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Grubby Green Dedicated on School of Mines Campus

On a campus where science and technology are changing every day, one thing has remained the same for many years, and his name is Grubby.

Over the years, the beloved mascot for the School of Mines has become well known to students, alumni, and community members alike. Grubby look-a-like contests have been bringing out the grubbier side of students for decades, and the mascot has become a fixture at School of Mines sporting events, cheering on the Hardrockers from the sidelines.

And now, thanks to a generous donation from Jim (ME 73) and Connie Green, Grubby has been given a well-deserved, permanent tribute on campus.

Dedicated on May 6 in front of a crowd of the Greens' family and friends along with many alumni, faculty and staff, and students, the Grubby Green plaza will host gatherings of groups who share the "miner" spirit. The Grubby Green plaza proudly spotlights Grubby, a six-foot bronze sculpture created by Black Hills Bronze artist-in-residence, Joe Kittel, in his Hill City foundry.

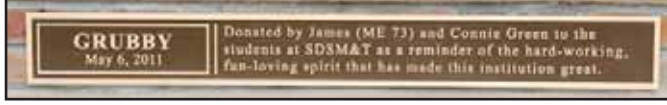
Grubby's foundation, built by RCS Construction, also shares in the university's esteemed heritage. The base was assembled using bricks recovered by Jim Green from the 1972 demolition of the Old Prep Building. This building was constructed in 1885 as the first building on campus.

Jim and Connie Green have been longtime supporters and friends of the South Dakota School of Mines and Technology. They were both



Grubby

born and raised in western Nebraska, and they met while attending high school together in Bridgeport. They were married in June 1971 after Jim graduated from Nebraska Western Junior College. That fall, Jim enrolled at the School of Mines. In December 1973,



Bronze plaque dedicating Grubby

he graduated with a bachelor's degree in mechanical engineering.

After graduation, Jim joined Caterpillar, where he spent the duration of his 37-year career before retiring in February 2011. Jim has always remained active at the School of Mines, recruiting for Caterpillar on campus, serving on the Mechanical Engineering Industrial Advisory Board, chairing the Academic Advisory Board, championing the funding for the Caterpillar Student Excellence Center, and serving on the SDSM&T Foundation Board of Trustees. In addition to spearheading the creation of Grubby Green on campus, the Greens have also created the Jim and Connie Green CAMP Faculty Award and the James and Connie Green Scholarship at the School of Mines.



Jim and Connie Green

Jim and Connie have two sons. Dustin, 28, graduated from Embry Riddle Aeronautical University with a master's degree in business management and now works for BrightHouse Networks in St. Petersburg, Florida. Joshua, 24, graduated with a bachelor's degree in mechanical engineering from the School of Mines in May 2011 and has begun his career working for Caterpillar in Seguin, Texas.

Jim and Connie proudly donate Grubby to the SDSM&T students as a reminder of the hard-working, fun-loving spirit that has made the School of Mines great.

About Grubby:

Grubby, as we know him today, seems to have made his first public appearance in a series of sketches in the 1953 *Engineer*. Born as Shiftless Sam, the creation of Jack Ihli (Geol 55), the character was used by editor Bob Bierne (MinE 55) to illustrate the heading pages for various sections of the *Engineer*.

Shiftless Sam morphed over the next several years, oftentimes with the accompanying word "grubby" used to describe him, and in the 1959 *Engineer*, Shiftless Sam was dubbed Grubby for the first time.

Today, Grubby is recognized as the official mascot of the School of Mines and represents the university's historical connection to the mining industry and the need for "miners" to be dedicated, hardworking, and tenaciously optimistic individuals.

School of Mines Holds Spring Commencement



Jim Green

The School of Mines held its 163rd commencement on Saturday, May 7, 2011, at the Rushmore Plaza Civic Center Arena. More than 200 graduates received associate's, bachelor's, master's, or doctoral degrees. James A. Green (ME 73) was the commencement speaker and Jerika Ihnen (IS 11) and Patrick Satchell (IE 11) represented the student body.

In addition, returning members of the Class of 1961 attended the ceremony and received certificates commemorating their graduation, and David Berg (ME 73) received the Guy E. March Medal (see *Graduates Celebrate 50 Years and Berg Recipient of March Medal, page 2*).

Jerika Ihnen, originally from Tea, earned a bachelor's degree in interdisciplinary sciences. A graduate of Lennox High School, Ihnen was intrigued by the number of activities that occurred during Orientation Week, the unique M-Week traditions, and the variety of events provided by the Student Activities and Leadership Center (SALC). Her involvement began with intramural sports, American Chemical Society, Phi Eta Sigma, and Women in Science and Engineering and exponentially increased as she added student ambassador, peer advisor, *Aurum* staff writer, Circle K member, and M-Week co-chair. The three positions that influenced her the most, however, were her role as a co-captain of the Lady Hardrocker basketball team, student coordinator for SALC, and her involvement with the Leadership Development Team (LDT).

As a student athlete, Ihnen was named a NAIA Scholar Athlete, DAC Scholar Athlete, KOTA Player of the Week, DAC Player of the Week, and DAC Freshman of the Year. Her team honors include highest field goal percentage, most rebounds, and defensive MVP. Additionally, she joined the 1,000 Point Club and broke three school records (game, season, and career field goal percentage). A co-captain since the end of her sophomore year, she pushed her teammates to become better athletes, students, and individuals. By helping improve team chemistry, getting more involved with the community through service projects, and fostering school spirit, she and her teammates helped the Hardrockers attain second in the NAIA Champions of Character Award.

Traveling to the National Association of College Activities (NACA) Conference in St. Paul, Minnesota, last spring gave Ihnen the opportunity to increase her leadership skills, select the best speakers and entertainers to bring to campus, and gave her fresh ideas about how to better serve the student body. As a member of the LDT, she empowered students, faculty, and community members to reach their full leadership potential, helping to organize and facilitate the All Campus Leadership Retreat, Leadership Awards Banquet, and seminars and leadership activities. This past year LDT also took on the challenge of hosting a FIRST Adventure weekend, taking a group of 13 freshmen to Kamp Kinship.

As Ihnen joins the ranks of School of Mines alumni, she will be attending optometry school at University of Missouri - St. Louis. Her dream is to one day return to South Dakota as a knowledgeable, respected optometrist.

Patrick Satchell, originally from the small community of Milford, Nebraska, graduated with a bachelor's degree in industrial engineering and engineering management. A graduate of Milford High School, he quickly found his way into student organizations and leadership positions at the School of Mines, serving as an active member of Peterson Hall Council and an elected freshman class representative for the Student Association Senate. His involvement with the university quickly increased as he began participating on the Formula SAE team, joined the Interservice Christian Fellowship worship team, became a member of the Institute for Industrial Engineers, and was inducted into Alpha Pi Mu, Tau Beta Pi, and the 2011 Leadership Hall of Fame.

Recognized this year as the Outstanding Student Senator, Satchell served four terms as Student Senate finance committee chair, with responsibility for overseeing the budgeting process for the university

general activities fee, directly reviewing and advising on the budget for eight campus departments, and appropriating funding to more than 50 student organizations. In addition, he served as a leading voice for the Surbeck renovation, campus beautification plan, campus master plan, and several other projects.

As a member of the School of Mines residence life staff, he was a resident assistant, FIRST program coordinator, and assistant Peterson Hall director. He has also been extremely instrumental in the restructuring of FIRST Connections, the summer orientation program to provide incoming students with the most fun, comprehensive, and informative orientation possible.

In spring 2010, Satchell took the opportunity to study abroad through the European Project Semester. Studying at the Escola Politècnica Superior d'Enginyeria de Vilanova i la Geltrú in Vilanova i la Geltrú, Spain, he conducted a senior design project while taking intensive course seminars in subjects pertaining to global engineering. The project was in collaboration with SEAT Automotive, a Volkswagen subsidiary, to develop a mathematical model for electric vehicle development and testing. He served as team leader for the project, leading a group of six students from five countries.

Satchell is reviewing offers from select veterinary schools. He intends to continue with a residency after receiving his DVM degree, with the ultimate goal of becoming a professor at a teaching hospital while conducting clinical research.

James A. Green graduated from the South Dakota School of Mines and Technology in 1973 with a bachelor's degree in mechanical engineering. Green also attended the Program for Executives at Carnegie Mellon in 1995. After graduating from the School of Mines, Green joined Caterpillar Inc., the world's leading manufacturer of construction and mining equipment, clean diesel, and natural gas engines and industrial gas turbines.

He began his career with Caterpillar as a design engineer doing structural analysis of engine components. The majority of his 37-year career with the company was associated with diesel engines, and he holds several patents related to engine technologies. His work assignments included 10-12 liter product manager, director of engine research, general manager of large power systems engineering, and general manager of engine components with responsibility for managing Caterpillar's fuel systems, after treatment, and gray iron foundry businesses.

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. He was responsible for the development and introduction of new engine products. Green retired from Caterpillar in February 2011.

Green is a member of the Society of Automotive Engineers (SAE) and the American Society of Mechanical Engineers (ASME) and has served as chairman of the Central Illinois Section of ASME and chairman of the SAE Earthmoving Industry Conference. He is past chairman of the Engine Manufacturers Association, an organization that serves as the voice of the engine manufacturing industry on public policy, regulatory, and technical issues. He is a member of Redeemer Lutheran Church in Peoria, Illinois, and has served as president of the congregation and chairman of the Long-Range Finance Committee for the \$5 million construction of a new church facility.

Green and his wife, Connie, have been longtime supporters and friends of the School of Mines. He has recruited on campus for Caterpillar, served on the Mechanical Engineering Industrial Advisory Board, and championed the funding for the Caterpillar Student Excellence Center. He is also a past chairman of the University Advisory Board and a member of the SDSM&T Foundation Board of Directors.

The Greens have established an endowment that provides the James and Connie Green CAMP Award to recognize faculty advisors for their time and support of students involved in CAMP competitions. They have also established a four-year scholarship that is awarded annually to an incoming freshman student from Bridgeport, Nebraska. In addition to supporting both students and faculty with their contributions, the Greens have worked to maintain the tradition of the university by commissioning a life-size bronze sculpture of the university's mascot, Grubby, that was dedicated May 6, 2011.

Close-Ups

Dr. Dimitris Anagnostou (assistant professor, Electrical and Computer Engineering) had a proposal as a Co-PI that was funded by NASA SD EPSCOR, entitled "Carbon Nanotube/Polymeric Phthalocyanine Networks for High Power and High Frequency Capacitor Applications." The PI for the proposal was Dr. Xingzhong Yan from South Dakota State University.

Anagnostou also recently presented a paper, "Bandwidth Enhancement of the Cavity Resonance Antenna (CRA) Using Multiple Dielectric Superstrate Layers," at the IEEE MTT International Microwave Symposium in Baltimore, Maryland, along with his student, **Muhannad A. Al-Tarifi** (Ph.D. Nano), and two School of Mines collaborators, **Anthony Amert** (research scientist III, Electrical and Computer Engineering) and **Dr. Keith W. Whites** (professor/Steven P. Miller Chair, Electrical and Computer Engineering).

Dr. Molly M. Gribb, P.E. (department head and professor, Civil and Environmental Engineering) was recently 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; fewer than six percent of ASCE members earn the title. Gribb joined SDSM&T in July 2010. She earned her master's and doctoral degrees in civil engineering from the University of Wisconsin-Milwaukee. Her research focus has been in the broad area of environmental science, and more specifically, subsurface soil and ground water contamination. Gribb has served the engineering profession as member of the editorial board of the ASCE *GeoStrata* magazine and the *American Society for Testing and Materials Geotechnical Testing Journal*. She is currently the faculty advisor for the SDSM&T ASCE student chapter.

Ron Jeitz (regional development, SDSM&T Foundation) has been a Reynolds Plantation member since 2004, and has recently earned a position on the National Sporting Clays Association (NSCA) Briley National Sub Gauge Team. He has also been selected captain of the 2011 Briley National Sub Gauge .410 Bore Team. This award is based on shooting achievements during the 2010 target year and makes Jeitz a representative of one of the most exciting shotgun sports in the nation. Sporting clays date back to early 1900s England and is the closest thing to actual field shooting of all shotgun sports. Courses are designed to simulate the hunting of ducks, pheasants, and rabbits. The NSCA was founded in 1989 and is headquartered in San Antonio, Texas.

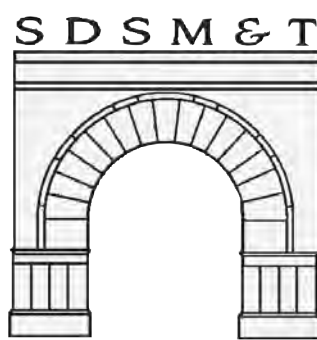
Kaleb Nielsen-Sheffield (CEE sophomore, Geraldine, Montana) took the first place award in the college male freshman-sophomore category at the South Dakota National Association of Teachers of Singing statewide competition in Spearfish earlier this spring. Also competing from the School of Mines were **Drew Coker** (EE senior, Rochester, Minnesota) and **Ben Ruege** (ChemE sophomore, Great Falls, Montana). There were fifteen other entries from Black Hills State University, University of South Dakota, South Dakota State University, and Northern State University—all of them vocal music majors. Nielsen-Sheffield has been a School of Mines music scholarship awardee this past year and has studied voice with **Dr. Jim Feiszli** (director of music, Music Department/professor, Humanities Department) for two semesters.

