

THE HARDROCK™

WINTER / SPRING 2019



SOUTH DAKOTA



SCHOOL OF MINES
& TECHNOLOGY

THE HARDROCK™

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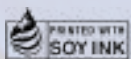
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Dear Alumni and Friends of Mines,

It is indeed my honor and privilege to serve as President of the Alumni Association this year. I am proud to serve on a volunteer Board of Directors with alumni from all over the USA. I appreciate the go get'em attitude of our younger members and the rich experience and wisdom of our seasoned alumni. Although diverse in backgrounds and experience, we serve a common cause and are committed to engaging our alumni through chapter growth, communication and collaboration.

As a native of Pennsylvania, my path to South Dakota School of Mines began with alumnus **Wesley Burr (Phys 48)** who recommended Mines to my mother while both were working for US Steel. After a visit to the campus, I knew this was the college of my choice. Mr. Burr's contact made a world of difference in my professional life and where I am today.

In an effort to recruit future Hardrockers, our Alumni Association is spearheading a new campaign: ONE ALUM, ONE CONTACT, ONE WORLD OF DIFFERENCE. In collaboration with our Admissions Office and University Relations, we are asking every alumni and friend of Mines to make an effort to contact one potential student who can be found in your family, neighborhood, workplace, organization, or church. Your contact can and will make a difference in a young person's life. Watch for the links in our Hardrock e-News on how you can obtain a copy of Admission's recruitment brochures. This will provide you with valuable information you can pass on. Thank you in advance for making this a successful campaign.

On the home office front, dedicated individuals work with our alumni through committee involvement and by building area chapter relationships. In anticipation of the move to our new offices next summer, alumnus **Tim Ogdie (ChE 80)** has been diligently scanning all alumni files, creating a paper-free environment. We thank Tim for his initiative and hard work.

Our FIVE YEAR REUNION is July 8-12, 2020. I am pleased to announce that **Scott Rausch (EE 75)** and **Linda Rausch (ChE 75)** are serving as co-chairs for this event. If you live in the area, we could use your help on many of the committees. Please contact the Alumni Office and sign up.

Our purpose is to engage with alumni and friends and President Jim Rankin (EE 78) says it well...We are truly a "friend-raising" organization. I look forward to meeting many of you over the coming year.

Sincerely,

Susan "Booty" Kuhns (GeolE 75)

2019 President

South Dakota School of Mines & Technology Alumni Association

FLASHBACK

120 years ago 1889

In May of 1889 the School of Mines holds its second commencement exercises at Library Hall, corner of Kansas City and 6th streets; four students receive certificates in assaying.

85 years ago 1934

In July of 1934, the first Stratobowl balloon flight takes place, marking the start of American involvement in the Space Race. Mines personnel play an important role in this launch and in the record-breaking high-altitude balloon flight of November 1935.

50 years ago 1969

In December 1969, singer/songwriter John Denver performed at the Surbeck Center.

10 years ago 2009

In April 2009 ground is broken for new James E. Martin Paleontology Research Laboratory. Today the world-class facility holds Mines' extensive collection of fossils.

Photos courtesy of
Devereaux Library, SD Mines



President Rankin's Inauguration



Dear Hardrock Friends,

Like many alumni of my era, I didn't finish Mines with a pile of debt. Back then education was more affordable, in part because public funding paid a larger percentage of the cost than it does today. This allowed many of us to hit the ground running in our early careers, and it helped our country maintain a strong STEM workforce over the decades.

Today, things have changed. We all know the cost to educate a scientist or engineer is increasing as the percentage of government funding drops. This means we rely more and more on the support of individuals who give generously to support scholarships.

Mines has always been a fantastic return on investment and the high-quality education at an affordable price won't change. But the university struggles to keep up with our competition. While Mines offers numerous forms of financial aid, some of our peer schools provide higher-dollar scholarships. Many universities supplement their scholarship dollars by discounting tuition. I was very surprised to learn that South Dakota public universities are not allowed to discount tuition and therefore must rely on donations to offer competitive scholarships.

We see this issue reflected in our enrollment; the number of freshmen accepted into the university has been increasing annually, but many of them choose to enroll elsewhere. They cite the lack of scholarship dollars among the main reasons. To address this issue, the university is developing a strategic enrollment plan that aims to expand opportunities for more young people to attend Mines. Part of this plan hinges on an increase in scholarship offerings to keep the university competitive in attracting the best and brightest students.

As an alumnus, you know the opportunities your Mines education afforded you. Now, the next generation of hard-working science and engineering leaders needs your help, so they can forge the same future.

Please consider reaching out to the SD Mines Foundation at foundation.sdsmt.edu. Your contribution will make a bright future for a young scientist or engineer.

Warm Regards,

A handwritten signature in black ink that reads "James Rankin". The script is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jim Rankin, PhD PE (EE 78)

President

South Dakota School of Mines & Technology

Ask the Mines Expert

Jeffrey McGough
CSE Department Head



What is the future of Computer Science (CSC) and Computer Engineering (CENG) at Mines?

There has been a lot of excitement following the announcement of the new Department of Computer Science and Engineering (CSE). It will officially start Fall

2019. It is natural to ask how will the programs be affected. Both degrees, CSC and CENG, will continue to be separate. As with all departments at Mines, we continually evaluate and update our curriculum.

First we are working on changes in prerequisites to allow students to more easily take electives in both majors. We are excited about the introduction of a series of one-credit courses. These courses will address specific content such as BASH Shell Scripting, Machine Learning Fast Start, User Interface Design, Python/Java/Ruby/Go/etc Introductions, SQL Database Design, Scientific Computing using Python & SciPy and more.

For CENG, the main change will be to create a core curriculum so that there are CENG courses through all eight semesters, as well as offering CENG electives every semester. The goal is to create a unique modern CENG curriculum rather than a second CSC degree. Emphasis areas such as IOT/Embedded Systems, Digital Controls, Mobile Computing and Networking and others will be introduced as the department grows. As we expand, we expect a few bumps in the road, but nothing that we can't handle as long as we have regular communication (and lots of coffee).

It is a very exciting time for the programs, students and the university. I am looking forward to working with both CSC and CENG students and faculty. If you have questions, fire me an email. I am happy to chat about the new department.

SAVE THE DATE

Hardrocker
Homecoming Week

September 21 - 28

Come home to celebrate Rocker Days!



South Dakota School of Mines & Technology may be known best for its science and engineering education, but it made a splash in 2018 on the football field as well.

The Hardrocker football team ended its season by breaking or tying 40 all-time school records.

Two individual players made particularly dramatic splashes. In October, senior running back Connor Silveria set the NCAA DII football single-game rushing record with 425 yards against Adams State University, Alamosa, Colo. The previous record held for 11 years. Silveria's record also broke SD Mines' record, set in 1977 by Hardrocker Jim Guthrie with 245 yards and tied in 1996 by Kevin Ptak.

Silveria's record-breaking game also earned him the Rocky Mountain Athletic Conference Offensive Player of the Week award.

Senior quarterback Jake Sullivan also made news this season, nabbing a nomination for the 2018 Harlon Hill Trophy as the NCAA Division II College Football Player of the Year. This nomination was earned by just 37 players from across the nation. During the 2018 season, Sullivan passed for 3,576 yards and 32 touchdowns. He also rushed for 340 yards and 10 scores.

Sullivan led the Rocky Mountain Athletic Conference in passing yards, passing attempts and completions and yards per game. He played in all 11 games and broke every quarterback record that the Hardrockers track.

"I've never had a quarterback play at the level Jake Sullivan performed at in 2018. Jake had total command of the system and found ways to get all his weapons involved while maintaining his flair for dramatic play-making," said Zach Tinker, Hardrocker Football Head Coach.

The success of the 2018 Hardrocker football team further establishes Mines as a university that not only excels in academics, but in all extra curriculars, helping to produce well-rounded engineers and scientists for the twenty-first century and beyond.



SHATTERING THE CEILING

Women Trailblazers at SD Mines

Pioneers break molds. They challenge the status quo. They exceed expectations. They swim upstream. The women in the SD Mines class of 1969 are no exception.

For years the male-dominated demographic at Mines has mirrored the science and engineering professions. The university has had women students since the school's founding in 1885, but actual graduates were sporadic prior to the 1960s. History began to change in 1965 when the largest group of freshmen women to date registered. Four years later Mines witnessed the largest cohort of women graduating when ten bachelor's degrees were granted. Many of

the women who attended Mines in the 1960s lead amazing careers and we caught up with three of them for this article.

"We went there because it was a very good school and I didn't think about it being a guy's school even though women were a big minority," remembers Kathy (Kutcher) Stechmann (Math 69). "We were there to get a degree, but also to have fun, and we did both of those things."

"I found Mines to be very welcoming," says Dianne Dorland, PhD (ChE 69 MS ChE 70). "I worked to get along with my male colleagues and I just enjoyed those

years in college."

Being at a school with so few other women was intimidating at first, and not without some challenges.

"I think there weren't more women at the time because it had a reputation of being rigorous academically and male-dominated and perhaps women felt that they couldn't go through that. However, that wasn't accurate and the women in our class did well," Diane (Gleason) Hammond (Math 69) recalls.

Hammond, Stechmann, and Dorland

dove headfirst into the college life, getting involved in extracurriculars (there were no sororities), tutoring, and working on campus.

"It was a lot cheaper to go to school then, but I still had to make my own way," says Dorland. "I ironed shirts and painted for \$1.25 per hour. Then in my sophomore year, I began to work for the Institute of Atmospheric Sciences. I got to fly around in the airplanes that seeded clouds and eventually got my master's degree working on an analysis of liquid water content in clouds."

Hammond and Stechmann were also the first female residence hall advisors. The school didn't have dormitory space on campus for women until they were juniors when the top floor of Dake Hall was converted. They jumped on the opportunity to be advisors and enjoyed taking part in Mines longstanding traditions.

"Walking into a class with only men inspired me to work harder," Stechmann says.

Things were still slow to change in the business world. At the end of their senior year, when companies came to campus to interview students, a couple of companies interviewed them for jobs like 'statistical typists', while the men were getting more serious, high-paying offers.

"It was
very

frustrating," Stechmann says. "They weren't interviewing us for the same level positions that they were interviewing the guys. I doubt that any men were interviewed to become typists," says Stechmann. After complaining to a campus official, Stechmann says the group realized there was little they could do to fix the unfair situation at the time.

But in following years, this group of women of the Mines class of 1969 were part of an initial wave creating change. These women credit their time at Mines as an integral part of the successful careers they went on to lead.

After graduation, Hammond moved to Minneapolis and landed a position in market research at General Mills. She got her MBA at the University of Houston, and then worked at the University of Denver doing research studies for corporate and government entities, including socio-economic analyses for some of the largest mines and power plants built during the 1970s and '80s.

She ended her career as Director of Planning and Public Policy for a major telecom company. Her time at Mines taught her the enduring values of perseverance, hard work, and patience. "Not only did

I learn math, but I also learned that if you kept at something, you'd eventually be where you want to be," says Hammond.

Stechmann went into education after finishing her math degree at Mines. She taught in Minneapolis for 34 years and was widely recognized in her district and by parents as an exceptional math teacher. She also was highly renowned as a mentor of new teachers beginning their careers. "I was in a field that had mostly guys in it, and I knew I could do just as well as they could. I didn't think about it until, after 20 years of teaching math, someone asked me 'is it uncomfortable teaching with only men?', because I was one of the only women. I hadn't really noticed, because I had worked like that at Mines and in my career otherwise," Stechmann recalled.

Following completion of her master's degree in 1970, Dorland went on to a career that included work for Union Carbide, Dupont, and the US Department of Energy. She earned her PhD from West Virginia University in 1985 and moved to the Department of Chemical Engineering at the University of Minnesota-Duluth, where she served as Chair of that department from 1990 to 2000. Dorland then served as Dean of the College of Engineering at Rowan University in Glassboro, NJ., before retiring. During her long career, she served as a role model to many women engineers and scientists. "I think you can teach that you don't have to settle for less, and you don't have to let your goals and the path you'd like to follow become second best to someone else," says Dorland.

