to manage the Branson, Mo., KOA campground, and now is the general manager of the Mt. Rushmore KOA/Palmer Gulch Lodge and also Regional Authority for RAC, which owns 12 KOAs nationwide. With a population of about 2,500 people per day and about 100 employees during the summer months, Palmer Gulch is one of the largest towns in the Black Hills. It has its own water system from several wells, a zero-discharge sanitary sewer system, daily garbage collection, and miles of roads. Add to that the fact that the population changes every few days and you have a perfect job for a Civil Engineer. Josh said the major challenge right now is providing cell phone service and Wi-Fi at Palmer Gulch.

**Clinton Foster (CSc92)** proudly announced, “On February 5, 2011, we became three! Michelle gave birth to a 5 lb. 8 oz. baby boy. He was a month early, but did well through it all. Praise God!”

**Mike Halde (CE98)** stopped by campus last summer during the Sturgis Rally, and had an opportunity to meet the new department head for CEE, Dr. Molly Gribb. Dr. Gribb met Mike on campus and presented him with his Outstanding Recent Graduate plaque. Mike completed his B.S. and M.S. degrees from SDSM&T in 1998 and 1999, respectively. Upon graduation, Mike joined H.R. Green and Associates, Des Moines, Iowa. He then worked his way over seven years from his entry level staff engineer position to that of project manager. Responsibilities include supervision of engineering staff in completion of wastewater projects, management of the firm’s wastewater design division, and acquisition of new projects for the firm. Alongside his superb professional accomplishments, Mike has found time to present at several annual meetings of the Iowa Water Environment Federation and serve on several of its technical committees. He also serves on the CEE department’s professional advisory board for environmental engineering.

**Chris Kruschke (ME93)** emailed, “After working for nine years at Davis-Monthan AFB in Tucson, Ariz., and being in charge of all the facility construction projects on base, last spring Ann and I decided that we needed a change. So I put in for various civil service positions with the USAF, and in September we moved to Dayton, Ohio, where I had accepted a job at Wright-Patterson AFB as a Program Manager in the Foreign Military Sales Construction Branch in Air Force Material Command HQ. I currently am in charge of a contract with the Pakistani Air Force in conjunction with an F-16 fighter sale that the U.S. finalized with Pakistan last year. Recently, I made my first inspection trip in-country, and it was quite the learning experience. Although largely poor, I was told the day laborers made $8/day which was considered a good salary. Every Pakistani I met was wonderful, giving, and friendly. I am also working on setting up a $150M construction contract in conjunction with a C-17 sale to India as well as various other smaller projects that are still in the planning stages. In Ohio we have made great friends, love our new church, greatly enjoy being back in the mid-west, and so far we could not have been blessed any more with the move. I included a recent picture of the five of us: the little blonde Evelyn is three, Madeline is six, and big brother Titus turned 10 in March. We are still homeschooling and thankfully Ann still has most of her hair (and some of her sanity), but judging from their standardized test scores she

**Josh Daiss (CE97), General Manager, Mt. Rushmore KOA**

**Dr. Molly Gribb and Mike Halde (CE98)**
must be doing something right. I foresee more freshmen beanies in the Kruschke household in a few years!”

Clayton Voyles (EE95) updated, “Our daughter Tiffany Voyles (Chem04) attended USD Sanford Medical School and finished up in 2009. She is now in her third year as a surgical resident at Iowa Methodist Hospital in Des Moines. Our daughter Heather was a Mines student for two years then transferred to USD and graduated in 2010. She is now a Biochemist at a private lab in Rapid City.

Bryan Vulcan (CE94) was recognized as South Dakota’s Business Person of the Year in 2009 and represented our state in the Nation’s capital.