On May 24, 2011, during the invited talk at the University of Technology in Wroclaw, Poland, **Dr. Jan A. Puszynski** (professor, Chemical and Biological Engineering) received the medal of the 100th anniversary of that university. This medal is awarded to recipients of doctor honoris causa and alumni who contributed to the development of the university. Among recipients of doctor honoris causa were German Chancellor Angela Merkel and the current President of the European Parliament Professor Jerzy Buzek as well as many distinguished scientists from different countries.

Politechnika Wroclawska (University of Technology) is the inheritor of the substantive achievements of the German Technische Hochschule Breslau and intellectual and scientific Polish Wroclaw in Lwow. In 1945, this university was named Politechnika Wroclawska. From the very beginning, Politechnika Wroclawska was an important center for technical education and today is one of the largest and best technical universities in Poland educating over 32,000 students.

Puszynski was also recognized in 2007 by the Russian Academy of Sciences for his contribution into education and science of combustion synthesis, by the South Dakota Board of Regents for Excellence in Research, and he was also recently elected as the Fellow of the American Institute of Chemical Engineers.

During the same European trip, Puszynski delivered another presentation, and he chaired one technical session at the EUROPYRO Conference in Reims, France.



FOUNDATION

501 East Saint Joseph Street
Rapid City, South Dakota 57701-3995
(605) 394-2436
(800) 211-7591
Fax: (605) 394-6679
E-mail: foundation@sdsmt.edu
Web site: <http://foundation.sdsmt.edu>

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Lorin Brass, Acting President
Sandra Carlson, Director of Programs and Communications
Peggy Dixon, Project and Donor Programs Coordinator
David Gnirk, Regional Development
Tammy Kursave, Administrative Assistant
Ronald Jeitz, Regional Development
Brad Johnson, Vice President of Development
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Judd Nielsen, Development Officer
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Lana Thom, Director of Financial Services

The Foundation Update shall be used as a forum to advise alumni and friends of important events occurring on campus and within the Foundation.

I extend thanks to the individuals who have contributed news reports to the Foundation Update and to the Rapid City Journal, our publisher.

Sandy Carlson, Editor

Berg Recipient of March Medal



Dave Berg

The recipient of the 2011 Guy E. March Silver Medal was David Berg (ME 73). The March Medal, established in 1975, is presented annually at spring commencement to a School of Mines graduate in recognition of his or her outstanding service to students, faculty, staff, and alumni.

David Berg graduated from Baltic High School in 1968, and then earned his bachelor's degree in mechanical engineering from the South Dakota School of Mines and Technology in 1973. Active as an athlete and a student, Berg has been involved in the life of his alma mater continuously for nearly 40 years. In the mid-1980s, he was co-founder of West Plains Engineering, where he continues

to serve as president. His service to the School of Mines is exemplary throughout these decades on many levels.

Berg's service to campus has included advising student groups such as the Mechanical Engineering Student Advisory Board and the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) student professional organization. He has been a consistent industrial evaluator of student projects at the all-campus design fair.

He has provided financial support to the Mechanical Engineering Department to help fund student projects and travel. As president of West Plains Engineering, he has provided co-ops to many School of Mines engineering students over the years. He has also offered numerous full-time positions to graduating engineers.

Berg's active support of the Mechanical Engineering Department has spanned more than 25 years, seven department chairs, and three college presidents. He was a founding member of the Mechanical Engineering Industrial Advisory Board and was instrumental in setting up the Professor Stensaas ME Laboratory Endowment, which provides much needed annual support for lab equipment. He has provided significant funding for department activities including faculty and student support. Additionally, he has been a member of the Board of Trustees for the SDSM&T Foundation for the past several years, served on its Executive Committee for the past five years, and currently serves as vice chair.

Dave and his wife, Bonnie, regularly attend campus and alumni events. They have participated in every All-School Reunion since 1975, and they are always an active part of Theta Tau activities. They have also attended numerous M-Day events, the annual Alumni President's Dinner, and seasonal sporting events. Berg is a longtime member of the Hardrock Club and served on the Alumni Association Board from 1993 to 1996. In 2001, he became a member of the newly-formed Lifetime Contributors of the SDSM&T Alumni Association. David Berg is an exemplary alumnus of the School of Mines and a fitting recipient of the singular Guy E. March Medal award.

Graduates Celebrate 50 Years

A half century after graduation from the School of Mines, 39 members of the Class of 1961 and a few others from later classes who were freshmen in 1957 returned to campus in May to celebrate their 50-year class reunion and to participate in three days of activities hosted by the Alumni Association, the Foundation, and the campus community. Festivities included a Thursday-evening welcome social followed by a reunion breakfast, campus update and tours, reunion lunch, and evening banquet on Friday. On Saturday, most members of the Class of 1961 also attended the School of Mines' 163rd commencement ceremony as honored guests and received 50-Year Graduate Certificates, and several visited M-Hill in the afternoon for a look at the 1961 senior plaque along with many 2011 graduates and their families.

The alumni in attendance included: **Peter Aberle** (GeolE 61) Lakewood, CO; **Warren Barnum** (CE 61) Fort Madison, IA; **Dave Braun** (ME 61) Woodbury, MN; **Wilbur Bruce** (EE 61) Rapid City; **Vernon Bump** (GeolE 61) Pierre; **John Collier** (ChemE 61) Tallahassee, FL; **Jerry Daughenbaugh** (MetE 61) Tucson, AZ; **Arnold Doyle** (CE 61) Rapid City; **David Frerk** (ME 61) Seattle, WA; **Richard Haeder** (ME

61) Rapid City; **Irwin Hasenwinkle** (EE 61) Jackson, MI; **James Hauck** (GeolE 61) Colorado Springs, CO; **Jim Hennen** (CE 61) Rapid City; **Larry Henry** (CE 61) Lakewood, CO; **Arvin Hernes** (Phys 61) Blair, NE; **Everett Hoyt** (ME 61) Rapid City; **Aelred Kurtenbach** (EE 61) Brookings; **Douglas Lennox** (CE 61) Nanaimo, BC, Canada; **Gordon Lienau** (ME 64) Boardman, OR; **Jim Marlow** (ME 61) Rapid City; **Artemas Marty** (CE 61) Rapid City; **Kenneth May** (CE 61) Rapid City; **Robert Miesen** (CE 61) Houston, TX; **P. Jay Norman** (ChemE 62) Glencoe, IL; **Edward Olson** (ME 61) Tonto Verde, AZ; **Gaylord Olson** (EE 61) Princeton, NJ; **Bruce Orton** (ME 61) Dickinson, ND; **Reece Palmer** (ChemE 61) Tulsa, OK; **Arne Pearson** (CE 61) Lancaster, CA; **Loren Peters** (ME 61) San Antonio, TX; **Milford Peterson** (CE 61) Round Rock, TX; **Arthur Pontius** (ME 61) Deadwood; **Lonnie Rempfer** (ME 61) Rapid City; **Donald Rinzel** (ChemE 61) Buckeye, AZ; **Richard Snyder** (CE 61) Coupeville, WA; **Robert Stofft** (CE 62) Tucson, AZ; **Thomas Warborg** (ChemE 63) Port Orchard, WA; **John Weyland** (GeolE 61) Jeannette, PA; and **Carroll Wills** (ChemE 61) Golden, CO.

Plaque Commemorates Trees, Partnership

In late April, a dedication and recognition ceremony was held on the School of Mines campus to recognize those who contributed to last year's *Power of Trees* program. The *Power of Trees* program, sponsored by the School of Mines and Black Hills Power, was a community-focused effort to raise public awareness about the positive impact of trees. As part of this program and in commemoration of the School of Mines' 125th anniversary, 125 trees were planted on campus and at area elementary schools and parks last spring.

A plaque commemorating those who contributed to the *Power of Trees* program was dedicated and is in place near the first tree planted on campus, between the Devereaux Library and the Mineral Industries Building.

According to Tim Henderson, vice president, Business Administration, "Through the *Power of Trees* program,

students, community leaders, and School of Mines and Black Hills Power employees banded together to put literal roots in our community."

"The trees planted on campus and at area schools, parks, and throughout the Black Hills symbolize our long-standing legacy and commitment to sustainability," added Henderson.

Pat Mahon, vice president, Student Affairs, and dean of students, stated, "As these trees grow and flourish on our campus and throughout the Black Hills, they serve as a reminder of our deep connection to our community, to our environment, and to the principles of education."

"We are grateful to the wonderful people of Black Hills Power, to all our friends and partners throughout Rapid City and the Black Hills region, and to the School of Mines community for taking part and making this happen," concluded Mahon.

Golf Tourney Raises Scholarship Dollars

The afternoon of Monday, June 6, 2011, was a warm and sunny Black Hills day and was perfect for friends and supporters of the School of Mines to get into the swing of the work week with a round of golf for a great cause.

A record number of 27 teams (108 golfers) comprised of both alumni and community supporters participated in the seventh annual School of Mines and Community Golf Tournament to benefit scholarships at the School of Mines. Teams gathered at Arrowhead County Club in Rapid City to participate in the scramble in which Knology of the Black Hills was the platinum sponsor.

At an evening banquet following the tournament, golfers enjoyed dinner at Arrowhead Country Club while prizes were awarded for top finishers in three different flights. Although no one walked away with any of the hole-in-one prizes (which included a new car from McKie Automotive Group, a spa from Rapid Spa, a seven-day cruise, a set of Callaway irons, and a semester's tuition and fees at the School of Mines), pin prizes and raffle drawings helped many golfers, no matter of their golf skills, walk away as winners. In addition, Mitch Slusarski (IE 95) was the winner of the \$1,000 putting challenge.

The real winners, however, were the students at the School of Mines. Proceeds from the tournament totaled an estimated \$32,000 and will benefit both academic and athletic scholarships.

Sponsors include: **Platinum:** Knology of the Black Hills; **Gold:** Black Hills Area Community

Foundation; Black Hills Corporation; Harold & Laura Orville; SDSM&T President's Office; **Silver:** Aramark; Dean Kurtz Construction; Paul Smith; U.S. Bank; **Bronze:** Action Mechanical; Black Hills Community Bank; Brink Constructors, Inc.; First American Title; First Interstate Bank; Halberstadt's Men's Clothiers; Hardrock Marketing, LLC; Independent Insurance Agents of Rapid City, Inc.; Lynn, Jackson, Shultz & Lebrun, P.C.; Ketel Thorstenson, LLP; Ryan Messick; Bob & Becky Miesen; Rapid City Journal; Rosenbaum's Signs; Dave Schmidt Insurance Agency, Inc.; SymCom, Inc.; Wyss Associates, Inc. **Prizes:** AAA South Dakota; Arrowhead Country Club; Black Hills Gold by Coleman; Buffalo Wild Wings; Canyon Lake Resort; Scott Carlson State Farm Insurance; Eagle Sales of the Black Hills; Elkhorn Ridge Golf Club; Elks Golf Club; First Gold Hotel & Gaming; Fountain Springs Golf Course; Dick Kaiser; Hardrock Club; Hart Ranch Golf Course; Johnson Controls; Meadowbrook Golf Course; Michael's Mens Wear; Mines Bookstore; Moyle Petroleum Company; New Rushmore Radio, Inc.; On the Border; Rod & Cindy Pappel; Silverado; Spearfish Canyon Country Club; and the Golf Club at Red Rock.

Winning teams were: **Division I: 1st Gross:** Darin Pryor, Brad Slater, Kelly McGuire, and David Butler; **1st Net:** Eric Farrar, Greg Hodgin, Brent Siekman and Lonny Ryman; **2nd Net:** Kirk Allison, Gene Hensley, Tony Hensley, and Dick Kaiser; **Division II: 1st Gross:** Todd Brink, Aaron Carr,



1st place gross, Division I



1st place net, Division I

Jon Oostra, and Chad Thies; **1st Net:** Mark Benson, Dale Fullerton, Chad Kirby, and Mitch LaFleur; **2nd Net:** Jerry Dahlgren, Eric Glenn, Gary Glenn, and Rick Wass; **Division III: 1st Gross:** Jarrett Breuninger, Kelly Long, Steve Schirber, and Allan Williams; **1st Net:** Dan McKerny, Bob Riggio, Paul Smith, and Tim Smith; **2nd Net:** Matt Fridell, Mark Jobman, Jack Rice, and Pat Wyss.

Orville Remembered at Golf Tourney



Harry Orville, second from right, pictured with his 2007 golf team. Others pictured include (l-r) Paul Smith, Jim Miller, and Bob Riggio.