Today, female students have an abundance of resources at Mines. Efforts like Women in Science and Engineering (WiSE) and the Society of Women Engineers (SWE) both seek to inspire and empower a new generation of female scientists and engineers.

Young women continue to be pioneers, overcoming barriers in what are still male-dominated fields, but they can take heart in the women who came before them who forged a path.

Were you among the early women graduates at Mines? Reach out and tell us your story at mediarelations@sdsmt.edu.



GAMING^{THE} FUTURE

Esports at Mines Preps Students for Careers in Gaming and Beyond...

Photos courtesy of
www.desktopbackground.org

The members of Mines' League of Legends varsity team are the same as other college athletes. They've dedicated countless hours of practice and determination to hone their skill sets. They work hard to balance school work and their responsibility to the team. They have the kind of tight-knit camaraderie that develops among fellow athletes, with nicknames (or gamertags as they're called) embroidered on their jerseys that include Alex "Void" Mattheis, Avery "Gray Enigma" Schroer, and Connor "Mameo" Briscoe. These players throw their hands into the air and cheer victories alongside screaming fans. And, like any other athletes, they must also learn to weather the disappointment of defeat with integrity and sportsmanship.

In years past, playing video games was often considered a waste of time with few redeeming qualities. At times "gamers" have been negatively stereotyped as closeted individuals who are glued to screens for hours on end and who contribute little to their surrounding community.

But this antiquated understanding misses huge opportunities in the gaming industry.

Furthermore, gaming related technology has potential applications far beyond the games themselves.

Mines recently made a move to recognize gaming as a college sport. The university also formed a new curriculum centered around the development of video games and associated applications.

ATHLETICS EMBRACES ESPORTS

Esports is a multibillion-dollar global phenomenon with millions of fans and players. The League of Legends world final match draws more viewers than the championship games in the NBA, NHL or MLB. Like their counterparts in traditional sports, the top professional players are earning millions of dollars annually in endorsements and prize winnings.

The move to place a varsity League of Legends team under Mines' athletics department may seem unusual to some. On the surface, video gamers are not the same as football players. But mastering a game like League of Legends, and then representing the university in competitions against other schools, requires a parallel skill set.

E-athletes also find advantages in the same traits required for success in any sport: teamwork, communication, sportsmanship, strategic thinking, emotional intelligence, and good old-fashioned hard work.

Universities across the country recognize that esports can have the same positive impact and value for their institution as traditional athletic events and teams. The activity can draw interest and build a name for the school. It can attract an alumni base to fund future scholarship money for these athletes. Esports is also an excellent recruiting tool. A vast percentage of young people play video games today. Finding a way to capture this demographic and turn them toward careers in science and engineering is a benefit for everyone.

THE GAMING CURRICULUM

Mines' new esports curriculum goes hand-in-hand with the university's esports varsity program. The 12-credit certificate in esports positions graduates to be more marketable within the industry, which is seeing strong job growth. According to the Entertainment Software Association, esports employment grew at an annual rate of 2.9 percent. That's more than double the rate of the U.S. job market with the average salary of \$97,000 per year in 2015.

But an expertise in this technology goes beyond the gaming industry. There is high demand for qualified personnel who can design, code, manage, and support the infrastructure behind complex computer programs. This includes a wide range of companies. RioTinto is one example. The company uses computer simulators to safely train operators in its mining operations.

"Advanced mining, production, and manufacturing will continue to have increased automation," says Paul Hinker, PhD, assistant professor in Mines' Mathematics and Computer Science Department and an advisor to Mines' esports program. "Esports and gaming in general show participants what sort of augmented and semi-autonomous control is possible through a variety of human/computer interfaces. Experience with good and bad interfaces allow our students to understand what works (and doesn't) in addition to encouraging innovation when developing these interfaces."

The esports certificate also fits well with Mines' effort to turn out well-rounded professionals in these fields.

"At SD Mines, we prepare engineers and scientists to be excellent in all aspects of communication and strategic decision-making in a teamed environment. These are attributes of designers and innovators, and esports offers a venue for Mines students to hone these skills," says President Jim Rankin.





When a tractor, or a pickup, or even a post hole digger breaks down on an isolated ranch in eastern Montana, there is little chance that outside help or the right spare parts will be available for repairs. Those who grow up in rural environments learn that problem solving with limited resources is only accomplished with hard work, ingenuity, and grit.

These are a few of the same ingredients that make excellent scientists and engineers, and Dakotah Rusley is no exception. His family has farmed and ranched for the last four generations about 35 miles outside

Baker, Montana. This upbringing proved to be a solid foundation for an engineering career.

“The tenacity needed to persevere through a tough situation where you might not have all the answers, but you figure it out—that’s what we do here,” says Rusley. “This is one of the advantages Mines students have.”

But Rusley’s success is one that almost wasn’t. When he was a senior in high school a guidance counselor told him he’d never succeed at a science and engineering university. The advisor warned the fast-paced study and challenging curriculum were just too difficult for a ranch kid to handle.

Thankfully, he didn’t listen.

“That renegade cowboy attitude is kind of fostered here.”

SPACE COWBOY

Ranch Kid

Launched at Mines

Landed at NASA

"I decided to come to Mines mostly out of stubbornness," he laughs.

Rusley found a place at Mines studying computer engineering. The small class sizes felt like home. "I by no means came from a prestigious school, but Mines still gave me the means to follow my dreams," he says.

Dreams don't come true easily. Rusley cites the importance of perseverance and persistence when it comes to success in any engineering discipline.

"In my junior year I sent out 731 internship applications, and I got denied for all of them. I came close to quitting after that," he says. "But I'm glad I didn't." He applied for the NASA Pathways Internship four times before finally landing a spot in 2017. The ten-day annual window sees about 150,000 applicants.

Despite beating the odds, Rusley maintains the kind of humility common among those with rural roots. He refuses to take all the credit for his successes. Instead, he points to the professors, small class sizes, and hands-on curriculum at Mines that helped shape his development and encourage him along the way. "While

it hasn't been easy, it's really cool to see all the hard work realized," he says.

Hard work is part of the fabric of rural America; and so is another key ingredient—ingenuity. Rusley gives praise to the culture at Mines that supports creative problem solving and outside-the-box thinking. "That renegade cowboy attitude is kind of fostered here," he says with a laugh.

To illustrate this, he points to an experience during his junior year on the Mines Moonrockers team. The annual robotics competition at NASA challenges universities to build the best off-world mining robot. "The team that got first place had a robot worth tens of thousands of dollars," Rusley says. "One single component on their machine was basically worth more than our entire robot," he adds. "We took second place with \$150 worth of components we bought off Amazon, and NASA officials were blown away at this," he says. "But, that's what makes School of Mines

graduates so valuable. We are used to an environment where you don't have millions of dollars to solve a problem; you have to use your brain."

Rusley's brain is in full use at NASA's Goddard Space Flight Center following his graduation in December of 2018, but he is not leaving his alma mater completely behind in his new career. He is one of the founding members of the Mines CubeSat Team and will continue to work with the student team and graduate researchers alike to help Mines become the first university in South Dakota to launch a small satellite in the coming years. He also plans on serving as a sponsor and technical adviser for future senior design and research projects at the university.

Innovation takes many forms—the sleek line of an airfoil on a formula car, a new piece of code that gives an autonomous vehicle an edge, and just the right length of trebuchet that throws pumpkins into the clear blue sky.

Innovation should also be fun. Mines' annual Pumpkin Chuckin' event combines engineering fundamentals with old-fashioned entertainment. Teams are judged on both distance and accuracy. They must launch their pumpkins at 100, 200, and 300-foot lines—the team that comes closest to each mark gets the most points. This requires students to calculate the variables for each launch of their unique pumpkin chucking contraption.

The event started when organizers of the Great Downtown Pumpkin Festival approached Kim Osberg and Dan Dolan, PhD, with the SD Mines Center for Advanced Manufacturing and Production (CAMP).

“We started with three-foot-tall trebuchets we already had on campus. We used those the first few years in front of a field near the old Rapid City High School,” says Osberg. By the fourth year, the crowds were growing and student teams began to engineer their own 10 to 12 foot tall trebuchets and catapults. The event moved to a large field in Memorial Park. By the 10th anniversary in the fall of 2018, an estimated 4,000 people showed up for the event.

In recent years the competition opened to local high schools. The younger students compete shoulder-to-shoulder with the collegiate teams.

For Dolan, competitions like this teach some of the fundamentals needed for success at any age. “Yes, students learn a little about basic physics in dealing with these trebuchets, but through this competition and fun, they absorb a lot more that they don't even know they are learning,” says Dolan. “They learn the value of friendship and the intrinsic rewards that come with respect, trust, and responsibility. They learn the fundamentals of teaming and leadership.”

Mines prides itself on traditions. The beanies, M Hill whitewashing, and senior hats are a bridge across the decades between alumni and students. Pumpkin chuckin' is becoming a new tradition and if the first decade of success is any indication—it's one that will continue.



10 YEARS & STILL CHUCKIN'





NEW TRICKS FOR AN OLD DOG

In 1966, Jerry Wright (CE 71) walked into the Civil / Mechanical Engineering Building on the Mines campus as an 18-year-old kid with an interest in engineering. Fifty years later, he came full circle when he walked through the doors again as a new PhD student.

“I had to learn a lot about stuff I never knew,” he jokes.

Any graduate degree involves a learning curve, but Wright brought a lifetime of experience to the table when he returned to Mines. His career as the leader of the Rapid City Solid Waste Division included expanding the municipal landfill to incorporate broad recycling and composting programs. Wright spent 27 years in the Army National Guard and Reserve, including a return to active duty after being called out of retirement to serve in Kuwait.

“I thank my kids for offering to co-sign my student loans,” he says with a smile. “But the GI Bill paid for my education.”

His doctoral dissertation is an extension of his career in environmental engineering. His core idea is to work with Mother Nature to conserve irrigation water by spreading compost on crop and grazing land. The draft dissertation begins with the words “On a dark and stormy night,” an appropriate opening for a thesis tied to the hydrologic cycle, which he notes is “a natural phenomenon beyond the control of human beings.”

Putting compost to more widespread use is something Wright came up with while leading the charge to see yard waste turned into compost at the local recycling facility. But there was little data to support the notion that spreading compost on croplands would save water while increasing yield. “The idea of this thesis is to verify what many people have known for years,” he says.

The work is proving that the efforts he undertook throughout his career—to see waste recycled into useful products like compost—have potential for the future generations.

“This is a win-win for the amount of water needed to grow a crop,” says Wright.

This research is a continuation of his lifetime of service to the community. In one sense it’s a capstone, but it’s by no means an end. There is little doubt that Wright’s decades of experience in the field of civil and environmental engineering will benefit Mines students in the years to come.



The Hillard Brothers
FLYING A



On a brisk fall morning at the Custer State Park airport, John Hillard sprinted across an open field with a propeller strapped to his back. The 80

pounds of thrust generated by the electric motor pushed him forward as the paraglider wing lifted over his head. In seconds he was aloft. The inaugural flight lasted only a few minutes. But it was a milestone after years of work to pioneer a commercial electric paramotor.

Phillip and John Hillard grew up with a love of flying inspired by their father, a Navy helicopter pilot. Phillip finished his degree in mechanical engineering in 2018, and his younger brother John is in his junior year at Mines. The brothers took up paramotoring as a hobby; their training as engineers helped them identify improvements needed to the standard gas motors used in the sport.

“We spent almost as much time tuning our two-stroke gas engines as we did flying. We wanted to break that down and make the sport easier to do and take it into the

realm of the standard consumer,” says Phillip.

Their fix: Go electric. Electric motors are quieter, simpler to operate and more compact and light weight. But pioneering a new electric paramotor system didn’t prove easy.

The brothers had to overcome hurdles such as insuring battery safety, building in redundant fail-safes, designing proper instrumentation and keeping it all in a lightweight, compact system. “The cool thing about being an engineer in 2018 is you can turn around designs so quick,” says John. One morning while sitting in physics class, John had an idea on how to build the throttle controller. “On my lunch break I hopped on a computer and sketched it in Solid Works. I took it to a 3D printer that afternoon,” says John. “By the end of the day I had a working throttle.”

