The family of Maria “Agnes” Roybal Trujillo has made a generous donation to build an expanded Tiospaye Center to support Native American students at the South Dakota School of Mines & Technology.

Donors Diane and Bob Malone of Texas attended a dedication ceremony at the university in honor of Diane’s mother who encouraged her children to incorporate their culture into better opportunities for themselves and others.

Family members also attending were Debbie Ponzio, Dean Elmore and Doreen and Dan Gehrer. Debbie and Doreen are also daughters of Agnes.

Agnes grew up in an orphanage in the Denver area, where her individuality and heritage were suppressed and her Native American culture not honored or recognized. She went on to earn her high school diploma, unusual for any American Indian in the early 1940s. This accomplishment remained a point of pride for the rest of her life, and Agnes instilled the value of education in her children.

Bob Malone visited the School of Mines and was impressed with the university’s Tiospaye program, which up until this fall was managed out of a small 200-square-foot space in the basement of the McLaury Building.

Their donation contributed to an expanded space of 450 square feet in the renovated garden level of the Devereaux Library.

This space is designed as a comfortable home-away-from-home, where American Indian scholars are encouraged to honor their heritage, support each other, and find an extended family. The NSF Tiospaye Scholar Center is comprised primarily of three rooms – one quiet study space; one where scholars can interact more openly, collaborate on projects and provide space for tutoring; and the office for the Tiospaye Mentor. The program director’s office is adjacent, providing easy access for scholar mentoring.

During the family’s visit they met with students from the American Indian Science and Engineering Society, forged steel in a blacksmithing demonstration with the metallurgy department and attended the student Fall Leadership Retreat, where Bob Malone addressed students.

Tiospaye is a Lakota word which, roughly translated, means “extended family.” South Dakota Mines enrolls 103 Native American students, and the National Science Foundation (NSF) Tiospaye Scholar program (24 scholars from 10 tribes) is one of the primary ways the university welcomes and supports students.

The Tiospaye Scholar Program, with support from the National Science Foundation, has provided over $1.8 million in support (with 85 percent, $1.5 million plus, for scholarships) to American Indian scholars in engineering, science, and mathematics since 2009 at SD Mines. Scholars must demonstrate academic talent and financial need. Support is provided in five core areas: financial, academic, professional, cultural and social. Since 2009, 27 scholars have graduated from SD Mines with B.S. STEM degrees and several more are on track to graduate by May 2018.

Malone retired in 2009 as chairman and president of BP’s American operations. He is the chairman of the board of Halliburton and chairman of the board of Peabody Energy.
Baker Hughes Incorporated, an international oilfield services company, has donated industry-grade reservoir performance software valued at $1.8 million to South Dakota Mines to help train students for careers in the petroleum industry.

The gift was announced during a presentation on campus attended by Baker Hughes executives. With 36,000 employees in 80 countries, Houston-based Baker Hughes develops next-generation technology to help oil and gas operators get the most from their reservoirs.

Baker Hughes donated JewelSuite™ software for geologic modeling, reservoir engineering, 3D and 4D geomechanics, and wellbore stability, MFrac™ and MShale™ software packages for fracture modeling and design, and Completion ArchiTEX™ (CTX) software for completions design. The software will be used in geology and geological engineering classes, the petroleum field camp and a new geomechanics course.

In recent years, 20 percent of Mines graduates have gone on to careers in the energy industry, and Baker Hughes has been the fifth-highest employer of Mines graduates for the past five years.

The new software will also support independent student research projects.

Mines offers bachelor’s, master’s and doctoral degrees in geological engineering and geology, as well as a minor and a certificate in petroleum systems.

“This generous gift from Baker Hughes will help our students be better prepared when they join the professional workforce. It’s the kind of gift that enhances several of our courses while keeping the cost of college down,” said South Dakota Mines President Heather Wilson.

Baker Hughes executives visited with students to share the company’s commitment to ensuring a pipeline of trained candidates enter the industry.

