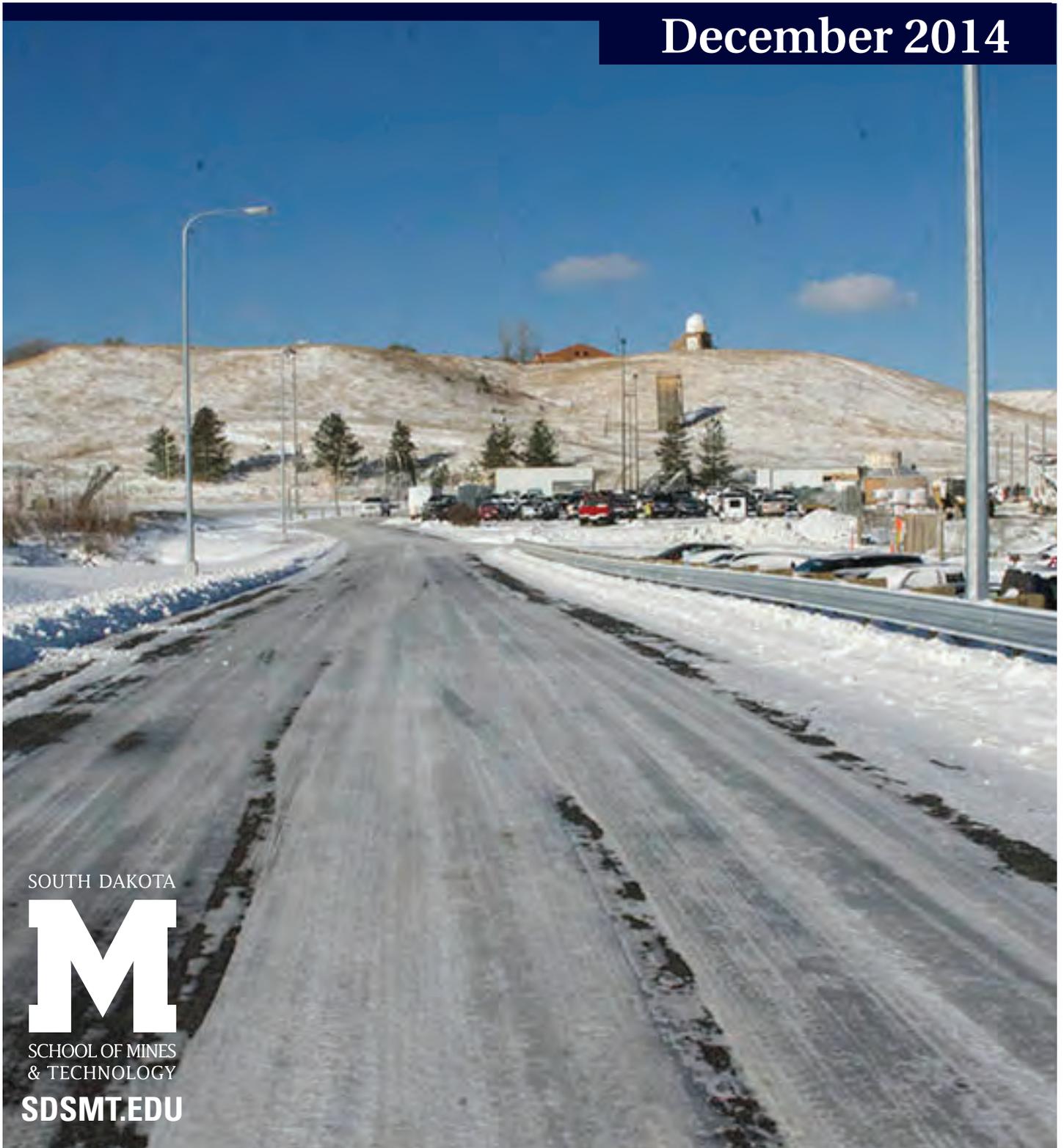


South Dakota School of Mines & Technology

Legacy News

December 2014



SOUTH DAKOTA

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SCHOOL OF MINES
& TECHNOLOGY

SDSMT.EDU

New Access Road, Parking Lot Facilitate Growth at SD Mines



A new 72-vehicle parking lot and an access road through the South Dakota School of Mines & Technology campus were opened last month as part of continued improvements to the university.

