

SUMMER 2012

THE HARDROCK™

SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY

100TH Anniversary of M Hill

SOUTH DAKOTA



SCHOOL OF MINES
& TECHNOLOGY

IN THIS ISSUE:

M Hill: A Century of Mines Pride

Dr. Paul Gnirk: A Lifetime
of Achievements

Stacy Collins' New Era of
Hardrock Football

Mines Celebrates Native
American Community



Robert A. Wharton, PhD,
School of Mines
President

Dear Colleagues,

Excel, innovate, contribute, and celebrate. These words all come to mind as one reads of the achievements and advancements of the Mines alumni, faculty, staff, and students in this *Hardrock*. It is my hope that you will feel a sense of Mines Pride as you read of the scholarly and athletic success as well as the community involvement of our Mines family.

Excel – Dr. **Paul Gnirk** (MinE59), and other alumni, **Larry Pearson** (ME72), **Jeane** (CE77) and **John Hull** (MinE77), and Dr. **Scott Kenner** (CE77), clearly excel on so many levels. Dr. **Umesh Korde**, the Pearson Chair in Mechanical Engineering (ME), featured in this issue, and his faculty colleagues excel and share their successes with our students and others globally.

Innovate – Drs. **Kyle Riley** and **Charles Tolle**, as well as several other faculty, including Drs. **Foster Sawyer** (GEOL90) and **Carter Kerk**, and **Shashi Kanth** (M.S. MinE93), continue to create innovative opportunities for Mines learning in diverse environments. Veteran student, **Ryan Brown**, and 2012 graduates **Andrew Muxen** (ME10) and **Anthony Kulesa** (CE12), as well as the Mines Team India, capture the spirit of innovation along with others noted here.

Contribute – Mines alumnus, **Larry**, and **Linda Pearson's** funding of the endowed ME chair, the **Hulls'** professorship in Mining Engineering, and others who make generous contributions to the *Building the Dream* campaign contribute the fiscal capacity to enhance the quality of teaching and research at Mines, affording greater opportunities to attract and retain highly qualified students and faculty. The generosity, talent, spirit, and time given by our 2012 March Medalist and 50-year graduate, **Doug Aldrich** (ChE62), is also exemplary in this regard. Contributions of another kind include sharing our civil engineering expertise with the governor for the people of South Dakota during the 2011 Missouri River flood at Dakota Dunes. Also, for her many contributions to students, Dr. **Molly Gribb**, head of the civil and environmental engineering department, is the 2012 Outstanding Faculty Advisor, receiving this honor from the American Society of Civil Engineers (ASCE) for advancing the Mines student chapter of the ASCE, named among the top five in the country. Some of our Mines students' volunteering in Rapid City include the Hardrock Football team's very successful blood drive, our 2011 and 2012 senior student commencement speakers' community, and statewide, contributions; and those made by our outstanding 2012 Leadership Hall of Fame students to campus and community life.

Celebrate – This year we celebrate 100 years of tradition and enjoyment associated with M Hill. We also celebrate new eras with the addition of alumnus, **Mike Selzer** (EE74), as the new president of the School of Mines and Technology Foundation; and with Head Football Coach, **Stacy Collins**, and his new coach recruits. As well, there is new strength in research and economic development with **Joseph Wright**, associate vice president. We celebrate our collaborations with, as well as the contributions of, our industry partners – L-3 Communications Systems West, MAPTEK, P&H Mining Equipment and Cate Equipment in this issue. Two new Vucurevich Presidential scholarship recipients and our 2011-2012 Lady Hardrocker Volleyball team scholar athletes with a 3.69 average team member GPA and the second-best record in Hardrocker history (27-5 overall) give us much to celebrate too.

We hope you will join us and celebrate Mines Pride in advancing the university here in the U.S. and internationally.

One hundred and twenty-seven years of excelling, innovating, contributing, and celebrating. Thank you all for advancing Mines and brightening our future as a world-class university.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Wharton', written in a cursive style.

Robert A. Wharton, PhD
President

Greetings Hardrockers!

This fall marks the 100th anniversary of the “M” on M Hill being constructed by many hardworking and dedicated Mines students and faculty of the day. Since our school's first mighty trek up from Rapid Creek, we have installed dozens of markers in the form of senior plaques – a tradition that continues to this day. Although time, weather, and whitewash have taken their toll on those historic markers, the memories and stories have lasted across the past century, including those that each of us recall from our days at the School of Mines.

This past year as your Alumni president, I added to my own collection of memories and stories, and was fortunate to see many old friends and make several new ones. As I approach the end of my year and prepare to pass on Grubby's pick and T-square to your next Alumni president, **Keith Mutchler** (ME71), I am reminded of the many dedicated Mines alumni who work every day to keep our traditions alive. Particularly, Dr. **Paul Gnirk** (MinE59) and **Tim Vottero** (Chem84) deserve so much credit for their tireless efforts on behalf of the Alumni Association. Additionally, my sincere thanks go to all the Board members and volunteer alumni who help to keep our School of Mines traditions going for the next generation of alumni. These traditions go beyond the beanies, senior hats, and whitewash – they include help with recruiting quality students, supporting academic departments and faculty, and returning to campus for career fairs and reunions.

As you consider your level of support for our alma mater, I ask that you continue to help with maintaining the quality students and talented faculty through recruiting and financial means. The efforts to develop NCAA Division II athletics are a great example of how scholarships for quality athletics programs can grow our enrollment with high-caliber student athletes. Similar situations exist with respect to the School of Mines CAMP program, undergraduate research, music, and many other extra-curricular activities. As Cheri and I have discovered in the past year, Mines alums of all ages have great pride in our school and our traditions. Please help further that proud image by considering a donation to the Alumni Association.

Our Alumni Association works closely with all these endeavors, and thanks to many “Dedicated Mines Alumni” we can continue to forward our mission. Our Association remains active and strong almost entirely on your generous support. As you read through this *Hardrock* celebrating the 100th anniversary of M Hill, please also note the many alumni in the stories and how they embody the same spirit and dedication of those “M” architects from 1912. We welcome your participation and support as one of the many dedicated Mines alumni. I look forward to seeing you at the next home football game, area meeting or all-school reunion.

Thank you for the opportunity to serve as your Alumni president.

Warm regards,



Joe Corbett (GeolE82)
SDSM&T Alumni President



*Joe Corbett (GeolE82)
SDSM&T Alumni
President*

UNIVERSITY CABINET

PRESIDENT

Dr. Robert A. Wharton

EXECUTIVE ASSISTANT TO THE PRESIDENT

Heather C. Hoffart

ACADEMIC AFFAIRS

Dr. Duane Hrnclir
Provost and Vice President

ATHLETICS

Dr. Richard "Dick" Kaiser, Director

FINANCE AND ADMINISTRATION

Timothy G. Henderson, Vice President

RESEARCH AFFAIRS

Dr. Ronald J. White, Vice President

SDSM&T ALUMNI ASSOCIATION

Tim Vottero (Chem84), Director

SDSM&T FOUNDATION

Mike Selzer (EE77), President

STUDENT AFFAIRS

Dr. Patricia G. Mahon
Vice President and Dean of Students

UNIVERSITY RELATIONS

Christy A. Horn, Vice President

GRADUATE EDUCATION

Dr. Antonette M. Logar (CSc85), Interim Dean

FACILITIES SERVICES

Thomas Blume, Director

FACULTY SENATE

Dr. Stanley M. Howard, Chair

HUMAN RESOURCES

Kelli R. Shuman, Director

CAREER SERVICE EMPLOYEES

Susan Eason, Chair

EXEMPT EMPLOYEES

Mike Keegan, Chair

STUDENT ASSOCIATION

Spencer Ferguson, President

South Dakota School of Mines and Technology does not discriminate on the basis of race, color, national origin, military status, gender, religion, age, sexual orientation, political preference or disability in employment or the provision of service.

ALUMNI ASSOCIATION BOARD OF DIRECTORS

PRESIDENT

Joe Corbett (GeolE82)

PRESIDENT ELECT

Keith Mutchler (ME71)

IMMEDIATE PAST PRESIDENT

Pete Birrenkott (ME71)

EXECUTIVE VICE PRESIDENT

Dr. Paul Gnirk (MinE59)

TREASURER

Mitch Slusarski (IE95)

SECRETARY

Tim Vottero (Chem84)

BOARD MEMBERS TO 2012

Casey Allen (ME94)
Dale Healey (IE06)
Dr. Mike Langerman (ME72)
Bryan Schumacher (CSc89)

BOARD MEMBERS TO 2013

Keld Ditlev (CE06)
Ron Jeitz (CE69)
Jerilyn Roberts (ChE99)
Bill Tucker (GeolE56)

BOARD MEMBERS TO 2014

Susan Banks (GeolE75)
Dr. Roger Kiel (GenE58)
Michelle Miller (ME01)
Brad Thrall (MetE86)

ALUMNI ASSOCIATION STAFF

ALUMNI DIRECTOR

Tim Vottero

ADMINISTRATIVE ASSISTANT

Dee Raymond

Alumni Association
Surbeck Center
501 E. Saint Joseph St.
Rapid City, SD 57701-3995
Office: (605) 394-2347
FAX: (605) 394-2383
E-mail: alumni@sdsmt.edu
<http://alumni.sdsmt.edu>

THE HARDROCK™ SUMMER 2012

The *Hardrock* is published semiannually by the SDSM&T Alumni Association and the South Dakota School of Mines and Technology Office of University Relations. The *Hardrock* is a trademarked name of the SDSM&T Alumni Association. Subscriptions are available free of charge. Submissions of articles, photographs, and artwork are encouraged but must include a self-addressed, stamped envelope to be returned. We reserve the right to edit submissions for style, clarity, and content.

For additional information, subscription requests, or address corrections:

South Dakota School of Mines and Technology
Office of University Relations
O'Hara Building
501 E. Saint Joseph St.
Rapid City, SD 57701-3995
(605) 394-2554
e-mail: mediarelations@sdsmt.edu

16,000 copies of this publication were printed by the South Dakota School of Mines and Technology and SDSM&T Alumni Association at a cost of 0.76 each.

Printed with Soy Based Inks



Recycled Paper containing
10% Post-Consumer Waste

Find us online at
<http://news.sdsmt.edu/hardrock>

STAFF

EXECUTIVE EDITORS

Christy A. Horn
Tim Vottero (Chem84)

MANAGING EDITOR

Fran R. LeFort

PHOTOGRAPHY

Katie Adkins
Brad Blume
Johnny Sundby
Devereaux Library

COVER PHOTO

Johnny Sundby

CONTRIBUTING AUTHORS

Kayla Gahagan
Michael LeFort

GRAPHIC DESIGN & LAYOUT

Greg Geiger



TELL US WHAT YOU THINK!

We value your opinions as we strive to continuously improve the *Hardrock* magazine. Take a brief anonymous survey at www.surveymonkey.com/s/YM6GCZ2

1. How do you commonly acquire information about the South Dakota School of Mines and Technology?
2. How often do you typically read an issue of the *Hardrock* magazine?
3. How much of each issue of the *Hardrock* magazine do you read?
4. How do you prefer to read your copy of the *Hardrock* magazine?
5. Please rate the quality of the *Hardrock* magazine.
6. Please rate your interest in receiving information about activities of the Alumni Association.
7. Please rate your interest in receiving information about university affairs.

PLEASE CONSIDER
THESE FEW, SIMPLE
QUESTIONS AND
TAKE THE SURVEY
ONLINE AT OUR
SURVEY WEBSITE
LISTED BELOW:

Visit  www.surveymonkey.com/s/YM6GCZ2

Please respond by September 1, 2012

FEATURED STORIES

Fall 2011 / Spring 2012
Commencements [p7](#)

M Hill:
A Century of Mines Pride [p8](#)

Stacy Collins' New Era
of Hardrocker Football [p10](#)

Mines Celebrates Native
American Community [p12](#)

Josephine Lee
Retires after 38 Years [p14](#)

Senior Design Team
Travels to India [p14](#)

Doug Aldrich's
Building Blocks [p15](#)

Hulls' Hallmark:
Jeane and John Hull [p16](#)

Fulbright Scholar
Dr. Scott Kenner [p17](#)

Dr. Paul Gnirk:
A Lifetime of Achievements [p18](#)

Autonomous Submarine
to Search for Life [p22](#)

New Master's in
Mining Engineering [p23](#)

IN EVERY ISSUE

SDSM&T President's Letter
[Inside Cover](#)

Alumni President's Letter [p1](#)

Points of Pride [p4](#)

Alumni Class Notes [p24](#)

Alumni Area Meetings [p35](#)

Alumni Memorials [p40](#)

GOVERNOR APPOINTS PRESIDENT WHARTON TO SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY



Robert A. Wharton, PhD, School of Mines President, and South Dakota Gov. Dennis Daugaard

School of Mines President **Robert A. Wharton**, PhD, has been appointed by Gov. Dennis Daugaard to the Board of Directors of the South Dakota Science and Technology Authority, which oversees the operation of the Sanford Underground Research Facility at Homestake in Lead.

"Dr. Wharton has been a strong advocate for the

Sanford Underground Research Facility and for research at the lab by scientists from South Dakota," the Governor said. "He will be a great addition to the Science and Technology Authority."

"I am honored by this appointment," President Wharton said. "The School of Mines and all of the other universities in South Dakota have a vested interest in the activities of the Sanford Underground Research Facility, and I hope to be able to represent

"I AM HONORED BY THIS APPOINTMENT."

those interests during my tenure. The future of the facility holds great promise for education, research and economic

development in the state, and I am looking forward to doing my part to realize that promise." Science and Technology Authority board members are appointed to terms of six years, subject to confirmation by the South Dakota Senate.

SDSM&T named among America's 100 Best College Buys

The South Dakota School of Mines and Technology was named one of "America's 100 Best College Buys" for the 14th consecutive year. This year's America's 100 Best College Buys is the 16th list published by Institutional Research & Evaluation, an independent research and consulting organization that specializes in the recruiting and retention of students. Each year the organization identifies the 100 colleges and universities in the U.S. that provide students with the highest quality education at the lowest cost.

Princeton Review: SDSM&T one of the 'greenest' U.S. campuses

SDSM&T is one of the most environmentally responsible universities in the United States and Canada, according to *The Princeton Review's Guide to 322 Green Colleges: 2012 Edition*. The School of Mines was the only university in South Dakota to be recognized. The campus houses three LEED Gold-certified academic buildings, and a renovation project in the LEED certification process, as well as a renewable energy research facility featuring a 20kW redriven turbine, a 2.4kW sky stream turbine and three photovoltaic panels.

Mines first organization to receive Seven Seals Award

The South Dakota School of Mines and Technology received the highly-coveted Seven Seals Award, recognizing its contributions to the Employer Support of the Guard and Reserve (ESGR) volunteer mission. It was the first Seven Seals Award given to an organization. The School of Mines was honored for supporting Dr. **Scott Amos**, professor and graduate coordinator for civil engineering and construction management programs, in his volunteerism with the ESGR. In his volunteer capacity, Dr. Amos is employer outreach and employment initiative director and logged more than 700 hours working with employers who share their employees with the Department of Defense.

Kulesa, Robinson awarded NASA research funding

NASA's Office of the Chief Technologist awarded one year of funding worth \$66,000 to South Dakota School of Mines and Technology student **Anthony Kulesa** (CE12) and advisor Dr. **Marc Robinson** for their research on composite materials for lunar structures. The award is renewable for a second year. The NASA Space Technology Research Fellowship Program provides support for graduate study leading to a research-based master's or doctoral degree in relevant space technology disciplines. Kulesa, of Warner, South Dakota, graduated in the spring summa cum laude. He will begin pursuing a Master of Science in civil engineering at the School of Mines in the fall. His research focuses on the development of advanced composite materials for use in extreme environments, which he began studying as an undergraduate research assistant under the direction of Dr. Robinson, assistant professor in the civil and environmental engineering department.

McLaury lab dedicated to L-3 Communications Systems West

The South Dakota School of Mines and Technology dedicated one of its robotics labs to honor L-3 Communications, Communications Systems West. Alumna **Susan Opp** (EE85) is the company's president and general manager. The McLaury Hall lab is utilized primarily by the Computational Sciences and Robotics (CSR) graduate program, and was dedicated to the Salt Lake City company because of its ongoing involvement with the School of Mines, as well as its equipment and monetary donations. Through interdisciplinary team mentorship programs, many undergraduate students benefit as well. Until recently, CSR was known as the Robotics and Intelligent Autonomous Systems (or RIAS) program.

American Coal magazine publishes President Wharton article about School of Mines

President **Robert A. Wharton**, PhD, published "Mining the Field of Engineering Education: A focus on the South Dakota School of Mines and Technology" in the spring 2012 edition of *American Coal* magazine. The article promotes the university's mining engineering program and collaboration with industry. President Wharton is a member of the National Coal Council and currently serves as an advisor to U.S. Energy Secretary Steven Chu.

Selzer takes reins at SDSM&T Foundation

Mike Selzer (EE74) has been named president of the South Dakota School of Mines and Technology Foundation. Selzer assumed leadership from acting president and board chairperson, **Lorin Brass** (MetE75).

Wright named associate vp for research-economic development

Joseph Wright has been named associate vice president for research-economic development. He came to the School of Mines from Sioux City, Iowa, where he served as director of technology transfer and business retention for The Siouxland Initiative.

SD Biotech Association highlights Mines research

Research initiatives at SDSM&T have been featured by the South Dakota Biotech Association in an article detailing the School of Mines, Center for Bioenergy Research and Development, and the Center for Bioprocessing Research and Development. Dr. **Robb Winter**, site director of the Center for Bioenergy Research and Development and head of the School of Mines chemical and biological engineering department, was interviewed along with Dr. **Law Christopher**, director of the Center for Bioprocessing Research and Development.

Mines students awarded most scholarships by SME

The Society for Mining, Metallurgy & Exploration awarded more scholarships to School of Mines students than to any other university this year. In all, eight scholarships totaling \$16,500 were awarded to five students from the South Dakota School of Mines and Technology. Student recipients were Brett Carlson of Rapid City; Mackenzie Marie Nolan of Davison, Michigan; Crystal Croston of Gillette, Wyoming; Christopher Peters of Dell Rapids, South Dakota; and Justine Victoria Sorensen of Vermillion, South Dakota.



Dr. Mike Langerman, head of the mechanical engineering department, from left, and Dr. Umesh Korde, Pearson Chair, were recognized at the reception along with benefactors Larry and Linda Pearson.

Dr. Korde appointed inaugural Pearson Chair in Mechanical Engineering

School of Mines President **Robert A. Wharton**, PhD, honored benefactors Linda and **Larry Pearson** (ME72) and mechanical engineering professor Dr. **Umesh Korde** at a reception recognizing their contributions and accomplishments. Dr. Korde was appointed the inaugural Pearson Chair in Mechanical Engineering, named for the Pearsons who in 2008 provided an endowment to establish the Pearson Professorship. "Thanks to generous benefactors such as Larry and Linda Pearson, the School of Mines enjoys a world-class research and teaching reputation. We are proud that our alumni go on to achieve high levels of success in their careers as well as give back to their alma mater to promote the growth and development of students and faculty alike. Dr. Umesh Korde is a worthy recipient of this prestigious Pearson Chair," President Wharton said. The Pearson endowment funds the education and training of engineers, as well as research that supports sound industry development practices with a focus on energy sustainability. This wide-ranging research includes the availability of energy resources; technologies required to extract, process, distribute and generate power from them; alternative and sustainable energy sources; and the best technologies and management practices for dealing with utilization efficiency and conservation of energy. Dr. Korde, who joined the School of Mines in 2003, has a global reputation for his research emphasizing the control and dynamics of systems oscillating in response to wave motion, particularly on optimizing their motion to maximize the absorbed power in real time. He has served as an associate editor of the journal *Ocean Engineering* since 2007. He was appointed as the inaugural Pearson Professor in Mechanical Engineering in July 2010. His current research projects include control of wave energy converters and deformable optics for space applications and concentrators for solar energy conversion. He currently teaches undergraduate courses in mechanical vibrations and sustainable energy systems. "I feel the institution and our department are fortunate to have benefactors such as Larry and Linda Pearson. This endowment will enable breakthrough research and undergraduate education projects of national

significance for decades to come, and I feel fortunate to have been chosen to be part of this exciting development," Dr. Korde said. Pearson is a retired senior executive with Tenaska Inc., one of the largest independent power producers in the United States. He continues to consult for and serve on Tenaska's board. Pearson acknowledged that reliable future energy initiatives need to be researched, developed and promoted. "We cannot think of a better place for this type of research and education to be conducted than at the School of Mines. We are honored to be able to support the School of Mines by establishing this endowed chair," he said. The Pearsons expect the Pearson Chair will be a leader of "multidisciplinary teams that will address society's need for affordable, sustainable, safe and clean energy." Generous donors to the university, the Pearsons are recognized at the School of Mines Foundation Co-Chair level for the *Building the Dream* campaign, an indication of a commitment of \$1 million or more toward the campaign effort.

