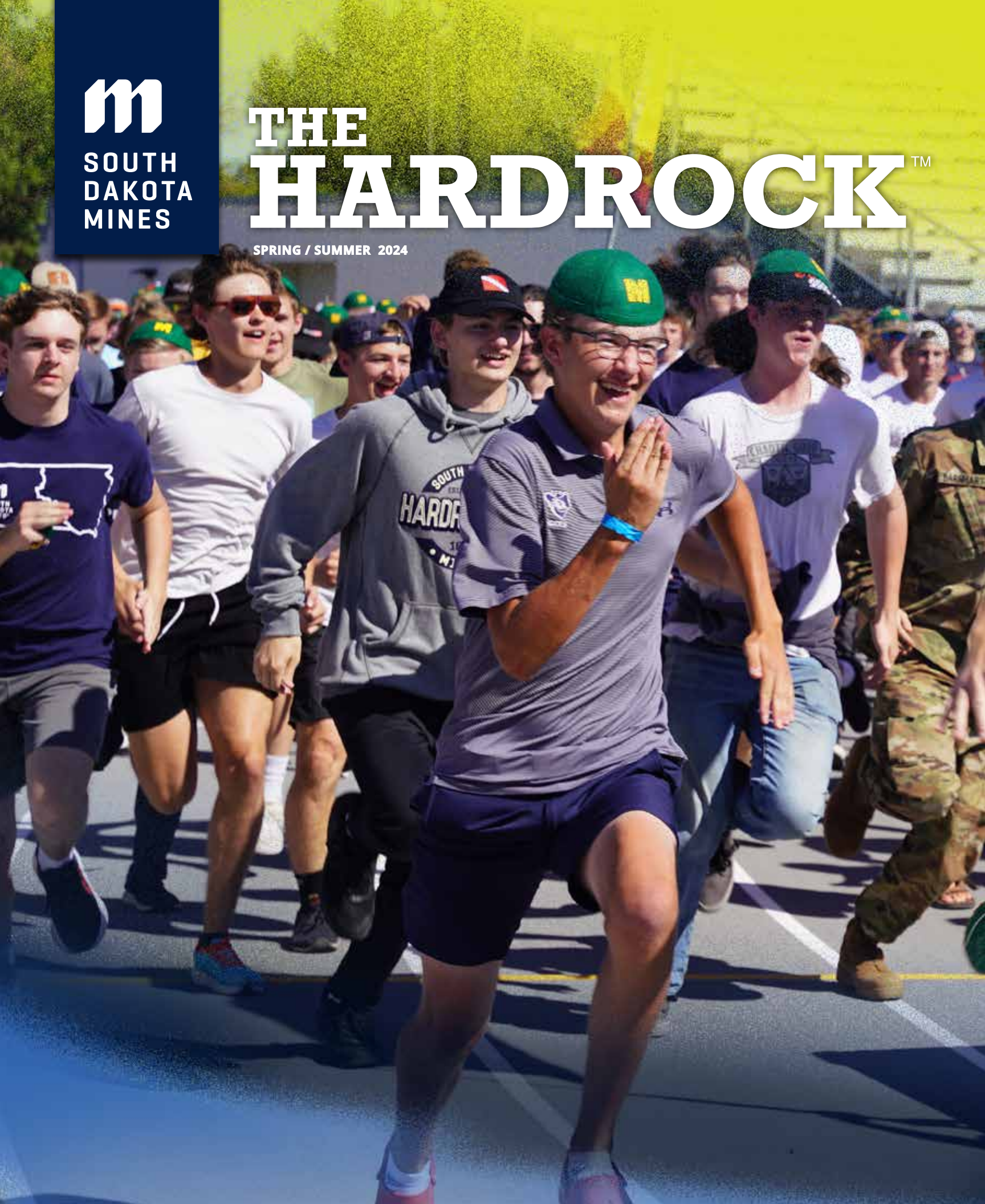




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MINES

THE HARDROCK™

SPRING / SUMMER 2024



THE HARDROCK™

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ABOUT THE COVER

Students participate in the traditional Frosh Run during halftime at the homecoming football game, officially going from frosh to freshmen.

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Please join me in extending a warm welcome to Marc Vaillancourt, the new chief executive officer of the South Dakota Mines Center for Alumni Relations and Advancement (CARA). Marc joins us from St. Cloud State University in Minnesota where he served as associate vice president for philanthropy. With Marc's wealth of experience and enthusiasm, we are poised to enhance the effectiveness of all our alumni engagement initiatives.

Returning to Rapid City and reconnecting with our university after a 40-year absence has afforded me a fresh perspective on why this institution is more successful today than when I graduated. I've come to recognize the secret to our continued success lies in our ability to preserve the longstanding culture and traditions cherished by all alumni while adapting to meet the demands of an ever-changing world.

The essence of our school's culture and traditions is epitomized by the campus Grubby statue, generously donated by Jim and Connie Green. The inscription on the statue's base reads, in part, "as a reminder of the hard-working, fun-loving spirit that has made this institution great." This sentiment holds true today, just as it did when I first stepped foot on campus as a freshman in 1978.

While Mines has always attracted students with a strong work ethic and a can-do spirit, it is our commitment to nurturing and enhancing that mindset that sets us apart. However, if this culture were to exist within an antiquated and stagnant academic and social environment, our graduates would struggle to meet the demands of today's ever-evolving world.

Fortunately, thanks to visionary leadership and a supportive and engaged alumni base, Mines isn't just keeping pace with the times; it's leading the way in all facets of technology-based higher education. Central to this advancement is our commitment to technology. Through the dedication of our faculty, the evolution of our curriculum, and state-of-the-art equipment and facilities at both campus and department levels, we are preparing our students to excel in a competitive landscape, as evidenced by the growing number of companies recruiting on our campus.

The evolution isn't confined to the classrooms alone. Co-curricular and extracurricular activities also play a pivotal role in shaping the quality of our graduates. One area that has particularly impressed me upon my return to Mines is our music department. With the introduction of numerous musical opportunities that were unavailable four decades ago, alongside the enhancement of longstanding programs like the Singing Engineers, our music department is not only enriching the student experience but also contributing positively to the wider community. Music concerts are drawing sizable audiences and garnering acclaim, further enhancing our school's reputation and attracting students who appreciate the synergy between music and technology. I hope you enjoy the article in this magazine highlighting the program's growth and success.

Exciting developments are underway here, and each of you should take immense pride in being an alum of South Dakota Mines.

Rich Wells (ChE 82)
2024 President

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Nucor Mineral Industries building | Photo by: Brian Hill

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Summer on the Mines campus is always a bit quieter, allowing us to reflect on the accomplishments of the previous academic year and to be grateful for the students, faculty and staff who call South Dakota Mines home. Some of the summer activities happening on campus include camps for middle and high school students in topics like explosives and AI, field camps for geology majors, and athletic camps for youth as well as prospective Hardrock student athletes.

As alumni and employees of South Dakota Mines, we know how great an education this university provides. Yet, I continue to be amazed at the national recognition we receive from multiple national entities, including the Wall Street Journal, US News and World Report, Forbes, Best Colleges, College Factual, Niche, and more. It is great to be recognized in this way, and it also helps us recruit new students. I hope these accomplishments make you proud to be alumni of South Dakota Mines.

The construction on the Nucor Mineral Industries Building will be completed later this fall, and we're looking forward to celebrating the ribbon cutting on April 25, 2025. The building will be a significant addition to our campus and will serve a crucial purpose for our state and nation as well. The fundraising for the Surbeck Center expansion project is underway, and we hope to begin that construction in the very near future. We are so grateful for your continued support of these projects, which are so important to the continued success of our students and our university as a whole.

But new buildings wouldn't mean much without the top notch research and teaching our faculty and graduate students provide. In 2023-24, Mines was selected to join the prestigious Universities Research Association (URA). URA partners with the University of Chicago to create the Fermi Research Alliance which manages the Long Baseline Neutrino Facility at the Sanford Underground Research Facility in Lead, South Dakota. Mines faculty and students have been intimately involved in SURF research, and we are honored to become part of the URA. We are also partnering with SDSU on the Dakota BioWorx project to create new markets for ag and forest products. As part of this partnership, the CNAM-Bio Center was opened to create biodegradable bioplastics and specialty chemicals from biomass. These relationships and the innovation they spur have long been part of the environment we create at Mines, not only serving our communities but our students and our alumni like you.

I hope that you are already making plans to be back on campus for Rocker Days (Homecoming) on Sept. 16-21, 2024, and the All-School Reunion on July 9-12, 2025. Campus lights up when you and your families come back to spend time with your fellow alumni and former faculty. Thank you for being engaged with us as mentors, class speakers, local alumni chapter chairs, and as donors. Your continued support means more than you know.

A handwritten signature in blue ink that reads "James Rankin".

James Rankin (EE 78), PhD PE
University President, 2018-2024



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ASK THE EXPERT

What is DUNE?

The Deep Underground Neutrino Experiment (DUNE) is poised to become the largest science experiment in the United States. DUNE's far detector in Lead, South Dakota will consist of four modules. Each of them will be a four-story high Olympic-size pool filled with more than 10,000 tons of ultra-cold liquid argon (below -300 degrees Fahrenheit) and located one mile underground at the Sanford Underground Research Facility (SURF). A powerful particle accelerator at Fermilab near Chicago will produce neutrinos and shoot them through the Earth's surface to South Dakota. Neutrinos are very elusive particles and almost all of the neutrinos will pass through the Earth with no interaction. However, a few neutrinos will create signals in the underground detectors. Whether or not these neutrinos have changed their type during their journey to South Dakota will help DUNE to resolve the fundamental properties of neutrinos.

What are the main objectives of DUNE in simple terms?

The science of DUNE is to complete our understanding of the fundamental properties of neutrinos, which are the second most common known particles in our universe after light. We still do not know which neutrino type is the lightest or heaviest. Moreover, DUNE could provide an answer as to why there is more matter than antimatter in our universe. Besides science with the neutrino beam, DUNE could even study the potential black hole formation with neutrinos if a supernova occurs in our galaxy while the detectors are active. Finally, the detection of solar neutrinos can be utilized to study the nuclear fusion processes inside our sun, which provide the energy for life on Earth.

How are South Dakota Mines researchers contributing to DUNE?

Our essential work for DUNE centers around the control of the radioactivity of the detector components inside the underground caverns as well as the calibration of these detectors. The radiological assays and the computer simulations we perform in our laboratories at South Dakota Mines are paramount to ensure the rare neutrino signals in DUNE's liquid argon can be detected and discriminated against unwanted background signals. A correct interpretation of these signals will rely on calibration systems developed at South Dakota Mines. Professors Reichenbacher, Martinez, and Wang lead DUNE's efforts on radiological assays, simulations, and calibrations supported by a team of two postdoctoral researchers, seven graduate students, and more than 10 undergraduate students. Their groups are also involved in developing the data analysis for supernova and solar neutrinos, as well as for beam neutrinos.

What other projects are researchers from South Dakota Mines working on at SURF?

Researchers from South Dakota Mines are significantly contributing to the LZ dark matter experiment (see the main article). Other efforts at SURF focus on CASPAR, the first deep underground particle accelerator in the United States, which is co-led by South Dakota Mines and is contributing to our understanding of the synthesis of the chemical elements in stars like the sun. South Dakota Mines has been involved in the Majorana Demonstrator which developed experimental techniques aimed at finding if neutrinos are their own antiparticles or not. Our geologists and biologists also contribute to understanding the fabric of rock and to what core samples tell us about Earth, to understanding the vast heat resources, and to studying deep underground microbes.

LOOKING BACK



1914

1914 baseball team standing: Frank Newbowers, Frank Turner, Harry Deutsch, Elwyn Smith, Leon Anderson, Rodney Cragin, Maurice Holly, Paul Dennis, Arthur Thiel. **Sitting:** Jack McElroy, Arthur Fahrenwald.



1949

The Blizzard of 1949 blanketed the South Dakota Mines campus with a heavy and deep layer of snow.



1984

The football, basketball, and volleyball teams all won conference championships.