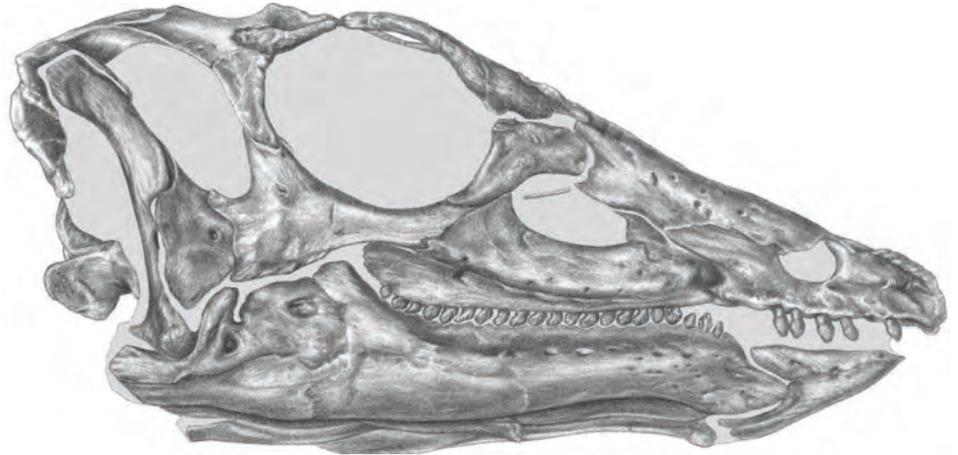
The new loop road will swing from the southeast end of campus around the Black Hills Business Development Center and connect with the parking lot behind the King Center, offering easier access to athletic and other events held in the King Center and the new Wellness Center.

The Stephen D. Newlin Family Student Wellness & Recreation Center is on track to be completed next spring. The new construction will adjoin the King Center, providing more than 34,000 square feet of new or remodeled space, including two basketball courts, a group fitness room, low-level rock climbing wall, new student locker rooms and expanded cardio and weight training areas. The main entry will face into the parking lot on the south end of campus.

Additionally, a 72-vehicle student parking lot has been built on the southeast end of campus behind the business incubator. The lot will be open for overnight student parking as well as daytime parking.

The \$1.18 million additions will help to accommodate needs of the growing university. The 2,798 student headcount this fall represents a nearly 6 percent growth compared to fall 2013. Enrollment has steadily climbed over the past few years. In 2008, enrollment was 2,061.

New Research Offers First Glimpse at ‘Neglected’ Dinosaur Skull



New research published by a South Dakota School of Mines & Technology paleontologist has opened the door for future discoveries about one of the last non-avian dinosaurs to roam the planet 67 million years ago.

The *Thescelosaurus neglectus* was discovered more than a century ago, but little has been known about its life or relationships with other creatures of its time during the Cretaceous period in Western North America.

Clint Boyd, Ph.D., who has studied the skull of the *T. neglectus* since 2005, is the first to fully describe the dinosaur's head. Knowing more about the skull will allow future research on the life of the ornithischian dinosaur, one of the last non-bird dinosaurs. Boyd's paper, "The cranial anatomy of the neornithischian dinosaur *Thescelosaurus neglectus*," was published recently by the online scientific journal *PeerJ*.

Named after being neglected for nearly 20 years, *T. neglectus* roughly translates to "marvelous, neglected lizard." The original specimen was found in 1891 but wasn't studied or named until 1913.

Although the average 12-foot-long body of this herbivorous dinosaur was originally described in 1913, little was known about the structure of its head until now.

"The skulls of these animals give us the most insight into their relationships with other dinosaurs. Having the entire skull described

provides insight not only into the broader relationships of this species, but also new insights into the early evolution of all ornithischian dinosaurs," said Boyd, a post-doctoral fellow and assistant professor in the Department of Geology & Geological Engineering at SD Mines. The full description of the skull also allows researchers to study the diet and brain structure of this species in greater detail.

Bones from the *T. neglectus* are known from Wyoming, South Dakota, North Dakota and Western Canada. There are also possible fossils from California and Alaska.

The two specimens studied by Boyd were found by private individuals in Harding and Dewey Counties in South Dakota.

Boyd, who is now working on a complete revision of the relationships of ornithischian dinosaurs using data from this study, identified a possible relationship between this species and similar dinosaurs known from Asia and Canada, suggesting a dispersal between these continents during the Cretaceous period.