Seven years ago, Dr. Harry Orville began brainstorming with representatives of the Hardrock Club, School of Mines Athletic Department, and SDSM&T Foundation about hosting a charity golf tournament to raise funds for the School of Mines. From those talks, the School of Mines and Community Golf Tournament was born. Held annually since 2005, the tournament has proven to be a popular one among community sponsors, friends, and alumni alike with proceeds being used to support both athletic and academic scholarships at the School of Mines. Each year, Orville was one of the integral faces behind the tournament as a member of the golf committee that organized the event, as a sponsor, and as a golfer.

This year, though, Orville's health prohibited him from being a part of the golf committee meetings that he had so enthusiastically attended in past years, and it was on June 6, 2011, the day of the seventh annual golf tourney, that Harry Orville passed away.

At the evening banquet held following the golf tourney at Arrowhead Country Club, Tom Rudebusch (director, Hardrock Club) and Rod Pappel (former president, SDSM&T Foundation) shared the somber news of Orville's passing with the group. A time of silence was observed in his honor, and it was announced that the School of Mines and Community Golf Tournament would be officially renamed in memory of Harry.

Harold and Laura Orville and their four children (Doug, Larry, Allen, and Trinkka) came to the Black Hills and the South Dakota School of Mines and Technology in February 1965. Dr. Richard A. Schleusener recruited Orville to be a member of the staff of the new Institute of Atmospheric Sciences (IAS) that was established to study the possibilities of weather modification.

Orville helped set up the Department of Meteorology, the academic arm of IAS. He became department head in 1974 and served for twenty years in that position. He took occasional breaks for sabbaticals with the National Oceanic and Atmospheric Administration and the World Meteorological Organization. He also took two brief interludes as interim vice president at the

School of Mines in 1987 and 1993 and as acting director of IAS. Upon retiring from fulltime teaching, Orville became a distinguished professor emeritus in the Department of Atmospheric Sciences at the School of Mines.

Orville and his family enjoyed the interaction with the graduate students in the department, and Laura hosted many dinners for the students during Thanksgiving and Christmas holidays. Orville recalled, "The entire family enjoyed our many dinners and picnics with the department students. We learned to play better ping-pong and to appreciate the cultures of others."

Harold and Laura Orville have been generous supporters of the School of Mines as well. They established the Harold and Laura Orville Graduate Fellowship in 1998. Each year, this endowed fund supports and promotes graduate study in the field of atmospheric sciences and will provide the encouragement and support for more students to consider and pursue studies in the atmospheric sciences field. In 2004, past students of Dr. Orville were invited to help Laura and him build this fund to a level of \$200,000. While this goal has not yet been reached, he was forever grateful to those who chose to participate.

Orville leaves behind a legacy of fine graduates who have gone on to distinguish themselves in the atmospheric sciences. He will be fondly remembered by former students, faculty and staff, friends, and fellow golfers alike.

Mriden Scholarship to Support Football



Lance Mriden

Lance Mriden (ME 84) recently established the Lance Mriden Football Scholarship at the South Dakota School of Mines and Technology. This non-endowed scholarship will be awarded to a member of the Hardrock football team.

Mriden grew up in Sioux Falls and graduated from Washington High School in 1980. He graduated from Tech in 1984 with a bachelor's degree in mechanical engineering. He was an active member of Delta Sigma Phi fraternity and was also a part of three SDIC championship football teams in 1980, 1981 and 1982. He earned All SDIC Conference and All District 12 honors his

junior and senior seasons and was inducted into the Hardrock Hall of Fame in September 2009.

After graduation Lance began his career with Fisher Controls in Marshalltown, Iowa, as an application engineer. In 1987 he went to work for IBM Corporation as a marketing and consulting representative for nine years. In 1992 he relocated back to Sioux Falls with IBM. In 1996 he left IBM to open a regional branch office for MSI Systems Integrators where he has been the regional sales manager for the last 15 years.

Lance has been an active alum with the Hardrock football team, and he has been involved in several fund raising efforts over the years. He has never missed playing in a Tech- Alumni Football Game, this past April marking his thirtieth consecutive alumni game.

Lance and his wife, Michele, continue to live in Sioux Falls. They have two children, Paige (15) and Pierce (14). Both children attend Roosevelt High School where they are active in sports. Paige plays basketball and volleyball, and Pierce will be playing football and basketball. Lance had the opportunity to coach both of their basketball teams through eighth grade, and he also coached Pierce in football through eighth grade. He remains an active coach and board member with South Dakota Junior Football.

Mriden has established this scholarship as a way to honor the tradition of Hardrock football as well as his teammates and coaches. Specifically, this scholarship is funded in memory of, and with great appreciation for, Coach Sonny Coyle and Athletic Director Dud King.

Reese Establishes Scholarship



Vince Reese

Vincent Reese (Phys 87) recently established the Vince Reese Athletic Scholarship at the School of Mines. This non-endowed scholarship will be awarded to a member of the Hardrock men's football team with preference given to a student athlete who is majoring in physics/electrical engineering.

Vincent Reese grew up Grand Forks, North Dakota, located, as Reese says, "just inside the Arctic Circle." He graduated from Grand Forks Central High School in 1982, and through the recruiting efforts of SDSM&T coach Gary Boner, encouragement from Black Hills State graduate and Grand Forks Central High School head football coach Mike Berg, and his mother, Vince decided to give SDSM&T a chance by attending fall football camp. The plan was to spend

two weeks at camp and decide whether attending the School of Mines was appealing, as he was enrolled at the University of North Dakota.

After meeting the coaching staff and experiencing the Black Hills with several Delta Sig football teammates, there was no turning back. He entered SDSM&T as a physics student and added electrical engineering to his studies, as he jokingly states, "In order to spend another year in the Black Hills."

Vince played defensive tackle and noseguard for the Hardrockers during the heyday years of 1982-86 and was voted All-Conference his senior year, noting he was the heaviest player on the team that year at a mere 235 pounds. The standout moment of his football career included a quarterback sack against Black Hills State that helped win the game and was featured as an intro clip on the local television station. Tech went on to win that close battle on the gridiron. Reese was a member of Delta

Sigma Phi fraternity along with most of the football team of that era.

After completing his undergraduate studies and traveling most of the central and western states with a post graduation road trip along Pacific Coast Highway (PCH1) with Scott Durgin (MinE 89), Vince started his career with Contraves Goertz Corporation in Boston, Massachusetts, whose vice president of engineering was Robert Peterson (EE 62), father of Robert C. Peterson (EE 86). After four years of electronics design and project management, Vince moved into a sales role at Contraves and attended Northeastern University in Boston where he earned his MBA in 1992. He then relocated to Rochester, New York, and worked for Bausch & Lomb for several years before moving to his current position, director of engineering solutions for Plexus Corporation, a two-billion dollar multinational electronics manufacturing services company located in northeast Wisconsin.

Student Leadership Hall of Fame 2011

The School of Mines Leadership Development Team created the Leadership Hall of Fame in 2000 to raise awareness of the importance of student leadership and to recognize the valuable contributions student leaders make. The Hall of Fame recognizes students based on their contributions to the campus community. The award distinguishes students who have made a difference rather than those who can list the most leadership positions on their resumes.

Any full-time School of Mines student in good

academic and disciplinary standing is eligible for induction to the Leadership Hall of Fame. An anonymous committee of students, faculty, and staff review applications. In addition to receiving a personal award, each inductee's photograph will be included in a composite frame displayed in the Surbeck Student Center, creating a literal "Hall of Fame."

"These students have worked hard at this institution, and they take pride in the work they have done here, both inside and outside the classroom,"

said Mike Keegan, coordinator of the Student Activities and Leadership Center. "Each of these students has contributed to many different areas of campus to improve it for students, faculty, staff, and the community."

The following South Dakota School of Mines and Technology students were inducted into the university's Leadership Hall of Fame for 2011:



Lukasz Dubaj

Lukasz Dubaj was born in Warsaw, Poland, where he lived until moving to Rapid City in 1994. He recently earned his civil and environmental and interdisciplinary sciences degrees. While on campus, he was involved with the South Dakota Student Federation, the Student Association, the American Society of Civil Engineers, the Pre-Law Club, M-Week, the Newman Club, and the Leadership Development Team. He was also active in freshmen orientation, in the soccer and cycling clubs, and in intramural sports. Dubaj was also involved with a wide variety of campus committees and also found time to be a peer advisor and volunteer with several community groups. In his free time, Dubaj spent his time playing soccer, rock climbing, road biking, running, backpacking, and playing basketball. He plans to continue his education by pursuing a graduate degree in civil engineering and later a law degree.

was selected as homecoming royalty, is a part of the Lady Hardrocker 1,000 Point Club, and holds many Lady Hardrocker basketball records. Next fall, Jerika plans to begin a four-year course of study as she continues her education at the University of Missouri – St. Louis College of Optometry.



Srihari K. Maganti

Mines where he joined the research group of Dr. David J. Dixon (professor, chemical and biological engineering). Maganti will earn his Ph.D. in chemical and biological engineering this summer. While a student at the School of Mines, Maganti has been a member of the American Institute of Chemical Engineers, the India Club, and Student Association.

Srihari K. Maganti was born in Eluru, Andhra Pradesh, India. Upon graduation from Saint Xavier High School in Eluru, Maganti attended Jawaharlal Nehru Technological University (JNTU), Andhra Pradesh, India, where he earned his bachelor's and master's degrees in chemical engineering in 2003 and 2005 respectively. In 2006, he was admitted to graduate school at the School of

graduate school to pursue a master's degree in civil engineering with an emphasis in water resources.



Brooke O'Bryan

next chapter of her life by beginning her career with John Deere in Illinois.

Brooke O'Bryan came to the School of Mines from Waukesha, Wisconsin. She earned her bachelor's degree in metallurgical engineering from the School of Mines in May 2011. Throughout her four years as a student on campus, she was involved in many activities including the Leadership Development Team, Student Association Senate, Circle K International, and Student Ambassadors. Brooke will be starting the



Jerika Ihnen

staff writer for the *Aurum*. In addition, she was a co-chair of M-Week, an orientation leader, a peer advisor, and part of Women in Science and Engineering. She also participated in Circle K, many intramural sports, and was a Phi Eta Sigma public relations officer. Jerika was a recipient of various awards and scholarships. She

Jerika Ihnen came to the School of Mines from Tea, South Dakota. She earned her bachelor's degree in interdisciplinary sciences (pre-optometry) in May 2011. While at the School of Mines, Jerika was a co-captain of the Lady Hardrocker Basketball Team, a student coordinator at the Student Activities and Leadership Center, part of the Leadership Development Team, and a



Garrett Monson

Development Team. Next fall, Garrett plans to begin

Garrett Monson grew up in Lake Crystal, Minnesota, with an active family of seven children. He received his bachelor's degree in civil engineering from the School of Mines in May 2011. During his time at the School of Mines, Garrett was involved with student orientation and M-Week. He was also a member of Triangle Fraternity, American Society of Civil Engineers, Student Senate, and the Leadership



Patrick Satchell

involved in Student Association, the Industrial Engineering Student Advisory Board, the Institute of Industrial Engineers, Alpha Pi Mu, Tau Beta Pi, Phi Eta Sigma, and Intervarsity Christian Fellowship. He received many awards, recognitions, and scholarships during his time at the School of Mines including being a Richardson Scholar, and he found time to volunteer at many local organizations. Next fall, he plans to further his education by beginning a course of study to become a veterinarian.

Patrick Satchell grew up in Milford, Nebraska, and recently earned his bachelor's degree in industrial engineering. While on campus he worked for SDSM&T Residence Life and during the summers, he was involved with the Youth Programs and Continuing Education STEM camps. Patrick was a part of European Project Semester, studying abroad in Spain. On campus, Satchell was

Brauns Establish Scholarship for EE Students

Todd (EE 88) and Laura Braun recently established the Todd and Laura Braun Scholarship at the School of Mines. This non-endowed scholarship will be awarded to an electrical engineering student from Rosholt or Sisseton, South Dakota, southeastern North Dakota, or rural Minnesota.

Todd Braun grew up in Rosholt, graduating from Rosholt High School in 1984. He enrolled at the School of Mines in the fall of 1984 and graduated with a bachelor's degree in electrical engineering in 1988. After graduating, Todd completed an MBA at Ball State University in Muncie, Indiana, in 1991.

Todd and his wife Laura (Laurie), a native of Sisseton and a 1986 graduate of Presentation College, were married in 1987 and have four children: Jesse,

Eric, Tanner, and Sean. Jesse (18) just graduated from Shanley High School (Catholic Schools Network) in Fargo, North Dakota, and will be pursuing a degree in electrical engineering at North Dakota State University starting this fall. Eric (16) and Tanner (14) will be a junior and freshman respectively at Shanley High School this fall. Sean (12) will be in the seventh grade at Sullivan Middle School (connected with Shanley) this fall.