Gribb, student chapter honored by ASCE

The South Dakota School of Mines and Technology student chapter of the American Society of Civil Engineers (ASCE) was named as one of five finalists for the Robert Ridgway Award, which recognizes the most outstanding student chapter in the nation. In addition, the School of Mines chapter was honored with the parent ASCE organization's 2012 Most Improved Award, and Dr. **Molly Gribb**, head of the civil and environmental engineering department, was awarded the 2012 Outstanding Faculty Advisor Award for Region 7. The student chapter also finished fourth out of 14 schools at the 2012 ASCE Rocky Mountain Regional Conference.

Johnson, Markon named Vucurevich Presidential Scholars

Students Kati Johnson, of Buffalo, South Dakota, and Ian Markon, of Rapid City, were recognized as two of the best and brightest School of Mines rising juniors from South Dakota as they were named John T. Vucurevich Presidential Scholarship recipients. Each received a \$6,250 scholarship from the Vucurevich Foundation. They were selected by School of Mines President **Robert A. Wharton**, PhD.



Lady Hardrockers spike their way into the record books

The Lady Hardrockers volleyball team finished the 2011 season with a 27-5 overall record, second best record in the university's history. The team led by Head Coach Tiffany McCampbell and Assistant Coach Jennie Malone, also achieved a 15-match win streak, 11-0 against all NCAA Division II teams, and enjoyed a home-court record of 7-1. The team swept one of its biggest rivals, Black Hills State University, in four meets for the first time since 2001. The Lady Hardrockers were victorious against Dickinson State for the first time in more than 13 years and defeated Jamestown College for the first time since 2007 in North Dakota, only the fourth home loss for the Jimmies since 2008. The Lady Hardrockers volleyball team was just as successful in the classroom. The scholar athletes averaged a 3.69 grade point average during the 2011-2012 academic year. In addition, team members also participated in a number of community service projects throughout the school year, including hosting free youth volleyball clinics and volunteering at the Rapid City Humane Society.

Team members are: Becky Keilhotz, Gwinn, MI, industrial engineering; Hannah Glocke, Centennial, MN, chemical engineering; Shea Thorson, Belle Fourche, SD, engineering; Janelle Strampe, Green River, WY, chemical engineering; Rachel Pekarek, Plymouth, MN, computer engineering; Jessie Guthals, Colorado Springs, CO, mechanical engineering; Brittney LaDue, Meadow, SD, interdisciplinary studies; Madisen Lane, Fort Collins, CO, civil engineering; Reanna Roberson, Windsor, CO, industrial engineering; Daygan Fowler, Lanigan, Saskatchewan, Canada, environmental engineering; Justine Blade, Rapid City, SD, interdisciplinary studies; Leanne Hinriches, Chadron, NE, chemical engineering; Anna Haneline, Plattsmouth, NE, paleontology/geological engineering; Ashley Ozzanne, Vivian, SD, interdisciplinary sciences; Sara Schmidt, Chaska, MN, chemical engineering; Carsyn Garcia, Greeley, CO, chemical engineering; Shelby Graffin, Fort Atkinson, WI, math/computer science; Carly Sandin, Greeley, CO, mechanical engineering.

Donations keep mining students on technology's cutting edge

The mining and engineering management department received three state-of-the-art equipment donations to help keep students at the forefront of mining technology. MAPTEK Inc. donated a laser scanner and 25 computers, along with software technology that produces a three-dimensional view of a mine to help with surveying and design. P&H Mining Equipment donated a simulator, allowing students to practice shovel loading during day and night operations and monitor machine warnings as well as productivity and overall performance. Cate Equipment donated a compressor, which powers the department's jackleg drills used to drill holes in underground mines. The donations dovetail into the \$1.25 million Mining Center of Excellence, a collaborative effort of the School of Mines and leading mining companies.

Mines student shines during NASA Space Center internship

School of Mines junior, Ryan Brown, has parlayed the same wow factor that earned him a \$10,000 NASA internship last spring into two additional tours of duty, at an entry-level

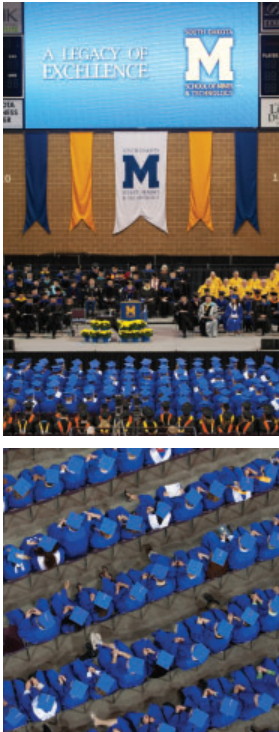
government position, before he graduates. The Rapid City computer engineering native spent 15 weeks last spring at NASA Johnson Space Center in Houston through a scholarship provided by the South Dakota Space Grant Consortium. In addition to his assignment of developing simulation software for astronauts to train for moon landings, he and a fellow student intern took it upon themselves to embark on another project that caught NASA's attention. They successfully accomplished three-dimensional head tracking in simulated conditions, which could lead to more authentic astronaut training. Brown, an eight-year U.S. Army veteran with more than six years in the Special Forces Command (Airborne) unit, served combat tours in Afghanistan and Iraq. "One of the lessons I learned from the military is that the more submersive it is the better training you will get," he said. Though he initially struggled with making an impact during his internship, Brown's accomplishments during his short time drove him to achieve. "It all comes down to nothing worth doing is ever generally easy." Brown will return to NASA for work during the summers of 2013 and 2014, hoping to continue developing his 3-D simulation design.



Seniors named to prestigious Leadership Hall of Fame

Six seniors from the South Dakota School of Mines and Technology were inducted into the 2012 Leadership Hall of Fame. This year's inductees were **Abigail Carda** (ACM12, IE12) of Sidney, Montana; **Anthony Kulesa** (CE12) of Warner, South Dakota; **Codie Hughes** of Huron, South Dakota; **Kelsey Koch** (Chem12) of Sioux Falls, South Dakota; Ariel Granillo of Chandler, Arizona; and Christopher Peters of Dell Rapids, South Dakota.

THE SCHOOL OF MINES WELCOMED CHIEF EXECUTIVES OF GLOBAL COMPANIES AS SPEAKERS FOR ITS FALL AND SPRING COMMENCEMENT EXERCISES



Fall 2011

Dr. Patricia D. Galloway, chief executive officer of Pegasus Global Holdings, an international management consulting firm, and the first woman to serve as president of the American Society of Civil Engineers, delivered the address for the 164th commencement on December 17. She received an honorary doctorate.

Dr. Galloway is a leader in the field of engineering and construction, and is regularly consulted by private and public organizations, the international financial community, the media, universities and professional societies. Her extensive credentials include licensure as a professional engineer in 14 states, Canada and Australia. Dr. Galloway serves on the National Science Board, and in that capacity she develops policies for the promotion of research and education in science and engineering.

Lukasz M. Dubaj (CE11, IS11) represented the student body during the ceremony. Dubaj emigrated from Poland to South Dakota in 1994, and after graduating from Central High School in Rapid City in 2006, he enrolled at SDSM&T. Dubaj was active in student organizations, student government, and community service throughout his tenure as an undergraduate student at the School of Mines.

Also during Fall Commencement 2011, five alumni were honored with Distinguished Alumni Awards: **D. Sherwin Artus** (GeolE60), **John W. Goth** (MetE50), **Larry V. Pearson** (ME72), **Maynard S. Raasch** (ChE37) and **Thomas J. Zeller** (ME70).



Spring 2012

John J. Ferriola, president and chief operating officer of Nucor Corporation, spoke at the 165th commencement ceremony on May 5. Ferriola has been active in the Association for Iron and Steel Technology for more than 20 years, including serving on its Board of Directors. He currently serves on the board of the Steel Manufacturers Association. He received an honorary doctorate.

He graduated from the Maritime Academy, State University of New York, with a Bachelor of Science degree in electrical engineering, and began his career with Bethlehem Steel Corporation in 1974. Ferriola joined Nucor in 1991 as manager of maintenance and engineering at the Jewett, Texas, bar mill and has served as general manager in Grapeland, Texas, vice president and general manager in Norfolk, Nebraska, and vice president and general manager in Crawfordsville, Indiana. Ferriola was appointed executive vice president in 2002, chief operating officer in 2007, and president and chief operating officer and a member of the Board of Directors in 2011.

Abigail M. Carda (ACM12, IE12), cum laude, was the senior class representative who addressed graduates and guests. Carda, from Sidney, Montana, was a student leader in the Institute of Industrial Engineers (president, 2010-2011), Orientation Week (co-chair, fall 2011) and the Tau Beta Pi engineering honor society (K-12 outreach co-chair). Carda was inducted in the 2012 Leadership Hall of Fame and was also involved in volunteer work with the Big Brother/Big Sisters Program in Rapid City, the Campus Kids program, and the mentoring program at a local elementary school.

Also during Spring Commencement 2012, **Doug Aldrich** (ChE62) received the Guy E. March Medal award for his positive interaction with students, the institution, and alumni. Read more about Aldrich and The Doug Aldrich Student Learning Center on page 15 of this issue.

M Hill:

A CENTURY OF BUILDING MINES PRIDE, ONE PLAQUE AT A TIME



BETWEEN WALKING AT his morning commencement ceremony and celebrating in a flurry of afternoon festivities **Jason Arens** (CEnG12) knew just where he wanted to be – on a mountain bike trekking to the top of M Hill.

Arens, who earned a computer engineering degree in May, spent many warm afternoons on the trails of one of Rapid City's most popular destinations during his time at the school, and graduation day was no different. His bike is a great way to get to the top, he said, where he can see a visible sign of his success. His name, along with every graduate of the School of Mines, is engraved on a plaque at the top of the hill. It's a time-honored tradition completed every year by the Alumni Association, drawing young and old alike back up the mountain – some to hike, some to reminisce and some simply to catch a glimpse of their name again. "It's really an honoring experience," Arens said at the base of the hill, as he loaded his bike back into his car and wiped a trickle of perspiration off his forehead. He's among thousands of School of Mines graduates who can hike to the top of one of Rapid City's most popular hills, stand at the foot of the letters and run their fingers over their name.

This October marks a milestone for what some in the community may still call "Cowboy Hill." It's been 100 years since the M was constructed by students and staff. M Hill

has continued to grow in popularity during the last century, thanks to increased access by better trails as well as its iconic traditions.

Etched in stone

According to the School of Mines Devereaux Library archives, construction of the M was a result of faculty and students seeking a means to attract attention to the institution. The treeless portion of M Hill seemed an ideal place. The letter M, originally mapped out in the fall of 1912, measures 112.5 feet in height and 67 feet in width. On October 8, 1912, students and staff started building the letter, using horses to carry more than 100 wagonloads of rock. Mines President **C.C. O'Harra** gave students a day off of school to construct the letter, said library Director **Patty Andersen**.

In 1922, the stones that made up the original M were replaced with concrete. According to library archives, a slab of about 160 square feet of concrete replaced the stones. Additional slabs were added each year. In 1953 the S and D letters on either side of the M were constructed by senior students. **Tim Vottero** (Chem84), Alumni Association director, said construction of the M was a big undertaking in 1922. "The students and faculty of the day were proud that the letters could be seen from 12 miles away," he said.

The tradition of installing the commemorative plaques included removing a section of the white rocks and setting the plaque in

fresh concrete. Each graduating class (since 1922) has a plaque on the hill, some of them with unique shapes and designs. Each plaque is taken to the top of the hill during M Week. Every five years, the Alumni Association hosts an All-School Reunion, and a commemorative plaque is placed above the letters as well. The last reunion was in 2010.

One plaque from the 1950s is in the shape of a gear, with the names of the graduates on the spokes. One is in the shape of an M, another is an oval. Vottero said, "The plaques are as much a tradition as the M itself." Weeding and maintaining the area around the letters and the plaques is something taken seriously each year, Vottero said, and respect for the Hill and what it symbolizes has been passed down from generation to generation.

M Week traditionally begins with the President's Blacklist Breakfast, when select freshmen dine with the president before climbing the hill to clean up the iconic M. In 1999, a work crew of alumni, students and faculty hiked to the top and replaced the original whitewashed rocks with fresh concrete into the bottom and left side of the D so it would show well under the lights, which were first installed in 2000 and first turned on just before that year's All-School Reunion. The letters were spray painted that year, and have been before every five-year reunion, so they look "bright and welcoming," he added.



WANT TO CELEBRATE?

- **WHEN:** NOON, OCT. 5, 2012
- **WHERE:** MARCH/DAKE PLAZA
- **WHAT:** Free barbecue hosted by the ASCE Student Chapter, followed by a surveying demonstration of how the M was laid out 100 years ago by civil engineering students



The 1999-2000 lighting project and the more recent refurbishing in 2010 were the result of numerous alumni, local companies and their in-kind donations, and dozens of volunteer hours totaling more than \$50,000 in labor and materials. The 2010 refurbishing replaced the wood poles installed in 2000 with steel poles. The lights come on at dusk and are set to go off around midnight every day.

Good memories

For Dr. **Howard Peterson** (GeolE50), known on campus as “Dean Pete,” M Hill will always have a significant place in history. More importantly, he said, it continues to play a role in the current traditions of students. Howard came to campus as a freshman in 1946, a time when a majority of the students were WWII veterans. During that time, the popular tradition of hiking to the top of the hill during M Week and whitewashing the letters was alive and well.

“That was a big thing,” Peterson said. “We walked all the way. We were told as freshmen to have a gallon bucket and to meet down at what was the old post office at six in the morning. We walked to M Hill, and ... we crossed the creek, dipped a bucket of water and carried it to mix the concrete for the plaque and to whitewash it.” He’s not the only one with vivid memories of activities on M Hill. **Lowery Smith** (GeolE51), who now lives in Minnesota, remembers climbing the hill in the late 1940s only to find some students in the middle of a risky prank.

Some of the students had managed to get an old model convertible on top of the hill. “They were driving it around the hill, and then they somehow started it downhill,” he said. “They had six to eight students in the vehicle and there wasn’t enough brake capacity to stop it as it went down the hill. Guys were bailing out of the vehicle and it crashed. The vehicle was moving pretty fast.” Thankfully, nobody was killed in the

prank, Smith said, and it remains one of his most colorful M Hill memories. Smith’s other memories are much tamer, including the many times over the years he has come back for reunions and has visited the M. “It’s harder to climb now because of my age,” he said. The hill has much better access because of an excellent trail system that crisscrosses the property. That wasn’t always the case, alumni recall. “It didn’t have very good access to the hill,” Smith said. “One time, we had to ford the creek there to get on the trail.”

Older alumni who return for reunions every five years are offered rides to the top. Smith is proud of that nice gesture, as well as other changes, especially the lights. The hill, he said, gives the city and the school identity. “It stands out for the city,” he said. Peterson not only took part in the M Hill traditions as a student but witnessed their continuance as he returned to the school in 1957 as assistant dean of students. He later became dean and served from 1969 to 1992. “That was very important to me,” he said. “It was important to anybody who’s gone to the School of Mines.”

Dr. **Pat Mahon**, current dean of students, agrees. Students are no less excited about the M and M Hill today than they were during Howard’s days. “The students talk about tradition,” she said. “They love it, and they look forward to it.”

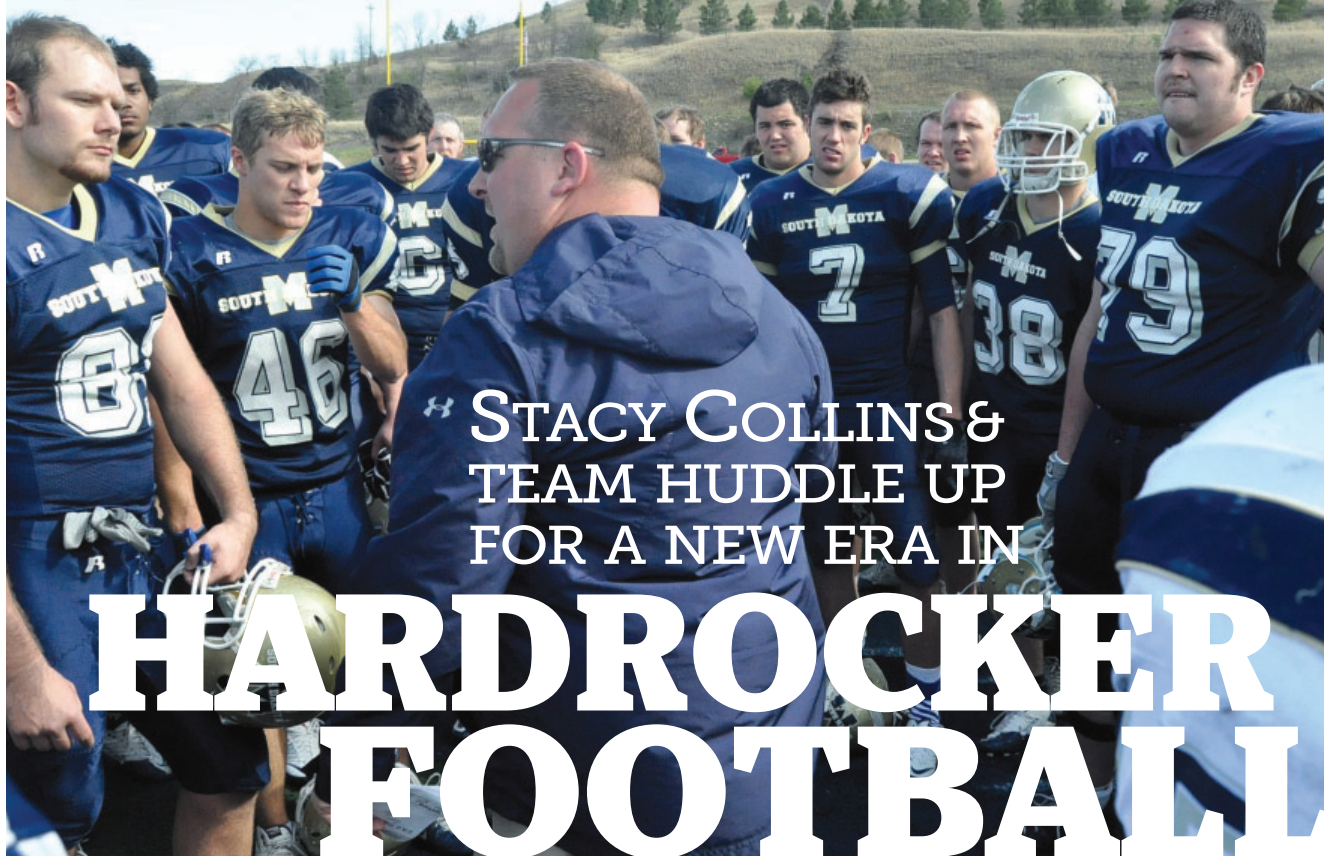
Andersen said the M Hill hike and whitewash activities traditions have stood the test of time. “It’s one of the four to five real traditional things for them that go way back,” she said. Peterson, who still lives in Rapid City and gets back to campus whenever possible, hopes that even if traditions at the school evolve, there will always be a respect for M Hill. “Things are going to change; traditions change,” he said. “At the end I hope it will always be there. Now there are so many coats of whitewash on my plaque, you can’t see the names anymore, but at least you know your plaque is there and your name is there. That part is neat and special.”