The skull found in Harding County is roughly 99 percent complete and now resides at the North Carolina Museum of Natural Sciences in Raleigh, N.C. The other skull, roughly 68 percent complete, remains in South Dakota at the Timber Lake and Area Museum.

Read Boyd's full paper online at <https://peerj.com/articles/669/>

Holiday Concerts at Cathedral, Music Center



Visiting artist Lucille Reilly will perform with the SD Mines Concert and University Choirs and Master Chorale at the 32nd-annual Holiday Cathedral Choral Concert at 7:30 p.m. Saturday and Sunday, Dec. 6 and 7, at the Cathedral of Our Lady of Perpetual Help.

A graduate of Westminster Choir College and a Melodious Accord Composers Fellow (Alice Parker), Reilly is an award-winning performer on both hammered dulcimer and diatonic autoharp. She has performed extensively across the United States, including the Metropolitan Museum of Art in New York City, the Ozark Folk Center in Arkansas, the Denver Center for the Performing Arts and in a myriad of concert series and festivals. She is the author of two best-selling instruction books for hammered dulcimer, a comprehensive autoharp chord-reference book and a monograph series for diatonic autoharp. She has also composed several choral works and has three recordings to her credit.

Julliard-trained guest artist Katie Smirnova performed at the fall concert featuring the University Orchestra and Brass Choir at the Music Center on campus. Having begun training at age six in St. Petersburg, Russia, Smirnova earned her Master of Music at the Peabody Conservatory of Johns Hopkins University. She is currently pursuing her doctorate at Stony Brook University in New York.

Smirnova was joined by fellow guest artist Brett Walfish, a graduate of the New England Conservatory and Indiana University, Bloomington, and current doctoral student at Stony Brook University. Walfish has performed in Ireland, Italy and Israel.

32nd-annual Holiday Cathedral Choral Concert

Featuring the SD Mines Concert Choir,
University Choir and Master Chorale

Visiting guest artist Lucille Reilly on the hammered dulcimer

Cathedral of Our Lady of Perpetual Help

7:30 p.m. Saturday and Sunday, December 6 & 7

No Admission Charge

Holiday Band Concert

Featuring the SD Mines Symphonic Band and Jazz Band

Music Center, SD Mines campus

7:30 p.m. Monday, December 8

No Admission Charge

Museum's *T. rex* Tooth on Display at Smithsonian Exhibit



*The Smithsonian's completed cast of the *T. rex* tooth housed at SD Mines, which will be used as a touch specimen by volunteers working in the exhibit's fossil preparation laboratory to allow visitors to see and feel the tooth up close*

The Smithsonian Institution National Museum of Natural History is displaying a cast of a *T. rex* tooth from SD Mines in its exhibit, "The Last American Dinosaurs: Discovering A Lost World," which opened Nov. 25.

Smithsonian Museum Technician and SD Mines alumna Michelle Pinsdorf said the tooth is unusual in that it is complete from root to tip. Most *T. rex* teeth in fossil collections are either still in the sockets of the skull or jaw or they are 'shed,' meaning they broke while the animal was biting on something and fell out of the mouth. The complete tooth from SD Mines detached from the animal's jaws after it died, when the soft tissues holding it in the socket decayed. Because the full length of the root is preserved, visitors can see just how big a *Tyrannosaurus* tooth could be, and that most of the tooth was actually anchored in the jaw to provide strength when biting.

The Smithsonian molded and cast the *T. rex* tooth taken from the university's collections in order to create a touch specimen that volunteers working in the exhibit's fossil preparation laboratory could use to offer visitors the chance to see and feel the fossil up close.

Another cast of the tooth is mounted in the exhibit itself. While a full *T. rex* skeleton stands overhead, visitors can touch this tooth and feel the conical tip and knife-like serrations that allowed *T. rex* to be at the top of the food chain.

Pinsdorf spearheaded the effort to seek out the use of this tooth for the exhibit. As a graduate of the master's of paleontology program at SD Mines – the only one nationwide – she worked with the Museum of Geology's *T. rex* specimen for her thesis study. When the Smithsonian exhibit design team expressed a desire to use of a cast of a large *T. rex* tooth in the display, Pinsdorf knew the one from SD Mines would serve perfectly. The tooth came from a *T. rex* skull on display at the SD Mines Museum of Geology. It was discovered as part of a larger excavation effort, buried near the animal's skull.