“We are proud to partner with a university that has taken such an active role in developing the next generation of innovators for the oil and gas industry,” Mody said. We believe real-world experience is invaluable when entering the workforce, and we hope our software donation will help more students gain that experience.”

South Dakota Mines announced its Energy Resources Initiative three years ago to leverage the university’s expertise and research, as well as its location in an energy-rich region of the country, near the Williston, Denver and Powder River basins.

Since then, SD Mines has added a Petroleum Systems Minor and a Petroleum Systems Graduate Certificate and is in the process of hiring a permanent director.
Mines Professor Logar Honored with National Mentoring Award

Antonette Logar, Ph.D., a computer science professor at the South Dakota School of Mines & Technology, has received the prestigious national Tau Beta Pi McDonald Mentor Award.

The award celebrates Tau Beta Pi educators for excellence in mentoring. It is presented to one college educator in the United States each year who has consistently supported the personal and professional development of students and colleagues.

Logar's achievements “exemplify the diverse contributions that engineers make to society,” the Tau Beta Pi award letter said.

With a national membership of over 550,000, Tau Beta Pi is the oldest engineering honor society in the United States. It honors engineering students who have shown academic, personal and professional achievement.

Logar is a long-time coach of the South Dakota Mines computer programming team. Along with Edward Corwin, Ph.D., she has coached the team to six qualifications for the world finals competition of the Association for Computing Machinery (ACM) International Collegiate Programming Contest (ICPC). In 2013, Logar and Corwin were honored with a lifetime achievement award during the team’s fifth appearance on the international stage in Russia.

In May of 2017, the international ICPC competition will be hosted in Rapid City, in part due to the influence of Logar and Corwin.

“Toni Logar is the kind of professor-mentor who makes a difference in every life she touches. She richly deserves this recognition,” said South Dakota Mines President Heather Wilson.

Logar received a B.A. in geology from Lehigh University, a B.S. in computer science from South Dakota Mines, a M.S. in computer science from the University of Minnesota, a Ph.D. in Computer Science from Texas Tech, and a law degree from the University of Louisville. She joined the Mines faculty in 1983 and has served as a professor of computer science, chair of the Department of Mathematics & Computer Science and dean of Graduate Education. She also serves on the executive committee of the Mount Rushmore Society.

This is the second time the McDonald Mentor award has been awarded to a Mines faculty member. Carter Kerk, Ph.D., industrial engineering professor, received the inaugural award in 2006.

Logar attended the award ceremony in San Diego, where she was presented with a $1,000 cash prize, $1,000 donated to the Mines Tau Beta Pi chapter in her name and an engraved medallion.
Pulitzer Prize Winner, 
New Yorker, Slate Writer
Jonathan Weiner to Speak at SD Mines

Pulitzer Prize-winning journalist Jonathan Weiner will speak at 7 p.m. Thursday, Nov. 10, at the South Dakota School of Mines & Technology in the Surbeck Center ballroom on campus. The event, co-sponsored by the South Dakota Humanities Council (SDHC), is free and open to the public and media.

One of the most distinguished popular science writers in the country, Weiner won the 1995 Pulitzer for general nonfiction for *The Beak of the Finch: A Story of Evolution in Our Time*. He has also won the National Book Critics Circle Award and the *Los Angeles Times* Book Prize.

Courtney Carlson, a SD Mines senior, recently returned from an eight-month research-based internship at NASA's Jet Propulsion Laboratory, where she studied the impact of microscopic contamination on other planets.

Carlson, a chemical and biological engineering major from Brandon, S.D., was one of 19 Mines students awarded a 2016 South Dakota Space Grant.

“Microorganisms – bacteria, fungi, archaea, etc. – are ubiquitous on Earth, and if proper countermeasures are not implemented, they can easily latch onto space-bound equipment,” said Carlson’s advisor Rajesh Sani, Ph.D., of the Department of Chemical & Biological Engineering.

To prevent this, the Biotechnology and Planetary Protection Group at the NASA Jet Propulsion Laboratory dedicates much of its efforts to researching potential culprits for forward contamination and developing sterilization methods.