A hike on the hill today

M Hill today still has the same quiet presence hikers sought a century ago. The top of the hill is accessible by multiple trails. Biking and hiking trails zigzag the landscape, which begins at the base of the mountain with prairie and climbs into a forest of mostly Ponderosa Pine. The land where the letters now reside is part of 13 acres that were gifted to the School of Mines Foundation from the Lien family, Vottero said. Most of the land surrounding the hill has been permanently established as a public park, encouraging the public to take advantage of the hill, which offers a panoramic view of Rapid City. “M Hill has gotten a lot more traffic over recent years, and that’s a good thing,” Vottero said. “People are enjoying the beautiful vistas and trails.”

On graduation day, several students brought friends and family to the hill – some for the first time and some for what they think could be their last if their life journey takes them afar. May graduate **Reanna Roberson** (IE12) took to the hill with family and friends just hours after the ceremony. It was the first time she had been to the hill, although she had heard the stories. She played on the volleyball team, and sliding down the letters on a Frisbee during the whitewashing was discouraged by coaches, she said, because of possible injuries. Now, she was on her way to finally see the letters firsthand.

On Jason Arens’ graduation day, the trails were familiar and fun. He visited the hill with his family the day before and has several relatives who also have their names etched into one of the plaques. It gives him a sense of pride to know he now shares many of their memories – and their legacy. “It will be something I talk about,” he said. “My name, always on a hill in Rapid City.”



STACY COLLINS & TEAM HUDDLE UP FOR A NEW ERA IN

HARDROCKER FOOTBALL



Dan Kratzer, who retired in June.

And if the 56 returning players from last season think practice is frenzied, they should have been around Coach Collins as he quickly began assembling a coaching staff and then spent most of January on planes recruiting players for the upcoming season.

But by Easter weekend, his coaching staff was completely in place, he had signed about 30 recruits, and his wife, Mande, and their three young daughters had arrived. Whew. If anyone was up for that level of intensity, it was Collins.

He is a high-energy, enthusiastic leader in his first head coaching position, and he has surrounded himself with a like-minded staff which is evident during the short, hurry-up scrimmages this morning, accelerated by the coaches' cries which echo off the hills: "Let's go! Get to the line! Go, go, go!"

Collins' attitude and energy is just one of several reasons he was selected as the new coach of the Hardrockers. "(Collins) wanted the job from the get-go," explained Mines Athletic Director **Richard Kaiser**. "He recruited us. This was where he wanted to be. He brings a new energy." His practices reflect that energy. "We're going to be moving," said Collins. "We're going to create tempo with how we play football; we're not

going to wait and allow other teams to dictate our tempo. We'll be an aggressive offense, defense and special teams."

"We want to keep it simple, we want to keep it sound, and we want them to play fast." The players have noticed. "He's brought an intensity to practice," said junior Patrick Shaw. "He makes us want to play for him and play for each other."

"I can speak for the team that there's definitely a sense of excitement," said senior Jonathan Tristao. "Part of that is on our end, part of that is on the coaches' end. They came in here with high energy, a lot of focus, making sure that football was a priority."

During spring practice, Collins has the chance to help erase memories of last season's 1-10 run from returning players like Shaw and Tristao. Erase, actually, may be the wrong term; Collins prefers not to acknowledge it. He and his coaching staff weren't here; nothing can be done about it, so move on.

"I get asked that question a lot: 'What about last year, what about last year, what about last year?' " Collins admitted. "I told the kids I could care less about what happened last year. It's a clean slate for everybody. We're just not going to talk about it. We don't have the energy, we don't

It is 6 A.M. on a Thursday, and the sun has barely risen, as have the 50 or so young men on the Dunham Field turf. But if they weren't awake when they arrived at the stadium for football practice, Offensive Line Coach **Ken Ackerman** was there to help them. "Stop taking so long to get in your stance! Do it again! Ready! Ready! Go!"

Welcome to Mines football, the era of new Head Coach **Stacy Collins**, and what he kindly refers to as "controlled chaos," also known as spring practice. Collins packed up and brought that chaos east from Oregon, where he was Portland State's assistant head coach before being hired by South Dakota School of Mines and Technology in December. He replaces Coach

2012 HARDROCKER FOOTBALL SCHEDULE

Aug. 30	at University of North Dakota, 6 p.m. Grand Forks, ND
Sept. 8	vs. Colorado Mines, 6 p.m. home
Sept. 15	at Jamestown College, 1 p.m. Jamestown, ND
Sept. 22	vs. William Jewell College (M-Day), 5 p.m. home
Sept. 29	at Valley City State, 1 p.m. Valley City, ND
Oct. 6	at Missouri Southern University, TBA Joplin, MO
Oct. 20	vs. Presentation College, 1 p.m. home
Oct. 27	vs. Fort Hays State University, 1 p.m. home
Nov. 3	vs. University Nebraska-Kearney, 1 p.m. home
Nov. 10	vs. Missouri Science and Technology, 1 p.m. home
Nov. 17	at Black Hills State, 1 p.m. Spearfish, SD



have the time to talk about something we have no control over.”

And that’s the way he’ll proceed with the 2012 season and the challenges which may lie ahead for the Hardrockers as they continue the transition to NCAA Division II. “We try and make everything a week-to-week season. I know it’s cliché, but that’s the way you gotta live it in this profession. Whether we win or lose, after Saturday’s game, it’s celebrate for 24 hours or we get over it in 24 hours. But when we go back to work after 24 hours, that game is behind us. Win the day. Let’s focus on what we can do today and get better today. If we can do that, I think we’ll be in good shape.”

But it isn’t just the positive attitude that Collins has brought to the School of Mines. He is committed to having his players be involved in the community. They have already hosted a successful blood drive, youth football camp and have volunteered their time for the state’s Child Identification Program and Habitat for Humanity. Collins feels it’s important for his players to give back to the community, but he also knows volunteerism is an invaluable team-building exercise.

He is also committed to the classroom, and runs what he calls a cap-and-gown program. His position coaches meet with their players every Monday at 7 a.m. to review their schoolwork and help them manage their time.

“We run a study-table program here, but the days of throwing 60 guys in a room, shutting the door and saying, ‘Study.’ That’s just a punishment. (Our players) meet with their tutors; they meet with their counselor; they meet with their professors. I really want to make it interactive so that it’s successful,” Collins said. “Our No. 1 goal is for them to earn their degree when they leave here.”

He understands the type of student-athlete the university must attract, having been defensive coordinator at Mines in 2002 (back when there were only two

full-time coaches throughout all sports; now there are six). “We want to do a great job in our backyard, but the reality is there is only going to be a handful of kids who can be academically successful at this institution and be successful in Division II within this radius.” And so Collins has expanded that radius, taking his Mines message nationally to recruit the kinds of football players he feels he needs (“bigger, faster, stronger”) in order to compete in NCAA Division II. And he travels the country knowing that if he can convince a high school senior to visit the Rapid City campus, he is highly likely to sign them.

“A lot of these kids don’t know the Black Hills, but once we show them the facts, it sells itself. And once we get them on campus, it’s phenomenal. The student-teacher ratio, the placement rates, the average starting salary ... it blows their minds.”

“The student-teacher ratio here is like 13 or 14 to 1. They are going to be working with the professor; it’s not going to be a student assistant. They get that attention when they go to school here, and that separates us from other schools. Our student-athletes are not going to be in an auditorium with 500 other people, and you’re not going to be No. 7,789. That sells itself.”

Collins feels he is a pretty good recruiter, so it’s little wonder he was able to sell the most important recruits on moving to the Black Hills: his family. “They were excited. I sold it hard, you know. I sent them some pictures of the ice rink downtown. My middle daughter was learning about (Mount) Rushmore at school, so they were fired up.”

The first-time head coach works to make time for his family. He finds that his three daughters – Kayla, 8, Mackenzie, 6, and newborn Kylee – provide him an important change of pace to his day job. “I tell people I have 100 sons and three daughters,” he says proudly. “And the girls keep me balanced. They know what I do, but I really try to make sure that when I walk in that door, I want it to be their time. Their time with

me is limited because of the hours I work, so I want to make sure I’m giving them everything I can.” Which is no different than what he asks of his ‘sons,’ who are now trudging back to the locker room, another hour of chaos in the books. It is 7 a.m., morning practice has concluded, but for Collins, it’s just the start. He knows he has limited time to mold these players into a competitive Division II football team before they open their season at the University of North Dakota on August 30.

“He just goes non-stop, 24/7,” observed Kaiser. “I’ve asked him ‘Coach, when do you sleep?’ He answers, ‘I don’t have time for sleep.’” Perhaps that shouldn’t come as a surprise for a man with 100 sons and three daughters.

HARDROCKERS GIVE BACK

Among the Hardrocker football team’s many service projects during the spring was hosting the first Mines Community Blood Drive. Its success resulted in the largest drive in the university’s history. United Blood Services collected 107 life-saving units of blood from 84 donors, exceeding the goal of 75 units from 65 donors.



MINES CELEBRATES WITH NATIVE AMERICAN COMMUNITY



Tiospaye scholars, from left, Jeramie Dunn, Rosebud Sioux Tribe; Natasha Begay, Navajo Nation; and Santiago P. Handboy, Cheyenne River Sioux Tribe, received one of the highest honors in Native American/Lakota society, an eagle feather or eagle plume, when they graduated from the School of Mines in May.

WHETHER INDIVIDUALLY GUIDING students or quietly partnering behind the scenes, there are many ways the South Dakota School of Mines and Technology faculty and staff engage our Native American community to create unique opportunities.

Among current projects are the Tiospaye Scholars Program, which provides a multifaceted support system for students throughout their college careers; a research effort aimed at ultimately providing clean, affordable energy to the Rosebud Sioux Reservation; sharing of faculty expertise on a cooperative engineering education program with Oglala Lakota College (OLC); and the Build-A-Computer Program which engages high school students in computer design and serves as a recruiting tool for not only the School of Mines but for engineering careers.

Tiospaye scholars

It has made a lot of sense for the Lakota term “Tiospaye” to serve as the name of the School of Mines Native American scholarship program. The program, started four years ago and funded by the National Science Foundation (NSF), is aimed at providing multiple levels of support to Native American students and boosting the number of those who graduate from the university in science and engineering.

Tiospaye, which means family,

extended family, or support system in Lakota, was a perfect name, said Dr. **Carter Kerk**, director, because that is exactly the kind of support system he hopes the program offers students. “When we go to the reservation and talk to families, they already know what we’re talking about,” he said. The program focuses on providing students with financial, academic, professional, cultural, and social support as they take classes and navigate their post-secondary education, and eventually seek careers in science and engineering, or other professions.

The NSF provided the university with two five-year, \$600,000 grants for engineering and science majors, and 5 percent of that funding goes toward scholarships for students. Native American students who qualify academically and financially, agree to a mentorship program and academic support, and receive up to \$8,000 a year to study engineering or up to \$10,000 a year to study science. So far, six scholars within the program have graduated from the university. Students are assigned a mentor with whom they meet once a week. Scholars meet with Dr. Kerk once a month, and they get together as a group every other week to hear speakers, learn about educational opportunities, and get to know other scholars. Students

are also provided with additional study sessions in core classes.

Jeramie Dunn (MinE12) looks for the program to significantly impact the lives of fellow native students as it did for him. The 34-year-old mining engineering major, of the Rosebud Sioux Tribe, is one of three Tiospaye scholars who graduated in May. He and the two other graduates, **Santiago P. Handboy** (IEEM12), of the Cheyenne River Sioux Tribe, and **Natasha Begay** (IEEM12), of the Navajo Nation, were bestowed among the highest honors in Native American society, an eagle feather or an eagle plume, at the spring feathering ceremony. Dunn secured a job at Cloud Peak Energy in Gillette, Wyoming, and said he is fully aware of what having the degree means.

“With or without the program, I knew how important this education would be for me,” he said, adding the Tiospaye program “has made such a huge difference in my life. ... They set up quite a support system.” Dunn didn’t graduate from high school, though he later earned a general equivalency diploma, and had been out of school for 12 years when he quit his job as a restaurant manager to pursue an education. A married father of two, Dunn said he wanted to set an example for his children and support his household. He said he understands



the challenges many native students face when they come to the university. "It's a daunting task to get them to come in and stick to it, especially given some of the situations and backgrounds they're coming from," he said. The program will help, he said, but ultimately students have to want the education. "(Dr. Kerk) really created a program that I think should increase the numbers."

Rosebud tribal energy research

The School of Mines and Sinte Gleska University, which is located on the Rosebud Sioux Reservation, have been awarded \$210,000 for a three-year collaborative research project that will not only expose students to important scientific research methods, but could potentially improve the quality of life for those on the reservation and increase economic development opportunities. The research team will employ computer modeling and simulation technologies to evaluate the feasibility of oil and gas development from the Niobrara Formation on the Rosebud Sioux Reservation. Through this project, students will develop skills in applied energy-related research involving computer simulations, chemistry, geology, and petroleum engineering.

From a practical standpoint, a new energy source is desperately needed, according to Dr. **Foster Sawyer** (GEOL90), assistant professor in the geology and geological engineering department, who is heading the School of Mines efforts. "A few years ago we had a really bad winter. Many people were stranded in their homes on the reservation with no heat during a blizzard, and emergency personnel were trying to bring them wood to burn to keep warm. If we can bring clean, affordable energy to these tribal lands it would make a huge difference in their lives," he said. The School of Mines and Dr. Sawyer, whose background includes petroleum exploration and oil and gas related work for the state, will use state-of-the-art reservoir modeling software to process existing well data and other geologic

information to identify and define characteristics of potential reservoirs on the Rosebud Indian Reservation. Such potential sites could be thousands of feet deep, which would cost a significant amount of money for a company to harvest. "There is a lot to developing hydrocarbons – from the scientific side, economic side and industry viewpoint, as well as market conditions. But we do have history that shows there could be hydrocarbons out there, and now, especially with new techniques such as horizontal drilling and hydraulic fracturing, it may be possible to develop these resources." Research funding was awarded for three years through the Department of Energy's American Indian Research and Education Initiative. The School of Mines and Sinte Gleska will each receive \$105,000.

Sharing faculty expertise

Dr. Sawyer is also involved in the School of Mines cooperative effort in which Mines faculty teach at Oglala Lakota College to attract more Native American students to engineering fields. The School of Mines received an \$825,000 NSF grant for its role in an educational experiment entitled OLC/SDSU/SDSM&T Pre-Engineering Education Collaborative (OSSPEEC), in which OLC, Mines, and SDSU faculty offer classroom and online instruction at all three institutions. The effort is designed to help Native American students acquire basic engineering training as freshmen and sophomores while they are enrolled at OLC. The goal is for students to then transfer to the School of Mines or SDSU where they can choose from a variety of engineering programs. A fundamental component of the program is a concept in which students pursue projects that benefit their communities. Examples of projects already under way include reparation of a deteriorating memorial wall that honors veterans and working together with the Tribal Environmental Protection Program to assess the health of streams and riparian environments on the Reservation. The

five-year NSF grant also awarded \$1.25 million to OLC and \$825,000 to SDSU.

Build-A-Computer

Adonnis Martinez planned to take advanced classes in high school, but the promise of a free computer strengthened his commitment. Martinez is one of several Native American high school graduates who have benefited from a partnership between two local high schools and the School of Mines Build-A-Computer Program.

Students from Central High School in Rapid City and Red Cloud Indian School on the Pine Ridge Indian Reservation meet with Mines computer science majors, who help them build a computer part by part. Students meet three or four days, in four- to five-hour sessions. "They really have to commit to this," said Program Coordinator **Royia Hrcir**. Central High School graduate Martinez built his computer, used it in high school, and then brought it with him to the School of Mines where he is now a Tiospaye Scholar. "I wanted the computer, so it motivated me to graduate," he said. The program is funded by corporate sponsors and has been a successful way to prepare high school students for college. Once students complete the building portion of the program, they are asked to return to future "builds" to encourage other students. It's also a good recruiting tool, as Mines faculty and staff meet with students to talk about their post-secondary plans and inform them of the college application process. "We'd love to have them come to Mines," Hrcir said. And many do. Currently, 25 high school students are in the program. Of the six prior participants who graduated before this year, five are in college and one is in the military. Of the five in college, four are at the School of Mines. The program also teaches necessary workplace skills. One student interned at Microsoft before being offered a permanent job. He was told some of the skills he honed through the Build-A-Computer Program made him an attractive job candidate. "That says something about our students," Hrcir said.



COLORFUL PROFESSOR: Lee looks for new discoveries after 38 years

ON A CAMPUS with hundreds of math and science courses, the humanities may seem like a digression. But the integration of well-designed communications courses molds students into well-rounded graduates poised to quickly move into engineering management roles.

Enter **Josephine Lee**. After 38 years of teaching at South Dakota School of Mines and Technology, Humanities Associate Professor Josephine Lee retired this spring at the age of 72, taking her unique teaching style and southern accent with her. She can be blunt, outspoken, and admittedly politically incorrect. Most importantly, she is beloved by many of her students and will be missed by many, many more.

Lee was born in Tennessee, raised in Mississippi, graduated from the University of Southern Mississippi and spent a year teaching junior high school in New Orleans. She decided to move to Rapid City where she had a good friend stationed at Ellsworth Air Force Base. "I had never been out of the Deep South," she admitted. She got a job teaching at Rapid City's South Junior High School and spent five years there, before leaving to get her master's degree at Arizona State University. She returned to the Black Hills looking for work. And a unique, and informal, opportunity presented itself when School of Mines English Professor Dr. **John Dunn** asked if she would be interested in teaching a course at the university. "I was never really interviewed, never went through the process," she said. "I just picked up a class,

then another class, then another class, and pretty soon I was full-time. I was never tenured, always been on a term contract for 38 years."

Her teaching career at the School of Mines was briefly interrupted in 1987, when enrollment at the university began to dip. Her teaching position was eliminated, but Lee was given the opportunity to establish the Tech Learning Center, which offers tutoring services in a single room in the Surbeck Center. She spent the next five years growing what is affectionately known and marketed as the TLC, until university enrollment began to rise again. When asked to rejoin the teaching ranks, Lee said she "came running with joy in my heart." It's that joy that made her popular with many of her students. "If we're going to teach English to engineers, we have got to love teaching English to those students, and Jo loves those students," observed Dr. **Sue Shirley**, department head for Interdisciplinary Sciences. Those who liked Lee were often those with a sense of humor who appreciated her colorful style, said Shirley. "Students affectionately referred taking a course from Jo to be 'the Jo Lee experience.'"

"Our students are achievers," Lee said of the School of Mines student body, "and they never cease to amaze me if you just give them the opportunity to do it. They'll often go beyond what's required of them."

Lee will miss the humanities faculty, whom she calls "the best we've ever had." But what she will miss the most is "the responsibility of having a full-time job and being expected to do it well and being appreciated for doing it well." And so she retires with plans to ... well ... "I don't have the faintest, earthly idea, and I am scared," she admitted. "How many crossword puzzles and Sudoku can a person do, and how many books can I read?"

So why retire with no grand plans pending? "It's time to give someone else a chance to do this. Don't retire into your profession," she said. She wants to spend this Christmas in New York City ("I like cities. I think it's curiosity ... everyone out there has a story and you're wondering what it is."). But not much else is on the agenda for the retired 72-year-old professor. That could mean she'll take a cue from her own unique teaching style, and make discoveries along the way.