"My personal connection with the School of Mines and this Museum of Geology specimen makes me proud to have produced a replica of the tooth to display for visitors from around the world. I am thankful to the Museum of Geology staff for allowing the Smithsonian permission to produce this replica, and to Jennings and Shirley Floden who originally found and donated this unique specimen to the Museum of Geology," Pinsdorf said.

The fossil was found by Jennings and Shirley Floden in the Hell Creek Formation in Mud Butte, South Dakota, in 1981.

Top 10 'Best for Vets' Colleges for Fifth Year

SD Mines has been ranked sixth in the *Military Times EDGE* "Best for Vets: Colleges 2015" survey.

SD Mines has ranked in the top 10 each year of the magazine's survey. The university was ranked ninth in 2014, second in 2013, eighth in 2012 and was tied for third in 2011. The distinction recognizes colleges and universities for their commitment to providing opportunities to America's veterans. This year 100 four-year institutions were ranked.

Of the 2,798 current students at SD Mines, 158 are veteran or active duty students representing all military branches.

The extensive evaluation process required schools to meticulously document a wide array of services, accommodations and financial incentives offered to military and veteran students, such as percentage of tuition covered by the GI Bill, and to describe many aspects of veteran culture on campus. The survey also considered service member enrollment as well as statistics commonly used to track student success and academic quality – student loan default rates, graduation and retention rates and student-faculty ratio.

"A gold star for those who worked on the application and especially for those who work every day to make our vets feel welcomed and supported on this campus," said SD Mines President Heather Wilson, who graduated from the U.S. Air Force Academy in the third class to include women.

SD Mines offers an active Veterans Resource Center for students. Services include assistance with scholarship searches and applications, as well as résumés and cover letters; counseling and referral services for VA benefits, G.I. bills and community veterans organizations; academic- and life-skills advising and instruction in areas such as learning styles, test preparation, note taking, time management, stress management and wellness; and tutoring.

In addition to being published in the *Military Times EDGE* magazine, the rankings are published in the *Army Times*, *Navy Times*, *Air Force Times* and *Marine Corps Times*.

"We factor in what is, to our knowledge, the most detailed school-by-school data on veteran students' academic success anywhere, including graduation, retention, persistence and course completion rates," said Amanda Miller, editor of "Bets for Vets." Two years ago, only 11 percent of the hundreds of schools surveyed could provide that level of detail. This year, that figure is up to 45 percent. "By recognizing only the schools that do the most, we believe we're helping to raise the bar in veteran student services."

For the full listing, visit <http://projects.militarytimes.com/jobs/best-for-vets/2015/colleges/4-year/>.

President Wilson Joined World Leaders Commemorating Fall of Berlin Wall

President Heather Wilson, joined President George H.W. Bush, former U.S. Secretary of State James Baker, former U.S. National Security Advisor Brent Scowcroft and European leaders in a conference commemorating the fall of the Berlin Wall 25 years ago.

President Bush was presented the European People's Party prestigious Robert Schuman Medal, recognizing public figures who have advanced the cause of peace, at the "25th Anniversary of the Fall of the Berlin

Wall and the Liberation of Eastern Europe" conference. The November conference was hosted by the Scowcroft Institute of International Affairs at the Bush School of Government and Public Service, Texas A&M University, College Station, Texas.

Wilson, former Director for Defense Policy and Arms Control on the National Security Council staff, was among a select group invited to participate in the conference, which included panel discussions and a keynote luncheon interview with former Secretary of State Baker and former National Security Advisor Scowcroft.

"Twenty-five years ago, I was serving as a member of the National Security Council staff for President George H.W. Bush when the Berlin Wall came down and the Warsaw Pact collapsed. While we all believed in freedom, we never expected the Soviet Union would allow Europe to be whole and free. I look forward to reflecting on those events with some of those involved from Europe and the United States and honoring President Bush for his leadership at that pivotal moment in history," Wilson said.

Wilson, Ambassador Robert Hutchings and Ambassador Larry Napper will comprise the "U.S. Practitioner Panel." Hutchings, former Director for European Affairs on the National Security Council staff, is Dean of the LBJ School of Public Affairs, University of Texas. Napper, former Deputy Chief of Mission of the U.S. Embassy in Bucharest, Romania, is Ambassador-in-Residence at the Bush School of Government and Public Service, Texas A&M University.