From 1988 through 1997, Todd and Laura lived in Kokomo, Indiana. Todd worked at Delco Electronics (formerly owned by GM and later spun off into Delphi Automotive), and Laura worked at Howard Community Hospital – both in Kokomo. Todd and Laura moved to Fargo in 1997, where Todd accepted



The Braun family

a position with Phoenix International, an embedded electronics custom design and manufacturing business which became wholly owned by John Deere in 1999. Laura works part time as an RN at Sanford Health (formerly MeritCare) in same-day surgery.

Environmental Engineering Students Attend International Design Contest



Dr. Henry Mott, Aaron Oswald, Dr. Abbas Ghassemi (WERC Executive Director), Cassandra Schultz, Christopher Lupo, and Robert Prann at the 2011 WERC International Environmental Design Contest.

Earlier this spring, environmental engineering seniors Aaron Oswald (Sioux Falls), Christopher Lupo (Dickinson, North Dakota), Cassandra Schultz (Yankton), and Robert Prann (Rapid City) were accompanied by faculty advisor, Dr. Henry Mott, as they attended the 21st International Environmental Design Contest sponsored by the Institute for Energy and Environment and Waste Energy Research Consortium (WERC) of New Mexico State

University, Las Cruces. The team addressed the design task focusing upon the capture of carbon dioxide from coal-fired generator flue gas and both sequestration and re-use of the captured carbon dioxide.

Beginning in September 2010, the team investigated various methodologies for capture, sequestration, and re-use of captured carbon, centering upon the use of alkaline-carbonate solutions in a countercurrent gas/liquid absorber for CO₂ capture. Deep geological deposition of carbon dioxide via mineralization and as supercritical fluid were investigated as sequestration options and use of concentrated carbon dioxide as a carbon source for large-scale algal oil production was examined in detail as a means of reuse. The team concluded that with technological advances, large scale algae production in closed loop power generation with carbon dioxide capture could lead to near-carbon-neutral combustion-based energy production.

The team assembled a bench scale gas-liquid absorber and conducted experiments to quantitatively characterize absorber performance. A mathematical-

numerical model was developed and employed for both analysis of the bench scale test data and sizing of full-scale absorbers, with Black Hills Corporation's WyGen III power plant, near Gillette, Wyoming, as a selected prototype. The design considers generation capacity and environmental controls for nitrogen and sulfur oxides for retrofitting to coal-fired generators. A formal written report detailing the capture, sequestration, and re-use systems, as well as economic, legal, societal, and safety issues, was authored and submitted well in advance of the on-site contest activities.

In Las Cruces, the team delivered a formal oral presentation, displayed a poster at their assigned booth describing their project, and conducted a demonstration of their bench-scale process, during which actual mass transfer data were obtained, analyzed, interpreted, and used to illustrate the scale-up process to the judges. The contest judges recognized the School of Mines' WERC team with a judges' choice award for the best engineering analysis.

Student Chosen to Attend Prestigious Scholars Program



Jaron Noisy Hawk

The School of Mines Office of Multicultural Affairs announced that Jaron Noisy Hawk (Oglala Lakota), a freshman interdisciplinary studies (pre-law) student, was one of 20 students chosen from over a hundred national applicants to attend the prestigious academic Native

American Pre-Law Undergraduate Scholars Summer Program in Albuquerque (NAPUSSP), New Mexico. The program, hosted at University of New Mexico School of Law, was held from June 5 until July 2.

The NAPUSSP curriculum focuses on writing, critical thinking, and analysis using Federal Indian Law and other current Native American issues. In addition to the academic coursework, participants explored the field of law through mentorships,

professional development workshops and presentations, and visits to tribal, state, and federal courts, as well as law firms practicing Indian Law.

Jaron's parents are Robert Goings and Lynelle Noisy Hawk. He is an enrolled member of the Oglala Sioux Tribe at Pine Ridge Indian Reservation and was born in Redwood Falls, Minnesota. Jaron is currently the president of the AISES Chapter at the School of Mines.

2011 Outstanding Recent Graduates Named

Nine alumni were honored as Outstanding Recent Graduates from 2011 at the Alumni Recognition Event held earlier this spring. The award recipients were **Elizabeth Burg** (CE 06), **Anthony Connor** (CEng 01), **Marius Ellingsen** (ME 00), **Chad Griswold** (MetE 01), **Toran Kopren** (CSc 00), **Brigitte McNames** (ChemE 99), **Holly Nolan** (IE 00), **Brad Richardson** (EE 00), and **Joseph Spiekermeier** (MinE 00).

The Outstanding Recent Graduate Program was established at the South Dakota School of Mines and Technology to honor graduates who have achieved exemplary career progress and recognition within ten years of their graduation. The program was originated and is sponsored by the SDSM&T Alumni Association and the SDSM&T Foundation.

Criteria for selection includes level of responsibility and entrepreneurial effort, advancement (promotion) in total responsibility, responsibility in research and authorship or patents and other evidence of creative activity, professional or business organization involvement, balance of technical and entrepreneurial accomplishments with community service and involvement, and company or community awards or recognition.

The individuals selected for this award are considered to be excellent role models to show current students the importance of continued personal growth in a rapidly changing world.

The 2011 Outstanding Recent Graduates include:

Elizabeth Burg received a bachelor's degree in civil engineering from the School of Mines in 2006 and a master's degree in civil engineering from Mississippi State University in 2010. She has been associated with the U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Lab since 2006, and she is currently associate technical director (acting). In 2008, she was selected by the U.S. Army Corps of Engineers as one of the Top Five New Faces in Engineering and was consequently featured in *USA Today*. Burg has also volunteered to work for six months in Iraq for the Army's reconstruction projects.

Anthony Connor came to the School of Mines from Pierre and completed his bachelor's degree in computer engineering in 2001. He has been employed by IBM since that time and currently serves as a staff applications engineer at IBM Rochester. He has been actively involved in many volunteer opportunities associated with IBM, and he has been recognized with many IBM awards.

Connor has also been associated with Little People of America and currently serves as a national board member and vice president of programs. He is an active member of his church and has participated in several mission trips to Haiti.

Marius Ellingsen earned a bachelor's degree in mechanical engineering from the School of Mines in 2000 followed by master's and doctoral degrees in mechanical and aerospace engineering from the University of Missouri-Columbia (MU) in 2002 and 2009. While at MU, Ellingsen was active in research and with the American Society of Mechanical Engineers. In 2009, he accepted a temporary position as an assistant professor in the Mechanical Engineering Department at the School of Mines where he performed so well he was offered a full-time position the next year. He continues to be active in research and has written a recent article on his work.

Chad Griswold earned a bachelor's degree in metallurgical engineering and a master's degree in materials science and engineering from the School of Mines in 2001 and 2003. After completing his master's degree, Griswold began his industrial career with Boeing and then went on to Ceradyne Inc. At Ceradyne, he was given increasing levels of responsibility in the area of design and development of personnel protection inserts capable of defeating multiple ballistic threat levels. The body armor plates have resulted in numerous, undisclosed lives saved and serious injuries prevented. The amount of revenue for Ceradyne has been calculated to be approximately one billion dollars.

Toran Kopren earned a bachelor's degree in computer science from the School of Mines in 2000 and began his affiliation with Hewlett-Packard (HP) after graduation. His potential being quickly recognized, he has been promoted within HP and currently serves as a software architect responsible for the technical direction, decisions, and leadership for a project team developing enterprise virtualization management software. His work has resulted in one patent and several patent applications pending, and he has been recognized by HP for his outstanding professional performance. Kopren has also been active in his community, volunteering as a coach for both basketball and soccer.

Brigitte McNames graduated from the School of Mines in 1999 with a bachelor's degree in chemical engineering. She began her career as a process engineer with Dow Chemical in Plaquemine, Louisiana, and has been promoted several times to

positions in Midland, Michigan, and to her current position as a production leader for Dow AgroSciences in New Plymouth, New Zealand. The Dow Chemical leadership chose McNames for the Michigan Operations Site Strategy Team, one of 30, representing 3,000 employees. In addition to her professional success, McNames is also active in her community, is a certified toastmaster, and volunteers to mentor sixth grade students and young women engineers.

Holly Nolan graduated from the School of Mines with a bachelor's degree in industrial engineering in 2000. Since that time, she has displayed leadership qualities and dedication to the industrial engineering field and the UPS Organization. UPS has allowed for many rotations that have rounded out her development and have prepared her for the position she currently holds within the corporate office today. She has consistently volunteered time in the community and has been a role model for young women at UPS serving as a chair on the Women's Leadership Development Committee. She balances being a mother and being a trusted employee while still giving back to the communities in which she lives and works.

Brad Richardson came to the School of Mines from Vermillion and earned a bachelor's degree from the School of Mines in electrical engineering in 2000. After working for a few other semiconductor companies, Richardson has been employed by Intel Corp. since 2005. He is currently a validation engineer where he is involved in validating a major block in a next generation processor bound for the server market space. Brad and his wife, Kristin Keiry-Richardson (GeolE 00), have two children, Ruby and Pierce, and make their home in Fort Collins, Colorado. Family trips and outdoorsman excursions often bring the Richardson family back to South Dakota.

Joseph Spiekermeier graduated from the School of Mines in 2000 with a bachelor's degree in mining engineering. He started his career as an engineer with Traylor-Jay Dee, Detroit River Out-fall #2 in Detroit, Michigan, and then moved on to The Coteau Properties Company, Freedom Mine in Beulah, North Dakota, where he works as a senior mining engineer. Spiekermeier works at an incredible site with some of the largest operating draglines on the planet, and he has awesome responsibilities of managing one of the largest coal operations in the region. He is also a registered EMT and owns and operates a family cattle ranch.

School of Mines ASCE Students Compete in Colorado



Steel Bridge Team

The student chapter of the American Society of Civil Engineers (ASCE) placed second overall in the 2011 ASCE Rocky Mountain Student Conference held in April.

Twelve universities were represented at the conference held at the Air Force Academy in Colorado Springs, Colorado. The Steel Bridge Team placed second overall, securing a spot at the national competition for the fifth year in a row.

The Concrete Canoe Team placed third overall. In fact, the student teams from SDSM&T had top-three finishes in all their competitions, including a

first-place finish for their design of a water supply system in a developing country and a third-place finish for the technical and non-technical papers.

ASCE faculty advisor Dr. Molly Gribb, ASCE practitioner advisor John Niemela, Canoe Team advisor Dr. M.R. Hansen, and Steel Bridge Team advisor Dr. Andrea Surovek accompanied the students to the conference.

Members of the 2011 Bridge Team included: Chris Timm (CE freshman, Canton), co-captain Ivar Melby (CE senior, Oslo, Norway), Tony Kulesa (CE junior, Rapid City), Brian Ruppelt (CE sophomore, Tyndall), Austin Norberg (CE senior, Gillette, WY), Kody Heller (CE junior, Platte), Ben Wolf (CE freshman, Gering, NE), Zach Weishaar (CE Sophomore, Blair, NE), Jason Shen (CE senior, Surrey, BC Canada), co-captain Jerry Bollinger (CE senior, Pierre), and Bryce Persinger (CE junior, Remsen, IA).

Members of the 2011 Canoe Team included: Jessie Morris (CE senior, Black Hawk), Abby Fleck (CE freshman, Rice, MN), co-captain RC Scull (CE senior, Rapid City), Harvey Fitzgerald (CE sophomore, Hermosa), Pete Rausch (CE senior, Rapid City), co-captain Shelsi Pyer (CE senior, Rapid City), Shawn Lyons (CE Senior, Buffalo), co-captain Karen Schaefers (CE senior, Miller), and



Concrete Canoe Team

conference chair Katie Schaefers (CE sophomore Miller).

Members of the 2011 Pre-design Team included: Annela LaBelle (MS CE, Rapid City), Tyler French (CE senior, Madison), Garrett Monson (CE senior, Lake Crystal, MN), Pete Rausch (CE senior, Rapid City), and Nick Marnach (CE senior, Rapid City).

In addition, Cole Bedford (CE sophomore, Sturgis) participated in the Technical Paper competition, and Rika Beck (CE sophomore, Pierre) participated in the Non-Technical Paper competition.

IE Students Attend Competition

Students from the School of Mines Hardrockers Chapter performed well at the North Central Regional IIE Student Paper Competition held at Iowa State University earlier this spring. The paper competition is sponsored by John Deere on the national and regional levels, and the conference hosted slightly more than 200 industrial engineering students and faculty from the engineering universities in Illinois, Wisconsin, Minnesota, Iowa, Nebraska, South Dakota, and North Dakota.

Loryn Schuetzle (IE senior, Pierre) placed 3rd with her paper *"Improving Standard Processes After Economic Downturn Via Operation Methods and Layout Evaluation,"* co-authored with Alison Baue (IE junior, Hysham, Montana) and Brittney Hovdenes (IE junior, Rapid City). Their project was performed for Stamper's Black Hills Gold located in Rapid City, with project coordination and mentoring provided by Dr. Adam Piper (assistant professor, Industrial Engineering).

Leah Drummond (IE senior, Black Hawk) placed

4th with her paper, *"Rosebud Electronics Integration Corporation: Facility Design and Information System,"* co-authored with Michelle Kringen (IE senior, Big Lake, Minnesota) and Jessica Tsingine (IE senior, Tuba City, Arizona). Their project is being performed for REIC's production facility in Mission, South Dakota.