Phillip and John practice iterative design. “So we do as much math and engineering as we can. Then we build it, and we break it, and we make it better,” says John.

The process is bearing fruit. Their second version of the electric paramotor incorporated the lessons learned in the first design. It’s 40 pounds lighter, it includes a lithium ion battery and an electric motor designed for large crop dusting drones. It has five layers of fail-safe redundancy built in. Following that successful maiden flight, they are working to secure funding to continue development of their product with the long-term goal of making recreational flight safer, easier and more successful.

MACHINE

2018 Distinguished Alumni Awards

Recipients of the 2018 Distinguished Alumni Award join an elite group of Mines graduates who have made outstanding contributions in the fields of engineering, science, business, and public service. The Distinguished Alumni Award has been given to 102 graduates since its inception in 1998.



Lynne Bukovic
(ChE 87)

Following graduation from SD Mines, Lynne Bukovic worked for Monsanto and its successor companies where she advanced to the position of marketing manager responsible for a \$90 million business. Currently, she

is Vice President for Materials Management and Marketing for Harcros Chemicals, Inc. She serves on the National Association of Chemical Distributors (NACD) Board of Directors. She and her husband, Mike, sponsor a scholarship for out-of-state engineering students.



Willie Chiang
(ME 81)

After graduation, Willie Chiang joined Chevron as a design engineer. His career includes a range of leadership positions across the industry. He is currently the Chief Executive Officer

of Plains All American GP, LLC. He also served as a trustee of the School of Mines Foundation, and he has generously supported the university through the scholarship fund started by his parents, CW and Carole Chiang.



Kevin Griese
(CE 87)

Kevin Griese has maintained two simultaneous careers since his graduation from Mines - a member of the South Dakota Army National Guard and an engineer with the South Dakota Department of Transportation. He

was commissioned a second lieutenant through Mines' ROTC and recently retired as the assistant adjutant general of the South Dakota Army National Guard. Griese has also worked for the South Dakota Department of Transportation since 1988. He is the geotechnical engineer for the department and supervises the geotechnical engineering activity.



Steve Pirner
(CE 72)

Steve Pirner spent two years in the US Army after completing his BS degree and two years with the US Environmental Protection Agency after completing his MS degree in civil engineering. He spent the rest

of his career with the SD Department of Environmental and Natural Resources (DENR) in Pierre, where he has served as Secretary the past 19 years. He has supervised the development of many new environmental programs and rules in DENR that have successfully protected human health and the environment.



Auduth Timblo
(EE 71)

Auduth Timblo came to Mines in 1968 from Goa, India, to study electrical engineering.

His career includes service as the Chairman of the Fomento group of companies. He holds a patent for the Offshore Stockyard & Berth, an innovative solution to leap-frog conventional means of ship loading and exportation in the region. He is a member of the University Advisory Board and he created the Fomento Scholars program to provide scholarship support for undergraduate students from Goa. The first class entered in 2014. Four Fomento Scholars have graduated and nineteen are currently at Mines.

IN MEMORIAM

*The names below include those who have passed (based on our database records) in the last 10 years, but whose names have not appeared in a previous **Hardrock** magazine. Please contact us if you know of any errors in this list. Going forward, it will be helpful if you share information about the passing of alumni you may know. The names below were received by January 10, 2019, and are listed by year of graduation.*

Darrel Hansen (CE 43) 10/25/13	Tad Addy (ME 58) 11/16/18	Norvan Allen (Chem 63) 8/22/18
Donald Nehrenberg (ChE 43) 3/19/18	Paul Jorgenson (CE 58) 10/24/17	William Brune (EE 64) 8/21/17
Maurice Lux (ChE 47) 11/14/18	Ed Peacore (EE 58) 1/4/19	Glenn Nelson (CE 64) 9/12/17
Robert Mower (ChE 47) 1/22/18	Charles Braun (Chem 59) 7/22/18	Edwin Heinrich (CE 66) 9/2/18
Chris Woods (CE 48) 11/7/18	Gerald Dorwart (ME 59) 10/31/18	Donald Cumming (MinE 67) 9/8/18
James Kelley (GenE 49) 12/17/17	Michael Hayes (EE 59) 12/6/18	Rolf Gulbrandsen (ME 67) 8/24/18
Arling Christensen (EE 50) 10/27/18	Clark Johnson (ME 59) 7/17/18	Robert Sears (EE 67) 9/19/18
Ronald Evans (GeolE 50) 9/30/18	Bert Thomsen (GeolE 59) 10/15/17	Alfred Broz (MS Phys 68) 8/26/18
Robert Paullin (ME 50) 10/24/17	Baard Thue (EE 59) 8/13/18	Carlton Howe (EE 68) 9/14/18
Charles Steinmeyer (EE 50) 3/20/18	Donald Vesely (EE 59) 1/16/18	Marle Smith (MS Phys 69) 3/10/18
Stephen Barich (EE 51) 9/23/18	Jerome Zimmerman (GenE 59) 8/21/18	Ken Rische (ME 70) 4/16/16
Leland Nitteberg (ME 51) 10/14/18	F. Marvin Green (EE 60) 3/21/18	Jerry Moench (EE 71) 11/13/18
William Gartley (EE 52) 9/11/18	Darrell Hampton (EE 60) 7/19/14	Jim Therakulsathit (MS ChE 71) 3/3/12
William Hoffman (Phys 52) 10/9/12	Darrel Lidel (Chem 60) 7/16/18	Garry Thielen (MinE 72) 12/20/17
Calvin Morgan (EE 52) 9/12/15	Neil Olien (Phys 60) 4/30/18	David Norby (ME 74) 10/8/18
Wayne Dolezal (MinE 53) 6/10/18	Christopher Schatz (EE 60) 7/26/18	Don Rivers (CE 76) 1/5/19
Richard Hill (MetE 53) 10/9/18	Don Solmonson (GeolE 60) 10/9/18	Brian Haugen (ME 83) 3/10/18
Joseph Hansen (ME 54) 10/30/18	Norton Tucker (ME 60) 9/5/15	Paul Vammer (ChE 83) 9/26/18
James Stillman (ME 55) 4/30/18	Arnold Doyle (CE 61) 11/3/18	Jay Van Dyke (CE 99) 7/20/18
James Brooks (MS Geol 56) 7/9/18	Dante Santi (CE 61) 12/6/16	David Aden (EE 00) 12/12/18
Fred Merritt (CE 56) 9/24/18	Howard Weisser (ME 61) 4/23/18	Jamil Higgins (Math 04) 8/14/18
John Stuelpnagel (GeolE 56) 12/20/18	Richard Wheelock (EE 61) 10/12/18	
Donald Ward (MinE 56) 9/12/18	David Rice (CE 62) 8/27/18	Former Faculty/Staff:
Bernard Buell (GenE 57) 2/10/18	Gerald Simpson (EE 62) 3/29/17	Bill Jones (Registrar) 10/16/18
Patrick Kinney (ChE 57) 10/6/18	Ken Trompeter (ME 62) 9/7/18	Alvis Lisenbee (Geology) 11/16/18
Edwin Rudloff (CE 57) 4/19/15	Robert Gnirk (ME 63) 4/1/18*	Co Stevens (Food Service) 11/12/18

*[first name error in previous Hardrock]

1940's

Roy Fox (CE 43) "I am one of the few 1943 graduates still around. Fair health, retired and living at the Oregon Veteran's Home in Lebanon, OR. I recall growing up in South Dakota, and how lucky I was to attend SDSM&T during the years we were emerging from the Great Depression, the Dust Bowl, and entering WWII. The student body was around 500, and only about 14 were young ladies."

Marv Hansen (EE 48) lives in Rapid City. Daughter **Karen Hansen (EE 80)** has one son, **Tom Linde (ME 09)**, logging and ranching in the Black Hills. Her other son, Pete Linde, was married last summer. Pete and his wife live in Fort Collins, CO, and are both PhD candidates. She is studying to be a veterinarian and he is studying biomedical engineering.

I celebrated my 90th birthday with several of our friends from Rarity Bay in September. I look forward to attending the next alumni get together."



Keith Graham (Phys 51) celebrated his 90th birthday on October 30 with daughter **Reah Dahl-Stamnes (CE 81)**, **Lowery Smith (GeolE 51)**, family, and friends.

Lowery Smith (GeolE 51) has been getting a lot of TV time in an ad by Blue Cross/Blue Shield featuring him in the Minnesota Senior Games. He has also been featured in the *Star Tribune* newspaper "Never Stop Dreaming Big." He competes in the shot put, the discus, and racquetball. He has qualified for the National Senior Games in Albuquerque, NM, in June 2019. "There is little or no competition in my age group (85-89)!!" I have lots of pictures of activities Twin Cities alumni did back in the 1960-2000 period and would like to get some alumni in my age group together on a regular basis."

Al Johnson (Chem 52) "All is well in Nashville, TN. It feels like a South Dakota winter – the

temperature is 35 and going down to 28 tonight (November 27, 2018)."

Marty Giavelli (MinE 52) "I am one of the lucky veterans (USMC) who survived WWII and four years at SDSM&T. I am now 93 years old and am fortunate to still have a driver's license and a reasonable percentage of my mental faculties."

Roy Strom (EE 53) "In October 2017, I lost Peggy, my bride of 58 years, to a deteriorating lung infection she had suffered with for about 15 years. I've been trying to keep busy, but let me tell you housecleaning and cooking are not my strong suits. Fortunately, my youngest sister who is a kind soul and a gourmet cook lives close by. I've been to both the east and west coasts visiting granddaughters and have attended three antique car events - Detroit and the Henry Ford Museums, western Mississippi with Civil War history and a delightfully picturesque 1,200-mile driving tour of Montana. Hope to see everyone in 2020."

Ray Clancy (EE 53) "Life has spared me for some 93 years but I lost my wife, Elaine, of 70 years in 2017. Our youngest son Patrick died of a heart attack in May 2018. Recently flew to Arkansas to visit my relatives and great grandchildren, a real treat! I live in Westminster, CA, and

am cared for by my daughters, Colleen and Rosamond. My wife and I enjoyed our family of six children during my engineering work in aerospace including command module systems test engineer, and LEM systems test at NASA in Houston. My hobby of amateur TV resulted in a 218-mile two-way FMTV contact, longest at the time in the USA."



Dick Wismer (GeolE 54) "I am wintering in Ajo, AZ, for about the 15th year. Ajo is small enough that I can still drive, and there are 4-wheel drive trails all through the desert that I use. Lots of rocks and geology that interest me. My son **Mark (EE 78)** and daughter **Carol VanSickle (ChE 80)** were here over Christmas. Mark and Carol's husband used my telescopes and flew their drones. The attached picture is on the back of the park office. Mark is posing with it."



John Mohr (EE 56) "My wife Alice, our daughter Sara and I went to Bentonville, AR. We visited Sam Walton's original

1950's

Glen Madsen (ChE 50) "Jo and I have been living in Tennessee (Knoxville area) for the past 14 years. We lived at Rarity Bay for the first 11 years and I had an active golf life with 25 men and served as a director for the community. In October 2015, we moved into a Senior Residential complex (Shannondale) in Maryville and

store (now a museum), Crystal Bridges museum (funded by Sam's daughter Alice), and the American Indian museum. All were fantastic. On the way back to St. Louis we stopped for an exciting zip line experience. The first zip was across the river. Next it was two zips through the forest. The final zip of 1/4 mile was back across the river. We are still traveling but not as far as we used to go."

Roger Stapf (ME 56) "Marlene and I celebrated our 61st anniversary in June 2018!"

Bob Annett (ME 56) "In September, I took a tour of five eastern Europe countries. We visited Berlin, Budapest, Vienna, Warsaw and Prague. It was an amazing trip to find witness to the courage and human spirit in these countries to survive and prosper after WWII and the Iron Curtain. My personal favorite was how the people of Poland survived the inhuman treatment they experienced at the hands of the Nazis and the Soviets. All five of the countries we visited have risen from the ashes. They were placed in a crucible of tragedy and came out stronger than ever."

Rod Iwan (EE 56) "Since my wife has passed away, I have sold the house and moved into a retirement home in Titusville, FL. While now on dialysis three times a week, I still enjoy flying model aircraft and drones. I

have lots of daily activities and am still a slave to the computer for e-mails and Facebook. I welcome any contacts."