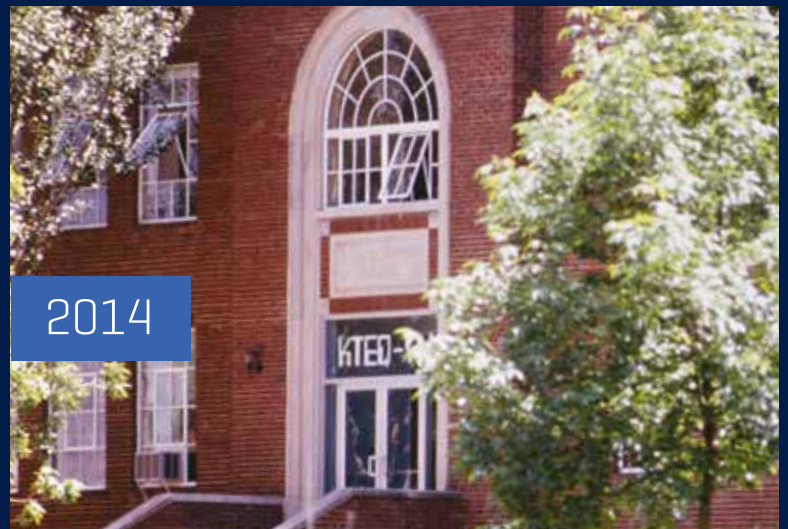


2004

Mines sports Hall of Fame names first class of inductees. First class of 18 included former athletic directors Harold Goodell and Darold "Dud" King.



2014



March 8 - KTEQ returns to the airwaves after a 14-year break.

ENGINEERING

Charles Maupin (ME 10) has a 90-minute commute to and from his job at the Sanford Underground Research Facility (SURF) in Lead, South Dakota. Most people with that kind of drive might listen to podcasts or call friends and family to catch up. But not Charles.

During most of his drives to and from his family's ranch in Hulett, Wyoming, he's thinking about how to overcome a challenge he encountered while operating the most sensitive dark matter detector in the world – which happens to be a mile underground.

"When I graduated, I knew I wanted to stay close to home so I could help out on the ranch, but I never anticipated I'd be working at an underground lab," he said. "To most people, this might be as far from the ranch as you can get."

But maybe not as far as you'd think. Charles and his coworker Jake Davis (ME 10), fellow rancher and former classmate, have drawn some conclusions between the hard work and problem-solving nature of ranching and engineering a complex, underground science experiment.

"Growing up on a ranch, you have to find ways to solve problems and adapt to changing conditions," said Jake. "You have to be curious about how things work."

Jake and Charles have worked together since the assembly phase of LUX-ZEPLIN (LZ), the world's leading experiment in the race to directly detect dark matter, which many scientists believe makes up 85 percent of our universe. LZ contains more than 10 metric tons of liquid xenon. Researchers believe dark matter particles streaming through the universe will interact with the xenon atoms. Hosting the experiment underground helps block out cosmic rays that make rare dark matter interactions difficult to detect.

"Some things we just don't know; but unless we go after the answers to those questions, we'll never find out," said Jake. "If you look at how far mankind has come in the last 100 years, it's because people were asking these kinds of questions."

The importance of the work being done at SURF is just one reward for Jake and Charles. For engineers who enjoy solving problems and who don't shy away from trying something for the first time, designing and installing experiments at an underground lab is the ultimate "office."

"For me, it's the challenge," said Charles, who has worked on LZ from the design phase, to installation, and now operations. "Pretty much every day, I run into a problem where I can't just buy the part I need; I have to design it myself." That skill is one of the things both men say set their education at South Dakota Mines apart from other engineering programs.

"At Mines, you learn how to take a problem and break it down into the fundamental elements of what you're trying to solve," said Jake, who now leads surface operations and utilities at the lab. Charles said programs like CAMP and the senior design project are what differentiated his experience at Mines.

"You can sit down and read a book and do problems at your desk, but the real-world application is what prepares you."

He remembers Dr. Dan Dolan saying, "The biggest thing we teach you here is how to learn."

"We do a lot of interesting things at SURF that are being done for the very first time and that only a



WORLD-CLASS SCIENCE

few places in the world are doing,” said Charles. “So that ability to learn as you’re going is crucial.”

The fact that science experiments of this scale are happening in South Dakota is something in which both men take pride.



Jake Davis (ME 10)



Charles Maupin (ME 10)

“I’m a fifth-generation South Dakotan, and there’s definitely a sense of pride that this level of work is being done in our state,” said Jake. “There is cutting-edge science taking place here, and we’re doing it where there was an operating gold mine for more than 100 years.”

Jake and Charles are just two examples of many Mines alumni at SURF. The majority of the engineers who contribute to the work at SURF are alumni of

South Dakota Mines. University faculty, specifically in the physics department, collaborate regularly and are instrumental to several experiments at the lab. Undergraduate and graduate students have been able to participate in ground-breaking research because of Mines’ proximity to the lab.

Besides the world’s leading dark matter detector, SURF is also home to the largest physics experiment ever undertaken on American soil. The Long Baseline Neutrino Experiment and the Deep Underground Neutrino Experiment (LBNF/ DUNE) are run by the Fermi National Accelerator Laboratory. The massive neutrino detectors of DUNE will be housed at SURF inside huge underground caverns. The South Dakota detector will be the largest of its type ever built. It will use 70,000 tons of liquid argon and advanced technology to record neutrino interactions with unprecedented precision. The size and complexity of LBNF/DUNE requires huge amounts of engineering. Jake, Charles, and a range of Mines

alumni are supporting the effort. For those assisting on the project, it’s the opportunity of a lifetime.

“I’m an engineer who loves learning, and I never want to stop learning how to do new things,” said Jake. “What better place to do that than an underground physics lab where you’re trying to discover dark matter or explore the mysteries of neutrinos?”

Mines was recently inducted into the prestigious Universities Research Association because of its research involvement at SURF. Read more about SURF at <https://sanfordlab.org/>.



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HIGH-IMPACT HARDROCKER

By Donn D. Lobdell, Ph.D. (ME 58)

Zay Jeffries

Arguably, the most consequential South Dakota Mines graduate is Zay Jeffries (MinE 10). Mines has graduated many individuals who have achieved high recognition as engineers and scientists; he is possibly the foremost of these. A considerable number of Mines alumni have been recognized for their contributions to industrial and corporate organizations, and he is a leader in this list. Some Mines alumni have served on government panels and advisory boards, however, he is probably the most prominent South Dakota Mines alumnus in such service, having been honored with the United States Medal of Merit. To learn more about him and his contributions to engineering, science, business, and the USA, scan this QR code.



◀ Scan to read full article

🖱️ Digital version at hardrock.sdsmt.edu

She told me I could do it, and I believed her.

THE POWER OF A MENTOR

According to Ralph Waldo Emerson, “Our chief want in life is somebody who will make us do what we can.”

A mentor can be many things to a person, but above all, they have the opportunity to help someone identify and reach their goals. According to Michelle Vondenkamp (CSc 89), serving as a mentor can be just as rewarding as being the mentee. Michelle joined the Alumni/Student Mentor Program last year and was matched with student Danni Lueder, a senior in applied computational mathematics.

“It was very meaningful for me to hear [Danni’s] perspectives as a young adult entering the workforce, gain a better understanding of life on campus now, and think more about how I can help the school community that was a foundation for the life and career I’m so grateful for.”

The mentor program, run by the Center for Alumni Relations & Advancement (CARA), matches students and alumni based on career. The time commitment is minimal and support materials are included to help the pair get started. Danni and Michelle met in person once with a majority of their meetings taking place virtually.

“I’ve learned a lot from [Michelle], but I think most important was her experience as a woman working in a STEM field and what it was like to have a family while being a woman in STEM,” said Danni.

Michelle, recently retired, was a senior director in technology at Nike, focused on delivering large global ERP based solutions. When she was at Mines, she didn’t know any computer scientists or engineers, and she didn’t fully understand what jobs were available. “My mentors were the girls who were about two

years older than me – people like Sharon Chontos (ChE 87) – who graduated, got great jobs and showed us how it was done!”

But Michelle’s biggest mentor has always been her older sister, Jackie.

“No one in our family had been able to attend college, but when I was a little girl, Jackie always told me ‘When you grow up, you’ll go to Tech (as Mines was called then),’ she said. “With her encouragement and the help of grants and loans, I was able to do it. She always told me I could do it, and I believed my big sister.”

Danni said Michelle’s advice and encouragement have been instrumental to her last semesters at Mines.

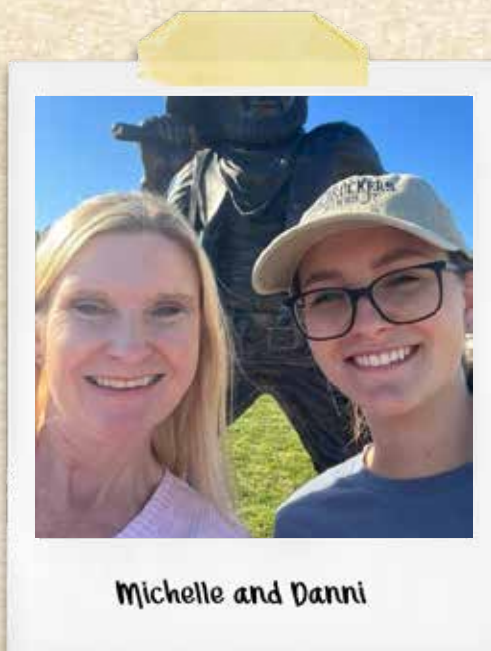
“The mentor program has been a great way to understand what to expect from an industry job. It’s great to have someone

with that experience help you with your resume and interview skills. I think it would be awesome to be a mentor someday.”

Michelle said the high quality and affordable education she received at Mines “changed the trajectory of her life,” and she is happy to help other students on their journey toward achieving their goals.

“The future is Danni’s! She is an extremely bright, focused and hard-working individual. It was truly an honor to meet her and get to know her.”

For more information on becoming a mentor, email Alumni Engagement Coordinator Jo Dwyer at Jo.Dwyer@sdsmt.edu.



Michelle and Danni

A Direct Current to

SOUTH DAKOTA MINES

When Jan Stenstadvolden (EE 98) first traveled from Norway to Rapid City, South Dakota in 1997 to study electrical engineering at South Dakota School of Mines & Technology, he would have never guessed that one day both of his sons would follow in his footsteps – not only by choosing the same university, but the same major as well.

Jan is one of more than 800 Norwegian students who, over the last 70 years, have traveled to Rapid City to finish their bachelor's degree engineering requirements at Mines.

"On my way from the airport to the school, I remember thinking 'Oh no, did I do the right thing?'" said Jan.

But after about three-to-four hours of being on campus with the other Norwegian students, Jan felt like he had found his family. Looking back now, he sees how important the Ivanhoe International Center was to his ability to feel like he belonged at Mines.

"I felt at home almost instantly because of the other Norwegian students there," he said. "If it hadn't been for the traditions and community already established there, it would have been tough."



Rapid City quickly earned a special place in Jan's heart, not only because of his experience at Mines, but because it's where he fell in love with and married his wife, Stephanie. They had their first child, Anders (EE 22) while Jan was working on his master's degree. The two moved back to Norway after Jan graduated, and had their second child, Owen (Math 24).

The family moved around a bit because of Jan's work opportunities, living in the Caribbean for a while, and eventually Texas, where both boys attended high school. As they grew, Jan noticed both boys had the aptitude for STEM.

"I didn't push them toward it; they just naturally gravitated toward it," he said. "But I did encourage them to get a degree in something that is fundamental to our way of living; something that will always be needed." Something like engineering.

Anders, who now works for Electrical Consultants Incorporated in Billings, Montana, doing substation design, said he remembers taking a physics class in high school that included an electrical engineering section.

"We were working with circuits and something just clicked with me," he said.

When it was time to choose a college, the decision wasn't difficult. Not only was Mines his dad's alma mater, but he also had grandparents (Steve and Marty Kalkman) living in Rapid City, so he and Owen were familiar with the area. Having moved around quite a bit as kids, they thought of Rapid City as a "home base."

"After starting college, I remember talking with friends who decided on larger, more well-known universities, and based on what they were saying, I knew I was getting a better experience," said Anders. "I was on a first name basis with my professors, and my class sizes were much smaller."

Owen remembers deciding between studying statistics at Texas A&M, which was closer to his parents, and math and engineering at Mines.

"Texas A&M was so huge," Owen remembers. "Mines was smaller and more personable. Plus, it always felt like home with our grandparents here. I was going to be out on my own for the first time, so it was kind of a no-brainer. Choosing Mines was the best decision I could have made."