Additionally, Abby Carda (IE senior, Rapid City) is among the region's Student Chapter Executive Officers leading a radical redesign of the regional conference model.

Math Team Competes at World Finals

The SDSM&T Programming Team recently competed at the World Finals of the ACM International Collegiate Programming Contest held in Orlando, Florida. The team earned the right to compete in the World Finals after finishing third out of over 200 teams at a regional competition. The World Finals was planned to be held in Sharm

El Sheikh, Egypt, earlier this spring, but was moved to Orlando after the uprising and widespread protests in Egypt earlier this year.

While the School of Mines team did not place among the top teams, they did receive honorable mention and were thrilled to be among the 100 best teams in the world.

Team members included Matt DesEnfants (CSc 11, Clear Lake), Randy Foudray (CSc Senior, Box Elder), and Ethan Robish (CSc Junior, Strandburg).

Coaches for the ACM Programming contest teams are Dr. Ed Corwin (professor, Math and Computer Science), Dr. Toni Logar (professor, Math and Computer Science), and Dr. Roger Schrader (instructor, Math and Computer Science).

SD GEAR UP Honors Program

The summer honors program previously known as SKILL and NASA Honors is back on the School of Mines campus for the 19th consecutive summer. The program, now known as the South Dakota GEAR UP Honors Program, is bigger than ever before and extends from June 4 until July 15. This year, the six-week residential program attracted over 250 freshmen through seniors and several college students.

The purpose of the GEAR UP program is to prepare Native American students to be successful in the college setting, and it boasts some very impressive statistics. Of those students who graduated from the program, virtually 100% also graduate from high school, 85% attend have entered college, and 7% enter the military.

School of Mines alumnus Stacy Phelps (ME 96) is serving as program director again this year and has been involved with the program since its inception in 1992. Phelps was awarded the Mines Award for Outstanding Public Service in 2008 and was honored as an Outstanding Recent Graduate in 2003.

The curriculum for the program includes math (algebra, trigonometry, pre-calculus, and college algebra), science (physical science, biology, chemistry, or physics), English, computers, and life skills (goal setting, leadership, study skills, personal finance, and college preparation). The curriculum is further enriched with field trips, recreation and sports, college visitation, and cultural activities. Approximately two-thirds of the students participants are female, about 85% are Native Americans, and most would be first-generation college students. In addition, there were 40 staff members, many of whom are graduates of the program.

Much of the funding for the program comes from a federal GEAR UP grant through the State of South Dakota Department of Education Office. SD GEAR UP is operated through Oceti Sakowin Education Consortium and 24 partner schools. Students, who represent all nine tribes in South Dakota, must apply to enter the program, and they are selected based on academic achievement and teacher recommendations.

A middle school component allowed sixth through eighth graders and their parents to visit for a few days to tour campus and learn about the available programs.

In addition to hosting the program on campus, the School of Mines interacts with the GEAR UP program in other ways as well. Faculty, staff, researchers, and administrators offer a daily seminar on career exploration and personal development, mini-courses on a wide variety of topics are taught to interested students with a hands-on, engaging approach, and tours are provided of the many labs across the campus. The School of Mines also encourages students involved in GEAR UP to consider enrolling as students after high school graduation in order to pursue majors in math, engineering, and science.

For more information, contact Carter Kerk professor, Industrial Engineering at (605) 394-6067 or Carter.Kerk@sdsmt.edu.

Faculty and Staff Receive Awards

Many faculty and staff were recognized at the Employee Awards and Recognition Ceremony held on May 4, 2011, and several special awards were also presented.

The Presidential Award for Outstanding Professor

The Presidential Award for Outstanding Professor was established to recognize a full-time faculty member who has demonstrated a sustained record of outstanding overall accomplishments at the School of Mines. This year's recipient was **Dr. James Feiszli**, director, Music, and professor, Humanities.

Benard A. Ennenga Faculty Award

Benard Ennenga was born and raised in Rapid City. After serving in the U.S. Navy during World War II, he attended the South Dakota School of Mines and Technology and received a bachelor's degree in chemical engineering in 1949. Ben and his wife, Susan, moved to Bozeman, Montana, where he received his master's degree in chemical engineering. They moved to Casper, Wyoming, where he began his long career with Amoco Oil Company. He retired from Amoco in 1985 having held the position of Operations Manager at the Casper Refinery and spending his last three years as Results Management Coordinator for the three Amoco Refineries at Casper, Salt Lake City, and Mandan, North Dakota. Ben passed away in 1997, and Susan passed away in 2008.

The Benard A. Ennenga Faculty Award was established by the Ennengas to recognize any teaching assistant, teaching associate, instructor, assistant

professor, associate professor, or full professor at the School of Mines who has demonstrated excellence in teaching and/or motivating students. This year's recipient is **Julie Dahl**, assistant professor, Mathematics and Computer Science.

Virginia Simpson Award

Virginia Simpson was a Rapid City resident, a long-time supporter of the School of Mines, and an active member of the community. In addition to her community involvement, she volunteered for the SDSM&T Foundation, serving eight years as a trustee and four years as a member of the board. Simpson passed away in 2002.

The Virginia Simpson Award was established by Simpson to help support and encourage new or continued involvement of School of Mines faculty or staff in the Rapid City community through participation in community activities, social services, or volunteer services. This year's recipient was **Dr. Scott Amos**, professor, Civil and Environmental Engineering, and coordinator, Construction Management.

Dick Kitchen Award for Outstanding Staff Person

The Dick Kitchen Award for Outstanding Staff Person was established by Gail H. March and Bruce R. Johnsen (CE 59) in honor Dick Kitchen. A remarkable number of students received moral support, friendship, and encouragement from Dick Kitchen who served as public relations director at the

School of Mines from 1954 through 1961.

The award was established to recognize non-faculty staff members at the School of Mines who have distinguished themselves by demonstrated excellence in their work and by encouraging students to complete their education at the School of Mines. No matter what difficulties a student may face, this person's presence and actions make the critical, positive difference in keeping students on the path to completing their education. This year's recipient was **Maureen Wilson**, director, Residence Life and Surbeck Center.

Jim and Connie Green CAMP Award

The Jim and Connie Green CAMP Award was established by Jim (ME 73) and Connie Green in order to recognize a faculty member's effort, time, and support of student projects involved in the Center of Excellence for Advanced Manufacturing and Production (CAMP). In Jim's 30-year-plus career at Caterpillar, he has maintained a close association with the School of Mines, even championing funding for the Caterpillar Student Excellence Center, an addition to the Mechanical Engineering Building to provide lab space for student projects.

This award provides support to a School of Mines faculty advisor of any major student project that is competing at the national level and involves mechanical engineering students. This year's recipient is **Dr. Dan Dolan**, professor, Mechanical Engineering.

REACT Workshop at SDSM&T

The South Dakota School of Mines and Technology will host a two-day Reaction Engineering and Catalysis Training (REACT) workshop on Wednesday and Thursday, August 10-11, from 8:30 a.m. – 4 p.m. on the School of Mines campus.

The REACT workshop will provide attendees with a basic foundation in chemical reaction engineering and catalysis. Participants will learn basics of applied chemical kinetics and catalysis, how to design

experiments, synthesize catalysts, analyze rate data, choose/design reactors and analytical methods, and use software for modeling and simulating reactive systems. A portion of the workshop will be devoted to selected case studies in reaction engineering, including bio- and renewable energy applications.

Topics to be covered include applied chemical kinetics, reactor analysis and design, experimental methods in kinetics and catalysis, computational

methods in kinetics and catalysis, and selected case studies.

This workshop is designed for chemical engineers, chemists, mechanical engineers, and biological engineers. Cost is \$750 per person, and pre-registration is required. For more information and to register, visit www.sdsmt.edu/learn or call Continuing Education at (605) 394-2693.

Students Participate in William Lowell Putnam Competition



L-R: Dr. Ed Corwin (coach-coordinator), Michael Snyder, John Myers, Dr. Pat Fleming (coach)

Two School of Mines students recently participated in the William Lowell Putnam Competition, a

competition that attracts the brightest mathematical minds in North America with over 4,000 college students participating this past year.

The students, John Myers (Math senior, Rapid City) and Michael Snyder (Math junior, Rapid City), were both able to achieve a nonzero score. Michael scored a 1, which means that 49.2% participants scored below him, and John scored a 20, which places his score above 81.5% of his peers.

The current official competition style began in 1938. It was started to honor William Lowell Putnam, who was a member of the Harvard class of 1882. His

widow, Elizabeth Putnam, created a trust fund in 1927 to support intercollegiate competition in his name. The first competition was in the field of English, and a few years later, the testing involved mathematics. In 1935, the examination assumed its present form and was placed under the administration of the Mathematical Association of America. The exam is strongly grounded in pure mathematics and is very theoretical. Students are often asked to generate proofs or make connections between different concepts and sometimes between different disciplines.

MAA Students Present at Regional Conference



The School of Mines delegation to the Rocky Mountain Section Meeting from left to right: Dr. Patrick Fleming, Dr. Kyle Riley, John Myers (Math 2011), Melody Dodd (Math 2010 and now in graduate school at CSU), Joshua Wipf (Math 2013), Dr. Don Teets, Lara Heiberger (Math 2011), and Tara Dadah (Math 2011).

Three School of Mines students presented at the meeting for the Rocky Mountain Section of the Mathematical Association of America, which was held April 8-9, 2011, on the campus of the University of Colorado, Boulder. John Myers (Math 2011) presented a talk entitled "An Algorithm for Unitary Equivalence of Matrices and a Path-Connectedness Application," which is part of a research project with Dr. Patrick Fleming (assistant professor, Math and Computer Science). Tara Dadah (Math 2011) presented a talk entitled "Real-Time Tracking of the International Space Station," which is a research project under Dr. Donald Teets (professor, Math and Computer Science). Lara Heiberger (Math 2011) presented a talk entitled "Classic Paper Folding Myth," which is part of a research project under Dr. Travis Kowalski (associate professor, Math and Computer Science).

Students Win Big in Russia



Andrew Kelley, Jennifer Ward, Kristina Proietti, Bryce Pfeifle, and Professor M.R. Hansen.

Four School of Mines students attended the Saint Petersburg State Mining University's "International Forum/Competition of Young Researchers: Topical Issues of Subsoil Usage" in Saint Petersburg, Russia, earlier this spring. The students, **Bryce Pfeifle** (MS Geo, Rapid City), **Jennifer Ward** (MinE senior, Surprise, Arizona), **Andrew Kelley** (Senior MetE, Rapid City), and **Kristina Proietti** (Senior GeolE, Rapid City), each presented their research in the categories of geology, mining, metallurgy, and environmental protection, respectively. Nearly 300 presenters from more than 13 countries attended the forum. Prizes were awarded in each of nine working groups, with School of Mines students claiming two awards. Ward earned first place in the "Topical Issues in Mining of Ore and Nonmetallic Minerals" category with her research of a mine feasibility study, and Kelley earned second place in the "Metallurgy" category with his research on lead-free solder.

Unit Operations Laboratory Renovation Update



First floor of Unit Operations Laboratory under reconstruction, with central stairway installed.

A year ago, the status of the construction of the new Chemical and Biological Engineering and Chemistry (CBEC) Building and the renovation of the Unit Operations Laboratory was reported in the *Foundation Update*. Doug Aldrich (ChE 62/MS ChE 68) masterfully orchestrated the decommissioning and removal of all the experiments from the “old” Unit Operations Laboratory in December 2009. By April 2010, the lab had been gutted, the lower level concrete floor had been removed, a new central stairway had been installed, and steel girders had been placed for second floor grating.

The next six months saw complete refurbishing of the space. For the first time in more than 50 years, the lab had air conditioning, ventilation was upgraded, new lighting was installed, walls were installed, windows were installed in both levels (glass blocks

removed), the second floor grating was installed, and walls and ceilings were painted.

During the construction phase, Vinod Amir (MS ChemE 11), Zachary Christenson (ChemE Senior, Britton), Chance Rieger (ChemE 11), and Jonathan Warner (ChemE 10), under the guidance of Ivan Filipov (laboratory specialist, Chemical and Biological Engineering) completely redesigned and upgraded the data acquisition and control (DAC) for each experiment and created P&IDs. Opto 22 was selected as the DAC platform because of its flexibility, ease of programming, and ease of use. The distillation column, triple effect and rotary dryer were completely refurbished by Adams Machining, a local machine shop capable handling pressure vessels. Other experiments such as the double pipe heat exchanger and flow measurement experiment were constructed anew.