Carlson’s research focused on characterizing microorganisms isolated from extreme environments and testing their survivability under simulated Mars conditions. She uncovered a strain of bacteria that could serve as a model specimen for developing new sanitation techniques to prevent forward contamination. She also worked on characterizing the microorganisms that inhabit the International Space Station.

Carlson has returned to campus for the fall 2016 semester to continue research under Sani and work on a manuscript to publish her research findings.
Entrepreneur-in-Residence Darren Haar recently received the Spirit of Enterprise award recognizing personal commitment, dedication and achievement in entrepreneurship.

Haar was honored during the Innovation Expo, which focuses on connecting entrepreneurs, innovators, angel investors, venture capitalists and others involved in start-up companies.

The award honors someone who is directly responsible for helping shape the entrepreneurial culture of South Dakota.

Haar is a visionary business leader with a proven track record of driving growth and managing change in a diverse set of business environments in Asia, Europe and the Americas. He is able to quickly establish strategic direction, identify areas for growth, reduce cost and develop a strong leadership team.

Haar returned to the Black Hills a couple of years ago, most recently having served as DuPont’s global business director, Microcircuit Materials. At South Dakota School of Mines, Haar volunteers as head Entrepreneur-in-Residence (EIR), working with faculty researchers and students to take the university’s technology into the marketplace. He helped launch and sponsor the Black Hills student business plan competition on campus, now in its third year. Haar has also represented the School of Mines as a member of Stanford's Epicenter Pathways to Innovation, a national effort to promote innovation and entrepreneurship on our nation’s campuses, and has acted as a National Science Foundation iCORPS mentor.

He launched two angel funds to assist local entrepreneurs in gaining access to capital, currently serves as the chairman of the Black Hills Regional Angel Fund and is an active member of the mayor’s economic development task force. Haar is also a board member of the Rapid City economic development partnership.

“It’s impossible to be around Darren Haar and not be enthusiastic about entrepreneurship. We love having him working with our students and faculty on the campus and linking us to the business and start-up community,” said South Dakota School of Mines President Heather Wilson.

Additionally, Haar leads the effort to build a tech park/incubator in Rapid City, sits on numerous start-up boards and participated as a statewide delegate in an EPSCOR effort to enhance innovation and entrepreneurship surrounding federally funded research. He runs his own small company and launched a campaign to create 1,000 tech jobs in the Rapid City area (TECH 1K).

“If there was only one word I could use to describe this guy’s drive and best quality that word would be passion, passion to help the community progress, grow and innovate. He really cares about making a difference in our community,” said Ben Snow, president of Rapid City Economic Development Partnership.

The Spirit of Enterprise award is given by the Enterprise Institute and is sponsored by the Rushmore Region Alliance.
Diana Peninger, vice president of the $2 billion Acetyl Intermediates business at Celanese, will speak at the South Dakota Mines on Nov. 3.

Peninger, a South Dakota Mines alumna, will discuss her experiences in leadership as part of the Women in Science & Engineering speaker series designed to mentor students in science, technology, engineering and mathematics education. The public is invited to the presentation at 4 p.m. in the Christensen Hall of Fame in the King Center. There is no charge.

Celanese is a Fortune 500 global technology and specialty materials company.

Peninger is a member of the governing board of the Committee of 200, an invitation-only membership organization of the world’s most successful women entrepreneurs and corporate senior executives, and is dedicated to helping women in professional fields.

Peninger graduated from South Dakota Mines in 1986 with a bachelor’s degree in chemical engineering and began her career with Celanese in 1987. She has leveraged her engineering degree as a strong foundation for various leadership positions in business.

“By helping build young men and women’s thirst for knowledge, we will set the path for motivated and innovative people who will continue to make the world a better place,” Peninger said.

At Mines, she was the founding president of the local chapter of the Alpha Delta Pi sorority.
HAPPY HALLOWEEN
Nearly 300 people attended the ninth annual Halloween-themed “Night at the Museum,” hosted at the South Dakota Mines’ Museum of Geology Oct. 29.

Children and adults alike dressed in Halloween costumes for trick or treating in the museum.