Owen also remembers talking with Dr. Travis Kowalski, head of the Department of Mathematics, during a campus visit.

"He explained the variety of job opportunities I would have as an engineer with a math minor as opposed to having just a math degree, so that sold me."

The other aspect of Mines that has been key for both brothers is the music program. Both have been involved in the choir and describe it as being essential to their education.

"Being able to participate in choir has been great because it allowed me to take a break from my technical studies and enjoy something more artistic," said Anders. "A STEM education is demanding, so being able to step outside of that on a regular basis helps you be more successful."



Owen agrees and recognizes that at larger universities with many more majors it can be hard for engineers to get into the music programs.

When asked what he has learned from his sons over the years, Jan said the benefits of their participation in music has been eye-opening.

"I've noticed how having that part of your brain active as well can be helpful for a person," he said.

As for what they've learned from him – both identify his calm, collected nature.

"I don't think I've ever seen him really mad," said Anders. "Between moving around a lot, losing both of his parents, and of course taking the giant leap to come to America, it takes a lot of willpower to get through all of that. It helps me realize that as tough as things get, I can still do it."

Owen agrees with his dad's calm nature, noting a particular family memory that, thankfully, they can all laugh about now. During a family trip to Norway six years ago, they decided to take a drive to the town

where Owen was born. They drove for two hours only to realize they had taken a loop which ended right back where they started.

"My dad was just like 'Oh well, I guess that didn't work out,'" said Anders, both boys laughing.

Owen, who graduated in May from Mines as a member of the Engineering Honors Society, said he sometimes needs that reminder to take a deep breath.

"Even when a lot is going on and things are going wrong, he is all cool and collected," said his dad. "I might be overwhelmed right now, but he reminds me to take a step back."

Jan attributes much of his calm demeanor to the Norwegian culture, noting that the people have different values and a different way of life. But he also picked up some valuable skills from his first job working offshore as an instrument technician. He worked two weeks on and three weeks off, meaning the workers had to follow good plans so one crew could pick up right where the other left off.

"When you leave work, you really leave, so you learn to keep your work at work and not take it with you," he said. "You also learn to establish good routines, and I think that trait is still in me today."

Between visiting their family in Norway, living in the Caribbean for five years, high school in Texas, and South Dakota for college, the Stenstadvolden brothers have had a multicultural upbringing. Owen initially spoke better Spanish than he did English because of his days in the Caribbean.

While it may not have always been easy moving around, both young men recognize that being immersed in different cultures has taught them a lot about life.

"I've learned to be open to new experiences and have an open mindset," said Anders. "It's helped me to be able to see things through the eyes of other people."

All three agree that Mines taught them how to learn – one of the most valuable skills they could ask for.

Next up for the boys – learning to speak fluent Norwegian.

Read about the history of Norwegian students at South Dakota Mines in a limited quantity book, "The Dream of Rapid."





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Duane Berkeley [T-28 mechanic 2003-2005],
Tom Warner, Andy Detwiler, and Donna Kliche.
On the wing is **Gary Johnson** [T-28 electrical engineer]

Imagine hopping inside an extensively modified T-28 aircraft, knowing that you (and you alone) were about to fly it directly into a hailstorm – on purpose.

That's exactly what Tom Warner (ATM 04), B-1B pilot with the U.S. Air Force and meteorologist, did for four years. The T-28 storm penetrating research aircraft was part of the National Hail Research Experiment (NHRE) and was housed at South Dakota School

REMEMBERING THE T-28 AR

of Mines & Technology's Institute of Atmospheric Sciences (IAS) from 1969 (when it was acquired) until retirement in 2005. The T-28 armored plane, flown by Tom and eight others for more than 30 years, provided scientific research developed for in situ observations of hailstorms.

"In the 1960s, about 10 percent of crops on the western high plains were being lost every year due to hail," explained Dr. Andrew Detwiler, professor emeritus of physics and atmospheric sciences and one of the controllers helping guide Tom as he flew through storms. "Scientists in the Soviet Union were claiming they could use cloud seeding to suppress formation of hail in large thunderstorms and reduce crop damage. So, Congress made it a priority to research this and figure out more about how hailstorms worked. One way to explore that is to fly something into a hailstorm and observe what's going on."

In 1968, the National Science Foundation funded the IAS to develop an armored research airplane. In the 1970s, the National Hail Research Experiment (NHRE) was funded by the NSF and several other government agencies. It gathered a dozen research aircraft with various capabilities including the armored T-28, along with a large number of radars and surface instrumentation networks to conduct a multi-year study. The results of the study showed that, at least in the U.S. High Plains, hail suppression like that claimed by Soviet scientists was not achievable. Thunderstorms were complex and hard to understand. Research continued worldwide and the IAS and T-28 stayed involved. It flew in research projects in the United States, Canada, and Switzerland.

In late 1987, in order to make the T-28 more widely available, the IAS joined into a cooperative agreement with the NSF to operate the aircraft as a national research facility, allowing researchers around the world to request its resources for their studies. Under this agreement, the T-28 facility staff supported 18 projects

MORED PLANE

that studied the development of hail, rain, and other advanced meteorological research.

In the early 2000s, Dr. Donna Kliche (MTRO 90), professor emerita of mathematics and atmospheric sciences at Mines, joined the T-28 facility staff. She helped analyze the data after each flight. Dr. Kliche said the significance of the T-28's impact on the field should not be overlooked.

"The measurements collected during these flights helped radar researchers to develop and validate algorithms that help the National Weather Service forecasters to examine storms with more precision," she said. "Certain advancements in the field have happened because of the data from the T-28. These tools could not have been developed with models alone."

Dr. Detwiler said the legacy of the aircraft is something to be appreciated.

"The idea that you can get resources and funding to go out and try something that's never been done, even if you can't guarantee you will be 100 percent successful, is an era that has passed. Currently, there is a tendency to pursue scientific goals that are safe bets," Dr. Detwiler said. "The T-28 aircraft significantly increased our understanding of thunderstorms."

Tom, who piloted the T-28 from 2000 to 2004, said the uniqueness of the opportunity was what attracted him to the job.

"For me, it wasn't about the adrenaline," Tom said. "I was interested in thunderstorms. I also had the background knowledge of being a pilot, and this was an incredible

opportunity to feel it up close and personal. Was I nervous? Yes. But I was confident in the aircraft."

The first time he went up, he remembers his trainer saying, "The airplane knows how to get through the storm. If you stay in the airplane, keep it running and upright, you'll be okay."

Tom flew the plane during four research projects, and



that experience is what drew him to pursue his master's degree at Mines. Through his graduate degree, he has studied NSF-sponsored research of lightning that has discovered that some tall objects such as wind turbines experience "upward" lightning much more often than initially anticipated. Due to the damages and failures caused by these lightning strikes, companies that operate and manufacture wind turbines are interested in Tom's research so they can mitigate these strikes as much as possible, understand the

physics behind them, and know how to best protect the turbines. Twenty years later, Tom recognizes that his time with the T-28 crew is what opened the door for his future career pursuits in research. He said that from an aviator's perspective, the T-28 aircraft was "absolutely incredible."

"What that aircraft did was truly historic," he said. "What we learned from an aviation safety standpoint, including knowing the best action to take if you fly into a storm, was counter to FAA guidance at that time. We were able to get data and piloting experience from a place that no one thought possible, and that was a huge contribution."

The T-28 archives will be online for public use this summer.



TOGETHER, OUR DONATIONS CREATE A BRIGHTER FUTURE FOR HARDROCKERS

Did you know that financial need is the number one reason a student turns down admission to Mines? Gifts to the Mines Advancement Fund allow us to increase the number of scholarships, add new equipment and technology to labs, expand and renovate campus facilities, and more.

Your support will make a difference to Hardrockers now and in the future.



m SOUTH DAKOTA MINES

Digital version at hardrock.sdsmt.edu

Community & Connection Transcends Decades of Students at Mines

It was before laptops, the internet, social media, and smartphones. It was 1974, and if you were a woman studying at South Dakota School of Mines & Technology, you were most likely the only woman in most of your classes.

"I didn't know I was the first female mechanical engineering graduate until it happened," said Marlene Nelson (ME 74). "It made me wonder if others had tried that path. I found the instructors to be welcoming, but I have to say it would have been more fun with some female classmates."

Marlene visited campus this past May for her 50-Year Graduate Reunion. She was able to visit with recent graduate Melissa May (ME 24) about the differences and similarities between their educations at Mines. One strong link was their association with other women on campus.



Marlene Nelson

"Third floor Dake Hall, where I lived, had a small but mighty group of strong women who knew what they wanted in life and went after it," said Marlene. "It helped us all survive our time at Mines.

That common experience is a strong bond that I cherish, and we'll always have it."

Melissa couldn't agree more.

"I have found community with my fellow female



Marlene at an alumni event

classmates who have had similar experiences," she said. "This community is vital, and I would not be successful without their support."

If Marlene could give a piece of advice to Melissa and her fellow graduates, it is to figure out what matters to you and try to find a job doing it.

"I hadn't intended my first job to evolve into a 34-year career at the same company, but I loved my work at Boeing. I always felt challenged, and I was able to change up my career from engineer to airplane pilot to airplane salesperson to factory manager to aviation safety specialist. So don't think you have to do just one thing."

Marlene was the first female airplane salesperson at Boeing, and she remembers being "so out of my element" in her first meeting. But instead of retreating, she pushed herself to collaborate.

"Trust your instincts and your intellect," she said. "Insert yourself in conversations and activities when you think you should be a part of them."

Melissa is in the process of applying for PhD programs in aerospace engineering. Her advice to younger students is to find your community of friends and keep them close.

"I have made some of my closest friends here, whether it was through being roommates, being on the track team together, or having the same classes. These friendships have been invaluable to me and are what shaped my college experience."

Today's world is miles apart from some of the challenges Marlene experienced — one being her high school guidance counselor suggesting she go to Mines to "get a great job as an executive secretary."

"I'm pleased there are many more women in the mechanical engineering department now. I love being an alumna of Mines. There is instant connection and shared experiences with Mines alumni everywhere, and a huge sense of accomplishment for completing a challenging curriculum...and gratitude for the paths it opened."

That's one thing that hasn't changed.



Melissa May



Digital version at hardrock.sdsmt.edu

MUSIC STEM COMBINE TO CREATE

The two are polar opposites. Music is pursued for artistic expression, emotional communication, entertainment, cultural preservation, and personal enjoyment. Conversely, STEM deals with the natural world, developing technology, solving real-world problems, advancing scientific knowledge, and promoting innovation. Music involves creativity, expression, interpretation, and performance. STEM involves systematic observation, experimentation, analysis, problem-solving, and theoretical modeling.

With these stark differences, one would think South Dakota Mines would have no music program or, if it did, a very weak one. How can an engineer and a musician be one and the same?

But the music department at South Dakota Mines has highlighted time and time again that not only can engineers and scientists be musicians, but they can also be outstanding ones and produce some of the most beautiful music in the Midwest – and has done so for decades.

While unlikely, the marriage between musicians and scientists and engineers is a strong one.

Haley Armstrong, PhD, and Gerrit Scheepers, PhD, have been tasked to lead the next generation of musical engineers at South Dakota Mines. Dr. Armstrong's instruction of the bands and Dr.

Scheepers' choral direction have elevated the music program at the university.

Dr. Armstrong, finishing her eighth year at the university, was one of the commanders and conductors in the Air Force Band Program. When she finished serving, she wanted to get back into academia. She saw the position at South Dakota Mines, applied, and immediately fell in love with the school.

"There was just something ridiculously magical about these students, even though they're non-music majors," she said. "I knew right away this was the right choice."

Dr. Armstrong raised a good point. South Dakota Mines doesn't offer degrees in music; yet, more and more students are flocking to music than ever before. In fact, roughly 10 percent of undergraduate students at Mines participate in the music program.

Dr. Scheepers, who is currently in his second year, saw the posting at South Dakota Mines and applied. He knew that there would be no teaching opportunities, but said he had a unique feeling upon coming on campus and found a very hardworking group of students.

Dr. Scheepers cannot speak highly enough about the unique blending of STEM and music. "Studies show music makes you smarter," he said. "But they are learning so many skills that have

nothing to do with academia or being smart." From leadership skills to time management, both critical to engineers, students' learning goes beyond the classroom. And now, music at South Dakota Mines has entered a new era. In addition to playing instruments, musicians, with the aid of professors and on-campus organizations, have started to craft their own unique instruments to be used in campus-wide productions.