Glen Wilcox (ME90) was recently inducted into the Theta Tau Hall of Fame, joining SDSM&T Theta Tau alumni Douglas Aldrich (ChE62), Everett Bloom (MetE63), Bill Hughes (EE49) Al Kurtenbach (EE61), Howard Peterson (GeolE50), Lou Riemenschnieder (EE59), and others. Glen was a very young inductee to this prestigious group. Glen played football for the Hardrockers while studying Mechanical Engineering. He has remained active in Theta Tau at a local and national level for many years, serving as the National President or “Grand Regent” for several years; and most recently as Delegate at Large. Glen also donates a lot of time and effort toward his local animal shelter.

Paul Winkler (ME94) proudly announces, “We are back in South Dakota!”

2000s

Joshua Job (CSc09) said, “I am living in Salt Lake City, Utah, and work at L3 Communications.”

Michelle (Swanson) Miller (ME01) and Dominic Miller (CSc00) were married on June 11, 2011, at Raccoon Creek Golf Course in Denver with many Hardrocker alumni and Theta Tau brothers in attendance. A good time was had by all! The couple then spent two and a half weeks in Europe touring Italy, France, and London.

John Ullmann (ME05) e-mailed a photo including himself, his daughter, and his nephews and niece showing their support of SDSM&T while in Somers, Mont. John shared “Other than me, all majors and graduation dates are subject to change!”

2010s

Brian Davis (IE10) is currently in the early stages of planning a wedding with fiancée Sarah Kolbach. The two will tie the knot in May 2012.
Featured Major: Atmospheric Sciences

Why are Atmospheric Sciences important?

Weather and climate — good and bad/short and long term — affect our economy, health, safety, and security. More than 75 percent of natural disasters around the world are triggered directly or indirectly by weather and climate; Hurricane Katrina and the 2007 California wildfires clearly demonstrate their potentially devastating impact on our nation’s citizens and economy. Continued study of the science of weather and climate, deep understanding of the global and regional impacts of climate change, and having the tools to make our nation more resilient to these hazards make the study of atmospheric sciences vitally important to our future.

Undergraduate and Graduate Degree Programs in Atmospheric Sciences at SDSM&T

The School of Mines offers a concentration in the atmospheric sciences through the Bachelor of Science in Interdisciplinary Sciences (B.S.I.S.) degree program. Working with faculty from the Department of Atmospheric Sciences, students can take coursework to satisfy guidelines for federal employment as a meteorologist or for employment in other levels of government or in the private sector in meteorology or related environmental fields. This specialization also serves as excellent preparation for graduate study in meteorology, atmospheric sciences, and related fields.

The Atmospheric Sciences Department at the School of Mines also offers an M.S. degree in meteorology and participates in a Ph.D. program in Atmospheric and Environmental Sciences that is shared with Geology and Geological Engineering and Civil and Environmental Engineering.