Members of the South Dakota Mines Paleo Club hosted hands-on educational activities and games surrounded by the museum’s mounted skeletons and fossils of millions-of-years-old dinosaurs, mammals and marine reptiles.

Dressed in costumes, SD Mines students also canvassed the neighborhood around campus, collecting 1,345 pounds of food for Feeding South Dakota.

Additionally this year, students will conduct a follow-up food drive. On Thursday, Nov. 3, they will visit parts of town not covered on Oct. 29. They will deliver plastic bags and return a week later on Thursday, Nov. 10, between noon-3 p.m. to pick up the bags with canned food or monetary donations for Feeding South Dakota.

**Intern Spotlight**

**Jeremy Feist** | Burns & McDonnell
Senior civil engineering major Jeremy Feist, from Newcastle, Wyo., worked on a project that dealt with the foundation work for 50-foot-plus vertical vessel towers within a refinery in North Dakota. Here, he’s pictured on the patio of Burns & McDonnell’s new addition to the world headquarters in Kansas City, Missouri.
Local Painters Featured in “DakotaScapes” at Mines

Four local painters share their love of landscape, natural phenomena and the people of South Dakota in the eclectic exhibition, “DakotaScapes,” at the South Dakota School of Mines & Technology’s Apex Gallery.

DakotaScapes can be viewed today, Nov. 2, through Dec. 2. The opening reception is from 5-7 p.m. Friday, Nov. 4, with a gallery talk at 6 p.m.

Artist Lisa Shoemaker harnesses the wonder of nature through abstract paintings that describe the forces governing the natural world, while Jan Sohl’s contemplative paintings come from her connection to the land. Dede Farrar’s thickly painted canvases are full of the energy of living beings, especially her sidekick, Tiger, and David Horan muses on his place in both the landscape and the community.

SD Mines also recently hosted a new art exhibit entitled “Movement, Muscle, Measure,” by Michael B. Baum, which included 40 drawings from four different series, exploring the intersection of kinesiology, drawing and technology.

Baum left South Dakota in his early twenties to work and travel in the mountain ranges of California, Wyoming, Montana, Washington and Alaska. After completing his graduate studies in fine art at Washington State University, Baum returned to South Dakota and now serves as an assistant professor of art at Black Hills State University and the curator for the Ruddell Gallery. Baum has also been the recipient of a career development grant through the South Dakota Arts Council for a series of drawings entitled “Heart to Heart.”
South Dakota Mines sophomore Anna Breidt has been named to the 2016 Rocky Mountain Athletic Conference All-Academic First Team announced by the league office, while Hardrocker senior Emily Stickney, junior Emily Newton and sophomore Darla Drenckhahn were named to the RMAC Honor Roll. To be eligible for consideration, a student-athlete must carry a 3.30 cumulative grade point average and must have been an active student at the institution for at least two consecutive semesters or three consecutive quarters.

“Our scholar-athletes make us proud every day, and I’m very pleased to see our athletes recognized in this way,” said South Dakota Mines President Heather Wilson. Breidt is a 6-foot-1-inch middle hitter from Fort Collins, Colo., majoring in industrial engineering with a GPA of 3.84. “It’s good to see Anna get some recognition for the things that she is doing for us this season. She has been a solid contributor for us both as an attacker and with her blocking, and she has made significant strides in both phases from last season to this season,” said Hardrocker volleyball head coach Doug Tabbert. “She is a very conscientious student and has been since the day she arrived on campus, so we certainly take pride in her academic accomplishments as well as her on-court contributions.”

So far this season, Breidt has tallied 144 kills, is hitting .230, accumulated 28 digs and has 41 total blocks to her credit.

Newton, a 6-1 middle hitter from Loveland, Colo., majoring in civil engineering, earned RMAC Honor Roll recognition with a 3.74 GPA. “Emily Newton has been a consummate scholar-athlete during her time at SD Mines. She represents our program extremely well in the classroom and in various other academic-related pursuits while being a committed member of our squad,” Tabbert said. “She is very deserving of this type of recognition.” Newton has tallied 129 kills this season and is hitting at .235 to go along with 31 digs and 40 total blocks on the season. A veteran team member, Newton is a team captain and a key contributor.