Max Gassman (ME 56) "My ME degree from SDSM&T provided me with 55 years of good employment. I worked at the John Deere Product Engineering Center, Waterloo, IA, for 30 years and at Iowa State University for 25 years as an adjunct assistant professor of mechanical engineering. I received six patents at Deere and two at ISU. My web page www.chippershredderdevelopment.info/ promotes my last patent. I coauthored the engineering text "Hydraulic Power Systems Analysis." Gail Evans from Belle Fourche, SD, and I were married in 1955. We raised two sons and now have seven grandchildren and three great grandchildren. We are retired in Ames, IA. I always enjoy reading the Hardrock magazine."

Harlan Hartman (ChE 56) "My wife and I relocated from Rochester to The Woodlands, TX, after the death of our oldest daughter. Our other daughter and family are here in The Woodlands. We are well, comfortable, and secure in the church. We are "cruisers" on rivers and coastlines. Our only great-grandchild is a one year-old girl! Never stop reading, age will get-cha."



Bob Tagtow (Phys 57) "I was with a number of computer companies one of which some partners and I started. None of these companies exist today. It was a great ride and I retired at age 58. Moore's law amazingly continues. I look forward to what's ahead."

Jerry Desjarlais (CE 57) "I started Summit Paving and Construction, a heavy highway construction company in Anchorage in 1982. I sold it in 2000 and retired for three years before starting at Denali Materials in Anchorage in 2003, a polymer modified asphalt company. I sold it in 2011 and retired for good. Live in Kirkland, WA, in the summer and San Diego, CA, in the winter."

Ron Sanders (CE 57) "Since retiring, I have authored two books, *God in IMax* and *Revelation*."



Donn (ME 58) and Carole Lobdell have left California

after residing there over three decades; moving from Sunol, CA, to Camas, WA, and finding the change 'refreshing.' On a recent trip to Healdsburg, CA, Donn visited cousin **Bob Bangs (CE 53)**. Photo shows both in good form (Bob on right).

Richard Berg (CE 58) attended the tailgate party and football game between SD Mines and Colorado Mines on October 27. "I had an enjoyable time meeting and talking with President Rankin and several other alumni. The Hardrockers played a great first half."

Mel Glerup (GeolE 58) "We are full time Arizona residents (San Tan Valley) and are enjoying our good fortune."

Jim Adams (ChE 58) "I'm retired CEO of the fine chemicals subsidiary of The Bayer AG International Group. We were headquartered in New Jersey. Sales volume when I retired was \$320 million. I started out in aerospace in the early 1960s, transitioned to pharmaceuticals to help utilize aerospace tech in monitoring and production in that industry. Great fun. I retired in 1996, then two years in Geneva leading an international trade association focused on EU regulation development."



Landy Stinnett (GeolE 59) shared this photo of students on a field trip to the Etta Mine near Keystone in 1958. “Doc Tullis is standing at the far right, and Paul Gnirk is standing at about the center of the picture.”



Lee Solid (ME 59) went to work for a rocket engine company in Los Angeles after graduation. “I knew nothing about rocketry. A year in training led to an assignment at Cape Canaveral to help launch these things. This would lead to an exciting 40-year career in various aspects of the Space Hardware and Launch Operations business. Noteworthy points in that career are being part of the launch crews that put the 1st American (John Glenn) into earth orbit and the first men (Armstrong and Aldrin) on the moon. It seems impossible that the moon landing was 50 years ago. This picture is me on a recovery ship at Port Canaveral standing next to a recovered piece of the rocket engine that

launched the first men to the moon (July 16, 1969). The hardware was recovered from the Atlantic (14,000 ft) in March 2013 by Jeff Bezos. His findings (three other engines) are on display at the Cosmosphere in Hutchinson, KS.”

Alan Hins (MetE 59) “I retired from Argonne National Laboratory as a nuclear materials metallurgist. I worked there for 41 years, getting my last paycheck in October 2009, when I was age 73. During my career I worked mostly in nuclear metallurgy process development for breeder reactors. In the process, I tangled with approximately 55-60 of the elements on the atomic chart with the highest number being Californium. It was a fabulous career.”

Monte Widdoss (EE 59) “I have a new knee! Still playing golf three times each week (Escondido, CA). Ellen and I have five adult children (four are close by) plus ten grandchildren that we see often. Sweet!”

1960's



CJ (ME 60) and Shirley De Lange celebrated their 60th

wedding anniversary on August 15.

Francis Rosse (ME 60) “I’m retired but have a small manufacturing company (Columbia Falls, MT) that keeps me busy building boat intruder alarms suitable for use in a salt water environment. This is my retirement job. I’m very proud of the School of Mines and thankful for the education I received there.”

Jon Anderson (ME 60) “BJ and I spend winters in Surprise, AZ. I am still playing tennis and pickleball with the other old guys. Summers are spent in the Northwest fishing, exploring, and spending time with our families.”

Sheldon Roberdeau (GeolE 60) “We are enjoying our new home in the Hill Country just west of Austin, TX, after abandoning Houston after Hurricane Harvey presented us with six feet of water in our house.”

Don Rozel (ChE 61) “A big Arizona Howdy to all alumni, especially to the class of ’61. I still keep in contact (too seldom) with **Bill Sheldon (CE 61)** and **Bobby Gene Stofft (CE 62)**. Aim to visit the Hills next summer to show two grandsons the campus and that other attraction – Mt. Rushmore.”

Jim Abourezk (CE 61) “I retired a couple of years ago

from the practice of law. My wife, Sanaa, owns and runs a restaurant in Sioux Falls, and is a premier chef. She has appeared on the Bobby Flay television show as a guest chef, and has customers from around the US.”

Don McComber (ChE 61) “As I approach the end of this life, I fondly remember those days of toil at the old School of Mines 57-61. The knowledge I gained provided me with the greatest, most interesting, and rewarding career of which most folks only dream. Thank you SDSM&T. From my heart, thank you.”

Bob Nelson (CE 61) reports his first great granddaughter (Lily) born in Colorado Springs in May. No doubt there are more to come from 12 grandchildren!



Fred Meyer (EE 62) is still flying his RV6A that he completed in 2005. “This is the second airplane that I have built, the first was a Starduster 2 aerobatic Biplane.”



George O'Clock (EE 62) “I have modest electronics, biology, and computer lab

facilities at home to address design, simulation, prototyping, and regulatory issues for biomedical device development. The cardiovascular device results (blood pressure control) were published recently. And it looks like the 50-patient double-blind clinical study for the visual disease device (first announced in 2015) has FINALLY started up in Edmonton.”



Doug Aldrich (ChE 62) “We have downsized to Arvada, CO, where we see hummingbirds during the day and hear coyotes howling at night. We found time to travel to Europe: Scandinavia in 2017 and a Danube river cruise this year. Carolyn is already softening me up for another trip to Europe in 2019, maybe around Normandy for the 75th D-Day anniversary. We are blessed with our first great-grandchild, Charlotte (Charlie) born in September! We’ll see if she eventually goes to Mines or is lured to Michigan Tech; she definitely needs a Mines T-shirt. I stay in touch with classmates and alumni when possible, and always enjoy catching up on news in *The Hardrock!*”

Danny Lee (CE 62) “We are settled in the home we

had built in 1977 which now includes an addition with a self-designed and built three level elevator. We are active in politics, campaigning and letter writing and in church where I write and teach bible studies. In disgust for PC intolerance I recently disavowed my Berkeley degree.”

Bob Bottge (GeolE 62) “I am now a three-year cancer survivor, and counting. But, me worry? I saw in a stone yard this year, a nice six-sided columnar block of basalt about three feet long and two-feet in diameter, which I bought for a headstone. I had it inscribed with our names and birth dates. The first Oregon State Geologist is interred just up the hill from us. He might appreciate knowing we are planted just down the hill when that day comes.”



Per Kragseth (CE 62) “From the early '50s nearly 1,000 Norwegian students came to SDSM&T to get a higher technical education. The first ones came from Bergen Technical School (BTS) in Bergen and later many students came from Porsgrunn (Telemark), and

some from Stavanger and other Norwegian schools. This is such an important side of the higher Norwegian education system that some of us have decided to write a book, *The Dream of Rapid*, about this cooperation. We will, among other things, compare the American and Norwegian systems for higher technical education and explain why Mines was chosen for the students from Bergen Technical School. We will also give examples of the stories of the Norwegian students and try to show a list of them all.”

Jack Mallow (ME 63) “I sold my company Pesco, Inc. in 2002 to my son John and two other employees. I have continued working as an employee selling and designing dry bulk power handling systems to the food, grain and milling process industries. Pat and I live in Eden Prairie, MN and winter for three months in Ft. Myers, FL. We have five children and 14 grandkids. Our grandson, Gabe Miller will graduate in 2019 (ME), the 4th generation to attend SD Mines. It started with my Uncle August (Gus) Mallow, next me, my son **Jeff Mallow (Chem 95)** and now Gabe.”

Bill Demmon (Math 63) “Fran and I have been married for 55 years! We have three children and six grandchildren. I am amazed at how well our kids have all turned out. I am also

amazed at how many people don’t know that we’re not dependent on foreign countries for oil. Some of them may not have heard of North Dakota either.”

Ron Angerhofer (ME 63) “I retired in 1998 from Eastman Kodak after 37.5 years of service. We spend about three weeks at our timeshare in Fort Walton Beach, FL. We live in Penfield, NY, the same town that **Dan Matthaidess (ME 63)** lives in. He is also a retired from Kodak. We have been very good friends since we met at Mines in 1963. I see Dan frequently and we belong to a Kodak Retiree Group that meets once every month for breakfast. I had some rather serious heart problems this year and Dan has been a rock helping us get through that. Life has started to improve recently and Dan checks on me frequently.”



Ray Kingsbury (ChE 63) “Retirement has been full and exciting. Filled with activities in my church at Florence Baptist Temple in Florence, SC; active in Florence County GOP;

maintain my rental houses and being a grand-dad to 13 in three states."

Russ (EE 63) and Carolyn **Buyse** spent this Christmas and New Year's circumventing the country of Australia on a 36-day cruise. "To bring in the New Year, we will be attending a Gala dinner in Bali, Indonesia, including a blessing for the New Year by a Bali priest for a great 2019 (this is a tradition in Bali). There is one thing we regret, and that is we will miss going to the remaining Bronco home games with **Randy Parcel (ME 67)** and his lovely wife, Tracy Kovach. This has been a tradition since 2006. The Broncos aren't playing that well, so the likelihood of missing a home playoff game is close to nil."

Lonnie Ludeman (EE 63) "Since retiring from New Mexico State University in 1989, I have held visiting faculty positions in Greece, India, Korea, China, Thailand, Romania, Czech Republic, and Slovenia. I have worked in archaeological field schools, chaired the Mogollon Archaeology Conference, and edited and published its proceedings many times."

Steve Bowles (ME 64) "I continue to compete in Masters Track and Field events (50m, 100m, and 200m). 2019 will be my 23rd year."

Bill Pearson (CE 64) "I originally retired in 1994 after 30 years in the uniformed services. I am very proud of my service having progressed from being a 1956 draftee in the US Army, to a volunteer as a paratrooper in the 82nd Airborne Division, getting my degree at Mines, then working in assignments around the world to become the Chief Engineer of the US Public Health Service (Assistant Surgeon General, 2-star Rear Admiral). I am now writing a how-to-do-it book about the Bethesda Natural Healing Treatments."



John Haeder (ME 64) "I spent 29 days walking with a pair of friends (Denny and Connie Meier on John's left in the photo) and hundreds of other people from all around the world on the Camino de Compostela starting in France and continuing for the next 28 days in Spain. It is the "St. James" pilgrimage featured in the movie, *The Way of St. James*. It was an extremely difficult 500 miles of walking but very rewarding. Blisters were easily treated with beer. And it seemed that the more beer I drank the less they hurt. Happy to be home."