TEAM INDIA: Senior design project takes flight

PROFESSORS AT THE School of Mines are known for challenging students to think outside the box, and it is exactly that kind of creative thinking that got a special senior design project off the ground. Drs. **Kyle Riley** and **Toni Logar** (CSC85) had a clear vision of an international project as they set out to win a grant from Rockwell



Dr. Kyle Riley

Collins for a senior design team, and their steadfastness resulted in a unique opportunity for three top computer science majors. While most industrial sponsors will donate hardware or software (or the money to purchase it) for a senior design team, Rockwell

Collins gave \$15,000 to School of Mines students and their sponsors to travel to its India campus.

All School of Mines engineering and computer science majors are required to participate in two consecutive semesters of senior design work. In the past, other teams may have had one international component but not the entire project, according to Dr. Riley, head of the mathematics and computer science department. Students **Colton Manville** (CSC12), of Lyman, Nebraska; **Ethan Robish** (CSC12), of Revillo, South Dakota;

and **Michael Slezak** (CSC12) of Katy, Texas, designed an automated script generator for flight management system testing in India. Colton Manville explained their design in more practical terms on a blog where the group documented its work and travels. "Instead of sitting in front of a physical flight management system (FMS) and pressing buttons until something breaks (or, hopefully, the FMS passes all the tests), a Rockwell engineer can write a script that is executed on a PC that is simulating a virtual flight management system," Manville wrote to his readers.

While the software programming aspect of the project was vital to student growth, equally emphasized was the ability to gain a more worldly perspective in an increasingly globally competitive market. "We went to them and said, 'We have students who can code really well but may not have had global experience.' We selected India because it's most diverse in terms of cultural experiences, and English is its official language," Dr. Riley said. "Ninety-nine percent of what they do for senior design teams is fund equipment – they didn't have this idea for travel." Indeed, Arlen Breiholz, Rockwell Collins principal systems engineer in Advanced Technology, gives credit to Riley for making the travel experience a reality. "The message from Dr. Riley kind of came out of the blue to me," Breiholz said. "... I tried to steer him into the 'We buy hardware' line, and he didn't want to bite on that. It turned out to be a good thing."

"The manager in India assigned people to work with these students, and it began to work a little bit like a real project, which was ultimately good," Breiholz said. "We gave them our processes and actually trained them so the students could perform up to the standards we would expect."

Faculty advisors Drs. **Ed Corwin** and Logar guided students throughout the design process, which began last August and involved weekly late-night and early-morning telephone meetings to accommodate for the time difference. They accompanied the team on the nearly three-week trip to India, where students presented their findings and collaborated with Rockwell Collins engineers.

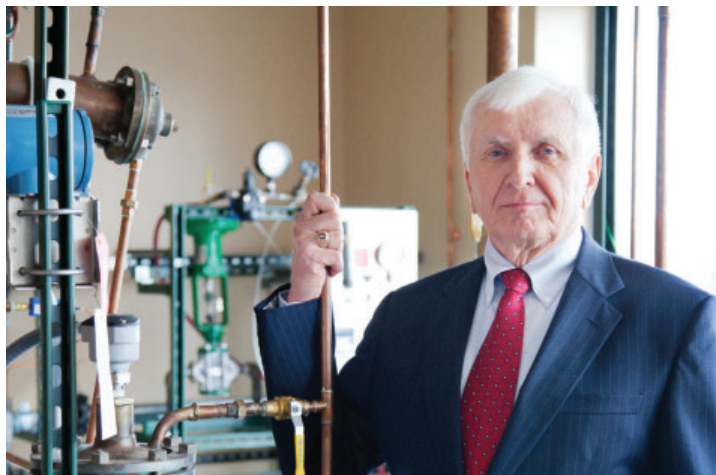
Read highlights from their travels:

➤ <http://sdsmtindia.wordpress.com/>

BUILDING BLOCKS: 50-year graduate Aldrich always ahead of the times

ON A CHILLY February morning, **Doug Aldrich** (ChE62) sits in his room reflecting on his life. He graduated from the South Dakota School of Mines and Technology in 1962, but he never really left. And, while it's cold out on this particular morning, Aldrich is anything but. His room is The Doug Aldrich Student Learning Center, the very place he sat studying one day 52 years earlier when the two-story unit operations lab caught fire across the hall, filling the building with smoke, forcing him to escape through a tiny window. He is on his way back to his Colorado home after the room dedication ceremony, a nod of appreciation to the immeasurable talents and time he has shared with the university. On this morning, he stopped in for what was to be a half-hour reflection on his life and times at the School of Mines. Two hours later, he left to catch his plane.

He has many stories to share, as well as wisdom. And he's imparted plenty of both over the years. After graduating from the School of Mines and a two-year stint in the military, Aldrich established his career with Dow Corning. He served the company for 38 years in numerous capacities. One of his roles was a company recruiter at the School of Mines, where he interviewed 1,041 students, hiring 83 of them. His involvement with Mines didn't stop there. He wrote a popular recruiting manual, still used today, to help students in their job search and find success in their new careers. He helped develop the technical communications curriculum, presided over the Alumni Association, and served on the University Advisory Board and the first chemical engineering Industrial Advisory Board. He secured lab equipment donations. In 1998, Aldrich was recognized as one of the university's four inaugural Distinguished Alumni Awardees and, in 2001, was bestowed an honorary doctorate in humane letters by the School of Mines. Most recently, during the 2012 spring commencement, he was awarded the



Guy E. March Medal, yet another prestigious honor given to him in recognition of his many gifts to his alma mater.

But perhaps his lasting legacy will have been lending his building-design expertise to the university's new Chemical and Biological Engineering and Chemistry Building, opened in January 2011. Ever the progressive thinker, Aldrich seems to see a new building almost as a metaphor for life, one that should be approached with a spirit of open-mindedness, cooperation, and collaboration. "Designing for the future is very important, particularly if you want to change attitudes and break down barriers. A school that teaches innovation should be practicing innovation," he explains. "To me, my front-room business is to communicate with lab people about the speed of change, not just how much it will cost." So he pulled from his experiences designing modern, adaptable facilities worldwide for Dow Corning and did the same on a smaller scale for the School of Mines. Aldrich offered consulting work, much of it pro bono, ensuring the design was made to advance with technology, the times, the students.

Aldrich emphasized an open-plan format that facilitates communication, builds teamwork, promotes the sharing of talents and, ultimately, if in an industry setting, would yield a faster product to the marketplace. His adaptable labs are sprinkled with conference rooms. "It's the serendipity that people love. When people work together they build a confidence and a trust, and it's a lot easier to solve problems. These students are going to be in that kind of team-building environment in the future. That's how innovation occurs in industry, so why not teach that to students now?" His input resulted in an expansion-ready design before earth was ever moved. Apropos for a man whose mantra to Mines students has been: Expand your horizons. "I try not to let any grass grow under my feet, and I have tried to be an ardent learner."

HULLS' HALLMARK: Dedication to each other, alma mater

In 1977, she was the one with the purple coat who caught his eye. Today, she is **Jeane Hull** (CE77), executive vice president and chief technical officer for Peabody Energy, and he is **John Hull** (MinE77), vice president of domestic transportation for Peabody.

They have been married 35 years, a relationship that began during their junior year at the School of Mines, when John learned that Jeane had broken up with her boyfriend. They had known one another since their freshman year, but the news of Jeane's new availability was all John needed to hear. "That sort of reignited me," recalled John, who asked Jeane to accompany him to his fraternity's spring formal during their junior year. "I was pretty persistent."

The relationship blossomed and culminated two days after their graduation in 1977, when they decided to get married before leaving for Oregon to embark on their engineering careers. Their careers have taken the couple across the country and back, working for many companies now owned by Rio Tinto, until they left to take positions with Peabody in 2007. They have retained a strong connection to SDSM&T. They are trustees on the Foundation Executive Board, and are benefactors in the university's *Building the Dream* campaign. John serves on the mining department's Industrial Advisory Board and Jeane recently joined the University Advisory Board.

Their experiences in the same field have helped them build a solid personal relationship. "The thing about us both being in the mining industry, it gives us a common understanding of the challenges the person is facing," said Jeane. "We've been able to support each other with a lot deeper understanding than maybe couples who aren't in the same line of business." In 2000, Jeane



Photo courtesy of Peabody Energy

became the first female coal mine manager in the United States, which wasn't without adjustments. "I'd be lying if I didn't say there were a few situations which occurred, but I think whether you're a young male or female mining engineer, you've got to prove yourself," she said. "My perspective is that you let your work show your qualifications. "When I started out in the mining industry, my first job was as an underground surveyor, and back then (1980) there weren't that many women who worked underground. So everything from your personal protective equipment to trying to get mine boots or mine belts that would fit women ... that stuff wasn't designed with women in mind. You just dealt with it."

The mining industry has presented far greater challenges than simply mining boots. The industry suffered through a sharp decline beginning in the mid-1980s, which in turn forced the closure of a number of university mining programs across the country. "The industry was struggling, and the mining department was fighting for its life really," recalled John, who noted there were only a "handful of students" still in the School of Mines mining program in 2000. That compared with approximately 80 students who were in the program when John graduated in 1977 with his mining engineering degree. "The recession was a big part of it. Commodities prices were in the tank, and international mining itself was struggling. So there just wasn't much growth, and the demand for jobs obviously was not there," he said. "In 2000,

it kind of hit bottom."

It hit bottom for the School of Mines as well, which was considering dropping the mining degree program. That was when the university's mining Industrial Advisory Board was formed, and it began actively reaching out to former graduates to help save the program. In 2005, John joined the advisory board. Two years later, he and Jeane donated \$200,000 which helped establish the Hull Professorship in the mining department. "Because of what the department went through, the program had lost some of its stature," said John. "What this professorship does is it allows for seed money for the department head to fund those types of things which he thinks will make a difference to have a strong robust program," said Jeane. "It gives them a lot more flexibility to maintain the health of the program going forward."

And the Hulls' donation has already helped make a difference. The mining program was re-accredited in 2010. And this fall, the university will begin offering a master's degree in mining engineering under the leadership of Dr. **Charles Kliche** (MinE74). "The (mining department) is very vibrant, and they have over 100 students in the program now," noted John. "It's been the advisory board and department head **Shashi Kanth** (M.S. MinE93) who have been instrumental in growing and rejuvenating it." And they've done so with some assistance from the coed in the purple coat and the persistent mining engineering major.



MINES SHARES EXPERTISE TO MITIGATE FLOOD DAMAGE

It took only hours after the governor phoned President Wharton for Dr. **Scott Kenner** (CE77) to head toward Pierre to be part of a team to help mitigate last summer's flood damage. As the Missouri River continued to swell, multiple communities – including Pierre, Ft. Pierre and Dakota Dunes – faced destruction from rapidly rising waters. But Gov. Dennis Daugaard knew just to whom he should turn, President **Robert A. Wharton**, PhD, and the School of Mines' expertise.

Dr. Kenner, who teaches water resources and civil engineering at the South Dakota School of Mines and Technology's civil and mechanical engineering department, jumped at the chance to volunteer his expertise after the governor personally requested his assistance. "You've got to be willing to do that," Dr. Kenner said. "I talked to the governor and we talked about logistics, and I simply drove to Pierre early the next morning, jumped on a plane, and flew to Dakota Dunes." Once there, Kenner met with a team that was assessing flood and dike issues facing the area. Dr. Kenner said the challenge in building new dikes was tied to the velocity of water flowing through sediments underneath the levee embankment. Dr. Kenner and other experts recruited to the project recommended pumping down some of the water behind the levees to create a constant flow away from homes.

Dr. Kenner stayed in Dakota Dunes for a day and then continued his work, primarily monitoring water velocity, with the team via e-mail after he returned to Rapid City. Although an important contributor to the project, Dr. Kenner is quick to give credit to others, including Dr. **Lance Roberts** (CE99), a former School of Mines professor and now a vice president with RESPEC's Mining & Energy Division. Roberts provided information to the levee team as water conditions changed throughout the summer. His specific work included conducting stability modeling of the temporary levees. Stability modeling examined safety against possible levee failure under various water levels on both the river side and land side. Modeling predicted how the levee could potentially fail so inspectors would know what to look for in the field.

Engineers examined several different water conditions. One included a possible worst-case river elevation based on Corps of Engineers estimates, he said. Others included higher water on the land side, assuming pumps failed; current water levels; and a rapid drop in water levels on either side. "It was critical that we were quick with our response to ensure the safety and protection of both people and property," Roberts said. The state of South Dakota spent an estimated \$14 million fighting the flooding threat. Dr. Kenner found his work outside the school translated well into the classroom. "I've already used it in my junior hydraulics class," he said. "... how simple hydraulic principles can be applied pretty quickly." It was also a good lesson in teamwork and the strength of volunteerism. "The effort from all parties, all people involved, was amazing, and the reason for the success of the levee system down there," Dr. Kenner said.

Dr. Scott Kenner named Fulbright Scholar

Dr. **Scott Kenner** (CE77) has been named a Fulbright Scholar and is preparing to travel to Mongolia to teach and conduct an extended watershed monitoring research project during the coming academic year. He applied specifically for the Mongolia program after traveling to the northern Asian country last summer. During his trip he met with faculty and administrators at both the Mongolian University of Science and Technology (MUST) in Ulaanbaatar and the Erdenet Institute of Technology in Erdenet. He also visited several coal and copper mining operations, from the Gobi Desert region north to the Copper mine at Erdenet.

Dr. Kenner will teach a graduate level course at MUST during the fall 2012 semester on watershed monitoring, assessment and modeling and will also work with faculty and students to initiate an assessment and modeling research project on the Tyyn zon River watershed, which will continue during the spring 2013 semester. In addition, he will develop an assessment and modeling project on the Khangal River watershed in conjunction with the Erdenet Institute of Technology. The project is needed because mining in the Erdenet area for more than 30 years has created environmental and water resource concerns. His proposed teaching and research project directly addresses education and training. "It is humbling to be chosen for such an honor. I am looking forward to not only sharing my expertise, but learning about the land and culture of Mongolia," Dr. Kenner said.

During 18 years of teaching, Dr. Kenner developed upper level and graduate courses specifically to address education and training needs in water resources with emphasis on monitoring, assessment and modeling of watersheds. Among the agencies with whom he has conducted research: U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. National Forest Service, South Dakota Department of Environment and Natural Resources and South Dakota Game Fish and Parks. "The School of Mines is proud to have exceptional faculty members and researchers such as Dr. Kenner, and we congratulate him on this high honor. His proposed research collaborations with Mongolian faculty and students will afford key data to assess the impact of mining in the Erdenet region," said Dr. **Duane Hrcncir**, provost and vice president for academic affairs.

ENGINEER, EDUCATOR,
RANCHER, RESEARCHER,
ENTREPRENEUR, DONOR...

Dr. Paul Gnirk

IS THE MODERN RENAISSANCE MAN

PRACTICALLY AN INSTITUTION unto himself, Dr. **Paul Gnirk** (MinE59) has been giving back to the South Dakota School of Mines and Technology far longer than 1999, when he was elected president of the Alumni Association. Currently in his fourth term as Association executive vice president, Dr. Gnirk's five decades of service to Mines includes teaching engineering students as a professor, directing the university's first computer center, hiring graduates, coordinating reunions, and serving alumni tirelessly for the last 12 years.

He has been an invaluable asset to Alumni Association Executive Director, **Tim Vottero** (Chem84), and has no plans to stop, continuing to balance his obligations to Mines alumni with obligations on his cattle ranch. "There are very few alumni who have had the kind of impact like Dr. Paul Gnirk," said Vottero. "His sense of tradition combined with his vision for the future are an example for generations of alumni to follow." Dr. Gnirk's personal drive is a product of his family and his education, something his parents and grandparents taught him was

priceless. His father took him to his first day of grade school on the family tractor. His was a one-room schoolhouse located 15 miles east of Burke, South Dakota, with one teacher, one wood stove (as essential as schoolbooks during the winter months), with about a dozen students scattered across eight grades.

"You had to do a lot on your own, because you may only get one hour a day face-to-face with the teacher," said Dr. Gnirk. "So I read every book in the little library. We also had a world globe, and I learned the location of every country in the world and the capitals of those countries. School and book learning were always interesting and easy for me." His fire for learning came from his parents and grandparents who recognized the importance of formal learning, even if their own was limited. "My grandparents – three of whom were immigrants – understood the value of education even though, by and large, they had no more than grade school educations," said Dr. Gnirk. "They looked around and saw what education was doing for people in the United States. So we, as children,

knew the expectations." When he graduated from Burke High School in 1955, he initially planned to major in agricultural engineering at South Dakota State University. But when a good friend told him that the School of Mines was a great school for engineering, he switched.

He graduated in 1959 from Mines with a degree in mining engineering and entered graduate school at the University of Minnesota in the fall. It was during his internship for Shell Development Co. in Houston, Texas, during the summers that he developed his love for research. And the experience at Shell compelled him to return to the university setting for a career. "Consultants (during his internship) in the academic world had more flexibility to do research and to publish than if you were at a company," Dr. Gnirk said, pointing out that of the six research projects he completed during his internships, only two were published – the rest were proprietary.

In the fall of 1963, he began teaching at the School of Mines in the mining engineering department, and, during the



Left photo: Paul Gnirk (MinE59) with then-student Joe Ratigan (ME71). Right: Paul Gnirk (MinE59) with Earl Dailey (ME51) at Tunnel Activities.

following academic year, he directed the university's first computer center and taught the first computer course (CC 200) in machine language and FORTRAN. The computer center was about 150 square feet and its primary piece of equipment an IBM 1620, a computer the size of a side-by-side refrigerator, sporting 20k of memory. (And there was another module in the adjoining room with an additional 20k of memory). He left briefly, spending two years as a research associate in the mechanical engineering department at Rice University in Houston, then returned to Rapid City to teach mechanical engineering at Mines. And it was during that first semester, that he changed his teaching methods forever. "One of my classes was heat transfer, and the classroom was right outside my office," he recalled. "I had my notes all prepared and they were laid out on the table (in the classroom). I forgot something, so I went back to my office to get it, and when I came back the notes were gone. Someone had taken them."

"So I said 'Guys, I do not need notes to teach, and I will never use notes again.' " And he did not. His passion for research continued, but the university simply could not fulfill Dr. Gnirk's aspirations. "I could not create the type of research institute that I had in mind at Mines at the time," he said. "Even though (former school president and my mentor) Dr. **Harvey Fraser** was quite open in that regard, it just was not physically possible. And the university did not have the fluidity necessary. They could not have professors suddenly leave their teaching duties to work on a research project for days at a time outside South

Dakota." And so, during the spring of 1969, he proposed to Dr. **James Russell** (CE63) of the civil engineering department that they create a company to specialize in scientific and engineering research. They, along with Dr. **Earl Hoskins** (MinE56), Dr. **William Reuter** (EE56), **Floyd Matthew** (CE60), and local attorney Michael DeMersseman, incorporated RESPEC (a shortened version of "Research Specialties"). At an organizational meeting in August 1969, the six individuals each purchased 200 shares of stock at a par value of \$1, elected Dr. Gnirk its president, and agreed that whoever was successful in acquiring the first major research contract would resign his faculty position and become a full-time employee of RESPEC.

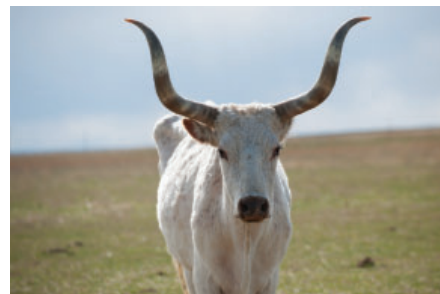
Dr. Gnirk admits that he was extremely motivated to land the first major project. And in 1971, via RESPEC, he and several other colleagues were awarded a research contract by Oak Ridge National Laboratory to develop more refined technology for the disposal of radioactive waste in deep salt formations. As a result, Dr. Gnirk resigned his faculty position in 1973 and took over as the full-time president of RESPEC. "It was a great opportunity and a great niche to fill in the real world in the type of engineering research – both applied and basic – that I wanted to do in the private world," he said. "There was a real void for the type of work that I ended up putting together at RESPEC." He built his company from two employees to a staff of 75 when he finally left RESPEC 20 years later. He is not only proud of its research, but also of the company's

esprit de corps and commitment and support of the education of its staff. "At one point, every

employee had a degree, whether you were a secretary or a technician. We had almost as many PhDs at RESPEC as they had at the School of Mines." Dr. Gnirk also helped establish a program, similar to that of Sandia National Laboratories, to allow engineers to obtain their doctoral degrees. And he maintained a strong relationship with the university. Dr. Gnirk calculates that at least 75 percent of engineers at RESPEC were graduates of the School of Mines. Dr. Gnirk traveled the world, spearheading many of the company's most important projects. At the same time, he was expected to help land projects and raise the money necessary to finance the company.