Dr. Andrew Detwiler
Interim Department Head
Department of Atmospheric Sciences
Phone: (605) 394-2291
Email: Andrew.Detwiler@sdsmt.edu
1. Alumni Recognition Dinner with Alumni First Lady Julie Birrenkott and 2011 Alumni President Pete Birrenkott (ME71)
2. Alumni Recognition Dinner with 2011 Outstanding Recent Graduates in attendance: (l to r) Marius Ellingsen (ME00), Toran Kopren (CSc00), Holly Nolan (IE00), and Brad Richardson (EE00)
3. Alumni Recognition Dinner entertainment Brad Johnson (EE92)
4. Alumni Recognition Dinner friends Paul Gnirk (MinE59), Joe Vig (CE71), and Pete Birrenkott (ME71)
5. Alumni Weekend buddies Joe Corbett (GeoE82) and Lance Mriden (ME84)
6. Alumni Weekend Hardrocker Horsemen: (l to r) Bruce Franzen (MinE82), Rick Wass (IS92), Al Baue (MinE82), and Dave Litzen (ChE81)
7. Class of 1961 Reunion attendees Gaylord Olson (EE62) with Sharon and Irwin Hasenwinkle (EE61)
8. Class of 1961 Reunion attendees Gloria and Vernon Bump (CE61) with fellow Pierre Hardrocker, football team kicker, and EE senior Adam Smith (left)
9. Class of 1961 attendees touring the new James E. Martin Paleontology Research Laboratory
10. Class of 1961 attendees at new Grubby statue
11. Washington, D.C., alumni and speakers: (l to r) Paul Gnirk (MinE59), Lee Edward (Distinguished Fellow, The Heritage Foundation), Bill Tucker (GeoE56), and Ron Jeitz (CE61)
12. Washington, D.C., alumni and guests: (seated l to r) Carol Carswell, Jeannie Spargur, Susan Caputo, Nancy Tucker, Susan Law (GeoE81), Susan Grodin, and April Pawlowski; (standing l to r): Paul Gnirk (MinE59), Larry Carswell (Math66), Archie Doering (ME63), John Spargur (ME61), Janet Truhe, Judy Doering, Mark Reimnitz (ME81), Joe Truhe (EE56), Bill Tucker (GeoE56), Joel Crandall (ME08), Wayne Wilcox (GenE58), Larry Pawlowski (MetE77), Roger Myers (ME64), Bruce Law, Sonny Caputo (CE55), Shirley Wilcox, Lee Edward, Ron Jeitz (CE69), and Anne Edward
13. Black Hills Playhouse alumni and guests: (front row l to r) Myrtle and Jack Garhart (GeoE53), Adeline Hamilton, Dotie Brown, Nancy May, Tami Vottero, Kristen Levander, Toni Logar (CSc85), Julie and Pete Birrenkott (ME71); (back row l to r): Doug Quiett (ME73), Jerry Brown (CE65), Ken May (CE61), Tim Vottero (Chem84), David Langerman, Mike Langerman (ME72), and Ed Corwin
14. Sioux Falls, S.D., alumni and guests braving the summer heat at 2011 Jazz Fest
15. San Diego, Calif., alumni: (front row l to r) Paul Gnirk (MinE59), Bob Annett (ME56), Tom Beyer (GeoE53), and Mike Hobler (Math68); (back row l to r) Ralph Wagner (CE75), Erling Nyhammer (CE60), Huaming Liu (Phys92), and Lyle Clark (ME52)
16. Pierre, S.D., alumni attending Dakota Cup: (l to r) John Childs (CE92), Adam Bruscher (CE10), Jacob Wick (CE11), and Dale Healey (IE06)

17. Durango, Colo., Mines’ Hardrocker Tailgate: (l to r) Larry Simonson (EE69), Dan Heintzman (CE80), John Simons (CE74), Frank Hansen (CE73), Dick Gjere (CE74), Bob Sieger (CE73), Terry Logan (GeoE78), and George Niederauer (Math64)

18. Denver, Colo., Colorado Rockies game with SDSM&T President Robert A. Wharton, Ph.D., First Lady Dr. Carolyn Fassi Wharton, and Mile High Area alumni and guests

19. Golden, Colo., Mines’ Hardrocker Tailgate with Delta Sigma Phi brothers Tony Jensen (MinE84), Larry Simonson (EE69), and Joe Corbett (GeoE82)

20. Golden, Colo., Colorado School of Mines vs. Mines’ Hardrockers football game, senior Erik Yeash (IS, Louisville, Colo.) and Erik’s grandfather, Harvey Fraser (former SDSM&T President)


22. Rolla, Mo., Mines’ Hardrocker Tailgate with alumni Jeff Hoffman (ME84) and Tim Ogdie (ChE80) holding the “Tech” flag, John Davies (ChE71) and wife Carol to left of flag holders, Kyle (IE02) and Crystal Garstang (CE02) in front of flag, and other Hardrocker fans and family. Thanks go to Larry Simonson (EE69) for the photo.