"This is a new, exciting frontier," Dr. Armstrong said. "It might not fit into every project perfectly, but that requires the students to think out the problem to see how the instrument they're making themselves can be applied to the music they're performing."

The musicians at South Dakota Mines will be hitting the road once again, continuing a long tradition at the university, Dr. Scheepers said. The university now boasts several instrumental and choral ensembles to ensure that the student body's musical needs are met. The university choir is open to not only students of the university but also faculty, staff, and community members – including alumni.

Both faculty tout the strong alumni support the music program at the university receives. From scholarships, words of encouragement, and, yes, even participation in ensembles, both say the department thrives thanks to alumni support.

Perfect Harmony

Alumni involved in the music department note the strong, nearly fraternal bonds those who experienced the music department share.

Ken Miller (CE 75) was a member of the Singing Engineers in his freshman and sophomore years at the university. To this day, Ken still sings with the university choir.

Through his involvement, Ken said he's worked under several different directors and each one had the same goal of making quality music. Interestingly, they all have different paths to achieve that. The Mines directors have all been in the top, high-quality tier.

And through rehearsals and performing, a bond forms, spanning generations. Through numerous local, national, and international concerts, Mines students and alumni have forged long-lasting inter-generational connections.

"I've had the pleasure to establish relationships with all these very talented singers, and this includes the younger generations, as well," Ken said. "We all have a bond that was created through music."

Toni Richardson (IS 95) also felt deep-seated connections form through music at Mines. She said participants in the music program were good – and they knew they were good.

"We were top-notch," she said. "It really gave us confidence, and we

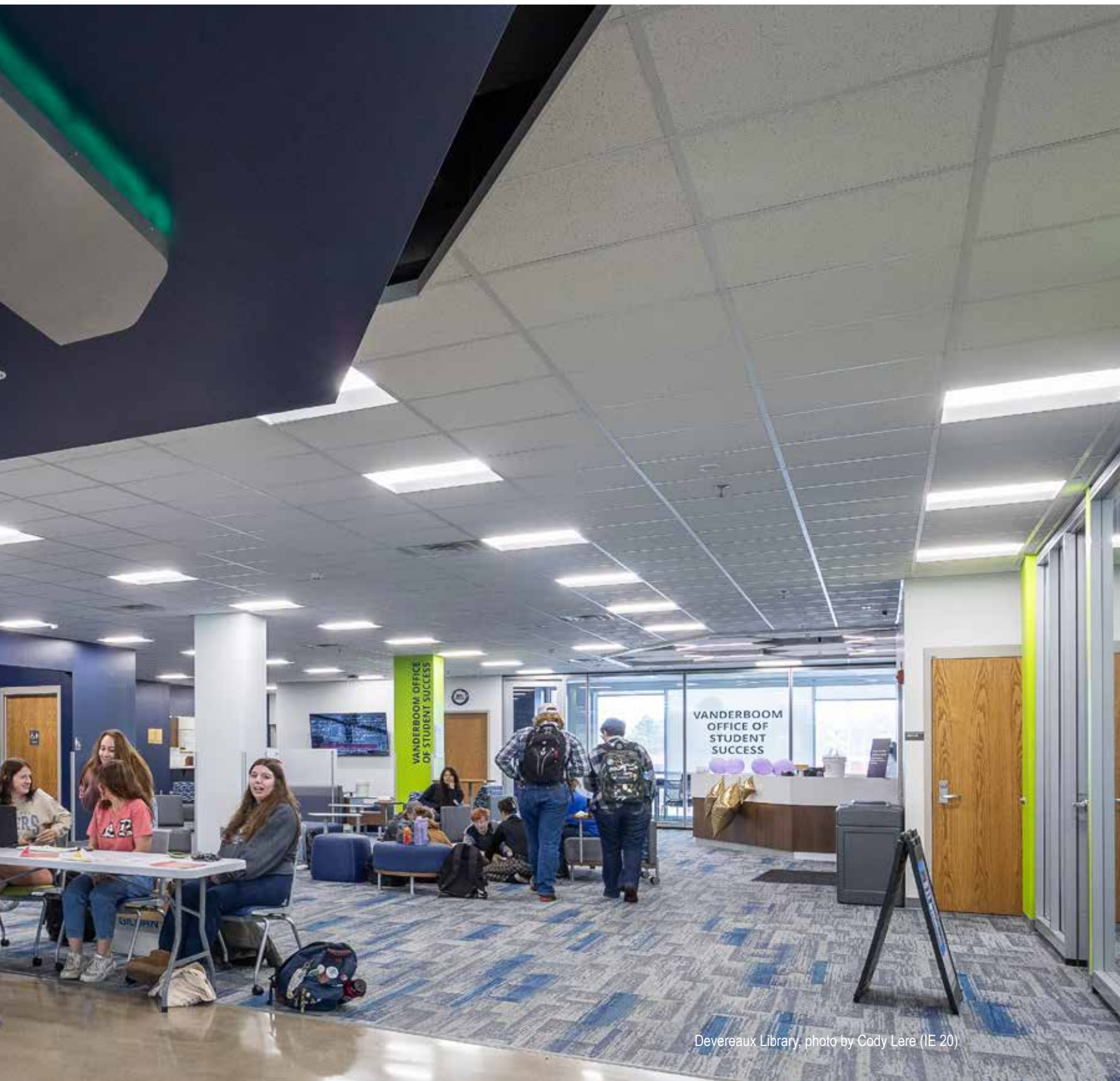
were able to take that across the rest of campus and help us get through our time at Mines. And it helped us form bonds. Even if we had different majors, we had something in common."

The university sees music as an asset for recruitment. Potential students visiting campus now have the option of having a tour of the music center. Dr. Armstrong said they are getting phone calls and emails from students who cannot wait to get involved in music at the university.

"It's really cool," Dr. Armstrong said. "The growth, the connections that music forms, it's amazing."







Devereaux Library, photo by Cody Lere (IE 20)





CAMP WELCOMES FOUR NEW TEAMS

Under the guidance of Director Amy DiRienzo, CAMP added four competition teams in the last year: Mines Association of Rocketeers (MARS), Moonrockers, RoBoat Robotics, and Unmanned Aerial Systems (UAS). The program now has 15 teams and more than 400 students participating.

The MARS team builds rockets and competes in the Spaceport America Cup, the world's largest Intercollegiate Rocket Engineering Competition.

Moonrockers take part in space-related robotics competitions. For the past several years, the team has competed in the NASA Robotic Mining Competition at the Kennedy Space Center.

The UAS team designs aerial robots and participates in the Student Unmanned Aerial Systems Competition.

The RoBoat Robotics team designs, builds, and competes with self-driving robotic boats, known as ASVs (autonomous surface vehicles), in a series of tests aimed at challenging teams through a variety of autonomous (self-driving) tasks. They are preparing to compete in the 18th Annual RoboBoat Competition at Nathan Benderson Park in Sarasota, Florida, in early March 2025.

MUSEUM OF GEOLOGY

The Museum of Geology at South Dakota Mines celebrated 100 years by holding a special, all-day celebration on May 27, 2023. Student groups have installed two new exhibits – one on how the Black Hills formed and the other on the Mesozoic Era. Thanks to a generous donation from a geological engineering alumnus last year, the museum has been able to renovate the Fluorescent Mineral Exhibit. A group of students in Exhibit Design worked on the design for the project. It is currently under construction.

QUANTUM

Quantum research at South Dakota Mines has made a great leap. Alexey Lipatov, PhD, and Tula Paudel, PhD, have been awarded an \$800,000 National Science Foundation award to explore special types of 23 materials with unique structural and electrical properties. Based in quantum, the results of this research could lead to the development of memory and computer logic devices that surpass current technologies in energy efficiency and versatility. Additionally, in December, the Department of Nanoscience and Biomedical Engineering was gifted a \$50,000 quantum mechanics laboratory kit from industry pioneer Qubitekk to be utilized by students in a series of new courses being offered in quantum information science (QIS).

LXA

Lambda Chi Alpha has excellently adapted to the changing times within Greek life. Emphasizing the betterment of their members, the chapter has made great strides. Lambda Chi Alpha posted the highest GPA of any Greek organization during the Fall 2023 semester at 3.35. Their Movember event raised over \$2,000. A total of 13 brothers are presidents or vice presidents of various student organizations. Finally, the chapter, partnering with Feeding South Dakota, held its second annual Watermelon Bash on April 13.



NUCOR MINERAL INDUSTRIES BUILDING TAKES SHAPE ON CAMPUS

The Nucor Mineral Industries Building is coming alive on campus, making South Dakota Mines home to this state-of-the-art facility that will unlock cutting-edge research and learning opportunities. The construction timeline is on track for a ribbon-cutting event on April 25, 2025. The building will support the Department of Geology and Geological Engineering, the Department of Mining Engineering and Management, and the Department of Materials and Metallurgical Engineering.

Earlier this month, Scull Construction took President Jim Rankin (EE 78) on a special tour. Scan the QR code to watch! If you are interested in getting involved with a donation and/or a naming opportunity to leave a lasting legacy for yourself or a loved one, please email newheights@sdsmt.edu or visit our giving page crowdfunding.sdsmt.edu.



Thank you to all the donors who have made this building a reality.

ASCENDING THE SUMMIT

South Dakota Mines Transition from NAIA to Division II

To borrow a sports cliché, it's a marathon, not a sprint.

For the South Dakota Mines athletic department, the Hardrockers are consistently looking ahead after making the move from the National Association of Intercollegiate Athletics (NAIA) to the National College Athletic Association (NCAA) Division II more than 13 years ago.

South Dakota Mines was accepted into Division II in 2010 and began a three-year transition from the NAIA in 2011-2012. The Hardrockers became a full-fledged member of NCAA Division II starting the 2013-2014 school year.

The Hardrockers initially began as a DII independent. In 2016, the Hardrockers began play in the Rocky Mountain Athletic Conference. The football and soccer programs initially competed in the Great Northwest Athletic Conference.

SEVERAL HARDROCKERS USE DII EXPERIENCE TO FURTHER ATHLETIC CAREER

Moving from NAIA to Division II has allowed several South Dakota Mines athletes to continue their athletic careers on a professional level. They include former Hardrocker football stars Jakeb Sullivan (IEEM 19), Jack Batho, Jeremiah Bridges (CEM 22), and Adrian Eastman as well as basketball standouts Konor Kulas (IEEM 17), Jack Fiddler (ME 20), and Kolten Mortensen (IEEM 23).

Jakeb, a local product of St. Thomas More, came to Mines after transferring from Northern State University. Now in his fourth season of playing football in Europe, the 2021 European League of Football champion and championship game MVP said playing football for the Hardrockers challenged him, on and off the field.

"We played in one of the best DII conferences in America with teams like Colorado State Pueblo and Colorado School of Mines," Jakeb said. "Aside from that, my teammates and I went to school at one of the most prestigious engineering schools in America. I wouldn't have had it any other way, because my time at South Dakota Mines taught me how to overcome tough situations. Tough times don't last, tough people do."

WHAT DO DIVISION II STUDENT-ATHLETES NEED?

In 2014, a student survey was distributed that encompassed everything about the student-athlete experience. One of the top things that has been done for the athletes is to improve their experience medically, along with sports performance.

With its partnership with Monument Health, the South Dakota Mines athletic department employs four trainers and two full-time strength and conditioning coaches. Number two in the survey was developing a culture of not making any excuses.

Third was the need for better facilities, which means improvements to O'Hara Stadium. Fundraising both for student-athlete scholarships and things like facilities and other needs within the department are ongoing.

GETTING THE BEST STUDENT-ATHLETES POSSIBLE

If their recruiting can get more consistent, their trend line should go up with wins and losses without sacrificing academics.

Recruiting student athletes is improving at South Dakota Mines with the help of increased scholarship opportunities. South Dakota Mines has increased money for scholarships from about \$575,000 in 2014 to around \$1.3 million in 2022. The NCAA allows \$2.8 million in scholarships, giving Mines room to grow its scholarship goals.



◀◀ READ FULL STORY



Digital version at hardrock.sdsmt.edu

Hardrock Volleyball 2023: A Season to Remember



The South Dakota Mines volleyball team might have surprised the rest of the Rocky Mountain Athletic Conference by hosting and winning a tournament quarterfinal match during the 2023 season.