The course of events changed appreciably in 1987, when Congress amended the Nuclear Waste Policy Act and essentially eliminated ongoing repository programs at several sites across the country. "When that happened, the programs for repositories in granitic rock and salt went away, and such, we lost a large chunk of change because we were working for all these programs. So the RESPEC principals and I had to find more money from other clients, while we were still at the front end of these and other high-profile projects. "We got it all handled, but I said to myself 'I have got to do something else.' I was burned out. It was time to move on."

Continued to page 20





Gnirk: A LIFETIME OF ACHIEVEMENTS

- RECIPIENT OF KENNECOTT COPPER CORP. SCHOLARSHIPS DURING JUNIOR AND SENIOR YEARS AT SCHOOL OF MINES.
- RESERVE MINING CO. FELLOWSHIPS WHILE AT UNIVERSITY OF MINNESOTA GRADUATE SCHOOL.
- DEGREE / MINING ENGINEERING FROM SCHOOL OF MINES IN 1959.
- AWARDED PHD FROM UNIVERSITY OF MINNESOTA IN 1966.
- IN 1969, RECEIVED THE FIRST STANDARD OIL FOUNDATION GOOD TEACHING AWARD FOR AN ENGINEERING FACULTY MEMBER AT THE SCHOOL OF MINES.

After 20 years, Dr. Gnirk left RESPEC in 1992 and established Table Top Ranch Inc., which included a 1,000-acre cattle ranch north of Wasta, South Dakota, and a 5,500-acre cattle ranch 12 miles northwest of New Underwood, South Dakota. The New Underwood ranch, now 6,200 acres, continues to operate as a cow-calf operation, predominantly with Longhorn cows and Black Angus bulls.

He has remained deeply connected to his alma mater. From 1997-2000, he served as president of the alumni

chapter of the university's Triangle fraternity. In 1999, he was elected to a one-year term as president of the Alumni Association. The following year, he took over as executive vice president of the Association, and has been assisting Vottero and Mines alumni ever since. "Paul's leadership as Alumni president, as executive vice president, facilitating the alumni focus group, and throughout his many volunteer hours with numerous projects, has provided a perspective and impact beyond the social nature of an

Alumni Association," said Vottero.

Dr. Gnirk led the Association to launch weekly email newsletters to alumni, keeping them abreast of the latest news on a regular basis. He has helped plan and implement the all-class five-year reunions. And he led an alumni focus group that assembled a report in 2003 for university officials, which included detailed recommendations for a successful future of the university. "The Focus Group Report said that a new wave was coming, and that research has to be a



- IN 1970, RECOGNIZED AS AN OUTSTANDING EDUCATOR OF AMERICA.
- OVER SPAN OF 20 YEARS, BUILT RESPEC FROM A TWO-PERSON OPERATION TO A GLOBAL RESEARCH FIRM EMPLOYING 75, WITH OFFICES IN RAPID CITY, ALBUQUERQUE & CARLSBAD, NM.
- IN 1985, DURING THE CENTENNIAL ANNIVERSARY OF THE SCHOOL OF MINES, WAS SELECTED AS ONE OF ITS 100 OUTSTANDING LIVING ALUMNI.
- IN 1999, WAS AWARDED THE GUY E. MARCH MEDAL BY THE UNIVERSITY.
- IN 2000, SERVED AS PRESIDENT OF THE ALUMNI ASSOCIATION; FROM 2001 TO PRESENT, SERVED AS EXECUTIVE VICE PRESIDENT.
- SERVED ON THE BOARD OF DIRECTORS FOR THE RAPID CITY ECONOMIC DEVELOPMENT PARTNERSHIP FROM 2001-2003.
- IN 2007, WAS RECIPIENT OF MINES AWARD FOR OUTSTANDING PUBLIC SERVICE.
- IN 2007, CONFIRMED BY STATE BOARD OF REGENTS AS A PROFESSOR EMERITUS IN MECHANICAL ENGINEERING AT THE SCHOOL OF MINES.
- APPOINTED TO SOUTH DAKOTA BOARD OF WATER & NATURAL RESOURCES BY GOVERNOR ROUNDS IN 2009.
- REAPPOINTED FOR A SECOND TERM TO SOUTH DAKOTA BOARD OF WATER & NATURAL RESOURCES BY GOVERNOR DAUGAARD IN 2010.

very important part to this university; as such, the university must have faculty who can both teach and conduct research," said Dr. Gnirk. "And you are going to have to upgrade the requirements to get into this university, and come up with more money for scholarships, and encourage faculty to rise in their professions."

"(The report) was not readily appreciated by some people on campus. They thought it was a little too forward." But Dr. Gnirk is happy to point out that "about 75 percent" of the report's recommendations have

been adopted by the university. He is also proud of the image that the Alumni Association has built, and the Association activities that have doubled in number during his 12 years of involvement. "That is not necessarily because of me, but because of a lot of people," said Dr. Gnirk. "A lot of people could have done the same thing, but I happened to be at the right place, at the right time." He cherishes the relationships he has built with alumni. In fact, Gnirk holds all of his relationships in high regard,

considering he once worked in a business where relationships often ended when projects concluded. Today, he feels very fortunate to have forged a wide variety of friendships. "I have a great association with this university and its many alumni, with people in downtown Rapid City, and with my neighbors out in the country. I have three sets of people who I can talk to and interact with, and not many people have that opportunity in life."

"I have the best of all possible worlds."

AUTONOMOUS SUBMARINE

to search for life
in oceans, heavens



Dr. Charles Tolle

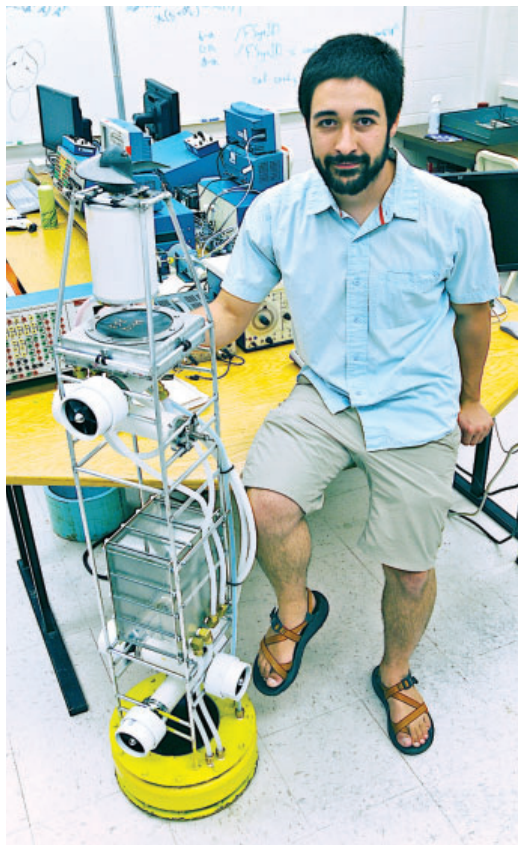
IT COULD TAKE years before it ever touches water, but students and staff at the School of Mines have continued to make steady progress on an autonomous submarine. The project began three years ago with a grant from the South Dakota Space Grant Consortium, with the purpose of scientific exploration and underwater work in extreme conditions. The deep underground laboratory in Lead would be the perfect place for the submarine, said Dr. **Charles Tolle**, an associate professor in the electrical and computer engineering department. The submarine should be submersible to depths of more than 1,000 meters. But it may also be just as valuable for exploration in the heavens. NASA has expressed interest in the project for work on Europa, one of Jupiter's moons, with an ice cap that has a possible ocean underneath it. The submarine would have the capabilities to search for life in extreme environments and retrieve samples. But currently, the submarine is in the hands of undergraduate and graduate students, many of whom have incorporated it into their senior projects or master's programs.

During the first year, students worked on the frame and thrusters, Dr. Tolle said. The second year, students tackled sonar units and the power system; and this year, students continued work on the power system and began work on the intelligence

of the machine. "It's not in the water yet, but different components are progressing," Dr. Tolle said. "Some of the professors are frustrated with the speed, but I think it's kind of fun to watch the students. It brings on a lot of interesting challenges, and it's fun ... to try to mentor and teach the students about all those little secrets they didn't know."

School of Mines graduate **Andrew Muxen** (ME10) knows firsthand the long-term nature of the work. Muxen graduated this year with a master's degree in electrical engineering. He started work on the submarine in the first year of the project while an undergraduate student in mechanical engineering. Muxen helped develop the thruster modules and the frame, and used the project as part of his master's degree work. "It was interesting because we were involved in a lot of different areas." The project requires students from multiple disciplines to work together toward a common goal. "We were always working with the power systems people and dealing with their issues," he said. "It was interesting to learn about the challenges they face." It's a lifelong lesson for an engineer, he added. "Anything that's made today requires a lot of different backgrounds."

That is just one of the challenges students face, according to Dr. Tolle. Money is



Graduate
Andrew Muxen
with submarine

always an issue. The project has been awarded \$25,000 worth of funding through the Consortium and has received discounts on some equipment, but it takes much more than that to complete a project of its size and intricacy, Dr. Tolle said. For example, one of the challenges students face is getting wires in and out of the modules. Students are testing electronics on a high-pressure chamber. One of the pieces of equipment for it costs \$1,500, and they need 10 or 20 at least, he said. "It's exciting and fun to work with students, especially since they're not just playing games. We're trying to build a multi-million dollar autonomous submarine on pennies, and they're actually doing it." Muxen also felt the funding squeeze. "When we were trying to design the thrusters, there were a lot of issues," he said. "You can go online and can buy them ready to be put on the vehicle, but they cost \$10,000 a piece and that would be our whole budget. It's frustrating. But it's good, too, because we can design it to our own specifications."

Muxen plans to stay in the area, and said he will help students continue work on the submarine. It's hard to walk away from a project that isn't completed, he said. "It can be frustrating, discouraging," he said. "You know you're putting in so much time and effort and not seeing the results right away." It could take several generations of students before the submarine makes it to a large body of water, but when it does, there is also a good chance it could end up in Yellowstone Lake or the ocean, Dr. Tolle said. "If we can build the sub, we'll go back to the park service and NASA and try to formalize a mission," he said. "The students are getting anxious."



UNIVERSITY ENHANCES ITS NAMESAKE PROGRAM WITH NEW MASTER'S IN MINING ENGINEERING

Tyler Barth (MinE10) hopes to manage a mine someday, or even serve as president of one, and he is counting on his alma mater to help him get there. Barth plans to enroll in some of the courses soon to be offered through the university's new Master of Science in mining engineering program. "Down the road, I'd like to be a mining manager or president; getting a master's would give me an advantage," said Barth, who currently works in North Dakota as a mining engineer for Coteau Properties Company, a subsidiary of The North American Coal Corporation. The program allows him flexibility through online options to earn credits. In fact, Barth will earn his master's degree entirely online.

The new program will be offered in the fall and will help new graduates like Barth fill the gap left by retirements and attrition that are occurring in the mining industry, said **Shashi Kanth** (M.S. MinE93), head of the mining engineering and management department. "When the mining industry had a downturn, the hiring was frozen, and a lot of older folks retired, causing the younger graduates to step up," Kanth said. "... They were forced to take on a higher level of management quickly." Courses offered through the new program will focus on three types of students, said School of Mines mining engineering Professor Dr. **Charles Kliche** (MinE74): An undergraduate seeking an elective, professionals currently in the industry, and students who wish to complete a formal master's degree program.

For all students, the goal is simple. "We're hoping they're going to gain knowledge to advance in their careers," Dr. Kliche said. The new mining program is expected to take traditional students one-and-a-half to two years, if the student is full-time. Part-time students would probably complete it in two to four years. Three areas of focus will be offered, including geo-technical, or infrastructure, management and finance, and general. Barth hopes to take the master's management courses. He has shared his future plans with his employer, who encouraged him to earn the degree. "They're very supportive of it," he said. School officials expect more students to express interest in the program once word gets out. "It's a precursor to getting on to higher levels if someone wants to pursue a PhD or advance and hone skills to go to a higher level," Kanth said. Barth said continuing his engineering education at the School of Mines was a logical choice because he enjoyed the professors while he attended as an undergraduate and knew he would be getting a good education for his money. "It was an easy fit," he said. "There's not that uncertainty."

Mines online graduate programs ranked sixth by U.S. News & World Report

U.S. News & World Report ranked South Dakota School of Mines and Technology sixth nationwide in admissions selectivity for its online graduate engineering programs. The honor was announced in the inaugural edition of the magazine's "Top Online Education Program" rankings.

School of Mines currently offers online graduate degree programs in engineering management and construction management. A master's program in mining engineering, which will have an online component, will begin in the fall. "These online programs will simultaneously be advancing students' careers and addressing the needs of business and industry for leaders in engineering management, construction management and mining engineering," said School of Mines President **Robert A. Wharton**, PhD. "Through these online programs, we will be improving access for working professionals and others who seek such excellent curricula developed by our world-class Mines faculty."

In the admissions selectivity category, School of Mines was ranked sixth in a group featuring Auburn University, Duke University, Lehigh University, Pennsylvania State University (University Park) and Colorado State University, respectively. These rankings were created in response to today's high demand for education provided in a flexible manner. With many distractions to detract from one's schooling, online education has become increasingly popular due to its flexibility. While *U.S. News* has applied some of its rankings standards used for traditional schools, many new measures have been developed and were used to evaluate online programs. In order to be considered for the rankings, online degree programs needed to have at least 80 percent of their course content available online.

Read more: <http://www.usnews.com/education/online-education/south-dakota-school-of-mines-and-technology-OENG0120/engineering>

'30s

George Hatch (CE36) stated that at age 98, he has really started to slow down. "I'd love to make it to a reunion, but I am afraid I cannot make it any longer."

Ralph O'Neill (CE36) was honored by SDSM&T, the ASCE student chapter, and many other alumni, family and friends who attended a program in celebration of his



SDSM&T celebrate Ralph O'Neill's 104th birthday: (left to right) Molly Gribb (CEE department head), Ralph O'Neill (CE36), M.R. Hansen (CE69)

104th birthday (November 18, 2011). O'Neill shared his 60-plus-year professional career in civil engineering and his life experiences with students and attendees. O'Neill enrolled at the School of Mines in 1928 but left prior to completing his studies in 1930 with the onset of the Great Depression. He returned in 1934 and completed his bachelor's degree in civil engineering at the encouragement of **Guy March** (EE22), a math professor and the patriarch of the SDSM&T Alumni Association. After graduating from the School of Mines in 1936, he worked for the SDDOT for 38 years, retiring in 1974. After retiring from SDDOT, he worked with a consulting firm for more than 20 years. O'Neill is a great supporter of the School of Mines student chapter of the Association of Civil Engineers and

of the Lady Hardrockers basketball team, which presented O'Neill with a signed basketball on his 100th birthday in November 2008. Happy 104th birthday! See you at 105!



SDSM&T President Robert A. Wharton, PhD, with Maynard Raasch (ChE37)

Maynard S. Raasch (ChE37) was unable to receive his 2011 Distinguish Alumni Award in person during fall commencement, so SDSM&T President **Robert A. Wharton**, PhD, and alumnus **Ron Jeitz** (CE69) visited Dr. Raasch to present the award. Originally from Watertown, South Dakota, Maynard S. Raasch received his bachelor's degree in chemical engineering from the School of Mines in 1937. He earned a master's degree in chemistry in 1938 and a PhD in chemistry in 1941, both from Ohio State University. After completing his doctorate, Raasch began his prolific and successful 39-year career with the DuPont Company. A world explorer, Raasch has visited 165 countries and colonies, Antarctica, and the geographic and magnetic North Poles. Dr. Raasch established the Maynard Raasch Fund to support the recently-completed addition to the Chemical and Biological Engineering and Chemistry (CBEC) building on the School of Mines campus. Part of this fund will be used to help finish instructional and research laboratory modules in CBEC that will provide state-of-the-art facilities for teaching and training in chemistry to students in all disciplines. Remaining funds establish the Maynard Raasch Endowment Fund, to support two areas – ongoing maintenance and continuous improvement of the Maynard Raasch Laboratory in CBEC, and Maynard Raasch Scholarships, awarded to chemistry students at the School of Mines.

'40s

Donald Dittman (ChE42) proudly shared, "I turned 92 in January. I live alone in an apartment in my daughter's house and still do my own cooking, shopping and laundry. I was out to the Black Hills this past summer for three weeks. I did some sightseeing, but not much fishing. I will be going to Florida this winter for three months."

Bettie England (Ex46) shared, "At 86 years old, I am still walking without a walker but am deaf and nearly blind. The activities here are fun. I participate in bingo, poker, snooker, mahjong, Spanish lottery, and a few others."

Warren Finch (GeolE48) announced, "Mary and I celebrated our 60th wedding anniversary in 2011. At age 86 in June of 2011, I published my 142nd paper on geology – coauthored "Energy [oil & gas, coal-methane gas, coal, uranium] Resources of the Northern Gulf of Mexico Basin: Gulf of Mexico Origin, Waters and Biota," Volume 3, 446p, Texas A&M University Press."

Robert A. Johnson (Chem45) sadly informed us of his wife's passing.

Norman Menyuk (Phys48) shared, "I have nothing significantly new here, just another year older."

James Robertson (ME49) submitted, "Our daughter, Linda, recently passed away and my wife Gertrude has been in a nursing home since March of 2010."

Armand Sedgely (CE49) shared, "I appreciate seeing news from the Alumni Association even though there is seldom any from the '49ers."

Elmer Tomsha (EE42) mentioned, "I moved back to New York in 2010. I was in the hospital from February to June for an operation to the leg and foot. I am staying at an adult home. My house, along with 20 other houses, was washed away in the August flood. It will be interesting how long it takes to rebuild."

Bob Steinbach (MetE43) lost his wife, Georgiana, of 68 years on January 4, 2012. She passed away peacefully at Avera

Yankton Care Center, her home for the last nine years.

James Ward (EE49) reported, "I am still pretty healthy and active for my 84 years. I enjoy getting together with **George** (ME56) and **Nancy Ward Dunham** (EE57) every September in England and January in Maui."

Robert Winkler (CE43) shared, "We are now full-time residents of Florida. I had to give up tennis and snow skiing, but I play 18 holes of golf on Tuesdays and Saturdays. Kathy has gotten into needlepoint at the gold club and does not have much time for golf, but we are very happy together. I turned 90 recently. Kathy is glad to get away from the mountain lions in the backyard in Wyoming."

Christ Woods (CE48) wrote, "We are still enjoying retirement. Alice and I no longer spend winters in Arizona. Last winter was more like the older days. We had a long hot summer and hope this winter is milder. Glad to hear things are going well at the Mines. We were in Rapid City visiting relatives but missed visiting Mines due to time constraints so have not been to the new building."

'50s

Richard Berg (CE58) posted, "We are enjoying retirement. Carolyn and I have a new granddaughter to spoil. I spend a couple days a week as a teacher's aide at our church's day school, correcting homework and helping individual students with math problems."

Jay Brink (EE56) stated, "All of our children and grandchildren came to Arizona for Christmas. We even had a golf tournament with all 16 participating. No scores will be published! Betty and I returned to Rapid City in May."

Raman Briggs (ChE57) is a proud WWII veteran who was involved in the battle of Okinawa.