Larry Ayres (CE 64) "I am finally TOTALLY retired and sold my company...Bette and I are celebrating our fourth wedding anniversary and my 77th year as a human being in December 2018. Life has been an exciting and rewarding opportunity for us. World travel, mostly via cruising, has been our main objective...gone 132 days last year! But upon returning to SD, we realize that there really hasn't been a destination that we would choose for retirement other than Sioux Falls. We can avoid undesirable winters by 'jumping ship' so to speak; actually onto a ship. The most significant event is my establishing scholarships each year for eight students at Mines; a great personal reward for what the school did for me--pay it backwards & pay it forward! Every graduate should consider doing this--before it's too late!"



Loren Anderson (EE 65) traveled to Scotland. "Gretna Green was the historical place

for young Brits to get married. We were the subjects of the blacksmith, who marries folks even today. My companion is Larisa, next to me in the photo and the blacksmith is about to whack the anvil next to my fingers. He missed my fingers."

Dan Chambers (EE 65) and



Tom Kuhl (GeolE 68) got together last spring at Tom and Marilee's place in the Ruby Mountains in northeastern Nevada.



Mo (ME 65) and **Tootie Hargens** will cruise through the Panama Canal in January for two weeks and then spend the rest of winter in Rockport, TX, with their two Yorkies.

Carol Reed (Geol 66) “My husband Jim Reed died on April 23, 2018. We were two months short of being married for 30 years.”

David Malmquist (MetE 66) “After 32 years in the mining industry and 20 years owning and operating a bed and breakfast, I have finally retired! Still trying to get used to having free time to do what I want when I want. Plan to stay in Tucson, AZ, for the foreseeable future.”

Jim (ME 66) and **Glenda Copps** are thirteen years into retirement after moving from Washington, DC, to live in Del Webb's Sun City in Georgetown, TX. Jim has actively taken up photography of nature and wildlife as a retirement hobby. He has been fortunate to get published by both National Geographic Press and Photographic Society of America. You may see a few of his many photos at www.jimcopps.com.

George “Duff” Kruse (ME 66) “I retired from industry in 2016 after a rewarding engineering career with fortune 500 and small family-owned companies. Of my 50-year career, nearly 40 years was in middle and executive management positions. I now run a small home-based business getting paid to practice my hobby of repairing and restoring antique

clocks, grandfather clocks, and cuckoo clocks. Karren, my wife of 52 years, and I are blessed to live in the Black Hills and fortunate to have our children and grandchildren live here as well. My oldest grandson, Brad Blansett, is a senior at Tech this year. WOW!”

Herb (Math 66) and **Sally Reichert** went on their fourth Jay Buckley's Baseball Tour in July 2018 and attended major league games in Milwaukee, Chicago, Cleveland, Toronto, Pittsburgh, and Detroit. “We met **Harald Eriksen, (CE 70)** on the tour. We also went on a very enjoyable bus tour to Door County (WI) and Mackinac Island (MI) in early October. Our daughter, Stacy, and her husband, Ryan, blessed us with the birth of our eighth grandchild, a boy, in March. Our oldest grandchild graduated from high school in June and is now going to college in Chicago. We are still enjoying our retirement and don't have any significant health issues!”

Jerry Seebach (Chem 66) “I retired from Transylvania University three years ago after teaching there for 42 years. My wife and I have done a lot of traveling with grandchildren in Virginia and Tennessee. We also spend a lot of time in California visiting wineries whenever we can.”

Jim Crouch (MinE 66) “**Don Haas (MS MinE 66)** stopped in Riverton in October. Melisa and I went out with him and his girlfriend and renewed old times and had a great evening catching up on the past 25+ years since we had seen each other. Unfortunately at this point in life, it seems like the conversations all have to pass through the hearing aids.”

Randy Parcel (MinE 67) and **Tracy Kovach** recently enjoyed getting together with **Roy (CE 69)** and **Becky Darrow** in Lake Las Vegas, where “we hiked and played golf together.”

David Niven (MS Geol 67) “Doing well despite age-related issues. Wonderful recent trip to Iceland and Norway - geology paradise. Stood astride the mid-Atlantic Ridge (simulated). Wondered about my Norwegian friends at Mines so many years ago.”

Rich Heizer (ChE 67) “I was ‘laid-off’ from Baxter Healthcare (medical device manufacturer) after 22 years. Still maintain my one-man engineering company doing residential and commercial wastewater treatment in order to stay out from under foot with my beautiful wife. We just celebrated our 50th wedding anniversary, so far so good. We just returned to Cary, IL, from the Black Hills after putting our 5th wheel to bed for the winter.”



Art Anderson (EE 68) stopped by the Music Center when he was on campus and took a photo of Alex Tiede, a junior computer science major and recipient of the **Chuck Hallstrom (ChE 69)** Memorial Scholarship.

Sid (ChE 68) and **Polly Hansen** greatly enjoyed meeting classmates (some for the first time in 50 years) and President Jim Rankin at the 50th Class Reunion (spring graduation 2018).

Ren (ChE 68) and **Kaye Stevens** are enjoying retirement in Fort Collins. “The kids are spread out from the Atlantic Ocean (Washington, DC) to the Pacific Ocean (McKinleyville, CA), so we spend a fair amount of time on the road visiting them and the grandkids (8). We enjoyed the 50-year class reunion last spring, as well as a day on the St. Croix River this summer with **Gerry (ChE 68)** and **Mary Jane Ries** and **Jim (ChE 68)** and **Bev Neuharth**.”



Jim Kotas (EE 68) hunted pheasants with three friends

from Daytona Beach at the Double P Ranch near Clark, SD. "I used my Dad's 1960 12-gauge which has a unique Weaver red dot sight that was quite useful. The last time that gun was used in a hunt was 1973 and it seemed to do just fine. It was fun to spend some time in SD including getting a ride in one of those giant John Deere combines (S690) with a 40 ft header steered by computer and GPS. As an EE, I was impressed with the amount of technology in the machines and the computer spreadsheet work that farmers do these days to calculate their costs and returns.



Paul Axtell (ChE 68) and **Ron Jeitz (CE 69)** enjoying another visit home to South Dakota this past autumn for a pheasant hunt.

Delmar Rumph (GeolE 68) "Retirement continues to be a blessing for Jan and me here in Colorado with good health, good friends, time to travel and hobbies to pursue, life is good. My only complaint is that the golf handicap seems resistant to improvement, which just means I need to focus more on the

camaraderie of the game and less on the score!"



Al Freiberg (ME 68) "I have been flying for 52 years and flew from Mobile, AL, to Pierre this past September to attend my 55th high school reunion."

Paul Fauss (ChE 69) "I retired from Albemarle Corporation at the end of 2005. In 2006 we moved to the Rapid City area from Pennsylvania into a log home that we had built southeast of Rockerville. I have been busy with golf, fishing and serving on church and various local institution boards."

1970's

Bob Norman (EE 70) "I am retired but consulting for my old boss, the guy who started SanDisk. He has a great new idea and needs some architecture help. Exciting stuff as this has more potential than SanDisk did. The new company is SunRise Memory. It will be a couple years before we get a product out."

Terry Downing (MetE 70) "We have a second home in Lead and we split our time between there and Redfield. We like the snow. Jean and I are celebrated our 50th wedding anniversary on December 22."

Jerry Johnson (ME 70) has been selected to attend the 2018 Young Southeast Asian Leaders Initiative Summit in Singapore in early December. There will be 150 participants from Southeast Asian nations.

Roger Ackerman (ME 70) "I retired from MTS systems in Eden Prairie, MN, as a project engineer. My wife and I are celebrating our 50-year anniversary this year."

Olav Maehle (ME 70) "I am just back from Norway. I spent approximately five months in Norway each year. On this trip, I met with several Mines alumni working on a book about the unique relationship between the college in Bergen and Mines."

Jerry Sechser (ME 70) is retired from Federal Civil Service where his last position was Director of Public Works at Rock Island Arsenal, a US Army installation. "I currently serve as an elected Alderman on the City Council in Bettendorf, IA."

Dale Westendorf (ChE 71) "Gail and I are enjoying retirement in beautiful Texas Hill Country, where we live near our daughter and her family

and Austin, TX, with all it has to offer."

Jim Goodman (GeolE 71) "I retired about seven years ago from SD DENR Water Rights. I coach American Legion baseball, usually have a 16 and under team or the junior legion. I am the American Legion Athletic Officer and also do a lot of activities for the American Legion. That keeps me busy from about April thru August. I have a big garden, do a lot of canning and of course we have to take the wife's boat out. Fishing was real good this fall. The Canada geese will be in my sights starting in January. Have to do something in the winter before going to Arizona for spring training."



Bob White (CE 72), **Dick Mickelson (ChE 69)**, **Joe Vig (CE 71)**, **Pete Birrenkott (ME 71)** and **Les Thiel (ME 67)** watched Joe's grandson, Rex Ryken, play basketball at Rapid City Stevens.



Carlos Calderon (MS MinE 71) (center) received a

recognition from the Honduran Association of Artisanal and Small Miners for the workshop he presented. "I have been living in Tegucigalpa, Honduras, in Central America, for the past 19 years and am currently Vice President of the Honduran Association of Artisanal and Small Miners, helping the government develop the rules to govern and supervise this part of the mining industry, and also teaching miners to operate safely and properly, respectful of the environment and of the people in adjacent communities to the projects."

Al Clark (ChE 71) "In June 2016, I retired from Dow after 44 years. Carolyn and I now spend our summers in Midland, MI, and winters in our house (with a heated pool!) in Ft. Myers, FL. We have greatly enjoyed traveling together to Sweden, Germany, Netherlands, Paris, Venice, Spain, Ireland, Scotland, Vienna, China, and most recently an Alaskan cruise."

Bill Bundschuh (EE 71) is still working, but really taking a hard look at retiring next year. "I have been so fortunate in my life that I have never been laid off in all my working years. During that time, work has not been a strain since I have enjoyed most every day. Verla and I are wishing everyone well and if you are on the Northshore of Lake Superior, please feel free

to drop by."

Scott Barber (ChE 71) "My wife and I are very much enjoying our retirement in The Villages in Florida where I play a lot of golf and provide limited support to my son's remote control hobby business in Orlando."

Pat Tlustos (CE 71) "Our lives have been blessed, although I will admit I need help in figuring out this retirement thing. We recently sold our home in Hawaii and are now spending our winters north of Tucson. The balance of the year we try to spend half our days in the Rapid City office and half at the Wyoming ranch."

Raj Rajaram (MS MinE 72) has been busy in retirement writing books and traveling to many parts of the world. His recent trip to Newfoundland/Labrador was really beautiful, with a lot of sea birds and whales in the Atlantic, including an iceberg. He wrote *Golden Giving - Everything you Need to know for an Enriched, Socially Conscious Retirement* in 2017, which was published by Amazon. It documents his 25-year stint in giving back to the needy in Chicago and India. His other books are *Sustainable Mining Practices - A Global Perspective*, *From Landfill Gas to Energy - Technologies and Challenges*, *Ecology and Environment*, and *Solid and Liquid Waste*

Management - Waste to Wealth.

Jeff Dietz (CE 72) retired from Chicago Bridge and Iron. "Jo Ann and I spent Thanksgiving in Orlando and will go back for Christmas. We plan to go to Sun City, AZ, for 3 months this winter and hope to catch up with **Joe Vig (CE 71)** and others in the Phoenix area. We don't have much snow here (Battle Lake, MN), but it's coming, hopefully after we leave again. The lake is frozen over completely."

Keith Kostlan (ChE 72) "I retired from Holly Energy / Navajo Refining and we moved to Charlotte to be near our grandchildren and are enjoying watching them grow up."

Jerry Dahlinger (ME 72) "We are in the process of moving to Peru. My Peruvian wife, Luz Marina, and I have been married since 2013 and moving to Peru was part of "the deal." Come and see us!"

Ivar Fett (CE 72) "After 43 years in different work positions, I retired at the age of 73 in summer of 2018. My career, after a short period as research assistant at the University of Texas at Austin, started in city government as a transportation planner in Stavanger, Norway. After 17 years I moved to the local office of the National Highway department. The last 22 years I worked with a private consultant company, Asplan

Viak as a senior consultant. After retirement I am still called upon for some assistant in special projects, which I enjoy a lot!" [Editor's note: Ivar is credited with bringing roundabouts to Norway.]