Drenckhahn, a 5-9 right side hitter from Lakeville, Minn., majoring in computer science and mathematics earned a spot on the RMAC Honor Roll with a 3.43 GPA. “Darla exemplifies the notion of a team player. Despite coming into our program as a right side hitter, she has played extensively as both a defensive specialist and an outside hitter this season,” Tabbert said. “She represents our volleyball program extremely well on our campus as both a student and a team member, and I greatly appreciate both of those aspects of her performance.” Drenckhahn is having a breakout season for the Hardrockers. She's recorded 52 kills so far this year and is 190-239 on the attack with 13 assists, 11 aces, 112 digs and nine total blocks.

Stickney is defensive specialist and outside from Boise, Idaho, majoring in atmospheric sciences with a 3.48 GPA. She contributes to the Hardrocker volleyball program as a reserve player. “Emily has been a significant presence in our campus community for a number of years. She has certainly earned the respect of her peers and her coaches during that time, and she continues to do so,” Tabbert said. “It is her first year playing collegiate volleyball but her impact has been notable for our program. She has provided maturity and stability to a very young squad both in and out of the playing environment. She has also been a high achiever academically and her future seems boundless, so I’m very happy that she is receiving this level of recognition.”
South Dakota Mines Hardrocker David Jakpor was named to the Rocky Mountain Athletic Conference Football All-Academic First Team Defense, while Jake March, Dominic Martinez, Blake Stone, Robbie Jo Gerarden, Marshel Gleason and Andrew Montoya earned RMAC Honor Roll accolades.

To be eligible for consideration, a student-athlete must carry a 3.30 cumulative grade point average and must have been an active student at the institution for at least two consecutive semesters or three consecutive quarters.

Jakpor, a senior linebacker from Phoenix, Ariz., majoring in civil engineering with a 3.33 GPA, currently leads the Hardrockers and is eighth in the RMAC with 56 total tackles. He also has four tackles for a loss, one pass breakup and one fumble recovery this season.

“Scholar-athletes have higher average GPAs than the student body as a whole. This recognition is a testament to the hard work of these young men,” South Dakota Mines President Heather Wilson said.

Gleason is the starting kicker for the Hardrockers, and so far this season has had 51 kickoffs for 2,864 yards. He also has 10 touchbacks and has made good on one field goal from 28 yards. Gleason is a senior industrial engineering major with a 3.36 GPA from Anaheim, Calif.

Martinez has 34 total tackles on the season with one sack and one pass break up. Martinez is a senior interdisciplinary sciences major with a 3.41 GPA from Gallup, N.M.

March has recorded 19 tackles so far this year, including two sacks and two quarterback hurries. March is a sophomore industrial engineering major with a 3.66 GPA from Puyallup, Wash.

Gerarden is second on the team in scoring with 44 points. He has made three of six field goal attempts and is 35-36 on PATs. Gerarden is a sophomore mechanical engineering major with a 3.42 GPA from Black Diamond, Wash.

Stone has filled in as a relief player for the Hardrockers, making game appearances against William Jewell, Dixie State, CSU-Pueblo and Colorado Mines. He has one sack on the season. Stone is a junior civil engineering major with a 3.41 GPA from Rapid City.

Montoya has also seen an increase in playing time. He has appeared in games against Dixie State, CSU-Pueblo, Adams State, New Mexico Highlands and Colorado Mines. He has one sack so far this year. Montoya is a redshirt freshman electrical engineering major with a 4.00 GPA from Rapid City.

“Our student-athletes are among the most committed in all of NCAA Div. II athletics,” said Hardrocker football head coach Zach Tinker. “The curriculum our players attack every day in the classroom is second to none, and Hardrocker football is built on the foundation that excellence in the classroom will never be compromised for success on the field.”
The South Dakota School of Mines & Technology’s “Heavy Metal” fundraiser raised $28,000 in scholarships Oct. 27. The event featured mining, geology, metallurgy and music with interactive demonstrations, including blacksmithing, gold panning, a robotic volcano rover and live rock-themed performances by the pep band and dance team.