Wilfred 'Hezzy' Brown (GenE51) sadly announced, "I lost Lois last year after 61+ years. She was a wonderful partner. We were married in January 1949. She put me through two-and-a-half years at SDSM&T

and knew many of the students and wives from the 1949-1952 eras. She died at home under hospice care and was alert and very sharp until the morning of her death, with family around her."

Jim 'Buck' Buchholz (EE50) proudly stated, "We had a wedding in May. My wife, Hennie's, wedding gown was used for the fourth time. Hennie wore it; her sister, our youngest daughter, Renee, and her daughter have all worn it, too. Hennie found the bill for the dress. It cost \$51.00!"

Carl Buttemeier (EE59) shared, "I am still working part time as a Reliability Consultant at B/E Aerospace in Anaheim. Our 18-year-old granddaughter is now in college with a full tennis scholarship at Gonzaga University in Washington. I also play golf occasionally."

Harold 'Doc' Christensen (EE52) sent this update: "My wife, Barbara, and I are in good health playing golf, traveling and enjoying family (seven great grandchildren ... all girls). We are wintering in San Antonio, Texas, again this year – our 26th year in the same RV park. We will celebrate our 60th anniversary in June. Unfortunately, we lost two very close friends this year – **Sid Oakleaf** (EE52) and **Wayne Kuoppala** (ME51). We wish everyone a great year."

William Coddington (GenE59) informed us, "We had an incredible trip to India last March. We went on a 5,600-mile road trip to Spokane, Washington, in the fall. We saw 14 states, plus crossed Glacier National Park off of our bucket list. We also went for our annual trip to Australia to see our grandsons and enjoy their summer."

William Coleman Jr. (MinE57) was diagnosed with a brain tumor in 1995. He experienced additional health problems after two brain surgeries and struggled to regain his health. Mr. Coleman did so to a great extent until the tumor reappeared in another area of his brain. He had radiation which has been devastating and will not allow him to recover. He is now in hospice care with another illness. He has four children and twelve grandchildren.

Roger Dean (CE57) informed us: "My work schedule is two days a week as private contractor in support of Federal Highway Administration."

Gerald Desjarlais (CE57) submitted, "After 30 years in the heavy highway construction in Alaska, Doris and I sold our company and relocated to Chandler, Arizona, in 2011. Our children are all prospering. We have five grandchildren and four great-grandchildren. Doris and I are both in good health and totally enjoying Arizona and retirement."

Franklin Dvoracek (EE54) sent in, "I am continuing to enjoy retirement. I continue to work as a volunteer at the Gold Bug Mine and Park, as well as the El Dorado County Museum."

Paul Fenske (GeolE50) shared, "We have been retired on our 3.1 acre mini-ranch for 22 years. Our grandchildren are most dear to us in our senior years. We have two granddaughters in Davis, California, and soon two grandsons in Los Angeles."

Frederick Gerdes (GenE51) informed us, "Doris and I still follow the DeWitt Sabers, the Iowa Hawkeyes and the New York Yankees. I heard that my old SDSM&T football coach, Barney Lewellyn, passed away. He was quite a guy. I hear from **Jack Barger** (EE54) via email."

Albert Gilles, Jr. (GeolE52) shared, "We got our first big snow the first of November; we had about 3-4 inches. I had a call from **Myron Kidner** (ChE50) when he was here for the new chemistry building dedication."

Harold Hanson (EE53) shared, "Going on 27 years of retirement and enjoying every bit of it. Julane and I would have been married 60 years in August 2012. She went to be with her Lord on January 25 after fighting a brain tumor since September. Medication and radiation did not contain it. The funeral was on February 7, 2012. I will move on as best I can. I have been advised to stay busy, which I will do; and not make any major decisions for a few months. I will add that my decision to be educated at the School of Mines is one of my best decisions ever made."

Terrance Heil (ME55) reported, "Totally retired ... Our activities are limited as my wife's disabilities require some care."

Donald Houck (ME59) shared, "I retired in 2009. My wife, Mary, passed away on February 10, 2010. I started sailing in 2005. I am now sailing a 44-foot sloop, docked

in St. Petersburg, Florida. It is hours and hours of boredom and two minutes of panic."

Charles James (ME51) stated, "Nothing really new – just enjoying retirement here in Southern California at Air Force Village West."

Alfred "Dave" Johnson (Phys53) said, "It seems favorable that I will never retire. Currently I am working on inventions and applications related to "hyper elastic" shape memory alloys. I find that life is full of interesting things to do. A while back, I met a lot of colleagues from Lawrence Berkeley Laboratory at a symposium."

Bruce Johnsen (CE59) conveyed, "Another full and exciting year under my belt and thankfully still in good health, with a dear wife working about half time and having a lot of fun. On the work side, some mediation/facilitation with U.N.-based "Codex Alimentarius" is helping set food safety standards for the world. Meetings in Mexico City, Brussels and Beijing made it even more interesting. One of my Navy buddies suggested the "one vacation a month" regimen and I am a happy participant. Something special once a month, one day or more, does not have to cost anything – just an event to anticipate with joy. I highly recommend!"

Robert Kenner (GeolE52) communicated, "My wife, Pat, is now in a nursing home."

John Kukura (ChE59) stated, "I am still enjoying retirement after 10 years. I have been spending time with June. We celebrated 50 years of marriage in June 2011. We love visiting with grandchildren; all 11 of them. Their ages range from 9 to 21 years old. We still live in West Virginia."

Clark Kurtz (EE59) updated, "We are fortunate that our two sons and families live in the area and all of us remain in good health. I keep out of trouble with my internet hobby and website www.homepagedoctor.com which I use to keep myself up-to-date technically and provide support to occasional local activities."

Alan Liffengren (ME57) reported, "All goes well as we enter the 17th year of retirement. I sure did not think I would make it this long. We spent the Christmas

holidays back in St. Louis and Chicago areas with our children and grandkids. I am going to remember to take long johns next year."

John Mohr (EE56) communicated, "We went to Poland and Germany in September 2011. Most of the trip was spent in Warsaw, but we also went to Krakow and Berlin."

Delmar Motycka (MinE51) submitted: "I have not needed the rocking chair yet. I keep busy with yard work and improving my knowledge with college level courses on DVD – all for the pleasure of learning about things that interest me."

Eugene "Gene" Poch (CE58) shared, "I have been blessed with excellent health in my lifetime. However, I celebrated my 75th birthday in July with surgery and am now living with shingles. I was able to attend **Tom Vance's** (CE59) memorial service last year. Tom and **Ev Kjerulff** (EE58), who died the year before, were two of the nicest people in my past. They are missed!"

Leah Nerison, wife of **Neil Nerison** (ME58), called to let the Alumni Association know of a recent address change and to share that Neil was diagnosed with early Alzheimer disease.

Jim Richardson (Chem52) wrote, "Eileen and I are still doing rather well, remaining in our house for 51 years now. We are looking forward to our 60th anniversary next December. We often see our children and grandchildren, though they are scattered throughout the northeastern U.S."

Reuben Rieger (EE58) told us, "We are still enjoying retirement in North Carolina. Our family spent a week in July at the ocean in Myrtle Beach. We all enjoyed that. Marilyn and I are planning a Caribbean cruise in January 2012 to celebrate our 60th wedding anniversary."

Donald Schlegel (EE56) sent in, "I am still trying to stay in shape to be able to hike in the Smoky Mountain National Park. I do mostly day hikes with several overnight hikes as well. I completed 150 miles in the park this past year. We try to visit our four grandchildren in North Carolina and Virginia several times a year."

Robert Schmidt (MinE57) mentioned, "I have been retired from Bureau of Mines for 18 years now. The bureau closed two years after I retired – no connection. We are living near seven grandchildren and two great grandchildren. All is well."

Lowery Smith (GeolE51) stated, "I had a great driving trip from the Twin Cities to Rapid City in October. The main purpose for the trip was to see "Dean Pete" and his wife, Dee. I also went to a football game and visited with **Larry Simonson** (EE69). It felt really good to return to the 'Old Sod'."

Robert Smith (EE54) shared, "Just trudging along here. It has been a tough year."

Leroy Solid (ME59) updated, "I retired from Rockwell/Boeing in 1998 after a career in rocket engines and launch operations. I continue consulting with NASA and the space industry. Also, I stay involved with student space/rocket projects at local universities and serve on boards involving space advocacy and STEM. I was privileged to host John Glenn and Scott Carpenter for the recent 50th anniversary event celebrating John's historic flight on February 20, 1962. We have 15 grandkids and we now attend baseball games of great grandkids."

Ernest Sundstrom (ME58) proudly stated, "We are enjoying retirement in Georgia!"

Bert Thomsen (GeolE59) posted, "The summer of 2011 was unusually hot in Arizona. I drove to Iowa in July for a reunion with Mikki's family, then to South Dakota for a few weeks with family and friends in the Badlands and Rapid City. The total for the drive was 4,000+ miles and nine states. I am getting too old for that, but maybe once more!"

William Tucker (GeolE56) was honored by the Queen of the Netherlands. Via news release: At the May 6, 2011, Netherland-America Foundation Awards dinner in Washington, D.C., William Tucker, Vice Chairman and President of Friends of Slovakia, was presented with the Order of Orange-Nassau, with the rank of Officer (a level above Knight) by the Dutch Ambassador, Her Excellency Renee Jones-Bos as the representative of Queen Beatrix of the Netherlands. The Order of the Orange-Nassau is a military and civil order of the

Netherlands which was created on April 4, 1892, by the Queen Regent Emma of the Netherlands acting on behalf of her underage daughter, Queen Wilhelmina. It is presented to those individuals "who have earned special merits for society." These are people who deserve appreciation and recognition from society for the special way in which they have carried out their activities. The order is comparable with the Order of the British Empire in the UK. Mr. Tucker serves on the Board of Directors of the Netherland-America Foundation (NAF); started and chaired an annual fundraising dinner in Washington, D.C.; and assisted in obtaining a Congressional Resolution and a Presidential Proclamation establishing Dutch-American Heritage Day. Some of the proceeds from the NAF's annual fundraising dinner go toward scholarships for Dutch students to study in the U.S. and U.S. students to study in the Netherlands. The dinner had generally raised more than \$100,000. Congratulations to Bill and thank you also for your service on the Alumni Association Board of Directors and as Area VP in Washington, D.C., for many years.

Donald Vesely (EE59) said, "I am enjoying retirement in sunny Southern California. It is definitely the best job I have ever had!"

Monte Widdoss (EE59) shared, "After initially retiring in 1998, I retired for a second and final time in December 2010. I wrote a 611-page autobiography entitled, 'From the Roots of Deadwood, the Life and Times of Monte Widdoss' for our five children and 10 grandchildren if they are ever interested. I play golf three times a week, once with my wife, Ellen. Life is good!"

Richard Wismer (GeolE54) told us, "Our winter home in Arizona for six months is a permanent place in Ajo. We are about 50 miles north of the Mexican border, 40 miles south of Interstate 8 and surrounded by desert, mountains and lots of rocks. Elaine and I are still able to hike the desert valleys and enjoy the cacti, birds and flowers. Any travelers on I-8 would be welcome visitors."

Ward Zimmerman (ME50) sadly reported, "Elynor passed away on January 25, 2012; victim of a hidden cancer. We were married 63 years, seven months and

eight days. She was my helper, typist, homemaker, wife and mother to our children while I finished my bachelor's degree in 1950. She earned the honorary 'Pushed Hubby Through' (PhT) initiated that year by Gail and **Guy March** (EE22), I am sure. I will miss her until we are together again."

'60s

Theodore Andrews (CE62) stated, "No big changes this year. I am still pretty active at 88 years old. Louise and I still bowl and I golf once a week with three other old codgers."

Paul Axtell (ChE68) announced, "I have a new book just released: 'Ten Powerful Things to Say to Your Kids'."

Glenn Barber (CE60) noted, "I work with Oglala Sioux Housing as a mentor to young contractors and assist with their housing program."

Robert Bottge (GeolE62) announced, "After a late start with a son who took his time in marrying, we now have three grandchildren."

Dennis Bress (EE64) shared, "My wife, Sol, spent two weeks in China looking for relatives of her grandfather who immigrated to Panama in 1918. He married Sol's grandmother. She found the family. Sol will be sending her two children, now in college, to China for a year to learn the Chinese language."

Duane Broline (Math67) reported, "I have retired from Eastern Illinois University."

Alfred Broz (Phys68) announced, "Our daughter Alissa was married to John Walters on July 30, 2011, in Minneapolis."

Dennis Buswell (ME64) said, "This year I turned 70! Sixty of those years I spent with Type I diabetes. I thank God for the strength provided and for the continued good health. I have an insulin pump and it does wonders in controlling my blood sugar."

Russell Buyse (EE63) commented, "Last summer was the first visit to SDSM&T since I graduated in 1963. It will not be that long next time. Carolyn and I enjoy attending Bronco games with **Randy Parcel** (MinE68) and his much better half, Tracy."

Robert Cash (ChE60) reviewed, "All four children and grandchildren were home for Christmas. We are all doing well and are in good health. We went on a Holland America cruise, sailing on the Ryndam ship in November, from Barcelona, Spain, to various other ports in Spain, as well as the Canary Islands. Then we sailed across the Atlantic to Half Moon Cay and finished off the 21-day cruise in Tampa, Florida. Donna and I had a great time. We signed-up for a 28-day cruise and land excursion to various Scandinavian countries and Russia. It is great being retired!"

Donald Chambers (EE65) informed us, "All is well here, and we are enjoying retirement."

Carl Coad (Math60) updated, "I have not been back to campus since the 1960 reunion in 2010. I enjoyed that visit and ceremony. I went through radiation treatment (43 sessions) last February and March for prostate cancer. I am now cancer-free. We found it through PSA tests. I do not know why the FDA is berating this test. I also enjoyed pictures of the class of 1961 (my brother's class), as I knew most of them."

Tom Crooks (GeolE66) said, "I am starting my 13th year in the clock repair business and the 10th year raising 'you-pick' fruits and vegetables. We are raising strawberries, thornless raspberries, garlic and grapes at 4,100 feet in elevation. Currently we are enjoying life since retiring from the U.S. Department of Interior in 1994."

James Crouch (MinE68) shared, "Things seem to still be going well with Strathmore in spite of the Fukushima situation in Japan. We have a new miner in our Riverton office, **Mike Sanders** (MinE11)."

Lowell Crowl (MinE62) updated, "We are continuing to grow our business until our grandson, attending Texas A&M in construction management, is ready to assume ownership of it."

Michael Doyle (ME65) stated, "Shirley and I appreciate all of the support SDSM&T gave **Tim Doyle** (ChE94) and his family as he recovered from the August 2, 2011, shooting."

Earl Edwards (CE62) sent in, "My wife and I are involved in restoration at Gold

Mountain Mine near Hill City. We enjoy the Black Hills every summer with the Forest Service PIT program."

Gary Erickson (CE66) updated, "We spend our winters in Arizona and summers in Minnesota. I played golf this winter with several alumni. My father, Elmer, passed away in March at the age of 93. He was in good enough health last summer to play golf many times."

Alan Freiberg (ME68) shared, "I am still occasionally doing some consulting work for Petro Hunt Corp. I recently visited North Dakota. The Bakken Oil Shale Development is a big deal. My son, Trent, a mechanical engineering graduate from Clemson and an MBA from Duke, was recently promoted to president of the Asia Pacific Division of the Carlisle Corp. He and his family have lived in Shanghai, China, for the last six years now."

E. Harlan Gellhaus (CE60) announced, "I finally retired in January. We really enjoy Dewey, Arizona."

Bob Higgins (Math68) says, "I am still traveling the world. We spent a week in September in Mongolia followed by a Trans-Siberian train ride to Irkutsk and Lake Baikal and then on to Moscow. We took a cruise on the lower Volga to the Caspian Sea. We also cruised from Hawaii to Tahiti and on to South America, the Panama Canal and ended in Florida in April."

Gary Keffeler (ME68) described, "All is well in the Keffeler clan. We have our second granddaughter from China, which makes a baker's dozen in grandchildren."

The Society for Mining, Metallurgy, and Exploration (SME) announced the selection of Dr. **Francis S. (Frank) Kendorski** (MinE69) as 2011 recipient of the Syd and Felicia Peng Ground Control in Mining Award. The Peng Award, established in 2005, recognizes individuals who have demonstrated technical and scientific excellence in advancing the understanding of ground control technologies or approaches by either publication or direct applications in the mining industry. Kendorski received the award, "In recognition of his contributions to advancement of the ground control science of underground stone mines." Kendorski is a

principal with Agapito Associates, Inc. where he specializes in underground stone mine design, in coal mine subsidence engineering, underground stone mine planning, gold mine rock slope engineering, and field rock mechanics.

Joseph Kulik (GeolE61) stated, "I am continuing to support Dr. Nuri Uzunlar (SDSM&T faculty) with a scholarship and also a fund to help him pay for trips to AAPG conventions in order to recruit oil companies to hire Mines graduates. I also continue to fund a freshman and sophomore scholarship for a Colorado resident who is a geological engineering freshman."

David Kramer (MetE66) updated, "I am semi-retired now but still work about four days a week."

Harold Krizan (CE60) declared, "During my retirement I realized that, though having achieved it so long ago, my education and degree from SDSM&T has been one of my most valued accomplishments."

John Larson (ChE67) shared, "I have entered into my 39th year with DuPont. I decided not to retire at the end of 2011. I am still working in the coating technology business. I focus mainly on spray applications and equipment and serve on the NFPA-33 technical committee. We are still living in SE Pennsylvania."

Steve Lenards (EE63) submitted, "Our daughter, Julie, and her husband, Jim, adopted a 3-year-old, Haley Ann, in September 2011 (our third grandchild). Our granddaughter, Jennifer, and her husband, Matt, had our first and only great granddaughter, Addison. I am retired after 48 years in aerospace with McDonnell Douglas and Honeywell. I volunteer by teaching AARP's driver safety program. Barb is still working full time as director and manager of volunteers (200-500) and writes public relations newsletters."

Lonnie Ludeman (EE63) reported, "Over the last 10 years or so, I have been a visiting lecturer in Romania, Slovenia, Czech Republic, China, Thailand, India, Korea, and Greece."

Frederick Meyer (EE62) announced, "I am still actively flying."

Harlan Miller (GeolE62) shared, "Betty Lou and I had a great year traveling. Our first trip was a portion of Holland America's World Cruise. In March we picked up the last segment in Dubai, UAE, and disembarked in Ft. Lauderdale. Our first stop was in Muscat, Oman. After leaving Muscat, we sailed the Gulf of Aden and the Red Sea with increased security through this part of the trip. One stop was allowed in Egypt so we were able to visit Luxor, the Valley of the Kings and the Temple of Karnak. Then it was off to Jordan with an excursion to the hidden city of Petra. After passage through the Suez Canal we visited Israel which was substituted for the canceled ports in Egypt so we were able to make a trip to the Masada near the Dead Sea. Then we made a stop in Turkey with a visit to the ruins of Ephesus. After crossing the Aegean Sea we visited Athens, Greece and the Parthenon.



*Betty and Harlan Miller (GeolE62)
to the left of balloon pilot*

We then stopped in Naples and Rome, Italy. We had a tour of the coast of Amalfi and the ruins of Pompeii. Our day in Rome was long with an extensive tour of the Vatican Museum. After leaving Rome we visited Lorca and Cadiz, Spain. From Cadiz we took a tour of Seville, Spain. After a stop at the Island of Madeira we crossed the Atlantic to Ft. Lauderdale. In late August we went on a safari to Kenya with a two-day stop in Dubai, UAE. The stop in Dubai included a tour of the city and a dune ride in the Dubai Desert Conservation Reserve. The evening was spent at an oasis with a camel ride, a buffet and entertainment consisting of Arabian music and a belly dancer. We arrived in Nairobi, Kenya, on September 1. The safari included visits to four parks and conservation areas. We went on many game drives and saw and

photographed all the large game animals. Other activities included a visit to a Masai village and a hot air balloon ride over the Masai Mara National Game Preserve. After 10 days in Kenya it was time to head home. The plane rides included five hours back to Dubai and then 15 hours to Los Angeles by the way of the North Pole."