Steve Lux (ME 72) "I retired in Hot Springs Village, AR, but still busy, playing as much golf as possible. Serve as Chairman of the Saline County Republican Committee and happy to report we won 22 of 22 races in the midterm election. Also just elected as the Chairman of the Arkansas Economic Development Commission for 2019."

Rob Howe (EE 72) "I have been enjoying my retirement from John Deere since 2012 and from the Navy since 1991. Unlike many, I chose to retire north back to South Dakota to be closer to family. No regrets at all. I love my state. Evie and I have 7 kids and 23 grandchildren with a few more likely. Stop in when traveling through Sioux Falls. I would love seeing Hardrockers friends."



Vickie DeNeui (Math 73) "I am mostly retired and still live

in Houston. I lead the good life and have traveled over 140 days this year to Australia, New Zealand, Yellowstone, the Black Hills, Europe, and California to see my three granddaughters and two sons who both work in technology fields."

Ron Symens (EE 73) "We were in Rapid (Johnson Siding) in late October to see my two sisters. It was getting cold when we headed for Palm Springs, CA. We visited the DUSEL/Homestake Mining museum in Lead. It is a must see and I need to spend about four more hours there. I am thankful to Professors Riemenschneider and Cox for giving me the edge to be successful with a company that **Curtis Lamb (MetE 73)** and I incorporated and later sold. We were able to work in more than two dozen countries."



Bob Chen (MS EE 73) sent a family photo taken in Hawaii. Grandchildren from left: Thibaut, Johann, Jasper, and Quinn. Adults from left: Frederic and She-Rae (daughter), Lien and Bob, and She-Rene (daughter) and J.C.



Fred Fletcher (EE 74) reports that he has formed a company called Power from the Prairie that has the mission to develop a high voltage DC grid for integration of wind and solar energy across the United States and Canada. The concept is modeled after the natural gas business model, with wind and solar resources representing oil wells, an AC network that collects the electricity, and a refinery that converts the collected electricity into high voltage DC. The HVDC grid fuels electronic generators that convert DC into AC power. The system will also employ energy storage elements such as pumped storage and compressed air energy storage.

Jeff Muffat (ME 74) enjoyed a pheasant hunt in Sisseton, SD, with **Pat Dady (CE 73)**. They also enjoyed sharing steaks, beer, and college stories with Pat's wife, Ember.

Curt Olson (ME 74) has retired after 44 years (three military and 41 industry) from Cincer Wyoming, LLC. "I am looking forward to finishing

our basement and traveling more with my wife Tery on our motorcycle and off-roading with our UTV. Also visiting our four grandchildren more often."



Bruce (EE 74) and Jan (Chem 75) Anderson are enjoying retirement in Ponte Vedra, FL. "We live in a 55+ community with lots of activities to keep us busy. Jacksonville has a great climate, much more temperate than Dallas was especially if you're close to the ocean. We do a bit of traveling in the spring and fall mostly to music festivals. We're planning on the 2020 reunion right now and possibly hitting the Telluride Bluegrass festival on the same trip and my 50th high school reunion as well if all of the dates line up."



Al (MetE 74) and Melody Ness and Karen and **Robert (MetE 74) Ringgenberg** recently met on Hilton Head Island for some golf and friendship time. Al and Melody recently moved to St. Augustine, FL, and Robert and

Karen still live in Nixa, MO.

Chuck Enze (CE 75) "Renee and I have built and recently moved into our retirement home just outside of Austin in the Hill Country. Our two sons are in their mid-30s and still single; so no grandchildren yet. I'm still dabbling and engaged on some infrastructure investment company boards as well as a well-run national construction company which I enjoy. I still see and am close to my long-time friend **Ric Sorbo (CE75)**."

Steve Rolf (Phys 75) "We have been doing lots of genealogy. When I moved from Laramie to Huntsville in 1988, to do my dissertation, little did I know that my ancestors were among the earliest settlers (1790's) in the Fayetteville, TN, area just 30 miles north of here! LOTS of family history here to discover! Keeps us busy."

Monte Elmore (MetE 75) retired from Battelle (operating the DOE's Pacific Northwest National Laboratory in Richland, WA) after 40 years. "I am enjoying retirement and we are looking forward to some travel."

Mark Anderson (Phys 76) "Hilary and I are fortunate enough to be enjoying a life of adventure. We love mountains and enjoy the winter skiing in the US and Canada. We will spend next summer traveling and hiking in Europe - the

Scottish Highlands, the French Alps near Chamonix, the Swiss Alps in the Jungfrau region, and then trekking the length of the Italian Dolomites from north to south, a 10-day trek. In between hikes, we will be exploring London, Paris, Prague, Vienna, and Budapest. Life is good."



Dan Carpenter (CE 76) "I spent Thanksgiving in Southern California. Fun time there visiting friends at the beach and riding my motorcycle and camping in the desert. I'm on my way to Colombia and Ecuador in January-February to hike in the Andes and scuba in Galápagos. Really enjoyed fall trip to Black Hills, for M Day again this year and watching the Hardrocker football win with (see photo) **Bill Klapperich (CE 73)**, **Bob Morcom (CE 74)**, **Ivan Mehlhaff (ChE 74)**, **Darwin Koepp (ChE 74)**, and **Rick DeSchepper (EE 76)** and later golfing with **Chuck Vandever (MinE 77)**, **Bill Keller (ME 71)**, and **Mark Fischbach (ME 74)**."

Dan Mertely (EE 76) "Interesting work continues here at the Very Large Array radio telescope site in west-central New Mexico. Installation of our permanent "low band" (55-85 MHz) system on all 28 antennas

is nearly complete. Now the microwave astronomers can take a peak at low VHF for a change and fight all the odd ionospheric propagation effects."

Richard Kemnitz (GeolE 77) "I maintain my mailing address in Alaska but get mail forwarded to our present home at Playa la Barqueta, 15 miles from David, Panama. We plan to travel summers in our camper in the US and Canada and look up former classmates. Anyone traveling in our part of Panama is welcome to stop in."



Greg Bucknell (CE 77) "Due to the economic conditions in 2009, I opted to receive a pension through the City of Fontana, CA, with 20 years of service. However, I did not "retire." Currently, I am a contract civil engineer for the County of San Benito, Hollister, CA. Vicki (wife of 42 years) and I are very busy with our twin grandsons, daughters (2), our son-in-law, and extended family. Often over the years, we have vacationed in South Dakota. My wife and I attended the Sturgis Bike Rally in '08, '09, '10, '16, and '18. In October '18, we spent some time at a resort in Antigua. It

was awesome; no problems, no worries, be happy!"

Mike Flood (Chem 77) "My family now has four granddaughters, two from our son and twins from our daughter. I was called out of civilian retirement this summer to consult for a Westminster, CO, company to develop and lead a manufacturing strategy initiative. Fun-wise we took a cruise in from San Diego to Ft. Lauderdale and visited Italy for a couple of weeks in October."

Ray Giegear (CE 77) "Currently enjoying TN and doing a little world traveling - China and Africa in 2016 and 2017, Australia and Europe in 2018, and Mediterranean and India visits planned in 2019."

Dave Bush (EE 77) will be retiring in January 2019 after 42 years of work that started at TI and Motorola and ended at Intel in Austin working on 5G and AI processors. "My plans include exploring more of Texas and the rest of the country, a lot more fresh and saltwater fly fishing, and catching up on a long honey-do list."



Kurt (MinE 78) and **Norma Kost** enjoy reading the E-News

- especially looking at the pictures. They are anxious to catch up with Kurt's classmate, **President Jim (EE 78)** and Dr. **Wendy Rankin**.



Curt Struck (CE 78) and **Larry Pawlowski (MetE 77)** visit with their classmate, **President Jim Rankin (EE 78)** at his inauguration.

Dale Diede (EE 78) "I served my country for 25 years as a civilian electronics engineer for the Naval Weapons Center at China Lake, CA, my home town. My dad, **Ernest Diede (EE 51)**, was still there too. Since then, I have moved to southwest Colorado and have been volunteering for various organizations, including up at Mesa Verde NP as a GIS data collection worker."



Jeff Hohle (GeolE 78) "Jo and I are enjoying retirement

and love living in the beautiful Black Hills. I am apparently a natural at not working. We have one grandson and another one on the way which also keeps us busy. Our youngest son is graduating with an engineering degree in December. All three boys are engineers and will be gainfully employed."

Mary-Jane Green (CE 78) "I spent three weeks in January traveling with **Vickie DeNeui (Math 73)**. We spent 4 days in Sydney, Australia, and 10 days in New Zealand. We are investigating a January tour of China. Between trips I'm keeping busy playing tennis and playing with 7 grandchildren ranging in age from 5 months to 9 years old."

Linda Pirtle (ChE 79) "We are enjoying our country lifestyle; we have a few cattle, bees, and vegetable gardens. This year, we had a bumper crop of pecans: over 200 lbs! My husband is retired; I will follow suit soon. Planning to be at the all-school reunion in 2020; see you then!"

Ray Hedman (GeolE 79) is retired from the oil and gas industry and GE/Genworth and now lives back in South Dakota at Lake Madison.

Roy Meier (CE 79) "I retired from KDOT about 8 years ago with 31 years, 3 months, and 1 day of service to the people of Kansas. I am having the time of my life, enjoying each day that I

am being given. In other words, I AM HAVING FUN!!!!!"

1980's



Matt Wallace (GeolE 80) "Family and career are both going well. Middle daughter, a mechanical engineer, married this year. The other two are in college. The youngest in her freshman year and the oldest in a PhD program. Their mother and I remain proud. I am the Director of Ameren Missouri's Sioux Power Plant, north of St. Louis."



A group of SDSM&T alumni attended the Monday night football game at Seattle between the Vikings and the Seahawks on December 10, 2018. In attendance were **Ken Harms (ME 86)**, **Terril Perrine**

(EE 83), **Jim Laurenti (ME 84)**, **Tim Ogdie (ChE 80)**, **Lon Carlson (ME 87)**, and **Leighton Lien (EE 83)**. Terril wore a Grubby the Miner outfit to the game.

Mary Jurczynski LaRonde (ME 80) "My husband Bill and I have returned to the United States after living three years abroad teaching. We were a year and half each in Cairo, Egypt, and in Baku, Azerbaijan. Living and working in foreign cultures has been the biggest learning experience of my life. We have however, returned "home" and will always be eternally grateful for our US citizenship. Seeing the American flag has new and profound meaning for me. I've "officially" retired from teaching, but retirement is just a word. I'll always be doing something to serve. In the meantime, I'm enjoying the down time until we move to Colorado sometime in late spring to be closer to two of our 5 children. The mountains beckon - and we'll return to Rapid City and SD for a wonderful visit after almost 40 years!!!"

Ryan Telkamp (EE 81) is still in Los Angeles (Torrance) and has retired from Boeing (Hughes) after 36 years. "After a couple months and my wife reminding me we still have a mortgage, I went to work for SAIC working on a DoD program to provide scheduling and key management of protected communications to

our war fighters. On the real retirement front, Beverly Glen Distillers Limited is almost off the ground, so be on the lookout for our distinctive label of single malt whisky, blended whisky, and rum. We hope to be hitting the market in 2019."



Mark Brown (ME 79), **Joel Jarding (ME 82)**, **Carla Brown (GeolE 81)**, **Paula Jarding (ME 83)**, **Clayr Alexander (MinE 77)**, **Alan Larson (ME 79)**, **Tom Winkler (CE 79)**, and **Kim Haarberg (MetE 79)** gathered at the Jarding family summer retreat at Flathead Lake, MT, to relive college-day Triangle memories along with some hiking, mountain biking, Harley riding, boating, and a few beers thrown in!



Karen Hansen (EE 80) "I'm currently working for Community Memorial Hospital in Cloquet, MN. I've been here four years now doing tech

support. The attached picture is on Lake Superior with my niece. I grew up about an hour north on the iron range, so it's (almost) like coming home. Compared to Rapid City, I do less motorcycle riding and more cross country skiing."