Another panel will be the European Practitioner's Panel, comprised of Elmar Brok, European Parliament member and current head of the Foreign Affairs Committee, Dr. Sebastian Huluban, former Romanian Secretary of Defense and Security Policy, and Dr. Horst Teltschik, former Security Advisor to Chancellor Kohl.

Wilson served in the U.S. Congress from 1998-2009, representing the state of New Mexico. While in Congress she chaired the House Subcommittee on Technical and Tactical Intelligence and served on the House Energy and Commerce Committee as well as the House Armed Services Committee. She has been president of the South Dakota School of Mines & Technology since June 2013.

Recordings of the panel discussions will be made available at <http://bush.tamu.edu/scowcroft/events/fallofthewall/>.



Notes and files from SD Mines President Heather Wilson during her time at the White House are on file at the George Bush Presidential Library and Museum. Wilson served as director for Defense Policy and Arms Control on the National Security staff under President George H.W. Bush. She visited the library and viewed boxes with her archived documents in November while participating at the commemoration of the fall of the Berlin Wall at The Bush School of Government and Public Service, Scowcroft Institute of International Affairs.

Snowbowl 2014



25th Diwali Night Featured Dancing, Fireworks, and Taste of India



Hundreds of people streamed to campus to celebrate the Grand 25th Diwali Night, hosted by the India Club at SD Mines. Diwali is the largest festival in India, celebrating peace and harmony beyond the Hindu religion. The India Club aims to increase awareness and understanding of the Indian culture through its efforts and estimates an increase in attendance at this year's jubilee event.

The evening began with cultural dances at 5 p.m., featuring both Indian and American students, and culminated in a fireworks display and the opportunity to sample authentic Indian foods prepared by SD Mines Indian students and families in Rapid City. Henna hand-painting stations were set up, along with a silent auction featuring 20 to 30 original pieces of artwork and a special raffle for a \$500 cash prize in honor of the jubilee event.

"It's my honor to be president of the India Club this jubilee year. The club continues to grow, and it has 50 to 60 student members and 100 to 120 Indians in the Rapid City area who support us and attend our events. It's one of our greatest motivations to present Diwali Night each year, and I would like to thank the Student Activities and Leadership Center and the Ivanhoe International Center for their support," Krishnan Veluswamy, a doctoral student in materials engineering and science and president of the India Club, said.

Kellar Receives National Mineral Industry Education Award



Jon Kellar, Ph.D., has been selected as the recipient of the Mineral Industry Education Award, a prestigious national

honor granted by the Society for Mining, Metallurgy, and Exploration (SME) and the American Institute of Mining, Metallurgical, and Petroleum Engineers. Kellar will receive his award at the SME Annual Conference and Exhibit in Denver, Colo., this February, which hosts more than 7,000 attendees.

Nominated for his exemplary accomplishments and lasting impact in education and scholarly activities, Kellar has been an educational leader within the minerals and metallurgical industry for the past 25 years. His pedagogical achievements include developing novel undergraduate programs that integrate mineral processing, pyrometallurgy and physical metallurgy to support curricular development and community outreach.

"Dr. Kellar is an exceptional professor who has made a tremendous impact on his field and on several generations of students. We are proud of him and very glad to have him on the faculty at the School of Mines," said Heather Wilson, president of the South Dakota School of Mines & Technology.

During the 12 years Kellar served as head of the Department of Materials & Metallurgical Engineering, his recruitment efforts led to a doubling of enrollment and substantial research and industrial participation within the department. His research efforts have resulted in more than 80 technical publications and earned him recognition from the South Dakota Board of Regents and the National Science Foundation,

which named him a Presidential Faculty Fellow. Kellar was awarded the CASE Carnegie Foundation's U.S. Professor of the Year for the state of South Dakota in 2008.

"In my opinion, Dr. Jon J. Kellar is perhaps the most outstanding all-around teacher that has ever been nominated for the Mineral Industry Education Award. He has demonstrated personal dedication and excellence at all levels of teaching, ranging from exposing middle school students to environmental problems through the innovative teaching of undergraduate- and graduate-level metallurgical engineering students. I am particularly impressed with his objective to maintain a metallurgical and materials engineering curriculum that is of relevance to the process industry..." said Douglas Fuerstenau, Ph.D., a world-leading metallurgist at the University of California-Berkeley, who wrote one of the recommendation letters for Kellar.