Richard Moen (MetE62) submitted, "Our big activity this past fall was celebration of our 50th wedding anniversary at a favorite family gathering spot in Sun River, Oregon. Mary Jo's brother, **Dale Bridenbaugh** (ME53), and his wife, Char, from Aptos, California, were also there, as were all three of our sons and their families. We are both edging towards full retirement; we just need to disconnect the telephone to eliminate the temptations."

Leonard Neugebauer (CE69) said, "After 40 years in consulting engineering, I retired on July 1, 2011, from DGR. I am still active in engineering and surveying, serving on the South Dakota Board of Technical Professions and with the National Council of Examiners for Engineering and Surveying."

Gordon 'Dick' Osterhof (ME61) proudly shared, "At 78 years old, I am still doing the mountain trails. It must be good genes. We are doing lots of traveling in the motor home."

Jerl Pringle (EE68) commented, "My grandchildren have moved from Alaska to Colorado."

Carol Reed (Geol66) stated, "I started working part time for the Minnulusa Pioneer Museum (located in the Journey Museum) last August. It is very rewarding work and I am learning a lot about the history of Rapid City."

Herbert Reichert (Math66) mentioned, "Our youngest child and only daughter, Stacy, got married on April 30, 2011, and the wedding went off without any problems at all. She and her husband live in Saint Cloud, Minnesota. Our three sons and their families all live in the Twin Cities area, so we are relatively close to all of our children and their families, including five grandchildren."

Francis Reuer (ME65) shared, "I fully recommend retirement!"

Roger Roehl (ChE66) explained, "Our home base continues to be in Midland, Michigan. We spend winters in Florida. Golfing and volunteering with a church building group keeps me occupied. We have adjusted well to retirement. We love to hear about other contemporaries in the Hardrock."

Halvdan Saethre (ME68) sadly reported, "On September, 23, 2010, I lost my brother-in-law and best friend, **Svein Ove Strommen** (EE72), to colon cancer. He died at home in Bergen, Norway. On January 7, 2011, my wife, Judith Ann, died at home in Truckee, California. After fighting multiple sclerosis for 40 years, her body finally gave up. I received an outpouring of sympathy from relatives and friends including some alumni. My lifelong friend, **Bjarne Gravdal** (ME68) died after a long fight against lung cancer on January 27, 2012. He passed away in the hospital on Averoy in Norway."

Monte Schneider (CE66) shared, "We enjoy three to four months of motor home living during the winter. This year will be in Arizona and Las Vegas for our 50th anniversary. Next year it will be Florida with the grandkids at Disney World, during their spring break."

Lin Seder (ChE69) commented, "We retired in March and have traveled over 30,000 miles to see friends and family since then."

Reyneld Stevens (ChE68) stated, "I received a master's degree from the University of Minnesota in 1990 in animal reproduction. I was a faculty member in the college of veterinary medicine at Colorado State University from 1990 to 2001 and then worked for the Food Safety Inspection Service (Dept. of Agriculture) from 2001 to 2007. I retired August 31, 2007 and have worked at Mountain Vista Greens Golf Course since. Three of my kids are married, and I now have four grandkids."

Bob Stofft (CE62) posted, "I had a great visit in Oregon with **Gordie Lienau** (ME64) and in Fresno, California, with Carol and **Paul Besselievre** (EE64) and Sherri and **Dick Lauritsen** (GeolE62) in September 2011."

Wayne Sutherland (GeolE60) informed, "Joan passed away on March 2, 2011. She was extremely proud of having helped me graduate from SDSM&T by working as a facility secretary while caring for two young children. Her financial contribution made the difference after my G.I. bill ran out. May she rest in peace."

John Synhorst (EE68) announced, "We celebrated our 30th anniversary with a fantastic trip to Europe, with two weeks in Germany and then a cruise in the Mediterranean and Black Sea."

Tim Taylor (Chem63) reported, "Still riding ambulances, running 911 calls in Albuquerque in my retirement. It does not seem appropriate to use the word 'fun', but the job is captivating, stimulating, challenging and absorbing. One gets to experience a total cross-section of our society and I really enjoy working with these splendid young people who are our first-responders, fire fighters, EMTs and police."

Brian Tucholke (Geol68) commented, "Our second grandchild, June Rose, arrived in June 2011, and we take every opportunity to visit both our daughters and their families in New Mexico. As scientist emeritus, I am enjoying the freedom to work on many aspects of my research on marine geology and geophysics that had to be set aside when I was constantly seeking funding in pre-retirement days. Anita and I just completed our first trip to China, where I gave a set of lectures at the South China Sea Institute of Oceanology in Guangzhou and at Peking University."

Kris Vernenkar (MetE64) stated, "I almost retired several months ago, but still take some work. The reason I retired was due to my health problems. I still travel abroad and do some consulting work here and there, on a limited basis. My wife, Meera, works part time at Lord & Taylor. Both of my boys are married and each has two children; they are all fine as well. I would like to attend an alumni event this summer, I hope something materializes."

Howard Weisser (ME61) sent in, "I retired in 1994 from Becton Dickinson Company in Columbus, Nebraska, after almost 27 years of service. I have enjoyed all my retirement years doing handyman work,

playing golf and competing in Masters Track for the past 30 years. 2009 was my best year, ranking #3 in the 800 meters and #5 in the 400 meters in the 70-74 age division in the United States."

Bernie Wilcox (ME67) updated, "I am more than three years into my retirement and it is great!"

James Wilhelm (Chem62) shared, "Retired now! We spend our time doing crafts, gardening, biking and music. We would welcome a note from other alums at jmw999usa@gmail.com."

George Wilken (ME60) stated, "We are enjoying retirement back in our home state and in the beautiful Black Hills of South Dakota."

Dwight Will (ME66) sadly reported, "My wife, Allyson A. Will, passed away on April 16, 2011, after a heart operation. She passed away while in recovery in the Intensive Care Unit. We were married for 43 years."

Roger Wilson (EE69) told us, "We moved to Maryland to be closer to our first grandchild. We were here two months and experienced a hurricane, earthquake and a blizzard! We should have stayed in South Dakota!"

'70s

Michael Alley (GeolE73) updated, "I am still the owner of Exit Realty, the Bechmark Co., and my wife, Deborah, is a physician with Queen City Regional Clinic in Spearfish, South Dakota."

Kathy Ammon (Math70) wrote, "Loving Arizona and finally using my math degree – mentoring students at the middle school."

Robert Apa (ChE72) told us, "In April 2011 our fourth grandchild arrived. We have two grandsons and two granddaughters. We are looking forward to more time with them in retirement."

Bill Barber (ChE70) wrote, "After graduating in 1970, my career path wandered through several professions (engineering, law, teaching) and finally

returned to engineering full time in 2007. I recently took – and passed – the Professional Engineer Exam and am now a registered engineer in Texas. It is like finishing college and waiting 41 ½ years to take my finals! Anyway, I passed and all is well. I am a senior project engineer/manager at Worley Parsons."

David Berg (ME73) stated, "Bonnie and I are still enjoying living in the Black Hills. I retired from our business in June but have managed to keep Bonnie working. We are enjoying our eight grandkids and travel to see them as much as we can."

Curt Bossert (CE76) shared, "I retired from Indian Health Services in January 2010. Our second granddaughter, Alexandria, arrived in July 2011, joining big sister, Madison. Our daughter, Heather, married Jacob Wiskerchen on October 1, 2011. All three kids are married and doing fine, as are Sharon and I."

Mark Brown (ME79) sent in this "photo from a recent trip to Florida, where we attended the wedding of Patti and **Tom Winkler's** (CE79) son, Clay, on April 28, 2012. Other Triangle brothers and spouses attending included Laurie and **Kim Haarberg** (MetE79), Gillian and **Alan Larson** (ME79), and **Carla (Wade) Brown** (GeolE81) and **Mark Brown** (ME79). We all enjoyed a long weekend with great friends and the Florida sunshine!"



(l to r) Carla (Wade) Brown (GeolE81) and Mark Brown (ME79), Laurie and Kim Haarberg (MetE79), Alan Larson (ME79), Patti Winkler, Gillian Larson, and Tom Winkler (CE79)

Gregory Bucknell (CE77) announced, "Vicki and I became grandparents on April 29, 2011, with identical twin boys, Jack and Alex, by our daughter, Marissa, and her husband, Chris. We are very excited and looking forward to the joys of being grandparents."

Thomas Callan, Jr. (Math72) updated, "I retired from Caterpillar in February after 36 years of service."

Dennis Christman (ME71) told us, "Finally retired after 51 years of working for a paycheck, and now my efforts will be focused on 'Honey-Do' projects. I hope to get in a little bit of fishing as well."

Thomas Cummings (GeolE73) updated, "I am closing in on retirement!"

Ray Dennis (CE77) shared, "I was recently on a Delta flight from Pittsburgh to Minneapolis and as I exited the pilot looked very familiar. It was my old classmate **Scott Miner** (CE77). Small world!"

Louis Dorland (Phys77) posted, "Last May I retired from the U.S. Postal Service as an information systems specialist. My wife, Susie, and I have been traveling, relaxing and visiting our daughter, Cassie, who lives in New York City."

William Engstrom (GeolE79) shared, "I retired from the Arizona Department of Environmental Quality in October 2010. Currently I work part time as a geology professor at Glendale Community College. I have three daughters. Melanie is a high school biology teacher and has her master's in education and bachelor's in biology, Erika has her PhD in materials engineering and works for Intel. Allison has one more year before she gets her PhD in material engineering. My wife, Cathy, is a consulting RN with Cardinal Health. Cathy and I enjoyed our time in South Dakota when I was a grad student, but at least we still have the mountains to enjoy here in Arizona and teaching geology here is as much fun as learning geology was in South Dakota."

Melanie Fiegen (CE79) proudly shared, "The girls are out of the house and they have each received scholarships, so I got a little red sports car and **Mark** (ChE79) got a little green tractor."

Laura Geary (Math73) informed us, "I will be retiring from teaching math and computer science at the end of this school year at the School of Mines. I have enjoyed working with SDSM&T students and professors for over 25 years."

Robert Heier (ME73) sent in, "Madonna

and I still live in Louisiana. We continue to return to South Dakota each year for a visit. It is always great to reconnect with family, friends and SDSM&T alumni. We appreciate Alumni President, **Pete Birrenkott** (ME71) visiting with the area alumni last year."

Lynn Helms (ChE78) declared, "Sally and I are empty nesters now; just living the good life in the eye of the Bakken Boom."

Steve Hier (ME71) mentioned, "I am still running my inspection and consulting business after 25 years. My daughters are out of the house and on their own. Cindy has three boys and lives in Portland. Susan and Christine are still in Chicago, close to me. I am having fun with my railroad speeder (NARCOA). I took **John Heinricy** (ME70) for a trip last May."

Jerald Johnson (ME70) updated, "We moved back to the Boston, Massachusetts, area to be near children and three grandchildren. Karen and I enjoy retirement. We are 'professional grandparents' and I volunteer at the Center for Women & Enterprise, an organization that helps women entrepreneurs. I teach and counsel."

Donald Keill (GeolE72) told us, "The high price of gold has made my business very busy. I am enjoying retirement from BLM and working for myself. Kanza is still teaching middle school and both Jon and Alyssa expect to graduate next year from college."

Dale Larsen (GeolE78) stated, "We moved to Denver six years ago. I continue to work in the oil and gas industry. I see **Dave Gibbons** (MinE78), **Terry Logan** (GeolE78) and **Mark Brown** (ME78) occasionally."

Jim Martin (Geol71) noted, "My first year of retirement was busy with trips to Taiwan, France and Spain. I was humbled when the James E. Martin Paleontology Research Center was named in my honor in June, 2011. Now we spend winters in Southern Louisiana where Cajun food, music and family are all served piping hot!"

Nancy (MinE76) and **Jim Mackay** (GeolE75) wrote, "We sold our business so now are retired with travel on our agenda."

James Munro (Chem72) announced, "I opened my own engineering consulting business, Harney Peak Resources, LLC, and am enjoying being my own boss."

Rajagopal Namperumal (CE71) stated, "I retired in August 2008 from my successful structural engineering career at Sargent & Lundy in Chicago, Illinois. Both of my children are married and living in California. Since January 2010, my wife and I were blessed with a grandson, Teagan Kumar, and a granddaughter, Arya Risha, through each of our children. Since retirement, I have been learning Spanish and music at the local community colleges for my enjoyment in retirement."

Larry Pawlowski (MetE77) proudly announced, "Our first grandchild arrived on August 30, 2011, to our son, Ryan, and his wife, Lisa, of Craig, Colorado. They named our granddaughter Claire Faye Pawlowski."

Steven Pirner (CE72) shared, "The Summer of 2011 will always be remembered in Pierre and Fort Pierre as the year of the Missouri River Flood. While releases from Oahe Dam are normally in the 30,000 c.f.s. range, releases this past summer peaked at 160,000 c.f.s. The communities came together as family and with many SDSM&T alumni involved in the flood fight, it was a summer of neighbor helping neighbor."

Michael Psiropoulos (MinE76) submitted, "Lindsey and I will be leaving Iowa to move back to the Northwest. Our granddaughter, Gracelynn Violet Myers, was born on September 30 – Megan and Ian's first child. She joins cousins Lucia, Jack, Nashen and Jakob. All of our children are doing well."

Roy Pulfrey (CE76) shared, "I retired from the Bureau of Indian Affairs in December 2010. We built a house a few years ago on the farm where I grew up and am still actively involved in farming. I also am an assistant high school boys' basketball coach at Langford, South Dakota. My daughter, Laura, is a junior nursing student at SDSU. My son, James, graduated from Dakota Wesleyan University in 2010, but continues to live at home because of medical problems related to a recurring brain tumor."

Linda Rausch (ChE75) was recently elected as the District 3, Meade County Commissioner for a three-year term.

William Rausch (MetE77) told us, "We have eight children in seven different schools!"

Darles Scheibe (CE76) proudly shared, "Our oldest son, Nathan, is married, and Vivian and I are grandparents to a little girl named Marissa."

Dennis Schnabel (ME72) reported, "I had my third kidney transplant in February 2010 and the kidney is doing very well. I am enjoying retirement, spending lots of time with our four grandchildren."

Vasudevan Rajaram (MinE72) declared, "I am enjoying doing many things for the community since I am semi-retired. I am president of the Oak Brook, Lions Club, president for the Chicago chapter of PRATHAM USA, and I am the IIT Alumni Board Director."

Joseph Vig (CE71) said, "**Steve Weiland** (CE76) and I had a very small M-Day muster in Phoenix the weekend of September 24, 2011." Joe also traveled to India last year where he attended a factory dedication for Kolberg-Pioneer, Inc. Astec Licensee there, TIL, near Kolkata; and visited a customer's quarry near Hyderabad with one of their international salesmen, Ali Khan. On a sad note, our sincere condolences go to Patti and Joe on the loss of their son, Mason, in February 2012.



Joseph Vig (CE71) is in India with Ali Khan.

'80s

Guardie Banister (MetE80) wrote, "Our daughter, Nicole, is a junior at Georgetown and our son, Julian, is a freshman at TCU. I was recently elected to the board of directors of Tyson Foods."

Sara Beringer (MetE81) stated, "There were 10 kids in my immediate family. There was at least one of us at SDSM&T for 20 consecutive years."

Sundar Christopher (M.S. Mtro89) has written a book, "Navigating Graduate School and Beyond: A Career Guide for Graduate Students and a Must Read for Every Advisor" (AGU, Geopress).

Ronald Espeland (ME82) shared, "Greetings to all of my past classmates and alumni. It is hard to believe that I am now in my 20th year as a project engineer/construction manager with Amoco, BP and now Tesoro. After 30 years, two kids and five grandkids, Rose and I are still keeping busy working. We currently live in Bismarck, North Dakota, and invite you to stop in if you're ever up this way."

Anthony Evers (ME80) posted, "I am still working for Conoco Phillips. My wife and I have been living in Jakarta, Indonesia for the past four years."

Curtis Grudniewski (CE89) updated, "Since graduating in 1989, I have had many opportunities in my chosen profession of engineering. I am currently employed with USDA-Forest Service, Dakota Prairie Grasslands, Medora Ranger District in Dickinson, North Dakota, as a preconstruction engineer. I love my job and my 'real' office is about 1 million acres of federal lands. The oil boom in North Dakota encompasses these lands and when a new 'well' is proposed in Forest Service lands, the access route is field located with concurrence, design, review, coordinating with other specialists and interests. With the boom, I stay quite busy. I reside just outside of Jamestown with Karen and we have a foster child named Austin Schroeder, five dogs, lots of barn cats and we raise quarter horses. Karen trains them for barrel racing and we sell some from time to time. Besides getting on in years, life is pretty good. Hello to all alumni, take care and God Bless."

Bruce Halter (MetE89) said, "I am still making a difference at Alcoa in Bettendorf, Iowa."

Mary Himmler (Chem88) shared, "Walter Reed Army Medical Center and National Naval Medical Center have merged, so I

am now working at the new Walter Reed National Military Medical Center. Work is amazing as always and the wounded warriors are so inspiring. My daughter, Michelle Kelley, a SDSM&T student remains deployed to Iraq, where she is a Medevac pilot. My son, William, is at Marine boot camp. Please keep them in your prayers. Blessings to all."

Michael Maisey (Phys88) told us, "I was promoted to safety, health environmental security manager for Barzan Offshore Project, based in South Korea for the next 20 months with an additional six months in Doha Qatar for this project. After that..?"

William Murray (EE85) stated, "I am presently working through some significant medical issues."

Mark Rantapaa (GeolE87) mentioned, "I am currently working as superintendent of operations at Barrick Goldstrike. I celebrated my 20th year at Goldstrike and am still enjoying my work. It is a great time to be in the gold industry."

Eugene Rye (EE84) shared, "BBQ has started to rise in the yard in Oklahoma. After many years of no success trying to get out of the defense industry and into the medical device industry, I finally found a way to experience it. I was fitted with a pacemaker to treat a low heart rate. So much for low fat diets and exercise ... I should have just stayed fat."

Jacqueline Sargent (EE89) sent in, "It has been hot and dry here in Texas; we sure could use some rain. I am enjoying my job with Austin Energy and **Don Sargent** (EE80) continues to work for West Plains Engineering from Texas. It has been great to be closer to daughter, **Ericka Oberembt** (CE04), who is in Houston working for Bechtel. Son, **Clark Oberembt** (ME06), married Jessica Rodriguez last March and they are in Denver. Clark is working for Structural Integrity and Jessica is at Wells Fargo. We kept our Rapid City home and rent it to our nephew, Brian Wills, a mechanical engineering student at SDSM&T. We plan to retire in the Black Hills someday."

James Spinar (ME84) commented, "Our son, Matt, attends SDSU Pharmacy School and our daughter, Rebecca, attends

Creighton University in Omaha. We hope to visit the Black Hills in the summer of 2012."

Tim Vottero (Chem84) updated, "We now have four grandchildren. Daughter, **Breanne Lundin** (ChE06), and son-in-law, Ian, have three daughters: Maelle (3.5), Eleanor (2), and Annigale (5 months), and they live in Houston, Texas. Daughter, **Corinne** (IE08), and son-in-law, **Kevin Heiberger** (ME07), welcomed their first, Elijah, in January 2012, and they live in Salt Lake City, Utah. Daughter, Amanda, and fiancé, Ian Steckelberg (ME, Yankton), welcomed their kitty, Neptune, last year, and both are in college and living in Rapid City. Son, Jonathan, just finished his freshman year in high school, and is considering being an engineer someday."

Daniel Weinacht (ME84) stated, "In February 2011, I was appointed the president of the energy services division of ARES Corporation. I oversee and lead the activities of 280 personnel who provide engineering design and analysis services to commercial nuclear power industry as well as the U.S. Department of Energy. I am based in Richland, Washington."