But the Hardrockers were not surprised; they expected to be there.

They had 10 newcomers on the roster, mostly freshmen, combined with several sophomores, one senior and a couple of junior transfers that had a vision of excellence going back to the previous couple of seasons. It took an improved team culture and some young talent to finish their best season ever as a Division II program.

The Hardrockers' 18-10 overall record in 2023 was their first winning season since 2014 and first as a member of the RMAC. The Rockers finished fourth in the conference at 10-4, also their best finish ever.

In the postseason, Mines hosted a first-ever RMAC playoff match in a quarterfinal when they earned their first tournament win, stopping CSU Pueblo 3-2 (25-23, 13-25, 32-30, 15-25 and 15-12) in front of a near sell-out crowd that stormed the court after match

point. The Hardrockers would go on to fall to No. 1 seed MSU Denver 3-0 in the tournament semifinals in Denver. "We know where we came from and where we are now and it feels good, but we try not to get lost in that because we know what is ahead of us," said Hardrocker head coach Lauren Prochazka. "But the (young players) only know what they know. Their mindset now is, 'I want way more than this, there has to be more than this.'"

Since the season ended, Lauren has watched the Pueblo match several times because she was so locked into volleyball that everything around her was irrelevant.

"To watch it again and see the crowd size, see the reactions, hear the noise ... I think our team was the same way," she said. "We weren't going to be any different than we had been the whole season."

Freshman defensive specialist Josey Wickersham said the energy in the gym was something that she had never experienced, even at the high school state tournament while playing for Brandon Valley.

"Our gym isn't very big, but they filled it, and everyone had so much energy. Our student section was so incredible. Really big shout out to them because they came in and gave us a lot of love and support," she said. "When I am actively playing, especially when I'm serving, I can't hear anything. There is nothing that can distract my focus from that one moment. As soon as the point is over you can hear the celebration, the cheering, the energy from the gym."

The student section rushing the court after the match point goes back to the commitment they have with the student body. "They show up for us - our basketball teams, football team, soccer team, golf teams. They have always been there, and they are always going to cheer us on. They are a part of us," Lauren said.



◀◀ READ FULL STORY



Athletic Impact

[As of March 2024]

308 STUDENT-ATHLETES

13 DIVISION II SPORTS

**ROCKY MOUNTAIN
ATHLETIC CONFERENCE**

154

SCHOLAR-ATHLETES
[GPA OVER 3.0 IN FALL SEMESTER]

51 GRADUATES
[2022-23]

3 ALL-AMERICAN SELECTIONS
Ben Noland [2x], Henry Dryden
& Alessandra Meoni

22 All-RMAC
Athletic Honorees

4 FIRST TEAM
11 SECOND TEAM

6 CSC/USTFCCCA
Academic Honorees
Men's Track Team, Women's Track Team

72 RMAC Academic Honorees
5 FIRST TEAM

2024 FOOTBALL

SCHEDULE

8/29 CSU PUEBLO
9/5 AT MICHIGAN TECH
9/14 UPPER IOWA
9/21 NEW MEXICO HIGHLANDS
9/28 AT FORT LEWIS
10/5 BLACK HILLS STATE
10/12 AT COLORADO MINES
10/19 AT WESTERN COLORADO
11/2 AT CHADRON STATE
11/9 COLORADO MESA
11/16 AT ADAMS STATE



HARDROCKERS

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Class Notes



1950

Victor F. Dosch (EE 51)

Went to U of PA to get a master's in EE (1960). My wife, Rosemary, died on Oct. 18, 2019. I had five children, two are deceased. I spent four years on active duty with the U.S. Navy as an officer and seven more years at the same job in civil service at the Naval Air Development Center at Johnsville, Pennsylvania. I then went with the FAA near Atlantic City, New Jersey until retirement in 1983. I had the opportunity to work with the original seven astronauts and X-15 pilots giving them the G-forces they would receive exiting and reentering the atmosphere on the human centrifuge at Johnsville.



John Mohr (EE 56)

Alice and John celebrated their 64th wedding anniversary!

1960



Jerry Daughenbaugh (MetE 61)

In the Spring/Summer 2023 issue of the Hardrock was a story on page 18 of the helpfulness of giving blood. I found it interesting for the storyline itself but also because I had just that very day completed my 233rd donation of a pint of red blood. While I know that is not a significant record it has been a continuing contribution for me.

All of our family are in good health, and we are thankful for that.

Daniel Lee (CE 62)

The heartwarming story about blood donation in The Hardrock could use an addition. During my junior year (1960/1961), I ran the campus blood drive and assumed that it was an annual event. Over the years I have donated gallons but, since I fainted after my last donation, at age 82, I guess I will leave it for others. During my career, some of the

vehicles I worked on (look them up): F111, F16, F22, F4, F18, A12, 747, 707, DC10, UH1N, RVTO (you will not find this space project), XC142. Except for the test lab failure on my first assignment, I do not know of any other failures due to my analysis.

In my afterlife, I designed an addition to our house which included designing and building an elevator that stops at three levels. I could have used more time in EE courses; the circuit design was a pain. It is still working after eight years.

1970



Lloyd Marsden (ME 72)

My brother, K.C. Marsden, graduated ME 64, I graduated ME 72, my son Jeremiah graduated Chem 2000. In May K.C.'s grandson Joshua Simpson graduates ME 2024. We so much appreciate the times at Tech and the advantages in life from it. Many thanks to Tech and the Marsden family for a 60-year heritage. The photo collage shows all of us.



Raymon Symens (MetE 73)

I retired in February 2010 after 22 years with Tetra Technologies in Woodlands, Texas. Our sons, Ross and Tyler, and their families live near us. Dee and I visited the Mines campus in Sept. 2023 at the start of our Rolls-Royce car club tour through the western states. I have included a picture of our 1964 RR Silver Cloud III at Surbeck Center.



Jim Green (ME 74)

Jim & Connie Green enjoyed Christmas in Hawaii this year with the family. Their son, Dustin, and his wife Theresa, and their kids Piper, and twins, James & Embry. Josh (ME 11) and his wife, Kathryn. Mele Kalikimaka!!

Susan "Booty" Kuhns (GeolE 75) Past President of the Alumni Association

I headed out to Mines in 1971 on my own, taking my very first plane ride to Rapid City. I came to South Dakota knowing no one except Dr. Frasier, Dr. Peterson, and Mrs. Jones, our house mom who I met the previous summer on a tour of campus. Third floor Duke would be my campus home for the next two years. Little did I know that if you were fortunate enough to get a room on the ends of the floor, you would be assigned to a three-person room, more spacious than the other rooms. Fortunately,



Left to right: **Lee Zacharias (ME 73)**, Dave Krull (organizer), **Jim Brown (CE 70)**, **Randy Shaw (EE 70)**, **Pete Birrenkott (ME 71)**, **Tom White (MetE 76)**, **Les Thiel (ME 67)**, **Bob White (CE 72)**, **Mike Bates (EE 70)**, and **Joe Vig (CE 71)**.

Annual Triangle Fishing Trip – Pictured here are 10 brothers flying out of Dogskin Resort in Manitoba. A few of them have been going on this annual fishing trip for over 25 years. Lots of walleyes caught and lots of stories told.

there were just two of us and so I shared a room with a person who became my best friend, Linda Ganske Rausch (ChE 75).

My first social gathering was at the Theta Tau house where I enjoyed a Rolling Rock beer brewed 10 miles from my hometown of Ligonier, Pennsylvania. One of the Theta Tau guys worked the summer in Pennsylvania for a coal company and brought back quite a few cases of the brew. Homesickness immediately set in.

But it was the women of third floor Duke who made life in the dorms memorable. We were a band of sisters who were there for each other every day. We gathered in our floor lobby for long games of Whist before, after, and during our class days. I learned the fine art of short-sheeting beds the hard way as I was a victim of someone's antics. We went to beanie raids together and were a bit scared at first, but realized the value of building friendships with the upperclassmen and learning all the lovely songs and cheers that brought us all together.

We were the class who learned on slide rules and saw the first HP35 owned by one of the girls on our floor and held it in our hands like it was the Holy Grail. The friendships that were forged still hold strong after over 50 years together, a feat many people can be envious of. One thing is certain, no matter how successful or financially blessed any of us have become, that sisterhood started on third floor Duke is stronger than ever. Those memories and the memories we continue to make will be etched in my mind forever.

Jim Dunn (EE 76)

I retired from NXP Semiconductors Inc. and recently moved to Buda, Texas.

Jim Gebhardt (MetE 77)

was selected for the 2024 Class for the National Academy of Engineering. In 1996, he co-founded Process Engineering Resources Inc. where he helped develop the PERI PX-2100 X-Ray Fluorescence elemental analyzer, automatic ball charging equipment and software and simulation technology.

Daryl Zimmerman (EE 79)

After retiring from the State Department in 2010 (as a security engineer), I've been asked to come back several times (part time) to help cover staffing gaps at overseas offices. On Oct. 3, 2023, I arrived in Amman, Jordan for a quiet assignment. Four days later, things got quite "interesting." Semper Gumby.

1980

Dennis Clark (CE 86)

Retired from the City of Sioux Falls in August of 2023 but started as the County Engineer for O'Brien County, Iowa in August of 2023 also.

Tim Klaus (ChE 87)

Became the new Chief Financial Officer of Venanpri Group, a global leader in the manufacturing of high-precision consumable wear components embedded into agricultural soil preparation implements and serves both the OEM and aftermarket channels. He is enjoying the new position which allows him to travel once again: Spain, Mexico, and Canada thus far!

1990

Kenneth Hargens (IS 92)

I have recently completed a four-part series on the feldspar mining and milling industry in the Black Hills. The installments were printed in the Custer Chronicle and the Hill City Prevalier. I also continue to give talks of historical and mining interests to historical societies. My place, Redfern, is on the east side of Redfern Mountain. I also write brief pieces destined to get folks out of their homes and into the Hills to locate different areas of interest.

John Henderson (CE 94)

Was appointed as the new CEO of HDR in January 2024. He has had a distinguished career in leading wide-ranging programs for the United States Department of Defense and at HDR.

Glain Corner (Chem 96)

I have been working for Cargill my entire career, 27 years. I am currently living in Marion, Iowa as the NA Process Engineering Discipline Lead.

Todd Gagne (Geol 97)

Was featured in the "Entrepreneurship" section of the FACES of the Black Hills magazine. Todd co-founded Wild Fire Labs in Rapid City, which offers guidance to start-up companies to grow the tech sector in the Black Hills.

Neeraj Tolmare (CE 98)

Global Chief Information Officer for The Coca-Cola Company, has been appointed to the board of directors of Crocs, Inc. He also serves on the board of Morehouse School of Medicine in Atlanta as well as the Georgia Tech Research Institute, Center for Development and Application of Internet of Things.

2000



Sorrawas Boonyong (MS CE 03)
Instructor at RBRU, Thailand

Nicole Stengle (IE 03)

Recently accepted the position of Vice President, Safety and Compliance with Reyes Coca-Cola Bottling. Reyes CCB is a leader in the production and distribution of Coca-Cola brands.

Jade Herman (IS 09)

Serves as the Chief of Staff in the President's Office at South Dakota Mines, and was named to Elevate Rapid City's "Under 40" list. The annual list highlights 20 people to know in the Black Hills.



Left to right: Alan Hartman (ChE 83) & Nora Hartman, Marsha & Kent Jones (MetE 83).

It's been over 24 years since the last time Alan & Kent got together, but these college roommates finally connected while Alan & Nora were passing through Casper, WY. They had a great time catching up.

2010

Amber Jerke (ChE 10)

Research Scientist II at Poet Research Center, sells unique engineering and lab notebooks that go beyond documentation by promoting inclusivity, specifically with regard for women in STEM.

Justin Griesinger (IE 12)

Justin and his wife, Lauren, welcomed their daughter, Lainey Eimear, on Oct. 9, 2023 in Prior Lake, Minnesota.



Terran Bergdale (PhD CBE 13)

Dr. Bergdale was recently promoted to Vice President of Operations and Gas Technologies for two South Dakota compressed gas companies - A-OX and A&B Welding Supply. She transitioned to industry 10 years ago with various successes along the way including purchasing minority ownership in 2018.



Kory (Clyde) Darby (MinE 14)

Recently attended the 2024 SME alumni happy hour in Phoenix, Arizona. Joined by her husband, Zack, and daughter, Logan Mac. Kori currently works for the North American Coal Corporation.