A $1,000 Delta travel package was raffled, along with a Vertex membership and Mines gift bag with four basketball season tickets. Silent auction items include a 2003 PRS Singlecut guitar and a wine basket featuring wines from countries with mining operations worldwide. Additionally, the blacksmithing club sold hand-forged metal roses, and the geology department sold minerals.

South Dakota School of Mines & Technology senior Erik Fenske was named to the 2016 Rocky Mountain Athletic Conference (RMAC) Men’s Soccer All-Academic First Team announced by the league.

Fenske, a defender for the Hardrocker soccer team, is a chemical engineering major from Savage, Minn., with a cumulative GPA of 3.89. He is one of 10 individuals in the RMAC to receive First Team honors.

“It’s great to see Erik earn this honor and be recognized by the rest of the league,” said Hardrocker soccer head coach Jordan Kadlec. “Erik, like all our scholar-athletes, puts in the effort not only on the pitch, but also in the classroom.”

Fenske, along with the nine other RMAC First Team All-Academic members, were voted on by the conference’s sports information directors. To be eligible for consideration, a scholar-athlete must carry a 3.30 cumulative grade point average and must have been an active student at the institution for at least two consecutive semesters or three consecutive quarters.

All other scholar-athletes who meet those requirements, but were not voted First Team, automatically qualify for the RMAC Men’s Soccer Honor Roll.

The SD Mines soccer team had seven scholar athletes make the list, including:

- Brandon Lind, a senior defender majoring in mechanical engineering from Windsor, Colo. (3.96 GPA)
- Darin James, a junior defender majoring in metallurgical engineering from Albuquerque, N.M. (3.57 GPA)
- Charles Kieffer, a junior forward majoring in mechanical engineering from Cambridge, Minn. (3.62 GPA)
- Jack Seifert, a sophomore goalkeeper majoring in mechanical engineering from Lisle, Ill. (3.91)
- Ian Debois, a sophomore midfielder majoring in metallurgical engineering from Maple Grove, Minn. (3.77)
- Cameron Thompson, a sophomore defender majoring in metallurgical engineering from Castle Rock, Colo. (3.90)
- David Grifo, a red-shirt freshman midfielder majoring in civil engineering from Fountain Hills, Ariz. (3.42).

“These young men are performing to a very high standard academically while spending hundreds of hours on the road and the field playing soccer. We are very proud of them,” said SD Mines President Heather Wilson.

“As a coach, it’s satisfying to see your athletes making the grade,” Kadlec said. “I’m really proud of our guys and all the success that comes their way.”
The India Club of the SD Mines invites the public to celebrate Diwali Night, featuring cultural foods, entertainment and a fireworks show.

The 27th annual event will be 5-8 p.m. Saturday, Nov. 19, in the Surbeck Center ballroom.

Diwali is the largest festival in India, celebrating peace and harmony beyond the Hindu religion. The India Club at SD Mines aims to increase awareness and understanding of the Indian culture through the event, which last year attracted 450 people.

The evening begins with cultural dances at 5 p.m. A fireworks display in the Surbeck/McLaury parking lot will begin at 7 p.m., followed by authentic foods prepared by the 40 Indian students enrolled at Mines. Henna hand-painting stations will also be available.

Donations will be accepted at the door.
Mines in the News

Does Gender Choice Threaten Women-Only Scholarships

New Study Space for Native Americans Dedicated at SD Mines

EPA Awards $1.3 Million to Urban Waters Projects

Mines Professor Earns National Award

SD Mines Expansion Could Be Enormous for Downtown

Logar on World Programming Contest, Artificial Intelligence & Computer Science

1 Guy Poli-Sci Dept. Weighs In: “Along the Way”

CAMP Team Showcases Cars at Annual Cruiser Car Show & Street Fair

Mines Soccer Earns Signature Win

US Senators Impressed with Sanford Underground Research Facility

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