Mark Wenckus (CE83) told us, "For the last 30 years I have traveled many miles, close to 1 million flight miles. When told of SDSM&T, I hear high regard. My family and I are proud of our affiliation."

'90s

Bruce Boehrs (ME91) shared, "We completed the adoption of our new son, Nathan, last spring from Ukraine. The whole story is on my wife's blog: www.motorcyclemama5.wordpress.com"

Tricia Gomulinski (CSc/EE98) announced that she married Curtis Dennis Gomulinski on December 31, 2010, in Roseville, Michigan. Curt was installed as executive director of Tau Beta Pi, the engineering honor society, on October 29. The couple now lives in Knoxville, Tennessee. Fellow SDSM&T graduates attended the wedding ceremony: **Ronnie** (CSc/EE94) and **Lonnie Snyder** (CSc/EE94), **Stacy Johnson** (CE98), and uncle **Jerald Byg** (CE72). A reception in Denver was held on January 15, 2011.

Randy Kinney (ME91) mentioned, "We just closed on the purchase of an existing company, Into Metal, here in Lincoln, Nebraska. I am very excited about the change. Debby and the kids are excited about not having to move again too!"

Paul Larson (ME93) told us, "God continues to bless us with joy, thankfulness, children and love."



The Larson family

Kelly (Cowles) Olson (IS92) and **Steve Olson** (ChemE96) emailed us, "We have been in Denver, Colorado, nearly three years now. Kelly is a pediatrician with Kaiser Permanente and Steve is a completions & well intervention engineering team lead with Shell. Daughter, Elizabeth, is now 6 years old and getting ready to finish kindergarten. Between work and home, there is never a dull moment!"

Manuel Penalzoza, Jr. (MetE95) announced, "Our family was blessed again with Mia Isabelle Penalzoza who arrived on June 6, 2011. She was eight pounds and 7 ounces."

Eleanor Swent (HON98) announced the 2011 publication of her book, "Asian Refugees in America: Narratives of Escape and Adaptation" via McFarland Press.

Rudy Wick (MinE94) said, "I am starting my third year working in northern Alberta, Canada. Kiewit is in a joint venture and doing all the major earthworks and civil work for the development of an oil sands mine for Imperial Oil/Exxon. Son, Jacob, has taken a job since graduating from SDSM&T with Interstate Engineering in Pierre. Daughter, Kelsey, is working in Denver as an estimator in sales."

Roderick Zehrung (ME94) informed us, "I recently returned from my second tour with the Army Reserve in Afghanistan as a combat engineer."

'00s

Chris Baer (CE01), recently joined Kolberg-Pioneer, Inc.'s engineering team as a structural design engineer. As such he performs structural steel design for both the washing and material handling product lines. Previously, he worked as a design engineer for Dakota Steel and Supply in Rapid City, and as a design engineer at Gage Brothers Concrete Products in Sioux Falls.



Chris Baer (CE01)



Pictured are the SDSM&T alumni who attended the reception (l to r): Rebecca Walter (EE97), Lonnie Snyder (CSc/EE94), Tricia Gomulinski (CSc/EE98), Jennifer (Mello) Rayburn (CSc94), Paul Rayburn (ME93), Ronnie Snyder (CSc/EE94), Jeff Watson (EE86), and Larry Simonson (EE69).

Shana Bauer (IS09) updated, "I am starting my doctorate in audiology at USD this fall."

Joe Vaith (ME07) is a mud engineer in Williston, North Dakota. We are engaged and will be married in August 2012. Our daughter, McKinley, is almost two years old and full of energy!"

Karen Brady (CE01) announced, "In 2011 we were blessed with our second child, a son, Garrett. Alaska is treating us well."

George Douglas (MetE06) proudly announced, "We had our first child, Penelope Kate Douglas, on September 24, 2011."



*Penelope
Kate
Douglas*

Dale Healey (IE06) emailed, "Kristina and I got married in Montego Bay, Jamaica, on December 18, 2011. **Dan** (CE90) and **Tracy Painter** (CE91) went with us for a week of fun in the sun. Dan was my best man and Tracy was Kristina's maid of honor. It was a beautiful little ceremony on the beach with just the four of us."



Kristina and Dale Healey (IE06)

Carson Merkwan (ChE05) informed us, "My wife, Courtney, and I welcomed our second child, Blair, on December 1, 2010. We have also relocated to Sioux Falls."

Wes Roth (CSc04) received the Young Professional Award from the Rapid City Chamber of Commerce. The Young Professional of the Year Award is presented to an outstanding young professional in the Rapid City area who demonstrates vision, professionalism, and involvement resulting in a positive impact on the community. Wes is a staff assistant for U.S. Senator John Thune. Wes was not present to receive his award because he and his wife were adopting a 6-week old baby boy from Ethiopia. His name is Kaleb and he just celebrated his first birthday in March 2012. Wes emailed, "I continue to enjoy my job as a Constituent Services Representative for Senator Thune in Rapid City. This May will mark my seventh year working for the Senator and the people of South Dakota. Kim continues to teach family & consumer science at Belle Fourche High School."

Barbara Toews (IS06) shared, "I am enjoying my position with Marshall Miller & Associates, where I do GIS mapping for the office. I enjoy spending my extra time helping coach Special Olympics events in our community."



Kaleb Roth

Brian Drake (ChE00) proudly shared, "We are happy to announce our new baby girl, Arelia, was born August 18, 2010."

Christopher Gerken (Chem06) wrote, "We are celebrating the birth of our first baby girl, Teagan Ann. She was born four months ago. She was 20" and 7 pounds, 6 ounces. We recently located to Missouri."



Teagan Ann Gerken with her proud parents.

'10s

Nicole (Orr) Paul (ACM11) wrote, "My husband, **Tyler Paul**, (CSc10) and I have recently moved to Sioux Falls. We got married last September."



1



2



3



4



5



6



7

1. Denver , CO

SPE Alumni and Friends social:
(left to right)

Gaurdie Banister (MetE82),
Jim Annable (GeolE82),
Joe Corbett (GeolE82),
Brian Powers (GeolE82),
Val Prolow (EE81),
Kevin Beacom (GeolE82);
(not pictured) **Ron Begier** (ME63),
Dusty Gilyard (CE81),
Tim Vottero (Chem84)

2. **Rapid City** and SDSM&T
celebrate Ralph O'Neill's 104th
birthday: (left to right)

Ralph O'Neill (CE36),
M.R. Hansen (CE69)

(Please see more
in 1930s Class Notes.)

3. **Pierre, SD** 17th annual
tailgate party: (l to r) Cooking
Contest winners, Crock Pot Classics
1st place, **John Childs** (CE92);
2nd place, **Terry Florentz**
(GeolE02) & Tammi; 3rd place,
Darold Krein (GeolE82); Miner's
Miscellaneous Masterpieces –
1st place, **Marc Macy** (GeolE04);
2nd place, **Brian Gustafson**
(GeolE81); 3rd place, **Dustin Witt**
(CEng05); Gold Diggers Delights –
1st place, **Aaron Tieman** (GeolE03);
2nd place, **Tracy Painter** (CE91);
3rd place, **Lisa Rombough** (CE00)

4. **Pierre, SD** 17th annual
tailgate party:
Jeanne Goodman (GeolE79)
and **Tracy Paint** (CE91)

5. **Pierre, SD** 17th annual
tailgate party: Three Amigos –
Vern Bump (GeolE61),
Tim Vottero (Chem84),
Paul Gnirk (MinE59)

6. **Pierre, SD** 17th annual tailgate
party: **Dale Healey** (IE06) and
Kristina with **Paul Gnirk** (MinE59)
and **Steve Pirner** (CE72)

7. **Pierre, SD** 17th annual tailgate
party: The door prize emcees get
started with the kids table.

AREA MEETINGS |

8. **Pierre, SD** 17th annual tailgate party: Alumni group photo

9. **Beulah, ND** alumni enjoy a winter day at Coteau Properties' Freedom Mine: (left to right)

Tyler Barth (MinE10),
Jay Van Dyke (CE99),
Joe Spiekermeier (MinE00),
Kendra Kungu (GeolE09),
Dean Jones (MinE82),
Jerry Becker (MinE73)

10. **Lake Oahe, SD** Theta Tau Fishing Derby: (back row, 1 to r)

Scott Darnall (CSc93),
Jason Smith (ME94),
Mike Tully (ME909),
Keith Beck (EE90),
Sean Stucker (ChE89),
Lorne Lawrence (Ex90),
Glen Wilcox (ME90),
Shawn Klabunde (EE90),
 and **Don Lapp** (MR92);
 (middle 'fish' row, 1 to r)
Dave Hartmann (CE94),
Kris Hallan (ME05),
Mark Ingalls (CSc92),
Mark Janssen (ME88),
Marty Jackley (EE92),
Darin Hodges (CE98),
 and **Glenn Stensaker** (MetE95);
 (kneeling, 1 to r)
Jim Bruns (ME93),
Kevin Erdmann (ME04),
Brad Sale (Ex91);
 (not pictured)
Kelly Whiting (Math89),
Brad Gall (CE91)

11. **Bremerton, WA** Happy Hour:

(1 to r) **Paul Cooney** (ME09),
Brady Wiesner (CE09),
Sarah Farber (ChE04),
Greg Hess (CE82),
Jim Hubbeling (ME88),
Tim Vottero (Chem84);
 (not pictured) **Brian Zimmerman** (ME01), **Owen Tripp** (ME50)

12. **Portland, OR** lunch at the Kennedy School: (standing, 1 to r)

Judd Nielsen (IE95),
Travis Ernst (ME00)
 and Jui Ernst,
Marijane White (CEng99),
Jim Barth (EE82),
 Tyler Pesek,
Tim Vottero (Chem84);
 (front, kneeling) Jaci Pesek



8



9



10



11



12



13



14

13. Edmonds, WA brunch at Arnies restaurant: (seated) Cheri and **Joe Corbett** (GeolE82); (standing, l to r) **Lars Ditlev** (MetE74), **Marlene Nelson** (ME74), **Judd Nielsen** (IE95), **Vernon Abild** (EE50), Pat Abild

14. Bellevue, WA lunch at the Golf Club at Newcastle: (front, l to r)

Ty Gaub (ChE84), **Marlene Nelson** (ME74), **Judd Nielsen** (IE95), **Dennis Schnabel** (Phys72), **Joe Corbett** (GeolE82), Cheri Corbett; (standing) **Charley Chambers** (ME69) and Leslie Chambers; (not pictured) Curt Chenoweth, **Tim Vottero** (Chem84)

15. Redmond, WA dinner at Desert Fire restaurant in the Redmond Town Center:

(back row, l to r) **Dennis Schnabel** (Phys72), **Lars Ditlev** (MetE74), **Hans Ditlev** (ChE10), **Mike Selzer** (EE74), **Judd Nielsen** (IE95); (front row, l to r) **Joe Corbett** (GeolE82), Cheri Corbett, **Scott Bracken** (EE88), **Ken Miller** (CE75), **Marlene Nelson** (ME74), **Tim Vottero** (Chem84), Pat and **Vernon Abild** (EE50)

16. Mt. Vernon, WA spring flower brunch at the Farmhouse Restaurant: (l to r) Jean and **Dick Snyder** (CE61), **Ward Zimmerman** (ME50), John Meeker, Pat and **Vernon Abild** (EE50)

17. Seattle, WA SME Alumni and Friends social: Cheri and **Joe Corbett** (GeolE82), **Jill Nelson** (MinE82), **Marlene Nelson** (ME74)

18. Seattle, WA SME Alumni and Friends social: **Shashi Kanth** (M.S. MinE93) with Jim Bryja (senior VP, Alpha Natural Resources)

19. Seattle, WA SME Alumni and Friends social: (clockwise from front center) **Maurie Fuerstenau** (MetE55), **Terry Heil** (ME55), **Lee Rice** (Geol70), **Christy Green** (MetE95), Guest, **Lisa Schlink** (MetE04), **Jon Kellar** (MetE84)



15



16



17



18



19

AREA MEETINGS |

20. **Seattle, WA** SME Alumni and Friends social: Pat and **Vernon Abild** (EE50) with **Brad Johnson** (EE92)

21. **Chicago, IL** alumni gathering at Lamborghini Chicago in Westmont: Foundation President **Mike Selzer** (EE74) addressing the troops

22. **Peoria, IL** alumni dinner: (l to r) **J.D. Wientjes** (MinE79), **T.J. Winowiecki** (ME08), **Joe Corbett** (GeolE84), **Nathan Priegnitz** (MinE10), **Mike Selzer** (EE74), **Dick Schlumpberger** (CE65) and Mary, **Jeff Allen** (ChE77) and Jean, Ruth holding daughter with **Dan Stanton** (CE01), **Kermit Velder** (ME93), **Heather Shoup** (CE95)

23. **Kansas City, MO** ASME alumni dinner at The Local Pig: (front row, l to r) Josh Pappel, Carlos Beatty, Jr., Megan Frager; (middle row, l to r) Ben Hanson, Steve Sobania, **Kathleen Hoffman** (CSc84), Tyler Nack, **Matt Kafka** (IE04) with Noah and Ella, **Justin Tomac** (IE93), Sarah Tomac; (back row, l to r) **Jason Ash** (ME99), Jared Johnson, **Jeff Hoffman** (ME84), Andy Koosman, **Joe Farke** (ME08), **John Tines** (ME08), Colin McGowan, **Vic DeJong** (ME64); (not pictured) **Matthew Schulte** (ME09) Rachel Schulte

24. **Henry, NE** area's first meeting of newly formed alumni chapter: (l to r) Barb Hansen, **Dan Painter** (CE90), **Tracy Painter** (CE91), **M.R. Hansen** (CE69)

25. **Rapid City** 33rd annual Hardrocker Alumni Weekend: Cheri and **Joe Corbett** (GeolE82) in cart #6, with **Chris Walla** (MinE81)

26. **Rapid City** 33rd annual Hardrocker Alumni Weekend: (l to r) **Bill Tucker** (GeolE56), **Duff Erickson** (MinE55), **Rick Wass** (IS96)



20



21



22



23



24



25



26



27



28

27. **Rapid City** 33rd annual Hardrocker Alumni Weekend: Tailgate provided by Greeks.

28. **Rapid City** 55th annual Alumni Recognition event: Past and current Alumni Association presidents in attendance (l to r) **Paul Gnirk** (MinE59), **Bob Miesen** (CE61), **Jerry Brown** (CE60), **Joe Corbett** (GeolE82), **Tom Zeller** (ME72), **Glen Barber** (CE61), **Pete Birrenkott** (ME72) and **Ken May** (CE61)



29



30

29. Rapid City 55th annual Alumni Recognition event: Outstanding Recent Graduates in attendance (l to r) **David Tullis** (CE01), **Jeff Major** (MetE99), **Bert Cantu** (MetE01), **Marissa Wood** (IE01), **Michael Pogany** (EnvE02) and **Joshua Price** (MinE01)

30. **Rapid City** 55th annual Alumni Recognition event: SDSM&T Master Chorale

31. **Rapid City** and SDSM&T host the Class of 1962 reunion: Alumni attendees pose with Grubby statue.



31



32

32. **Rapid City** and SDSM&T host the Class of 1962 reunion: Student explains CAMP teams to alumni and guests.

33. **Rapid City** and SDSM&T host the Class of 1962 reunion: Alumni/veterans from Class of 1962 reunion.

34. **Rapid City** and SDSM&T host the Class of 1962 reunion: **Doug Aldrich** (ChE62) receives Guy E. March Medal at commencement.



33



34

IN MEMORY

Our sympathies and condolences go to the families and friends of the following alumni, former faculty, and former staff of the School of Mines.

Paul L. Aggergaard (Phys52)
Larry E. Beckwith (ME66)
William R. Benn (ChE44)
Rhonda R. Biegler-Nickerson (ChE90)
Douglas F.B. Black (Geol62)
Gary T. Carlisle (MinE67)
Lyle D. Clark (ME52)
George H. Decker (CE39)
R. John Elliott (Paleo80)
Jack H. Excell (CE50)
Phillip J. Fenner (EE58)
Michael J. Ferguson (EE85)
Gerald L. Gimbel (ME70)
Warren I. Greenway (ChE44)
Irving L. Hasler (CE61)
Lawrence R. Hatt (ChE61)
Harrison G. Herber (ChE40)
Lyle J. Johnson (EE62)
Paul C. Kohlman (GeolE49)
Robert R. Kooiman (ME52)
Halden W. Larson (Phys61)
James W. Laughlin (EE47)
Jack J. Lehecka (CE50)
Robert A. Lerdal (ChE59)
Evan "Mike" Lilygren (EMgt88)
Russell T. McIntire (EE50)
Richard C. McMillan (Geol77)
Donald E. Nelson (EE51)
Duane P. Paulson (CE51)
Albert "Gene" Peterson (CE61)
Paul L. Rudesill (Chem48)
Donald L. Russell (EE65)
Steve P. Schmidt (ME88)
Hilton H. Stemwedel (EE49)
Michael K. Swanson (GeolE89)
Derral "Red" Thompson (ME52)
Clarence J. Wall (MetE44)
Halbert L. Wall (CE42)
David A. Watters (CE60)
Orville C. Weisz (Chem69)
Byron C. Whaley (MinE40)



Complete memorials may be found under the Class Notes section on <http://alumni.sdsmt.edu>

TELL US WHAT YOU THINK!

We value your opinions as we strive to continuously improve the *Hardrock* magazine. Take a brief anonymous survey. **Please respond by September 1, 2012**

Tell us what you think by logging on to ➤ www.surveymonkey.com/s/YM6GCZ2



Margaret Puszynski
Broker Associate

Service With a Smile!



1240 Jackson Blvd.
Rapid City, SD 57702
Business: (605) 341-4300
Fax: (605) 341-3460
Residence: (605) 342-2262
Cellular: (605) 390-3445
E-mail: puszynski@earthlink.net

For Relocation Package call: 1-866-547-2796



CAREERS WITH IMPACT

ADD YOUR ENERGY TO OURS

Jerry Likewise (MEM07)
O&M Manager- N Simpson, Black Hills
Corporation (Black Hills Power)

Dory Batka
Manager Generation Dispatch & Power Marketing,
Black Hills Corporation (Black Hills Power)

As a strong, diversified provider of innovative energy solutions, Black Hills Corporation is continually seeking exceptional individuals with the unique abilities to take us forward.

We offer a wide range of rewarding career opportunities throughout the Midwest in fields including:

- Engineering
- Operations
- Information Technology
- Accounting/Finance
- Business Administration
- Customer Service
- Marketing

We offer an attractive salary based upon qualifications with competitive benefits and a supportive, professional work environment. To apply for open positions, go to the career opportunities section on our Web site. Resumes are accepted via the Web site.

www.blackhillscorp.com

Equal Opportunity/Affirmative Action Employer



SAVE THE DATE: THURSDAY, SEPTEMBER 27, 2012



**Fourth Annual
Mines Medal Dinner
and
Award Ceremony**



About the 2012 Mines Medal Recipient

Dr. Diana Wall is a University Distinguished Professor and Director of the School of Global Environmental Sustainability at Colorado State University. Her research focuses on how microbial and invertebrate diversity contributes to healthy, productive soils, and the impact of human activities on soil, with intensive studies of the North American Great Plains, sub-Saharan Africa, and the Antarctic Dry Valleys.

She is recognized as one of the world's leading experts on biodiversity. As a member of the President's Council of Advisors on Science and Technology (PCAST), Dr. Wall's research impacts national policy that informs government action on threats to the nation's biodiversity and ecosystems.

Dr. Wall is engaged in a wide array of professional service and public outreach activities. She serves as co-principal investigator of the NSF McMurdo Dry Valley Long Term Ecological Research project and is Past-President of the Ecological Society of America. Her work has been featured in the *New York Times*, *National Geographic* magazine, and PBS shows such as *Horizons* and *Discovery*.

About the Mines Medal

The South Dakota School of Mines and Technology established the Mines Medal to honor engineers, scientists, and researchers who have demonstrated exceptional leadership and innovation.

<http://mines-medal.sdsmt.edu>