In January 2011 the reconstruction and installation of all experiments began. This has been a multiphase process requiring local trades erecting large experiments, completing the plumbing, and installing the major wiring. Filipov and his crew followed the trades with installation and wiring of instruments, installation of control modules, and final testing of each experiment to see that they met their design goals. Throughout the spring 2011 semester, student laboratory groups were asked to perform a variety of tasks, which included safety audits, writing procedures, and running experiments as they were



(L to R) Jonathan Warner and Chance Rieger working on data acquisition and control wiring for the triple effect evaporator in the Unit Operations Laboratory. This is a newly designed data acquisition and control system for the remodeled evaporator laboratory experiment. Senior chemical engineering students will use this system for gathering laboratory data and controlling the operation of the triple effect during the CBE 461 Mass Transfer Laboratory in fall 2011.

completed.

Throughout the summer, Filipov and his team will complete testing of all experiments and finish write up of experimental and safety procedures. Come the fall 2011 semester, the “new” state-of-the-art Unit Operations Laboratory will be fully functional.

Members of the CBE faculty are continually on the lookout for new ideas and upgrades to the Unit Operations Laboratory. If you have ideas please, email them to Dr. Winter, robb.winter@sdsmt.edu!!

Smiths Establish Men's Basketball Scholarship



Patty and Kent Smith with their son, Brandon Smith

The Brandon Smith Athletic Scholarship was recently established at the South Dakota School of Mines by Brandon (ME 09) and his parents Kent and Patty Smith. The scholarship is to be directed to a member of the men's basketball team. The family created the scholarship in appreciation of Brandon's experiences and education at SDSM&T, and as a way to give back, as others had helped Brandon with scholarships

during his basketball career at Mines.

Brandon Smith grew up on a farm near Amenia, North Dakota, graduating from Central Cass High School in Casselton, North Dakota, in 2004. Sports, particularly basketball and baseball, were a part of his life from a young age. He played on organized teams, some his dad helped coach, since he was eight years old. He told his father he wanted to play college basketball someday, and with his quiet determination, he pursued that goal.

Brandon was a member of the National Honor Society, and after completing an All-State basketball and baseball career in high school, he wanted to pursue his interest in engineering. After being recruited locally, he chose to attend the School of Mines to become a mechanical engineer and play basketball. While at the School of Mines, Brandon was named an NAIA Scholar Athlete three times, and in 2009, he ended his career being named the DAC conference senior player of the year.

During Brandon's playing days, his parents were regular attendees, always being his biggest fans. His dad missed only a few games of his career, traveling over 1,000 miles every weekend to Rapid City from near Fargo, North Dakota. Every year at parents' night, he was jokingly given the “most miles traveled” award.

Brandon currently resides in Waterloo, Iowa, where he is a mechanical engineer with John Deere.

Friends Remember Guse with Scholarship

The Steve Guse Memorial Athletic Scholarship was recently established in memory of Steven T. Guse, M.D. (ME 87), who passed away May 26, 2011, in Fayetteville, North Carolina, due to complications from leukemia. This scholarship will be awarded to a School of Mines student who is a member of the varsity football team.

Steve was born in Melrose Park, Illinois, to David and Karen (Schubert) Guse on January 26, 1965. He graduated from Sioux Falls Lincoln High School in 1983 and went on to earn a bachelor's degree in mechanical engineering from the School of Mines in 1987. While a student at the School of Mines, Steve was a part of the Hardrocker football team and a member of Delta Sigma Phi fraternity.

Steve worked as a mechanical engineer for eight years in Colorado Springs, Colorado, the last years of which he worked with the Apple Corporation. Steve earned his doctorate from the University of South Dakota School of Medicine in 1998. He completed a surgical internship at the Mayo Clinic in Rochester, Minnesota, before entering the Physical Medicine and Rehabilitation Residency Program at Loma Linda University Medical Center in Loma Linda, California.

Guse practiced at the Physical Rehabilitation Department at Avera McKennan Hospital in Sioux Falls, the Independence Back Institute in Wilmington, North Carolina, and the RPK Center for Rehabilitation, Spine, and Pain Management in Fayetteville, North Carolina.

Steve enjoyed playing football and was a baseball player beginning with the Livonia (Michigan) Cardinals, the Lincoln High School Patriots, and the SDSM&T Hardrockers. He was an avid fan of the Detroit Lions and a lover of fantasy football. He was a team owner in the Delta Sigma Phi Fantasy Football League (DSPFFL), and according to Leighton Lien (EE 83), Guser's Luzers have been in the DSPFFL for eight years, making the playoffs five times, and winning the league championship in 2006 while setting a league record for postseason scoring.

Guse was a true family man and a friend to many. He will be greatly missed.



Steve Guse and his son, Jason

Widhalm's Support Hardrocker Football with Scholarship



The Widhalm family

The Chuck and Carol Widhalm Athletic Scholarship fund was recently established by Chuck (EE 83) and Carol Widhalm. This non-endowed scholarship will be awarded to a member of the varsity football team at the School of Mines.

Chuck Widhalm grew up in Colorado and came to SDSM&T via Douglas, Wyoming, studying football and electrical engineering. Chuck was a four-year letter winner, played defensive tackle, was part of the 1980, 1981 and 1982 SDIC Championship football teams, and was a team captain his senior year. Chuck's most memorable game was playing against Sioux Falls College (SFC) his senior year. He was named the NAIA National Defensive Player of the Week for his efforts in that game! To this day, anytime he needs a little boost, he just remembers chasing the SFC quarterback all over the field!

Carol grew up in Texas, has a recreation and fitness management degree, and was managing the Texas Instruments (TI) Fitness Facility when she and Chuck met. They married in 1989 and have two boys, Kyle (age 21) and Kasey (age 20). Carol homeschooled both boys through sixth grade when Kyle got the bug to play football. The school they chose to attend had 6-man football and needed an assistant coach (Chuck) and a booster club president (Carol). Kyle moved on to play 11-man football in high school and entertained playing football for SDSM&T but ended up choosing to play at the U.S. Naval Academy instead. Kasey is currently attending the University of Texas-Tyler College of Nursing, is a blue-belt in Tae Kwon Do, and plans on being a rural country doctor someday.

Chuck is a registered professional engineer (Texas) focusing in RF-Wireless. South Dakota Tech provided a great beginning for Chuck as he participated in TI's summer engineering program his junior year. After graduation, he stayed at TI for 14 years before moving on to AVO, RF Monolithics, and currently California Eastern Labs. His career has spanned design, product/program management, product line management, field application engineering, and currently sales management. Chuck and Carol live in Fairview, Texas, near Dallas.

Munsell Scholarship to Benefit Hardrocker Football

Lukas (EE 09) and Talia Munsell along with Don (EE 51) and Marge Range recently established the Lukas and Talia Munsell Athletic Scholarship at the School of Mines. This non-endowed scholarship will be awarded to a student-athlete engineering major who is a member of the varsity men's football team.

Lukas and Talia grew up in Casper, Wyoming, where they started dating in junior high school and continued dating throughout college getting married July 2007, the summer before Lukas's final year of football. Lukas was a four-year starter for the Hardrockers, playing slot receiver, running back, and kick and punt returner. During his career, he was named to the All-Conference teams several times, was voted the Dakota Athletic Conference Most Valuable Senior, and earned NAIA Academic All-American status his senior year. Outside of football, Lukas was a member of Eta Kappa Nu and Tau Beta Pi honor societies.

“My experiences both on and off the field at the School of Mines gave me all the tools I needed to succeed. The coaches and faculty help prepared me with a great foundation to pursue my career goals,” said Lukas. “I made some amazing lifelong friends throughout my time at school, and I am truly grateful for the education I received at SDSM&T while being able to continue to play football.”

Lukas and Talia currently live in Casper, Wyoming, with their 2-year old daughter, Jaisley. Talia is a third grade teacher at a local elementary school, and Lukas is the power systems engineer for Wyoming Machinery Company – Caterpillar where he manages projects and designs power generation packages.

With this scholarship, Lukas and Talia hope to show their gratitude for the experiences and education received at the School of Mines and want to help allow another student athlete to receive the same benefits of attending the School of Mines.



Lukas and Talia Munsell

Kosts Establish Scholarship

Kurt (MinE 78) and Norma Kost recently established the Kurt & Norma Kost Scholarship at the South Dakota School of Mines and Technology. This endowed scholarship will be awarded to a student majoring in mining engineering and management at the School of Mines who is a graduate of a South Dakota high school.

Kurt and Norma Kost are both natives of South Dakota. Norma grew up in Rapid City, and Kurt was raised in Parkston. Both attended the School of Mines – Norma as a general studies student in 1974-75, and Kurt from 1974-78. Kurt

graduated in 1978 with a degree in mining engineering and was a member of the Theta Tau Fraternity.

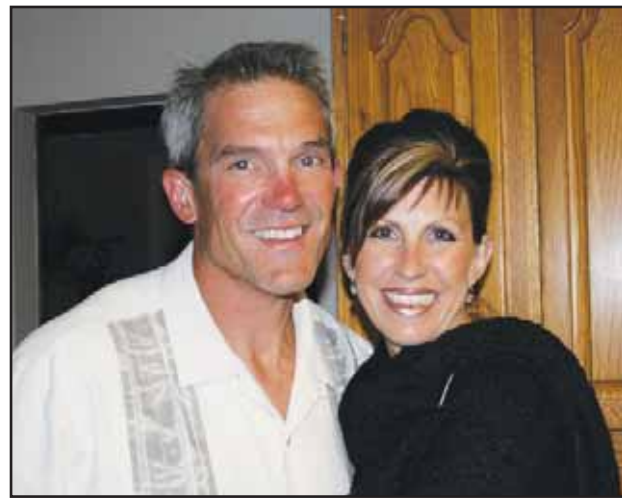
Kurt has held a number of engineering and management positions for a variety of mining companies throughout his career most recently with Alpha Natural Resources.

Kurt credits his successful career to his supportive wife and family, talented and dedicated co-workers, along with guidance from God's word. Kurt and Norma have been blessed with three daughters, and they reside in Bristol, Tennessee.

Norma and Kurt Kost



Corbetts Assist Hardrocker Football Player with Scholarship



Joe and Cheri Corbett

Joe (GeolE 82) and Cheri Corbett recently established the Joe and Cheri Corbett Athletic Scholarship fund. This non-endowed scholarship will be awarded to a member of the football team at the South Dakota School of Mines and Technology.

Joe Corbett graduated from the School of Mines in December 1982 with a bachelor's degree in geological engineering. It was not a good time to be looking for a job in the energy field, and Joe felt fortunate to find a job with Schlumberger, which was looking for a field engineer to start immediately. Joe worked in the field in Williston, North Dakota, and then Casper, Wyoming, during the mid 80s. He was a sales engineer in Denver for five years then was transferred back to Casper in 1992 and has been there ever since.

Joe held numerous positions with Big Blue over the years, and he really enjoyed the people he met in the oil and gas business during that time. After 22 years, Joe left Schlumberger to seek fame and fortune. He didn't find either, but he has found happiness running a small oil and gas consulting firm called Continental Production Company. He has two great partners, and his son works for them as an accountant.

Joe has been married to Cheri for 27 years and finds it hard to believe she put up with him for that long. Cheri started a business called Kids Works in Casper in 1993, and it has grown into what is probably the largest childcare center in Wyoming. In addition to the hundreds of kids Cheri has helped Casper parents raise over the years, the Corbetts have raised three children of their own. Although none of them elected to go into engineering, they have all taken their educations seriously. In addition to the Corbett's accountant son, they also have a daughter who just finished her master's degree from the University of Wyoming in social work and is working as a children's therapist. The Corbett's youngest child will be a junior at Black Hills State University this fall and, according to Joe, will no doubt be the best elementary school teacher ever after she graduates.

According to Joe, "We all have reasons to be proud of our alma mater - certainly one of the finest engineering schools around. For me, most of my closest friends today are SDSM&T alums. It's not my high school friends or my business associates, but my fellow alums who mean the

most to me. Even guys who I only see once a year at the alumni football game, for example, are the guys who really know me, and we can pick right up like we've only been apart for days instead of years."

"At professional gatherings and meetings, when there are fellow alums in the crowd, I want to gravitate towards them to discuss our common bond. Things we shared in college, even if it was just the agony of a failed calculus test, seem to bring out a kinship," said Joe. "Mostly though, it's mutual friends that we share that keep us all close, and I have been blessed with a great group whom I love and am loved by. That is amazing. It is like family - you can discuss and cuss each other and laugh and fight, but there is always a mutual admiration and respect all around."

Joe added, "I am not going to get into donations and giving. That is private, and we all have our own comfort level. Do what you feel comfortable with, but remember your humble beginnings and how you got to where you are today. But at a minimum I will urge, and I urge you to urge others, to connect and reconnect with your friends from Tech. I'm not on Facebook and I don't tweet or blog - I don't even know what that is really. Pick up the phone and call an old friend, attend an alumni function, come back for a five year reunion. If you haven't done that for awhile, you will be pleased and surprised at how rewarding it feels. If you do that on a regular basis, you know what I mean. And you probably know how good it feels to say 'GO HARDROCKERS!!'"

Barnes Supports Basketball Scholarship



Orie Barnes

Bruce "Orie" Barnes (MetE 78) recently established the Orie Barnes Athletic Scholarship at the School of Mines. This non-endowed scholarship will be awarded to a member of the Hardrocker men's varsity basketball team with preference to a metallurgical engineering major.