Mark Bierwagen (EE 80) "Greetings from Roanoke Virginia. Susie and I are grandparents now. Macie Claire Bierwagen, born Feb 3, 2018, to son Matthew and wife Kaitlin. They live in London, England, so we don't see them as often as we like."



Charlene (Wells) Dubs (MetE 81) "Our group of lifetime Mines alumni and friends met again at our home in Maryville, TN, for a fun weekend. We saw many sights! First outing, the Arconic rolling mill where I work. Next we hit the Great Smoky National Park. We also took a boat ride on Tellico Lake, and then took in a tour at Oak Ridge National labs. A great adventure weekend for a group of engineers!" Pictured: **Rae [Kary] (GeolE 81)** and **Eric (CE 81) Staab, Lynn [Parks] (GeolE 81)** and **Kevin Aleshire, Cheryl [Walters] Aust (GeolE 81)**; David Dubs, **Gerry Aust (EE 81)**, **Karen Jass (MinE 81)**, **Charlene [Wells] Dubs (MetE 81)**, and **Michelle Hall**

(GeolE 81).

Ivy Hasty (ME 82) "We went to Grand Junction, CO, during the Labor Day weekend this year, and were lucky enough to stay in the same hotel as the Hardrocker football team. Of course we had to go to the game! It was the first time in my 70 years of life that I got a sunburn at a football game. The game was very exciting and we were ahead 'til the very end. Our players were very valiant."



Tom Loomis (GeolE 82) "Sadly I must report, that my wife, Vicki Klar-Loomis, of 29 years passed away of ALS on Sept. 25th. Her obituary can be found online. Family and friends celebrated her life at our house in Rapid City. I want to thank all my friends who attended from Tech and Delta Sig. You made a profoundly sad day very special."

Al Goldschmidt (EE 82) "Pam and I enjoyed a 2+ month drive around the USA this past summer, traversing through 31 states and over 10,000 miles. We thoroughly enjoyed our visit to Rapid City and the School of Mines. Much has changed in the 36 years since I was last in South Dakota."

Ron Espeland (ME 82) "I retired from the Tesoro Mandan

Refinery on April 1, 2017. My wife and I will continue to live in Bismarck and we're still operating our farm near Glenham, SD, and trying to keep up with our grandkids!"

Dennis Salmon (CE 82) "I have been back to visit SDSM&T two times this past year, May and September. On both visits I purchased socks at the Rocker Shop. I wear the socks proudly every Friday for casual dress day. Great to see all the nice improvements to the facilities and grounds. God Bless the School of Mines Hardrockers."

Chuck Widhalm (EE 83) "I currently work for Allegiance Sales supporting wireless markets in defense and telecom. Carol and I we will be moving to Bella Vista, AR, in 2019, looking to semi-retire in 2020!"

Mike Harris (CSc 83) "I now work for IBM in North Carolina as a senior development engineer on scalable storage for HPC systems. I'm excited to work on clustered storage for the new Summit and Sierra Supercomputers. These are now rated #1 and #3 in the world re-taking those spots from China."

Terril Perrine (EE 83) "Karen and I still live in North Bend, WA (outside Seattle), where we have been since 1997. I still have my engineering consulting firm "Avion Partners" where we provide system engineering, software engineering and

program management support for aerospace companies both commercial and military. I had the opportunity to go back to South Dakota two years ago with several Delta Sig brothers for a weekend of pheasant hunting and it sure felt good to be back in the Dakotas. Also was able to take **Jim Laurenti (ME 84)** on a nine-day fishing trip to Alaska last summer. I am supporting a US Navy project at Boeing right now and happen to sit near **Terry Bowman (EE 82)** and still share stories about the Hall Inn and M Day festivities."

Steve Mullan (ME 84) "In 2017, Maggie and I moved back to the Minneapolis/St. Paul area from China to live closer to family. Then this May, I retired from Dow Corning after 32 years of service, working for a great company with great people. We're busy getting our home in shape, helping family, and planning trips."

Jerry Beckman (EE 84) "After spending 24 years in the Personal Computer industry, I'm now in Little Rock, Arkansas with Molex - a recognized name in the electrical cables and electronic connectors industry, serving the cloud infrastructure. At the present time, I'm working on a project that pushes data speeds to 112 Gbits/sec over each transmission path... pretty fascinating work - really enjoying it!"



Chuck Gessner (MinE 84)

"I am the head of three major endeavors at AURA - helping to create a new organization in astronomy, helping to safely build a massively large robotic telescope, and managing our company's industrial insurance. Kim and I celebrated with our daughter her 18th birthday, can you believe it?"

John Lewis (CSc 84) "Still working hard as a retinal surgeon for Kaiser. My two eldest have graduated from college, and daughter number two is slated to start Optometry school in Chicago in the fall of 2019. Daughter number three is studying graphic design at CalPoly, and that leaves just my son at home with Akiko and me. Still won't be empty nesters for a while though; he's currently in the 8th grade."



Jeffrey Weiland (GeolE 85)

"I am currently working as the well delivery manager for the Mars and Olympus platforms in the Deepwater Gulf of Mexico. I have been at Shell Exploration and Production in New Orleans for over 33 years. I recently married and have two wonderful children Stella (4) and Wyatt (2). I still have family and friends in Rapid City and visit the beautiful Black Hills every year."



Jeanne Eha (MetE 85) "As the materials engineer for Lockheed Martin, Deep Space Exploration in Denver, I was lucky to have worked on the InSight program (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport) and was on the design team in a materials engineering role for the InSight Lander. Lockheed Martin was the integrator for the many instruments used on the lander. This spacecraft was designed to study the surface of Mars to measure seismic activity and measure heat flow to gather science on the geological evolution of the planet. The InSight Spacecraft successfully landed on MARS November 30 and the mission control team is currently gathering some

amazing science."

Greg Johnson (ChE 85) "We are still living in Rapid City and have four children and ten grandchildren. Our oldest daughter, Amanda, is a librarian in Wyoming. Our oldest son, **Carl Johnson (IS 12)** played basketball for Mines. Our youngest daughter Annie and our youngest son Isaac are both currently attending Mines."

Dan Oligmueller (EE 85) "I retired with 33 years at Northrop Grumman Corporation as a director of Software engineering and worked in areas of cyber, space, ground systems, and recently in missile defense. Suzy and I have 3 adult children and 3 grandchildren. We spent 30 years in Colorado Springs, CO, with the last two years in Huntsville, AL."

George Lah (ME 85) "In June 2018 I started a new position with United Taconite in Eveleth, MN. I am part of the operations team. In August 2018 my wife of 30 years passed away. Anne was 54 years old."

Tom Durkin (MS Geol 86) "I continue to enjoy my job with the Space Grant Consortium at SDSU; 20 years here and 32 with the state, a real blessing. A highlight is a morning coffee group at the faculty lounge that I attend with many of the active and retired Geol/GeoE professors, a tradition started long ago by Dr. Paul Gries.

Cathy works on campus in the Math Department and our daughter Mary graduates from nursing school in December. I welcome visits from any alumni. We'll go to coffee!"

Rusty Gray (MetE 86) of Los Alamos National Laboratory received the DYMAT association's John S. Rinehart Award at the 12th International DYMAT Conference, held recently in France. The award recognizes outstanding and creative work in the science and technology of dynamic processes in materials.



Kari Karst (CE 86) "Empty nesters for three years, oldest son (Colin) is an SDSU CM graduate and is employed as a project manager at Gage Brothers in Sioux Falls. Youngest son (Adam) is a Senior CM major at SDSU and will graduate in May. Work at BX Civil & Construction and Dells Materials Company keeps us busy. Our favorite travel destination is to our 2nd home in Gold Canyon, AZ."

Teresia Savage (Phys 86) "I am absolutely loving my work in the healthcare industry. I teach Green Belts, mentor and

coach projects as well as lead my own projects that have a direct impact on our littlest of patients - children. It is the most rewarding work I have ever done. My own son graduated this past May from the United States Naval Academy with a degree in Honor Mathematics and is now serving our country as an Ensign. My husband and I have been married a wonderful 31 years. Life is blessed."

Peggy Ellwein (ChE 87) "I retired after 20 years with Western Digital. I feel like I have a summer home in South Dakota (Pierre) as I am there quite a bit to spend time with my mom."

Byron Wolf (ChE 87) is retiring from Dow Chemical (formerly Dow Corning) on Jan 31, 2019, after almost 32 years of service. He plans to spend time volunteering through his church to provide job counseling/preparedness and financial management skills to the local community and working to lower his golf handicap. He and Wendy will continue to make Midland, MI, their home.

John Bauler (ME 88) "I celebrated my 30-year anniversary with Caterpillar in May. I am very proud of this achievement and looking forward to more years with Caterpillar. I am currently a product support manager in the

Large Mining Truck Division. A challenging position I really enjoy because I enjoy working with our mining dealers and customers where I see many other SDSMT graduates."

Casey Smith (GeolE 88) "Vicki and I moved to Scottsdale full time in 2015 to avoid another Michigan winter. I contracted Scleroderma in about 2010 and received a double lung transplant at Mayo, AZ, in August 2016. Went exceptionally well. Our son Davis Smith will be graduating as a GeolE in 2019. Still have Phoenix Environmental in Detroit. Started a software company eSpecsoftware.com a couple years ago focused on EPA mandated fuel system inspections. Spending professional time working on larger fuel infrastructure projects, fuel decontamination processes, improving software, and patenting some secondary containment parts. We love Arizona and live across the street from the Scottsdale Sonoran Reserve which abuts the Tonto National Forest."

Matt Maisey (ME 88) "After wandering the world and in the last few years wandering the US, the Maisey family has finally settled down in Kingwood, TX. This has been our home and my main visitation location, but now as my company has moved to its Houston Office I can actually sleep in my own

bed most nights. I will actually be able to make it to Mines events."

Nancy Nixon (CSc 89) "I retired from Wayne Fueling Systems in 2015 to spend more time with my older two boys and their families (five grandchildren) and my mom in South Dakota. I hosted "nana camp" for the grands the last two summers in South Dakota on the family ranch. My husband Mark (computer engineer from Waterloo and Director of Applied Research at Emerson) and I are building a new home in the country in Texas. It should be finished next fall. Our two younger boys are here in Texas as well."

Darin Himmerich (EE 89) "I have been teaching technical and design theatre at the University of Nebraska at Kearney for the last 11 years and am the Director of the Theatre and Dance Program. I got my MFA from the University of South Dakota back in 1995 before spending seven and a half years in LA building scenery and project managing in the entertainment business. Now my wife also teaches at UNK in the Interior Design department. Our two kids are both in high school, a freshman and a senior."

1990's



Jackie Dittus-Schroeder (ChE 91), Doug Miller (GeolE 75), and Denise Barton-Miller (Chem 76) took a moment to pose with Grubby, after son and nephew **Jacob Schroeder (IE 18)** graduated. Jacob joins many other family members in this SDSMT alumni status: **Marvin Miller (MinE 73), Chris Miller (CE 97), Ryan Miller (ME 98), and Brandon Miller (ChE 02)**. Daughter Haley Schroeder is currently a sophomore CE major and will be added to the Schroeder – Miller Legacy in 2021.



Rick (CE 92), Jared, Adam, and Erica Baruth "I have been working at Burns & McDonnell in Kansas City for 25 years now with opportunities to travel around the world and across the US for various military and government projects. Erica volunteers with JDRF and enjoys doing community

theatre productions in the KC area while Jared is a freshman at KU majoring in civil engineering with interest in the environmental area. He has spent the last month practicing with the KU men's basketball team after an all-state senior season. Adam is a junior in high school and looking at various colleges and opportunities in business, law, or engineering, is an NHS inductee, and enjoys playing varsity tennis."



Stacie [Ringgenberg] (IE 93) and Steve **Sattler's** daughter, Claire, won "Jeopardy's" annual Teen Tournament and the \$100,000 grand prize in November after competing with 14 other teens from across the country. Claire is shown in the photo with Jeopardy host, Alex Trebek, and plans to study biomedical engineering in college next year.



Samer Alhaj (CE 96), and his

family (wife Manal and their four children Farah, Hanah, Sarah, and Omer) live in the Denver area. "I am currently a hydraulics engineer in the transportation field, mainly work with flood plains and hydraulics features underneath highways in beautiful Colorado. We traveled to the Middle East this summer to visit family and many historical places. Farah started college this year."