Tyler Artz (MinE 15) & Laura (Case) Artz (IE 15)

married on Oct. 7, 2023 at the Spearfish Sasquatch Baseball Field in Spearfish, South Dakota.

Erik Walega (GeolE 15)

Erik was recently honored as the national 2023 American Council of Engineering Companies (ACEC) Young Professional of the Year.



Cody Schellinger (CE 15) & Brigit (Kelly) Schellinger (CEE 16)

Congratulations to Cody and Brigit on the birth of their son, Beckham! Cody welcomed the next generation of Hardrockers at our Denver Senior Send-Off this summer with his company, Burns & McDonnell. Let us know if you are in the area and want to join. Brigit works as a project manager for Mortenson while being a rockstar mom!



Therese Frels (Phys 17) & Jacob Swanson (MetE 17)

Congratulations on the birth of their son, Ronan Jacob Swanson. Welcome to the Hardrocker family!



Cooper Bowen (CE 17) & Emily (Newton) Bowen (CE 18)

were married during a blizzard in Estes Park, Colorado on Oct. 28, 2023. They spent their honeymoon in South America and Antarctica. Cooper is a structural engineer at Tower Engineering Professionals, and Emily is structural engineer at American Rail Engineering. Cooper and Emily currently reside in Denver, Colorado. In attendance were Anna Breidt (IE 19), Emily Stickey (ABS 16), Matt Seitzer (CE 18), Drew Vance (CE), Marcus Canon (CE 17), Taylor Green (CE 17), and Cassidy Schnabel (Trapp) (CE 17).



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Rebecca (Johnson) Whitesides (ABS 21) & Derek Whitesides (ME 22)

Rebecca and Derek were married on May 28, 2022 at Prairie Berry Winery in Hill City, South Dakota. The Hardrockers at our wedding included 10 brothers of AXS, 14 brothers of LXA, and several members of the music department who performed in a brass choir for the ceremony.

Back row: Savannah Jenkins (CEE 20), Kaden Adrian (CSC 23), Alexander Wright (MetE 23), Aaron Grimm (ChE 18), Ryan Hinrichs (CSC 19), Dreu Adams, Dylan Colt (BTH 22), Stephen Diede (ChE 20), Ben Johannsen (CEE 20), Spencer Jones (ChE 22), Dan Gernant (ChE 19), Keegan Burnett (CSC 20), Spencer Doriot (EE 22)

3rd row: Samantha Kunkel (CEE 22), Margaret Smallbrock (Chem 05), Nathan Ducasse (CSC 19), Dr. Haley Armstrong, Austin Keck (EE 23), AJ Diedrich, Joe Hilsendeger (ChE 20), Adam Price, Elli Hollenbeck

2nd row: Jayden Vollmuth, Steven Miklos (MetE 20), Estefany Mendivil-Miklos (CEE 20), Estee (Medberry) Rynders (MetE 22), Alex Tiede (CSC 20), Noah Oehkle, Mikayla Hibbard (bridesmaid), Jennifer (Kulich) Fagrey (CSC 21) (bridesmaid), Nathaniel Fagrey (CSC 21), Elizabeth Wendt (ABS 20) (bridesmaid)

Front row: Rebecca (Johnson) Whitesides (ABS 21) (bride), Mikayla Madden, Anthony Benitez (EE 21) (groomsman), Derek Whitesides (ME 22) (groom), Eric Spilman (ChE 20), Josi Minor (ChE 20), Austin Kaul (ME 18)



Nate Fagrey (CSc 21) & Jennifer (Kulich) Fagrey (CSc 21)

Nate & Jennifer tied the knot on top of Huron Peak in Colorado July 8, 2022. Both are software engineers - Nate at 3E and Jennifer at Storable. They reside in northern Colorado with their two cats and dog and enjoy going on adventures together.

Daniel Rohde (ME 22)

Daniel got married in 2022 and had a baby boy in 2023!



Marissa Holinka (Geol 22)

Working at Dakota Gold Corp. in Lead, South Dakota. My fiancé, Cameron Cummings, and I met at Mines in 2018 and are getting married in Rapid City this August 2024!

Serenity Engel (Phy 23)

Working at the Walsh Group on the new B-21 Hangar at Ellsworth Air Force Base. She also recently bought a new car! Super excited to be back at Mines recruiting at the Spring Career Fair!



Abigail Stark (IE 18) After receiving her undergraduate degree at Mines, Abigail set off to achieve her next goal – becoming a published

author. She's recently found success by publishing her debut novel, "Bad Duck," through Beaver's Pond Press, located out of St. Paul, Minnesota. "Bad Duck" is available for purchase on Amazon.

Donovan Schoenefeld (ChE 19)

I am thrilled to share that I am now a licensed Professional Engineer (PE) in Minnesota! This is a huge milestone in my career, and I am grateful for all the support I have received from my colleagues and mentors.

2020

Joseph Lauzon (MetE 20)

Married to my wife, Madison, who I met at Mines. She is a biomedical engineer. We have a one-year-old lab puppy.

SUBMIT INFORMATION FOR OUR NEXT PUBLICATION



alumni@sdsmt.edu

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SOUTH
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MINES

Alumni Chapters



STAY CONNECTED WITH YOUR HARDROCKER FAMILY THROUGH LOCAL AREA CHAPTERS.

Area Chapters exist across the country to allow you to stay connected, network, socialize, and reminisce. Connect with fellow alumni in your area, wherever you live.

If there is not an active Area Chapter in your local area, get involved and help get one started.



shelli.grinager@sdsmt.edu

HAVE YOU MOVED RECENTLY?

Don't miss out on chapter events! Invitations are sent to all alumni within a 60-mile radius of the event. Invites are generated based on your zip code, so make sure your information is current!

UPDATE YOUR CONTACT INFORMATION ONLINE:



cara.sdsmt.edu/connect/update-my-information

HAVE AN EVENT IDEA? LET US KNOW:



alumni@sdsmt.edu



Celebrating the
CLASS OF 1975
MAY 8-10, 2025

Alumni gatherings



50-year Graduates, Class of 1973 - May 5, 2023

Front: Henry Mott (CE), Sue [Schmidt] Kutcher (CE), Bruce DeMarcus (MinE), Vicki [Pollock] DeNeui (Math), Chuck Kliche (MinE), Bill Noordermeer (CE), Steve Clark (ChE), Steve Jeschke (ChE), Judy Cannon (EE), Lynn Kading (CE), and Mike Yargus (CE) **Middle Row:** David Holbrook (ChE), Gary Christman (ChE), Randy Sauter (CE), Bill Weber (GeolE), Bob Gjere (GeolE), M.J. [Seeley] Green (CE), and Dale Patterson (ME) **Back Row:** Frank Hansen (CE), Pat Dady (CE), Jim Quinn (CE), Jim Lamont (ChE), Jerry Schley (ME), and Richard Carlson (ChE)



Denver Alumni Cooking Class - June 3, 2023

Left to right: Aaron Grinager (IE 96), Shelli Grinager (Director of Alumni Relations), Roger Nakagawa (ME 23), Joy Nakagawa, Randy Nakagawa, Cathy Turner, Brad Coleman (GEOL 85), Lucille Reilly, & Charles Snyder (ME 63) Richard Carlson (ChE) (not pictured).



St. Paul Saints Game, Twin Cities, MN - June 10, 2023



Boom Island Alumni Picnic, Twin Cities, MN - June 12, 2023

Left to right: Molly Pruess (CE 13), Tyler Pruess, Jack Pruess, Shelli Grinager (Director of Alumni Relations), Bob Dehler (CE 96), Helen Babits (ChE 22), Abi Nelson, Grant Nelson (ME 19), Abigail Stark (IEEM 18), Karl Stark (IEEM 19), Jim Rankin (EE 78), Ryann Eckblad (ME 18), Brady Meister (CE 14), Ammani Al-Yousifi (MET 14), Laith Meister, Kevin Meister, and Ammara-Marie Meister



Sioux Falls Canaries Game, Sioux Falls, SD - June 24, 2023



Canyon Lake Family Picnic, Rapid City, SD - July 15, 2023

Left to Right: Reah (Graham) Dahl-Stammes (CE 81), Ken Miller (CE 75), Lin Seder (ChE 74), Barbara Seder, Mary Schlumpberger, Dick Schlumpberger (CE 65) & Theresa Longcor



Black Hills Family Picnic Left to Right: Gary Christman (ChE 74) holding granddaughter Cora, Paul Krueger, AJ Trennepohl (IS 14) holding son Zeke



Garmin Lunch, Kansas City, KS - July 25, 2023



Intern Send-Off Lunch, Kansas City, KS - Aug. 1, 2023

Around the table, starting at front left: Josie Tornberg (BMCD Intern), Marcus Kane (Garmin Intern), Joshua Duklet (C SC 20), Liam McEuen (EE 22), Joshua Sass (ME 05), Lance Baum (CENG 16), Mackenzie (Kenney) Landen (CEE 16), Jordan Landen (ME 17), Justin Wenner (ME 06), Ashley Schnetzer (Garmin Intern), Josh Leone (Garmin Intern), Mason Karpen (BMCD Intern), Samantha Overend (USACE Intern) Not pictured: Gena Engel (ChE 06)



Atlanta Braves Game and Dinner, Atlanta, GA - July 29, 2023

Picture 1, left to right: Mitch Olson (CENG 05), William Wayman (MinE 21), Kurt Liebel (ChE 97), Kameron & Karsten Liebel, Stacie Olson (IS 05) and Paisley & Camden Olson **Picture 2,** From left to right: Mitch Olson (CENG 05), William Wayman (MinE 21), Kurt Liebel (ChE 97), Kameron & Karsten Liebel, Stacie Olson (IS 05) and Paisley & Camden Olson



Boot Hill Happy Hour, Gillette, WY - Aug. 14, 2023

Left to Right: Brian Wenig (MinE 81), Amanda Barnes (Director of Development) Karen Brady (CE 01).

HARDROCKERS



EMIT Technologies Happy Hour, Sheridan, WY – Aug. 15, 2023
Left to right: Andy Patceg (CE 05), Amanda Barnes (Director of Development at South Dakota Mines Center for Alumni Relations and Advancement), Doug Emme (GeolE 75), Susan Osborn (ChE 78), Casey Osborn (CE 79)



Alumni Dinner, Walker's, Billings, MT – Aug. 16, 2023
Left to right: Drew Vance (CE 17), Madeleine Mleko (C SC 22), Bill Belden (ME 75) & Judy Belden, Grace Lickteig (GeolE 22), Stephen Dobie (MinE 22), Taylor Green (CEE 17), Jon Becht (EE 13), Corey Coggins (EE 10)



Alumni Dinner, Cucina Venti Restaurant, San Jose, CA – Aug. 21, 2023
Left to Right: Ramaswamy Hari (CSc 85), Soham G. Naik (CSc 19), Bradley Spurlock (ABS 18, BME 20), Rachel (Hermanson) Spurlock (ChE 18 & 20), Amanda Barnes (Director of Development at South Dakota Mines Center for Alumni Relations and Advancement), Ravi Rao (EMgmt84), Bob Miller (EE 84), Ronald (EE 64) and Barbara Gross



Alumni Tailgate, Spearfish, SD – Sept. 30, 2023



Minnesota Vikings vs. Kansas City Chiefs Game, U.S. Bank Stadium, Minneapolis, MN - Oct. 8, 2023
Left to Right: Jan Hopkins, Jeff Muffat (ME 74), Amy Scull, Jim Scull (CE 74)



Black Hills Brawl Watch Party, Kansas City, KS – Sept. 30, 2023
Left to Right – Jacey (PHIN 23) & Job Goodale (EE 21), Ethan Rader-Hunt (CE 22), Joshua Duklet (CSc 20), Aaron (ME 18) & Erin Vogel, Justin Wenner (ME 06), Liam McEuen (EE 22), Mackenzie (CE 16) & Jordan Landen (ME 17), Gena Engel (ChE 06), Lance Baum (CE 16), Joshua Sass (ME 05)