Bruce "Orie" Barnes arrived at the School of Mines from Yankton where he was a starter on the 1974 State A Championship team from Yankton High School. At the School of Mines, he pursued his metallurgical engineering degree while playing basketball for the Hardrockers during the 1974-78 era. He was a member of the South Dakota Tech team that won the SDIC basketball title during the 1975-76 campaign under Coach Mike Riley. Orie continued to play in summer and rec leagues until 2006, and he spent over 20 years as a basketball official at the high school and junior college levels in Washington State.

While attending the School of Mines, Orie received departmental and athletic scholarships, and he understands the value of such gifts to the undergraduate student. He appreciates the

generosity of the companies and donors that provided these scholarship funds, and he encourages all former School of Mines athletes (especially his sister, Jane Barnes (ChemE 79), a member of the first women's hoop team at Tech and 2005 Hall of Fame inductee) to contribute to the Hardrock Club and the SDSM&T Foundation.

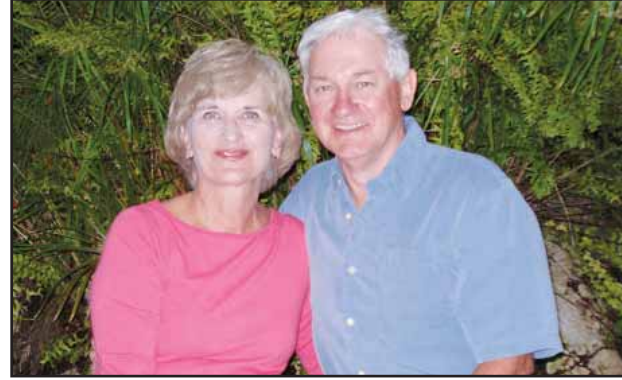
After earning his bachelor's degree in metallurgical engineering in 1978, he spent almost three decades at Battelle's Pacific Northwest National Laboratory in Richland, Washington, starting as a staff scientist. He eventually joined the QA organization and took on management positions in this group, including the QA manager for all nuclear research in support of the U. S. Department of Energy (DOE) Yucca Mountain Project. In 2007 Orie followed his wife, Dr. Susan Storrud-Barnes, to Cleveland, Ohio, where she was starting her new career as a business professor at Cleveland State University. Orie spent two exciting years as a contractor at the NASA Glenn Research Center in Cleveland developing and managing the nuclear-based QA program for the Advanced Stirling Radioisotope Generator that is being tested and considered by NASA and the U.S. DOE as a replacement for the Radioisotope Thermoelectric Generator for future deep space missions where solar power is not feasible. The

ASRG has a higher conversion efficiency compared with that of the RTGs used in previous missions (Viking, Pioneer, Voyager, Galileo, Ulysses, Cassini, and New Horizons) and offers the advantage of a fourfold reduction in PuO2 fuel.

In late 2008, Orie accepted a new challenge, moving to Chicago to become the quality assurance manager for Transco Products, Inc., a small, privately held firm that manufactures and installs Metallic Reflective Insulation and other products for the commercial nuclear power industry in the U.S. and abroad. Based in downtown Chicago and with fabrication facilities in Streator, Illinois, and Bensenville, Illinois, Transco Products Inc. is one of the few U.S. manufacturing companies that have ventured into China and South Korea to partner with local manufacturers to supply MRI and other TPI products to the nuclear power industries in those countries. Orie's responsibilities include helping those foreign manufacturing companies develop their own nuclear-based QA program, and then auditing them for compliance to the nuclear QA standards as a prerequisite for the startup of manufacturing operations.

Orie and his wife take turns commuting to see each other and enjoy frequent travels to weekend get-away destinations now that their three kids are all grown up.

Bergs Establish Football Scholarship



Bonnie and Dave Berg

Dave (ME 73) and Bonnie Berg recently established the Dave and Bonnie Berg Athletic Scholarship fund at the School of Mines. This non-endowed scholarship will be awarded to a student athlete participating in football at the School of Mines.

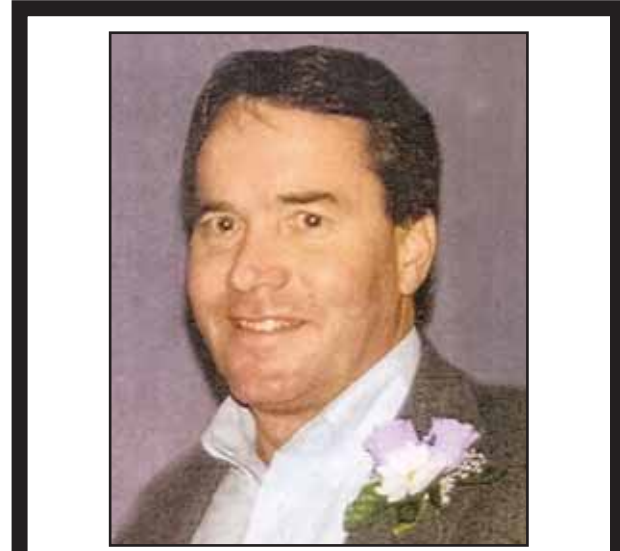
Dave and Bonnie both grew up near Baltic, South Dakota, and graduated from Baltic High School. While attending the School of Mines, Dave was a four-year letterman playing football for coaches Dud King, Gary Boner, and Sonny Coyle. He was also a member of the 1970 football

team that defeated Northern State University to win the SDIC conference championship that year.

After graduation, Dave worked for Hormel Foods in Austin, Minnesota. Dave and his family gradually worked their way back to South Dakota where Dave was employed by a consulting engineering firm in Sioux Falls. The Bergs had an opportunity to move to Rapid City in 1984, where Dave cofounded a consulting engineering firm, West Plains Engineering, Inc. Both Bonnie and Dave work for West Plains Engineering and have seen the company grow from three people to over fifty with offices in three states. Dave is retiring this year with the hope to pursue other opportunities. Bonnie and Dave have four grown children and eight grandchildren.

Dave has been a long-time member of the Mechanical Engineering Industrial Advisory Board and currently serves on the Executive Committee for the SDSM&T Foundation.

"The friendships that we made through college, Theta Tau Fraternity, and athletics have and will stay with us forever," said the Bergs. "We feel fortunate that we live in Rapid City where we can continue to participate and support activities at the School of Mines."



The Brian A. Kammerer Athletic Scholarship shall be awarded to a member of the men's varsity basketball team at the School of Mines and Technology. This scholarship was established in memory of Brian Kammerer who graduated from South Dakota Tech in 1979 with a civil engineering degree. Upon graduation, he went to work for Kennecott Copper and retired after more than 25 years of service.

David and Janice Rogers Athletic Scholarship



Jan and Dave Rogers

Dave (ME 60) and Jan Rogers recently established the David and Janice Rogers Athletic Scholarship. This endowed scholarship will be awarded to School of Mines students who are participating in varsity athletics and who have financial need.

Dave was born in Iowa, but grew up in Newell and Rapid City, graduating from Rapid City High School in 1956. He then enrolled at the South Dakota School of Mines and Technology, having known he wanted to be an engineer since writing a paper on the subject in an eighth grade Vocations Class. He graduated from the Mines with a degree in mechanical engineering in 1960.

Dave was a starter on the Mines football team for four years and was selected to the South Dakota Intercollegiate Conference All Conference Team his senior year. While in college, he was class president his sophomore year and a part of the Student Body Board of Control for three years, where he was elected student body vice president his senior year. He was active in Triangle Fraternity, Sigma Tau Honorary Fraternity, Scabbard and Blade Military Society, Singing Engineers, American Society of Mechanical Engineers, Society of Military Engineers, and participated in intramural athletics. Dave also graduated as a Distinguished Military Graduate from the Army R.O.T.C. program.

Following graduation, Dave worked for Pratt & Whitney Aircraft in East Hartford, Connecticut, working on the design of the turbofan jet engine for the U.S. Air Force C-141 Starlifter transport plane. After nine months at Pratt & Whitney, Dave entered the U.S. Army, spending most of his two years of active duty as a

platoon leader and company commander in the 92nd Engineer Battalion at Fort Bragg, North Carolina. Following his Army service in 1963, Dave headed west for the Colorado Rockies where he worked for more than two years in product development at the Rocky Flats nuclear weapons facility outside of Denver.

In 1965 Dave started what became over 32 years of fascinating work at Ball Aerospace in Boulder, Colorado. (A note from Dave: Yes, Ball Aerospace, who is supporting the establishment of this scholarship, is a subsidiary of the Ball container company that built your grandmother's and Larry Simonson's canning jars.) Ball's products include small to medium sized spacecraft and air and space communications products. Their primary expertise is the design and production of state-of-the art electro-optical-mechanical instruments for NASA, the defense industry, and commercial use. Ball was the company that designed and built the "eye glasses" that fixed the Hubble Space Telescope. As of the last Hubble retrofit mission, all Hubble pictures are being taken with Ball-built instruments. Most television and Google Earth space imagery photos are also products of Ball-built cameras.

Dave migrated from engineering to program management fairly early in his career at Ball. After managing several programs in both NASA and classified arenas, he became director of Electro-Mechanical Products. Later assignments included director of programs, High Technology Products, and director of Space Science Programs.

At Dave's retirement reception in 1998, he noted how fortunate people his age were, in that they literally grew up with the space industry. He noted that the younger people in attendance did not realize how young the space industry was. To illustrate this, Dave read the definition of "spaceship" from his 1956 edition of Webster's New Collegiate Dictionary. It reads, "An imaginary aircraft of the future for interplanetary travel outside the earth's atmosphere."

Dave married Jan Olson in 1967. Jan grew up in North Dakota and graduated from New Rockford High School in 1959 and from St. Luke's Hospital School of Nursing in Fargo, North Dakota, in 1962. Jan and Dave met in Denver and have been each others' best companions and friends for 44 years. Jan worked in several nursing positions through the years, taking time out to be a stay-at-home mom while

their children were young.

Sandra, born in 1969, is married to Lt. Col Robb Kammerzell, U.S. Army. They currently live in Dublin, California, where Sandra home schools their daughters, Darla, 8, and Klaraliese, 6. Sandra earned her master's degree in physical therapy from Duke University and worked in her field until Darla was born. Jan and Dave's son, Erik, born in 1971, graduated from the University of Alabama and is a command pilot for Skywest Airlines, based in Denver.

While Sandra and Erik were at home, Dave's leisure activities were focused on the family and church. Both children were active in sports and music from preschool through high school. Dave and Jan were involved as coach, co-participant, or observers at every event possible. Living in Colorado, many activities were outdoors including hiking the mountains, camping, and skiing. All vacations were family affairs that ranged from California to Florida to Washington, DC, to Europe. The only change to the annual ski trips is that they now include two granddaughters whose only complaint is that "Grampa" doesn't go fast enough. Dave and Jan have been heavily involved in church activities their entire married life. Both still sing in the choir, and Dave served as congregational president twice.

In retirement Dave and Jan have traveled extensively, added golf and bike riding to their activities, and have continued to ski. Volunteering through Kiwanis, church, and Sons of Norway also takes up a portion of their time. Dave is currently a director of the Rocky Mountain District Kiwanis Foundation.

Since 1965, Dave and Jan have only missed one 5-year School of Mines reunion, and they especially enjoyed Dave's 50-year re-graduation in 2010.

Dave and Jan feel they have been truly blessed and that the School of Mines did an excellent job of providing a strong foundation for Dave's adult life. This foundation extends far beyond the excellent technical education received. The personal, interpersonal, organizational, and management knowledge and experience gained through student government, military education, school organizations, and football provided a total package that is hard to beat. Dave and Jan hope these athletic scholarships will help other individuals obtain a similar foundation.

Goetsch Supports Football Scholarship



Brian Goetsch

Brian Goetsch (ME 98) recently established the Brian Goetsch Athletic Scholarship at the School of Mines. This non-endowed scholarship will be awarded to a member of the Hardrockers varsity football team.

Brian grew up in Milbank. After graduating high school in 1993, Brian decided to attend the

School of Mines primarily based on the excellent education offered, but also due to the academic and athletic balance. Through his collegiate career,

Brian earned All-American honors in football, All-American honors in track and field (including shotput national champion runner-up), and Academic All-American honors. Brian graduated from School of Mines with a degree in mechanical engineering in 1998, and in 2006, he received a master's degree from University Southern California in systems architecture and engineering.

Brian has spent his professional career in the aerospace industry, working for Boeing and Lockheed Martin. Since 2000 he has been part of human spaceflight, initially spending several years in Houston on the International Space Station. He currently works in Denver for Lockheed Martin on Project Orion, which is a spacecraft being designed for NASA to send human explorers to the moon

and beyond including to Mars.

"Growing up I dreamed of working on vehicles that would fly in outer space, and it was at the School of Mines where I received the excellent education along with meeting some great people who helped me in pursuing those dreams," said Goetsch.