23. “Moonrockers” team at the 2nd Annual NASA Lunabotics Mining Competition: (l to r) Dr. Michael Batchelder (ECE faculty), students Luke Zweifel (team leader), Jon Lu, Ryan Housh, Tanner Swanson, Mike Collins (WDTI), Luke Schaefer, and alumni Jason Ash (ME99) and Scott Vangen (EE82) at Kennedy Space Center Visitor Complex in Florida

24. M-Week 2011-12 Senior Plaque installation: (l to r) students Caitlin Taggart, Cole Bedford, professor/alumnus M.R. Hansen (CE69), and student Ryan Pierce

25. M-Day Parade Alumni Association reps: (l to r) Paul Gnirk (MinE59), Bob Miesen (CE61), Homecoming Queen Caitlin Rohde and King Lukasz Dubaj, Ralph Wagner (CE75), Dave Berg (ME73), and Tyler Berg

26. M-Day Parade Marshalls: Mary (Rausch) Brass (CE77) and Lorin Brass (MetE75)

27. M-Day Muster in Sussex, England: (l to r) Al Wilson (EE58), Jim Ward (EE49), Nancy Ward Dunham (E57), George Dunham (ME56), Rod Peterson (ME59), and Veronika Peterson

28. M-Day Muster in Midland, Mich.: (back row, l to r) Julia Lacher, Erin Lacher (ChE01), Dan Lacher (CSc00), Norah Lacher, Anna Opella, Shawn Burgard (ChE98), Kelly Burgard (ME98), and Kirk Opella (ChE94); (front, l to r) Emily Lacher, Alivia Putnam, Jon Putnam, Larson Putnam, Anne Putnam (ChE05), Lauren Burgard, Nathan Burgard, and Khang Vo (M.S. ChE09)

29. M-Week Student Alumni Connection golf tourney winners: (l to r) students Cameron Paulk, John Jensen, Tyler Frick, and Jonathon Zacher

30. (No photo available) Phoenix, Ariz., 3rd Mines Masters Golf Tournament: (no photo available) Winning Team: Jan Lux, Betty Brink, Tom Rudebusch and Mark Lux; Golf and Dinner Participants: Dewey Benson (ME83), Jay Brink (EE56), Betty Brink, Dick Kaiser, Mark Lux (MinE80), Jan Lux, Dale Mumy, Rod Pappel (ME77), Larry Pearson (ME72), Linda Pearson, Tom Rudebusch, Mike Selzer (EE74), and Ralph Wagner (CE75)
Memorials

Our sympathies and condolences go to the families and friends of the following alumni and former faculty and staff of the School of Mines. Complete memorials may be found under the Class Notes section on the http://alumni.sdsmt.edu website.

Theodore P. Allen (EE39)
Myron H. Andersen (GenE56)
Mark E. Behrens (EE84)
Kenneth E. Burnham (GenE53)
Charles E. Dean (EE61)
William R. Dobratz (CE52)
Lawrence L. Dugdale (GenE47)
Denny R. Gandy (ME63)
Steven T. Guse (ME87)
Robert D. Hays (MetE58)
Laurin N. Henton (MinE47)
Walter M. Johnson (EE45)
Charles E. Jordan (ME50)
Joseph J. Langenfeld (ME66)
Roland P. Lidel (MetE50)
Gregory Nelson (Ex57)
Emil Pietz (ChE40)
James E. Russell (CE63)
Robert E. Sheakley (EE52)
Nils N. Snekkevik (ME60)
Eric L. Stechmann (EE70)
Lafette “Lafe” A. Swingholm (EE94)
Ralph R. Turner (GenE37)
William C. Tyrrell (ME50)
Martin M Warvi (CE57)
Charles W. Young (Chem49)
Display Your Hardrocker Pride with Grubby decals!!

The Grubby decals are available from the SDSM&T Alumni Association, and the organizational license plates are available from your South Dakota county treasurer.

Call (605) 394-2347 for details or simply send your $50 tax deductible contribution with a request for a pair of decals to:

SDSM&T Alumni Association
501 E. St. Joseph Street
Rapid City, SD
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Many thanks to all who attended and supported the program!

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SDSM&T students enjoy the 2011 Mines Medal Dinner and Award Ceremony.