Black Hills Brawl 2023 – Sioux Falls, SD
Left to right: Chuck Cox (ME 00), Aaron Grinager (IE 96), Dale Larsen (GeolE 78), Tom Riley (ME 02), Austin Falkingham (ME 01), Dave Bushong (ChE 80), Curt Struck (CE 78), Margaret Larsen (MET 77), Wayne Larsen (GeolE 76), Lorin Brass (MetE 75), Mary Brass (CE 77), Steve Hurd (ME 90), Chris Klein (MinE 97), Tammy Klein (IE 96), Jon Smith (CE 66), Jason Kippes (ME 92), Joe Anderson (ME 91), Darin Titze (ME 92), Jody Titze (CE 94), Derrick Kellen (IE 96), Todd Mescher (IE 93). Not Pictured: Craig Smith (CE 92)



Alumni Tailgate at Colorado School of Mines, Golden, CO – Oct. 14, 2023
Picture One, Left to right: Maria Cadwallader (IE 96), Michael Retland (BTH 21), John Loranger (ENVE 03), Megan Barnes (ME 06) **Picture Two,** Left to right: Julie Carver (GeolE 86), Director of Alumni Relations Shelli Grinager, Tracie White



Alumni Tailgate, Hardrockers vs Western CO, Rapid City, SD – Oct. 7, 2023
Picture One, Left to right: Kevin Bornhorft (ME 78), Aaron Grinager (IE 96), Jeff Allen (ChE 77), Gary Christman (ChE 74) **Picture Two,** Jerry (CE 65) & Dodie Brown



Alumni Tailgate, Rapid City, SD – Oct. 21, 2023
Picture One, Left to right: Charity Doyle, Michelle Vondenkamp (CSc 89), Tammy (Fitzgerald) Klein (IE 96), Julie Heinrich (ME 91), Jena Welbig (IE 18), Sharon Chontos (ChE 87) **Picture Two,** Left to right: Tim Tracy (IE 02), Patrick Moen (ME 99), Justin Briggs (ChE 98), Aaron Grinager (IE 96), Eric Nelson (EE 16)



Alumni Dinner, Connected, Peoria, IL – Nov. 1, 2023



Dinner, Tavern on the Square, Seattle, WA – Nov. 14, 2023
Left to right: Robin Chikos, Pete Chikos (CE 79), President Jim Rankin (EE 78), Timm Nelson (ME 81), Jeremy Feist (CE 18), Conrad Farnsworth EE 17, Jim Laurenti (ME 84), Susan Laurenti (ME 85), Jace Johnson (EE 20), Marlene Nelson (ME 74), Jason Week (IE 95), Garrett Amirehteshami, Katelyn Wachendorf (Math 19), Aimee Alcock (CE 20) Not pictured: Tara Roth (IE 92)



Thursday at Thirsty's, Rapid City, SD – Jan. 11, 2024
Thirsty's Regulars: Linda Rausch (ChE 75), Daryl Zimmerman (EE 79), Rich Wells (ChE 82), Dick (CE 65) & Mary Schlumpberger, Brad Johnson (EE 92), Jerry (CE 71) & Patricia Wright, Lori Stark-Kasley (ChE 82), Ivan Melhalf (ChE 74), Jeff (ChE 77) & Jean Allen, Gary Christman (ChE 74), Ken Miller (CE 75), Bonnie & Dave Berg (ME 73)



Great Shots Golf, Sioux Falls, SD – Feb. 24, 2024
Left to Right: Zane Hiller (CEE 19), Chris Klein (MinE 97), Samuel Gusso (ME 21), Scott Neigel (ME 12), Tammy Klein (IE 96), Dan Brinkman's son, Shelli Grinager (Director of Alumni Relations), Dan Brinkman (IE 03), Olivia Grinager (IE 26), Dennis Clark (CE 86), Aaron Grinager (IE 96)



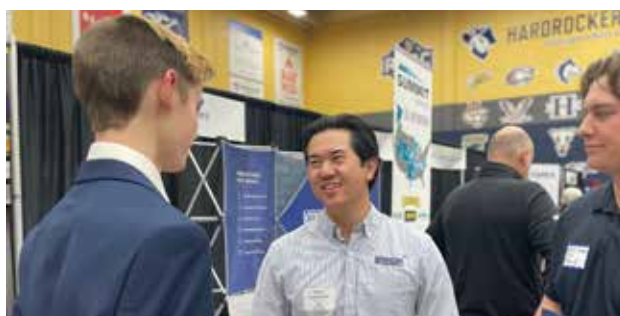
34 SME Conference, Phoenix, AZ – Feb. 27, 2024



New Alumni Welcome Reception, Robbinsdale Lounge, Rapid City – Dec. 1, 2023



Lunch, Boat Shed Restaurant, Bremerton, WA – Nov. 15, 2023
Left to Right: Kaleb Reynolds, Kimmy Reynolds (IE 10), Clif Alferness (EE 69), David Brehm, Jeene Hobbs (ChE 80), Thomas Warborg (ChE 63), Carol Warborg, Paul Cooney (ME 09), (Charles) Jerry Logan (MinE 83), Greg Hess (CE 82), Nicholas Kutac, Lisa Roth



Career Fair 2024, Rapid City, SD – Feb. 6, 2024
We had 192 companies, including over 170 alumni come back and recruit at their alma mater this year. Go Hardrockers! Picture One: Roger Nakagawa (ME 23), Picture Two: Daryl Zimmerman (EE 79)



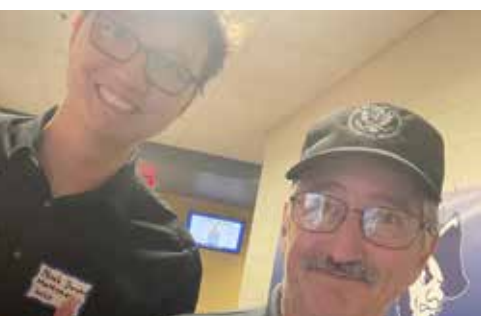
Old Spaghetti Factory, San Jose, CA – March 14, 2024
Left to right, around the table: Zac Doorenbos (ChE 06), Bill Trevillyan (ChE 20), President Jim Rankin (EE 78), Patrick Rich (CSc 03), Sean Cheng (CSc 90), Duke Tallam (EE 84), Bob Miller (EE 84), Ravi Rao (EMgmt 84), Nina Doorenbos (EE 07), Amanda Barnes (Director of Development at South Dakota Mines Center for Alumni Relations and Advancement), Jonathan McKaskey (IS 09), Christie McKaskey (IS 09), Carol Truhe, Larry Truhe (ME 67), Barbara Gross, Deepak Shivaprasad (Chem 00), Todd Welke (EE 87), Tom Cox (IE 12). Not pictured: Randall Newcomb (EE 81)



Rush Hockey Night, Rapid City, SD – Jan. 19, 2024
Back row: Todd Gagne (Geol 97), Ryan Cadwallader (CE 96), Maria Fossum-Cadwallader (IE 96), Jade Herman (IS 09), Holly Gagne (CSc 94), Manalee Johnson (Chem 82), Doug Johnson (ChE 83) **Front row:** Connie Green, Jim Green (ME 74), Aaron Grinager (IE 96)



Craftastic Night, Sioux Falls, SD – Feb. 23, 2024
Back row: Paige Ling (ME 20), Chris Klein (MinE 97), Shelli Grinager (Director of Alumni Relations), Karla Romereim (ME 96), Missy Tille (Ch 97), & Olivia Grinager (IE 26) **Front row:** Sharon Chontos (ChE 87), Tammy Klein (IE 96), Mercedes Mesman (BME 23), Aaron Grinager (IE 96)



The Woodlands, TX – March 15, 2024
Picture One: Ray Symens (MetE 73), Gary Weaver (MinE 74), Mary Weaver, Judy Meisel, Don Meisel (CE 70), Dee Symens; Pic 2: Ken Miller (CE 75), Jayvon Jackson (CEng 20)



Nebraska Brewery Tour, Omaha, NE - March 23, 2024



Wild Garlic Grill Dinner, Tucson, AZ - April 4, 2024

Picture One, **left to right:** Gary Christman (ChE 73.5), Sherryl Jurisch (ChE 75), Kent Ormseth (MinE 15), Duane Jahn (IS 96), CJ De Lange (ME 60), Duane Huston (ChE 66), Linda Huston, Dell McDonald (EE 71), John Alden (MinE 80), Paula Alden, Nicole King (Geol 06), Don Hamann (ME 71), Shirley Hamann, & Randy Jurisch (Math 75)
Picture Two, **left to right:** David Likness (ChE 62), Elizabeth Gray, & AJ Richter (Phys 62)



President's Scholarship Dinner, Sioux Falls, SD - April 12, 2024

Left to right: Sally Schramm, Chuck Cox (ME 00), Ethan Cox, Greg Hintgen (EE 99), Libby Hintgen, Tammy Klein (IE 96), Chris Klein (MinE 97), Karla Romereim (ME 96), Chris Romereim



Kansas City Alumni Dinner - April 19, 2024

Gary Christman (CE 73.5), Rose Kelzenberg (EE 19), Jacey Goodale (PHN 23), Job Goodale, Josh Duklet (C SC 20), Liam McEuen (EE 22), Jerry Bollinger (CE 11), Sarah Tomac, Justin Tomac (IE 93)



Kansas City Alumni Topgolf - April 20, 2024

Gary Christman (ChE 74), Dominic Rubalcaba (ME 16), Liam McEuen (EE 22), Mike Mattheiss, Nick Kuzjak (EMgmt 23), Matt Kuzjak



50-year Graduates, Class of 1974, Rapid City, SD - May 3, 2024

Back row: Paul Bachman (EE), Steve Richard (CE), Steve Kirk (MinE), Marlene Nelson (ME), Bill Mulder (ME), Leno Pederson (EE), Mark T. Anderson (Chem), James McNulty (Math), Mike Hafner (ME), Grubby, Jim Green (ME), Gerry Morgen (EE), Ron Bach (ME), Lowell Kolb (EE), Monte Dirks (MetE), Al Ness (MetE), Kevin Hegerle (MetE), Bob Ringgenberg (MetE), Michael Pawlak (CE), Ivan Mehlhaff (ChE), Don Swanson (CE); Middle row: Mary (Trenerry) Pederson (ChE), Steve Platz (EE), Jeff Muffat (ME), Buddy Belzer (CE), Dan Colgan (CE), Art Rausch (CE), Mark Bossly (ME), Randy Pooley (ChE), Ken Moke (ChE); Front row: Tom Anderson (MetE), Dave Habicht (EE), Randy Porterfield (ME), Lindell Sunde (ME), Gary Nelson (CE), Dave Gnirk (ME), Fred Fletcher (EE)



Spring Alumni Welcome Reception, Rapid City, SD - April 26, 2024



Slate Bistro & Bar Happy Hour, Phoenix, AZ - April 5, 2024

Picture One: Claudian Isola (MS BENE 17), Tacio Lopes (MS MEM 17), Haile Betemariam (GeogE 10), Trevor Davenport (Geol 96)

Picture Two: Gary Evensen (MinE 72), Joel Grace (MinE 73), Maria Fossum-Cadwallader (IE 96), Roger Nakagawa (ME 23), & Gary Christman (ChE 73.5)

Picture Three: Jeff Dietz (CE 72), Joe Vig (CE 71), & Jo Ann Dietz



Saint Arnold Brewing Company Alumni Happy Hour, Houston, TX - April 13, 2024

Alphabetical order, not all pictured: Gerooge Arnold (ME 97), Farra Baranowski (GeolE 06), Dale Farmen (MinE 76), Jerry Gustafson (ME 89), Debra Houska (ChE 91), Rose Luvaas (ChE 08), Michael Maisey (Phys 88), Jeff Merritt (ME 97), Owen Torrey (ME 82)



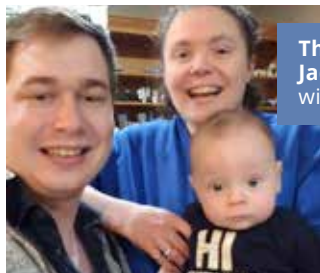
50-year Graduation, Class of 1974, Rapid City, SD - May 4, 2024

Back row: Tom Anderson (MetE), Dan Colgan (CE), Fred Fletcher (EE), Bill Mulder (ME), Kevin Hegerle (MetE), Ron Bach (ME), Bob Morcom (CE), Bob Ringgenberg (MetE), Art Rausch (CE), Mark T. Anderson (Chem), Paul Bachman (EE), Ivan Mehlhaff (ChE), Gary Nelson (CE), Don Swanson (CE), Jim Schunneman (ME), Michael Pawlak (CE), Al Ness (MetE), James McNulty (Math), Steve Platz (EE), Lindell Sunde (ME), Steve Vanderboom (CE), Lowell Kolb (EE); Middle row: Randy Porterfield (ME), Marv Larsen (ME), Jerry Jarding (ME), Duane Quiet (ME), Monte Dirks (MetE), Ken Moke (ChE), Mike Hafner (ME), Dave Habicht (EE, covered), Gerry Morgan (EE), Darwin Koopp (ChE), Jeff Muffat (ME), Randy Pooley (ChE); Front row: Jim Green (ME), Buddy Belzer (CE), Sue Koopp (ChE), Kathy (Kelly) Miller (Chem), Marlene Nelson (ME), Dave Gnirk (ME)

Future Hardrockers



Aaron Melancton Travis was born in April 2023 to Evan and **Jennifer Travis (IE 12)**. Aaron loves his big sister Clara. He is always full of smiles and lots of giggles.