Goetsch is actively involved with the School of Mines and serves as a member of the Mechanical Engineering Industrial Advisory Board.

"I am impressed with the positive changes the School of Mines is going through athletically and academically, and I am excited to be a part of it with this student-athlete scholarship," Goetsch concluded.

Cullen Endows Scholarship



Dennis Cullen

Dennis Cullen (ChemE 62) recently established the Dennis Cullen Family Scholarship at the School of Mines. This endowed fund will be awarded to an incoming freshman science or engineering student with first preference to a student who graduated from high school in Chamberlain,

South Dakota.

Cullen graduated from Chamberlain High

School in 1957 and went to the School of Mines where he earned his bachelor's degree in chemical engineering in 1962. Cullen married the late Dianne Duffy of Rapid City, and during their more than 44-year marriage, they had four children, Belinda, Bill, David, and Matthew, and six grandchildren.

Cullen's first job was with Dow Chemical in Midland, Michigan, and Buffalo, New York, working in technical service and sales functions. In 1969, he transferred to General Mills Chemical Division which was sold to Henkel Corp. in 1978. Cullen worked in many different functions and eventually became president of

Henkel's subsidiary in Japan in 1981. After four years in Osaka, Japan, Cullen transferred back to Minneapolis to take a vice president position as head of the Coatings and Inks Chemicals Division. After several job changes and location changes, he became executive vice president – operations of the Functional Products Group.

In 1997, after a dozen physical moves, the Cullens retired to a lake in Wisconsin to enjoy the family and new friends. Dianne died in 2007, and Cullen is now married to Anna Collura. The two spend winters in Florida and summers in Wisconsin and enjoy golfing, bridge, water sports, snow sports, travel, and family activities.

Stephens Trust Provides Scholarships

Cecil Stephens, 95, passed away on September 26, 2010, in Littleton, Colorado. Ten years ago, Cecil and his wife, Jean, funded a charitable remainder unitrust to benefit the School of Mines. Now, at the termination of the trust, the proceeds will fund the Cecil and Jean Stephens Memorial Scholarship.

The Cecil and Jean Stephens Memorial Scholarship, an endowed fund, will be awarded to students in good standing at the School of Mines whose native language is English and who have financial need but do not qualify for other financial aid. Upon establishing the unitrust ten years ago, Stephens said, "By starting this scholarship fund, I hope to help other students

complete their education at the School of Mines."

Cecil Stephens was born in Tulare, South Dakota, in 1914, and his family moved to a farm shortly after. He then moved with this family to Rapid City in 1930, and he graduated from Rapid City High School in 1933. After high school graduation, he attended the School of Mines, receiving his bachelor's degree in chemical engineering in 1938.

After earning his degree, Cecil went to work for the Holly Sugar Company in Swink, Colorado, for two seasons. From there he moved to East Chicago, Indiana, where he was employed by Graver Tank Manufacturing for 15 years. Cecil worked for the Water Treatment Department

where he supervised the installation of water treating equipment for the Army, Navy, Marine Corps, and Ordinance Facilities during WWII.

Stephens then worked as a mechanical engineer with the installation of boilers for the American Oil Company in Neodesha, Kansas. After seven years, he was transferred to Highland, Indiana, where he worked with the water treatment for American Oil's entire refinery. He then moved to Denver, Colorado, and worked for Stearns Roger until his retirement in 1977.

Cecil married Jean Greig in 1942, and together they had three children: Dale, Greg, and Lurelle. Jean passed away in 2000.

Lyle and Diana Nelson Scholarship

Marlene Nelson (ME 74) and Curt Chenoweth, Wendy Nelson, Eric Nelson, Odin Nelson (Met E 80), Rod Nelson (ME 84), and Scott Nelson (ME 89) have established a scholarship in the name of Lyle and Diana Nelson to honor the high expectations, continuous encouragement, and generous support of higher education they provided for their children.

The Lyle M. and Diana D. Nelson Scholarship is an endowed scholarship fund that will be available for a junior or senior mechanical or metallurgical engineering major with a 2.8 or higher GPA. Preference will be given to students with a rural background from Bennett County or Fall River County.

Lyle and Diana were members of the Greatest Generation. They grew up during the depression, lived through World War II, and wanted more for their children than they had had. Dinner table conversations served as a forum to regularly reinforce their belief in the benefits of higher education and the associated expectations for their children's scholastic achievement.

Lyle grew up on a farm in rural Bennett County. Following graduation from high school, he moved to Seattle to learn welding and was employed at the Bremerton Naval shipyards. He subsequently joined the U.S. Navy and served in the Pacific Theatre on the battleship USS Washington during the peak of WWII combat. Lyle returned to Martin at the conclusion of the war to establish his own farm.

Diana Miller Nelson grew up on a ranch in the

Minnekahta valley near Hot Springs. Diana graduated from South Dakota State University with a degree in home economics and was hired by Melvin Nelson, Bennett County school board member and Lyle's father, as a home economics instructor at Bennett County High School.

Lyle and Diana celebrate their 60th anniversary of life together in September 2011 and still live on and farm the land that provided them a good life and enabled college educations for their six children, four of whom are SDSM&T graduates.

Marlene had a 34-year Boeing career in Seattle, Washington, and retired recently as director of aviation safety for Boeing Commercial Airplanes. Odin is a production superintendent at Mosaic Corp in Carlsbad, New Mexico. Rod is a senior manager, mechanical structural engineering function, for Boeing in Wichita, Kansas. Scott, a former Boeing liaison engineer, joined Columbia Crest Winery near Kennewick, Washington, where he is a laboratory analyst. Wendy graduated from South Dakota State University (SDSU) and is the assistant to the provost at Northern Arizona University in Flagstaff, Arizona. Eric also attended SDSU and is owner and director general of World of Wines in Cancun, Mexico.

Lyle and Diana remain very proud of the education and the opportunities a South Dakota School of Mines degree provided to the engineers in the family. It is a source of great pride that four of their children are graduates of the School of Mines. They have seven grandchildren and hope for more engineers and scientists in the Nelson



Lyle and Diana Nelson of Martin, South Dakota.



Marlene Nelson (ME 74), Odin Nelson (MetE 80), Wendy Nelson, Rod Nelson (ME 84), Eric Nelson, Scott Nelson (ME 89).

lineage, and they are very pleased to be honored through the continuing support of engineering educations for rural South Dakotans at SDSM&T.

Bells Establish over \$1 Million in Charitable Gift Annuities



Pat and Jim Bell

Jim (CE 56) and Pat Bell established their first charitable gift annuity (CGA) with the School of Mines in 2002. Since that time, the Bells have gifted funds into 11 more CGAs, totaling more than one million dollars.

A CGA is a simple contract in which a donor receives fixed payments for life in exchange for a contribution to a charity (SDSM&T Foundation). When the beneficiaries pass on, the remaining balance is then available to the SDSM&T Foundation for spending. One of the great benefits of establishing multiple CGAs is that the Bells have chosen to support a wide variety of areas on campus including Triangle Fraternity, the Construction Management Program within the Civil Engineering

Department, the Hardrock Club, and the Alumni Association. Most of these fund designations are unrestricted, which gives the specific program the flexibility needed to maximize the gifts. Also, about half of the funds will benefit endowments, meaning that the gifts the Bells have made now will benefit students at the School of Mines in perpetuity.

"A gift annuity with the SDSM&T Foundation offers us some great benefits – we can count on guaranteed payments during our lifetimes, receive a charitable income tax deduction at the time we make our gift, and best of all, support my alma mater with a significant future gift," said Jim.

"Oftentimes, when my investments have matured, I've just come back to the Foundation. I like the rates they offer, and I like knowing I am supporting SDSM&T," he added.

Jim and Pat Bell grew up in Doland, South Dakota, and graduated from Doland High School. After graduation, Jim came to the School of Mines where he became a member of Triangle Fraternity in 1953. Jim and Pat were married in 1955 and have three children. Their son, Lynn Bell (MinE 80), graduated from the School of Mines with a degree in mining engineering in 1980 and now lives in Omaha, Nebraska. Their two daughters, Nila Britzius of Marietta, Georgia, and Sue Smith of Albuquerque, New Mexico,

followed in their mother's footsteps and graduated from the University of South Dakota.

After graduating with a bachelor's degree in civil engineering in 1956, Jim went to work for Peter Kiewit Sons' Inc. (a construction company) and started on work at Ellsworth AFB near Rapid City. He started as a beginner supervisor, and worked as a foreman, job superintendent, general superintendent, and estimator. In December 1969, he became South Dakota Area Manager in charge of all South Dakota operations.

Jim and Pat and their family followed the construction work, moving in and out of Rapid City several times. After living in other cities in South Dakota and Wyoming, their 14th move brought them back to Rapid City.

As a Mines alumnus, Jim was very active in the early stages of the Hardrock Club. He served as president from 1971-1974. Jim also served on the board of directors of the South Dakota Associated General Contractors, Highway, Heavy, Utilities, Chapter from 1970 through mid-1982. He was president of the board of directors in 1973.

After being winter Texans for four years, Jim and Pat moved to Corpus Christi, Texas, in 1991. After living in Corpus Christi, the Bells relocated to a new home in the nearby bedroom community of Portland, Texas, in October 2000. They currently reside in Albuquerque, New Mexico.

Peng Scholarship Supports Mining Engineering and Management

Dr. Syd S. Peng (MS MinE 67) has been a long-time supporter of the School of Mines' Mining and Engineering Management Program and established the Peng Mining Engineering and Management Scholarship, a non-endowed scholarship, in 2004. Recently, Peng established the Syd S. Peng Mining Engineering Scholarship Endowment so that he can continue to offer his support to School of Mines students for perpetuity. This endowed scholarship will be awarded to School of Mines students who are majoring in mining engineering.

Peng, Charles E. Lawall Chair and former chairman of the Department of Mining Engineering at West Virginia University in Morgantown, stated, "SDSM&T's mining engineering is one of the oldest and best programs. It's important that it be continued for the benefits of the mining industry and it is now time to show our support."

Peng received his undergraduate degree in mining engineering in Taiwan and worked in production coal mines for five years. He came to the United States in 1965 for advanced study and received his master's degree in mining engineering from the South Dakota School of Mines and Technology in 1967. He went on to earn his Ph.D. in mining engineering from Stanford University in 1970. He stepped down from the department chairmanship in 2006 to engage in book writing.

From 1970 until 1974, Peng worked for the U.S. Bureau of Mines, Twin Cities Research Center, as a mining engineer and then a lab head in charge of rock physics research. He then joined West Virginia University in 1974 and has worked through the ranks. In 1978, he was appointed as the chairman of the Mining Engineering

Department. In 1985, he established the Longwall Mining and Ground Control Research Center and assumed its directorship. Two years later in 1987, he was appointed as Charles T. Holland (Distinguished) Professor.

Since 1974, Peng has successfully supervised 38 Ph.D. dissertations and 47 M.S. theses. He has also supervised more than 130 research grants and contracts from private companies as well as state and federal agencies for a total of more than \$14 million. He has authored and co-authored 4 textbooks, 337 journal and proceedings articles, and 257 research reports in the areas of longwall mining (shield support design, bit design and panel layout), multiple-seam mining, pillar design, roof bolting, rock testing and behavior, cutter roof, in-situ stress measurement, ultrasonic stress measurement, surface subsidence, and respirable dust. His books, Coal Mine Ground Control and Longwall Mining, are widely used in the United States and all other coal producing countries.

Peng has performed research and/or problem investigation in 230 coal/potash/stone mines in the United States and in 65 coal/phosphate mines in 16 other major coal producing countries. He is frequently contacted by United States coal mines and state agencies for discussion or consultation on problems regarding coal mining ground control, longwall mining, and surface subsidence. He has performed consulting services on the same subjects to more than 150 federal and state agencies, coal companies, engineering consulting companies, law firms, and equipment manufacturers in the United States and major coal producing countries.

Peng has initiated the annual international conference on ground control in mining since

1981. The conference is now recognized all over the world as an annual forum for exchange of information on ground control. This July the conference will celebrate its 30th anniversary. He is also frequently invited to lecture or chair

conference sessions in the United States and in all major coal producing countries.

Peng has been the recipient of numerous awards including: Rock Mechanics Award 1987, SME; Education Excellent Award 1988, Pittsburgh Coal Mining Institute of America (PCMA); The Institution Overseas Medal 1992, the Institution of Mining Engineers (IMM) United Kingdom; the Howard N. Eavenson Award 1998, SME; The 20th Conference Statute, Int'l Conf. on Ground Control in Mining (ICGCM), 2001; Donald S. Kingery Memorial Award 2001, PCMA; The Erskine Ramsey Medal, AIME, 2002; Medal for Excellence for 2004, The Institutes of Materials, Minerals and Mining, United Kingdom; the 2005 Old Timers Club Faculty Award; the 2004, 2005 and 2006 R&D 100 Awards, R&D Magazine; West Virginia Coal Hall of Fame; and the Dominion Post 100 Most Influentials, 2008.



Dr. Syd Peng