Dan Machecek (ME 97) "My school, Jakarta Intercultural School in Indonesia, is working on teaching and learning related to mathematics in the elementary and middle school. The cool thing that happened is that we hired a consultant and it turned out to be **Janan Hamm (ChE 85)**. When we Skyped to talk about the schedule for the professional development event we realized that we were both from South Dakota and better yet both from SDSM&T and we knew some of the same people from our past!!!"

Jenni Kennedy (Chem 98) "After a career in finance, most recently as a Divisional Director for Merrill Lynch Global Wealth & Investment Management, I pursued my dream of joining

the Foreign Service. I am now a Diplomat and Foreign Service Officer focusing on economic foreign policy, currently posted to the Dominican Republic."



Rachel (Olsonawski) Hagen (ME 98) "After 6 years home raising our oldest three children I went back to Modine Manufacturing in Racine, WI, to work part-time in engineering (while expecting our 4th child) and have been back 6 years now. We just returned from a family vacation to Florida which included our kids' first Disney trip. We had a great time!"

Paul Oien (CE 99) has been with John Deere in Waterloo, Iowa, since 2012. "I am the factory liaison for the engine works factory in Waterloo and a Continuous Improvement (CI) engineer supporting turbochargers on four cylinder 4.5L engines and six cylinder 9.0L engines."

2000's

Herb Kistler (IS 01) has served as President of the Rushmore Curling Club, the only USCA club in western South Dakota, since 2008. He travels the 5-state region promoting and instructing curling.



Matthew Minnick (GeolE 00), **Brian Fagnan (MS GeolE 01)**, **Michelle Ozarowski (PhD GeolE 14)**, and **Josh Valder (MS GeolE 07)** went on the SURF (Sanford Underground Research Facility) field trip for the New Horizons conference.

Seth Brakke (CE 02) "Things here in Ketchikan, AK, are going well. I just changed jobs to the Ketchikan Public Utilities assistant water division manager in September, and I have been enjoying the change. I was just in South Dakota in August for my grandpa's 90th birthday. The party was in Sioux Falls. We came through Rapid City, but it was on a Sunday. We stopped at campus but everything was closed. Wish we had more time, but at least our three girls got to see the campus."



Charlie Murray (IE 03) finished the Minnesota Superior Trail 100-mile run in September in a time of 30:56:36. "I was feeling good and on pace for a 25-hour race, but between 70-80 miles the dark and the dehydration slowed me down considerably. Between 80 and 90 I felt individual quadriceps fail. After the last aid station around 95 miles I lost my hip flexors thanks to the dehydration. Despite the pain of simply lifting my leg for each stride, I pushed through and finished the last 6.8 mile section in a blistering 3.5 hours. I'm back to running now and feeling good. I'll be cross country skiing this winter to build fitness for next year."

Wes (CSc 04) and **Kim Roth** were nominated by Senator Mike Rounds to receive an Angels in Adoption award. Wes and Kim made two trips to Ethiopia in 2011 to bring home their son Kaleb. In 2015, they adopted daughter Elsie from China. Wes works in the office of Senator John Thune, where he has assisted many adoptive families with immigration applications and

paperwork.



Tim Lystad (IE 06) "My wife Vanessa and I live in Fargo, ND. I've been at John Deere Electronics for the past six years and currently supervise a group of engineers in the quality department. My wife is an attorney in Fargo. We enjoy the time spent with our daughter, and training for half Ironman Triathlon races. We've moved into an old house so much of our time is spent on house projects."



James (ME 07) and **Mandy Moisan** welcomed Addison Claire Moisan on March 7. She's already excited to apply for enrollment at SDSM&T in 2036.

2010's



Robyn (CSc 10) and **Eric Brandner (CE 08)** welcomed their second child, Vincent Eric, on May 30, 2018. He joins big sister, Vivien.

Mitch and **Tracy Nachtigall (IE 06)** welcomed their first child, Sadie Anne, into the world in July 2018.



Zach (MinE 10) and **Tiara (IE 11) Marcus** welcomed Gabriella to their Hardrocker cheering family to join brothers Levi (4) and Ezekiel (2). Tiara is a Quality Manager at Terex Utilities in Watertown and Zach's woodworking business, Marcus Homestead Creations,

is really taking off. They love living in South Dakota.



Brandon (MS EMGT 14), Kellie, Norah (4) and Landon (2) Alberts welcomed Hannah Marie to their family on November 27.



Dylan Schiltz (CE 15) and **Kalie Friedel (ChE 16)** were married on October 6 in Atkinson, NE. The couple currently resides in Appleton, WI. They would like to thank everyone for the congratulations and all their fellow Hardrockers who helped them celebrate!



Katie Reed (CE 17) and **Ben Wolf (MS CE 15)** were married on September 29 in Brooklyn Park, MN, with many School of Mines friends and guests in attendance.

Luke Malsom (ME 17) and Shalyn Salonek are engaged and planning an October 12, 2019, wedding at St. Marys Catholic Church in Aberdeen, SD. Luke works at Mettler-Sichmeller Engineering and Shay works as a goldsmith at Riddle's Jewelry. The couple resides in Aberdeen.



SD Mines Five Year Reunion July 8-12, 2020



2018 OUTSTANDING RECENT GRADS

Taffy Johnson (ChE 07), Brandon Lingle (ME 07), Nick Famoso (Geol 09), Corbin Latham (CEng 07), Anna Dahl (ACM 08), Wade Johnson (EE 07), President Jim Rankin (EE 78), Evan Keffeler (GeolE 09), Jordan Hoff (MEM 08), Dan Rederth (Phys 07), Lisa Rebenitsch (CSc 09), Seth Kenner (CE 07), and Cassandra Degen (MetE 07)
Not pictured: Nathan Odenbach (IE 07)



Help Recruit Future Hardrockers:

One Alum, One Contact, One World of Difference

Share your passion for our university by recruiting future Hardrockers! As an alumnus, you know first-hand the incredible career opportunities opened up by attending SD Mines. To help you spread the word, we have brochures available by request. If interested, please send an email to admissions@sdsmt.edu and include your name and mailing address.

ALUMNI Gatherings



August 31, 2018 | Peoria, IL

Jim Miller (ChE 86), Jim Rankin (EE 78), Wendy Rankin, Hunter Miller, Dan Dolan, Dawn Fox (EE 06), Lauren and Baylor (GeolE 17) Wagehoft, Chase Ketterling (ME 16), Lisa and Zachary (ME15) Kroehler, Heather Shoup (CE 97), Kermit Velder (ME 93), Yvonne Baker Hoop (MinE 78), Brian Hoop (MetE 77), Brook Plavec (ChE 98), J.D. Wientjes (MinE 79), Keith Plavec (CE 98), Nathan Priegnitz (MinE 10), Ritch Larsen (ME 75), Brad Johnson (EE 92). Not pictured: **Kristina Miles (MinE 16).**



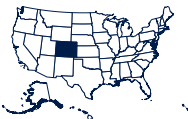
September 15, 2018 | Salt Lake City, UT
Alumni Chapter (M-Day Muster)

Terry Meidinger (ME 76), Dan Brett (EE 81), Dan Dake (CE 55), Oliver Petik (EE 64), Sterling Ziegler (MinE 12), Mike Cowan (Phys/CSc 12), Clark Fogle (MS EMgt 79), Nancy Finley (EE 83), Chrissy Sorensen (CSc 16), and Doug Kopren (EE 82). "Everyone enjoyed wonderful food, beverages and great conversation at Bud and Mary Petik's home, watched the SD Mines football game and were then entertained by multiple flyovers of four F-35 fighter planes. The jets were practicing for an 8 PM flyover at the University of Utah football game and were maybe a thousand feet above our heads. They were loud and low and it was fun to watch their maneuvers."



September 28, 2018 | Denver, CO

The SD Mines Denver Alumni Chapter organized an outing at a Rockies baseball game on September 28, 2018.



October 21, 2018 | Wichita, KS



Chris (ME 06), Bobbie (ME 06) and children Kroetch, Carolyn Evenson, Lea Anderson (ME 83), Kevin Evenson (MetE 83), Michele and Paul (ME 91) Sheets, Darrell Jundt (CE 79), Eric (ME 96), Carolyn, Donovan, and Natasha Braun, Jude, Asher, Cameron (IE 06) and Kat Anderson and Becky Mitchell CE 95).



Hardrocker fans gather for a tailgate party prior to the SD Mines vs. Colorado Mines football game.



Front: Curt Ehresmann, **Ken** (Math 60) and Donna Yocom. Back: Jerry Lipovsky (ME 73), Greg Crowser (EE 89), Mike Koch (MinE 80), and Ray Hedman (GeolE 79).



Front: Bree Conrardy (IE 16), Andy Kannenberg (CEng 04), Adam Freese (CEng 07), Sharon McDaniel (ME 84), Steve Rice (ChE 82), Rune Torgersen (CEng 98), Keith Beck (EE 90), Kevin Erdmann (ME 04), Wyatt Zochert (CSc 04), and Christian Anderson. Back: Alan Pretre (CSc 85), Kevin Worner (CSc 13), Shane Warren (CEng 98), Tor Tovsland (EE 94), David Ross (ME 17), Brian McDaniel (ME 83), Jim Rankin (EE 78), Roger Musick (EE 71), Adam Meaney (CSc 15), Joe Manke (CSc 15), Scot Vander Pol (ME 99), Mike Henrickson (CSc 04), and Brad Osterloo (CSc 92).

November 16, 2018 | Wessington Springs, SD



Brad Johnson (EE 92) [representing **Tom Ohlmacher (Chem 74)**], **Tom Zeller (ME 70)**, **Steve Grove (ChE 71)**, **Paul Axtell (ChE 68)**, **Pat Quinney (CE 70)**, **Karl Knapp (CE 84)** [kneeling], **Larry Pearson (ME 72)**, **Lorin Brass (MetE 75)**, **Ron Jeitz (CE 69)**, and **Laurie Chamberlin (ChE 75)**. The first annual SD Mines scholarship pheasant hunt was graciously hosted by Steve Grove and Gunbarrel Ranch. Contact Ron Jeitz (ronjeitz@yahoo.com) about next year's event.

November 23, 2018 | Anchorage, AK



November 24, 2018 | Anchorage, AK



November 23 – **Greg Magee (MS CE 81)**, and **Lynne [Parks] (GeolE 81)** and **Kevin Aleshire**. November 24 – **Kyle Monkeliën (GeolE 78)** and **Stacey (CE 04)**, **Eleanor**, **Heidi**, and **Marc (CE 04) Frutiger**. Alumni in Anchorage attended Hardrock men's basketball games over the Thanksgiving weekend.



Find more on our Facebook Page facebook.com/SDMinesAlumniAssociation/

BY THE NUMBERS: **ascent** INNOVATION

\$30+ MILLION
economic impact in **5 years**

2006

Black Hills Business Development Center opens

112
FULL-TIME EMPLOYEES

2011
BHBDC reaches
full capacity

50+

INTERNS FROM



\$74K
average wage

\$8,000,000+
ANNUAL PAYROLL

2017
Acquisition of
expansion property

21

current innovative companies



2018

BHBDC rebrands to Ascent Innovation

2019
Construction of new
Ascent Innovation
Campus begins

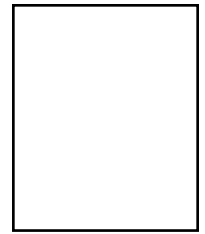
2020
Ascent Innovation
Campus construction
completed

SOUTH DAKOTA



SCHOOL OF MINES
& TECHNOLOGY

501 E. Saint Joseph St.
Rapid City, SD 57701



SD Mines In-State Tuition Awards =

**\$4000 / yr.
in savings.**

Hardrocker Heritage Award

For qualifying students with at least one parent or legal guardian who graduated from SD Mines.

South Dakota Advantage

Beginning the summer of 2019 new freshmen and new transfers from North Dakota, Iowa, Nebraska, Wyoming, Montana, and Colorado pay in-state tuition.

Minnesota Reciprocity

Minnesota students receive in-state rates.