Therese Frels (Phys 17) & Jacob Swanson (MetE 17) with son, Ronan.



Justin Griesinger (IE 12) and his wife, Lauren, welcomed their daughter Lainey Eimear in October 2023 in Prior Lake, MN.



Bobbi (Strange) Bondarenko (GeolE 17) and **Mitchell Bondarenko (EE 17)** welcomed their son, Dakota Troy into this world in June 2023.



Leo Dwyer, grandson of **Jo Dwyer (CARA, Alumni Engagement Coordinator)**

We want to celebrate your new Hardrocker!

Email Shelli.Ginager@sdsmt.edu to receive your #HiImNewHere 6-month onesie.



SOUTH DAKOTA MINES®

Hardrocker
— **HERITAGE** —

SEPTEMBER 20, 2024 | 6 PM
BECK BALLROOM



**SOUTH
DAKOTA
MINES**

Awards

**Will be awarded at homecoming*



Marv Truhe (ME 67)

MARCH MEDAL

This year, the March Medal, the highest award given to alumni, for their service to the university, will be awarded to Marv Truhe, who graduated in 1967 with a degree in mechanical engineering.

The March Medal is awarded annually to a graduate who exemplifies the spirit of electrical engineering alumnus Dr. Guy March through positive interaction with students, the institution, and South Dakota Mines alumni. Dr. March was named the second head of the Department of Mathematics in 1941. His leadership was an integral part of propelling the Alumni Association (which is now part of the Center of Alumni Relations & Advancement) into the active organization it is today. March Medalists embody the caring spirit of Dr. March, which has been a hallmark of the university that has been handed down over decades.

2024 DISTINGUISHED ALUMNI

South Dakota Mines excellence alumni are known for pursuing excellent in their careers. The Distinguished Alumni program was started in 1998 to recognize the outstanding contributions of South Dakota Mines graduates not only to the fields of engineering and science, but also to their communities and the university. Their accomplishments serve as inspiration for future generations and highlight the great impact South Dakota Mines alumni can make in this world.



Dave Thompson (EE 78)



Amy Koenig (ChE 95)



Doug Schultze (ChE 78)



Todd Gagne (Geol 97)



Les Rose (CE 70)



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2024 OUTSTANDING RECENT GRADUATES

The Outstanding Recent Graduate Award was established at South Dakota Mines in 1984 to honor graduates who have achieved exemplary career progress and recognition within 10 years of their graduation. Criteria for selection includes entrepreneurial effort, professional advancement, innovative research endeavors, technical or entrepreneurial accomplishments, community service, and industry or community recognition.
Not pictured: Timothy Fountain (MET 14)



Read bios for each alumni award winner

Hardrock Hall of Fame

South Dakota Mines, along with the Hardrock Club, will enshrine six new members and one team into its Hall of Fame on homecoming weekend. The event will be streamed live at rmacnetwork.com/sdmines. The inductees to the 2024 Hall of Fame are as follows:

1996-97 MEN'S BASKETBALL TEAM:

- | | | |
|------------------------------|---------------------------|------------------------------|
| Brandon Johnson (CSc 95) | Jeff Woodmansee (IS 97) | Tate Bouman (MetE 99) |
| Nate Lohmeyer (IS 98) | Chad Kramer (CE 97) | Fernando Rodrigues (MinE 99) |
| Chris Ford (CE 00) | John Van Beek (CE 98) | Brad Voss |
| Shannon Peterson (CE 98) | Brian Goertz (IE 00) | C.J. Asp (ME 98) |
| Paulo van den Berg (MetE 00) | Kevin Millslagle (ChE 00) | Nick Cheever (ME 98) |

Coaches: Hugh Welsh (Head Coach), Jim Gray (Assistant), Varick Cutler (Assistant)

Ken Wrede (ME 77)
Men's Basketball & Track & Field

Madison Lane (CE 11)
Volleyball & Track and Field

John Redmond (CE 98)
Cross Country & Track and Field

Josh Rickenbach (MinE 97)
Football

Quinn Diede (CE 03)
Men's Basketball

George (ME 56) & **Nancy Dunham**
Builders

FULL LIST OF ATHLETIC AWARDS



In Memoriam

The names below include those who have passed (based on our database records), and 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 between December 16, 2022, and May 15, 2023, and are listed alphabetically by year of graduation.

Jack Goth (MetE 50) 6/9/23
 Roy Ellerman (CE 51) 8/19/23
 Harold Larson (EE 51) 6/12/23
 Don Range (EE 51) 7/30/23
 Carl Tilus (ME 51) 8/5/23
 Robert Welch (ME 51) 1/19/24
 David Erickson (Chem 52) 1/22/24
 Frank Lyons (ME 52) 12/2/23
 Daniel Brennan (MS Geol 53) 6/5/23
 Frank Dvoracek (EE 54) 3/4/23
 Berton Fedt (GeolE 55) 11/5/23
 John Hetlinger (Chem 55) 5/14/23
 Everett Holgate (ME 55) 1/10/24
 Frank Richardson (GeolE 55) 11/7/23
 Jerry Schneider (GenE 55) 11/3/23
 Bernie Hoogestraat (GeolE 56) 5/19/23
 Dan Langfeldt (MinE 56) 12/3/23
 Gerald Sandberg (Phys 56) 12/2/23
 James Wendelken (ME 56) 7/3/23
 Keith Carriere (ME 57) 3/8/2024
 Ron Sanders (CE 57) 10/11/23
 Ron Varilek (CE 57) 4/8/24
 Don Orts (MetE 58) 10/26/23
 Jim Webster (EE 58) 8/23/23
 Ernie Baresch (EE 59) 5/3/24
 Paul Gnirk (MinE 59) 1/29/24
 Ed Hieb (EE 59) 7/4/23
 Fred Fawkes (MinE 60) 3/17/24
 James Hancock (MetE 60) 5/15/23
 Jack Keene (GeolE 60) 4/25/23
 Hal Krizan (CE 60) 6/28/23
 Wilbur Bruce (EE 61) 7/21/23
 Terry Hallberg (ChE 61) 2/26/23
 Jim Hennen (CE 61) 12/19/23
 Bob Miesen (CE 61) 10/1/23
 Edward Webb (GeolE 61) 8/15/23
 LaVerne Weber (EE 61) 9/14/23
 Dan Aberle (CE 62) 8/1/23
 Wendall Cross (MS Chem 62) 2/18/24
 Gary Hansen (Chem 62) 2/2/24
 Robert Rardin (EE 62) 8/11/23

Dean Barnum (GeolE 63) 10/21/23
 Ralph Benbow (Phys 64) 3/10/2024
 Perry Casteel (EE 64) 4/25/2024
 Tom Heinbaugh (EE 64) 2/3/24
 Jerry Hohman (CE 64) 2/15/23
 Douglas Larson (ME 64) 3/14/2024
 Kathryn [Hays] Lawrence (Math 64) 3/8/24
 David Hill (Phys 65) April 24
 Kent Lande (CE 65) 8/28/23
 Donald Lynch (ChE 65) 4/23/24
 David Barber (ME 66) 8/28/23
 Ray Bowers (Chem 66) 8/20/22
 James Copps (ME 66) 1/30/24
 Jim Erpenbach (CE 66) 12/20/23
 Roy Brown (EE 67) 9/28/23
 Gerry Doerr (CE 67) 10/22/23
 Harlan Fallor (EE 67) 1/14/24
 John Hoven (ME 67) 8/29/23
 Jon Versteeg (EE 67) 1/18/24
 Dennis Musil (MS MTRO 69) 2/28/24
 Fred Olmstead (ChE 69) July 2022
 Vic Schoepf (EE 69) 12/2/23
 Dennis Svalstad (ME 69) 11/20/23
 Bill Jensen (EE 70) 10/17/23
 Linda [Hopperstad]
 Kridelbaugh (Math 70) 7/9/19
 Terry Bartels (ME 71) 3/11/24
 Keith Bratberg (EE 71) 12/9/23
 Robert S. Brown (MS Chem 71) 7/28/20
 Norman Ligtenberg (ChE 71) 8/7/23
 Jerry Wright (CE 71) 4/28/24
 Tary Schumacher (ME 72) 12/7/23
 Gilbert Hatch (EE 73) 8/25/23
 Jamie Combs (ME 74) 9/19/21
 Laura [Wells] Koenig (Chem 74) 1/10/24
 John Pullen (MetE 74) 1/9/24
 Craig Hancock (ME 75) 4/21/22
 Curt Bossert (CE 76) 4/5/23
 Peter Clarksean (ME 76) 8/24/19
 Jerry Hanten (MetE 76) 2/12/24
 John Schanzenbach (MinE 77) 10/13/23

Tom Peterson (EE 78) 11/10/23
 Doug Biss (CE 79) 1/13/21
 Terry Landreth (EE 79) 1/29/21
 Bruce Bradfield (EE 80) 2/1/24
 Hamish Munro (MinE 80) 2/12/13
 Mark Huber (CE 81) 2/6/24
 Paul Johnson (MetE 81) 10/19/23
 Shailesh Patel (MinE 81) 9/30/23
 Michael Britton (GeolE 82) 3/19/24
 John Bossen (ChE 84) 5/18/23
 Diane Fodness (MetE 86) 12/20/23
 Richie Kudlock (EE86) 1/25/24
 Royce Schreiber (CSc 86) April 2019
 Don Charron (EE 87) 8/12/23
 Lawrence Lemke (CSc 88) 11/5/22
 James Rudy (EE 89) 5/6/24
 Kenneth Kambour (Phys 91) 5/8/23
 Orville Bultsma (EE 92) 7/16/23
 John Paynter (IS 93) 11/13/23
 Charles Edwards (CE 95) 5/8/24
 Jonathan Brosz (CE 03) 3/24/24
 Lance Woodsend (ME 03) 7/5/23
 Josh Precht (CSc 04) 2/29/24
 Michael McCauley (EE 11) 11/26/22
 Vaughn Vargas (IEEM 16) 8/17/23

FORMER FACULTY/STAFF:

Scott Amos (CE Professor) 2/1/23
 Onalee Anderson (Public Relations) 1/31/24
 Bob Fischer (Business Manager) 3/23/23
 Cindy Hise (MinE/MetE Secretary) 8/10/23
 Mary Mickelson (Library) 1/21/24
 Dennis Musil (IAS Faculty) 2/28/24
 Cathryn Spelts (English Professor) 1/23/24
 Gerald Welfl (football coach) 2/12/24



◀ Read Memorial list from Winter/Spring 2022 that was not in a previous Hardrock magazine.

CAREER SERVICES

Industry knows to look to South Dakota Mines for highly qualified engineers and scientists. Alumni have access to South Dakota Mines' career services platform, Handshake, where you can search for jobs and build a profile that employers will notice.

sdsmt.edu/Campus-Life/Career-Services/About/Handshake/

Additionally, if you're looking to relocate to South Dakota, visit us!



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JULY 9-12, 2025



By the numbers

2024 GIANTS OF GIANT VISION



7 out of 10 first place winners over the past ten years in the open division



TEN corporate sponsors who support the Mines CEO Student Business Plan Competition

50+

Entrepreneurs-in-Residence

35+

CEO Alumni Mentors



16 first place awards in student and open divisions.



\$269,500

awarded from Giant Vision to South Dakota Mines students and faculty teams over past ten years

\$185,000

in open division awards

\$85,000+

in student awards



42

total awards



9 out of 10 first place winners over past ten years in the student division



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