Kellar is a SD Mines alumnus, class of 1984, and Douglas Fuerstenau Professor in the Department of Materials & Metallurgical Engineering. Since 1990, he has taught at all university levels, first-year through doctoral students, developing five new courses during that time. In addition to teaching, Kellar oversees two Research Experience for Undergraduates sites as assistant site director.

As part of his community-outreach efforts, Kellar developed a middle-school course entitled "Managing My Environment," which was taught to more than 250 at-risk and minority students in Rapid City and Kyle.

The Mineral Industry Education Award was established in 1950 to recognize distinguished contributions to the advancement of mineral industry. Past winners include several SD Mines alumni and National Academy of Engineering members.

Kenner Supports Water Resources Management in Mongolia



In recent years, the Tuul River Basin, the main water source for Mongolia's capital Ulaanbaatar, has faced danger of depletion from urbanization, growing industries and a 20 percent decrease in annual precipitation in the upper Tuul River. As water loss moves toward a critical mass, Fulbright Scholar and SD Mines professor Scott Kenner, Ph.D. has been working with the Mongolian government, in concert with other international organizations, to develop a water resource management plan that can provide sustainable water resources in an arid climate faced with climate change. Considered the key zone for Mongolia's socioeconomic and industrial development, the basin supplies a capital where half of the country's nearly three million residents reside.

Kenner's portion of the plan focuses on developing environmental low flows for major tributaries in the Selenge River basin including the Tuul River Basin. Environmental flows constitute a system for managing the quantity, timing and quality of water flows with the goal of sustaining river ecosystems and the human livelihoods that depend on them.

Formulating a plan was just one component of "The Mongolia Integrated Water Resource Management Delivery Workshop" he was invited to attend this fall, co-sponsored by the Mongolia Ministry of Environment and Green Development, Fresh Water Institute, U.S. Army Corps of Engineers and United Nations Educational, Scientific and Cultural Organization.

As Mongolia rides a mineral boom that has catapulted its economy to become the fastest-growing in the world, its mining industry has significantly increased the demands on water resources, further burdening a resource already taxed by the development of irrigated agriculture, increasing urbanization and an upswing in power generation.

Previous work on watershed monitoring and modeling for water quality management earned Kenner a Fulbright in 2012 to conduct further research in Mongolia – and an offer to not only attend this workshop but lead one of his own, training more than 75 students from the National University of Mongolia (NUM) and practicing water resources consultants in Ulaanbaatar.

In continuation of his work with Soninkhishig Nergui, Ph.D., chair of the Department of Biology at the NUM, Kenner led a research team from the university to collect physical habitat data on the Bulgan River and, in the process, equip researchers with the knowledge, tools and equipment to manage their water supply. His goal: create local subject-matter experts who would then work with area stakeholders, such as legislators, farmers and industry, to help them understand the consequences of water uses and adopt sustainable practices.

Though this was only Kenner's third trip to Mongolia, SD Mines' history with the

country extends back more than a decade. Concrete expert and retired civil and environmental engineering professor M.R. Hansen worked closely with his Mongolian counterparts for the past 15 years.

In fact, it was with Hansen and his students that Kenner first traveled to Mongolia in 2011, one year before he was slated to take a sabbatical. The eye-opening experience soon changed his plans.

Home to Erdenet Copper Mine, the fourth largest worldwide, Mongolia also holds 10 percent of the globe's coal reserves. Its gold, coal and copper reserves are expected to more than double the country's GDP within a decade.

But this boom comes at a price. Mines need vast amounts of water to operate, a resource already worn thin by crop irrigation; increasing domestic water demands; and an upsurge in power generation as the country tries to wean itself of energy dependence on Russia, from which 60 to 70 percent of its power is currently supplied, Kenner explained.

Recognizing the need to address its water-supply challenges, Mongolia had just begun a fledgling water resource management system when Kenner visited. The opportunity to build a knowledge base and infrastructure from the ground up was too alluring to ignore.

The next year, Kenner successfully applied for a year-long Fulbright Scholarship in Mongolia to run from 2012 to 2013. Collaborating with Nergui, he worked to establish environmental low flows on major rivers in the Selenge River Basin, which represents approximately 70 percent of the drainage area to Lake Baikal, the largest natural lake in the world. Waters of the Selenge River are used for mining, agricultural irrigation and hydroelectric power generation, a need held in delicate balance with that of the 170 species of birds and more than 70 rare or endangered plant and animal species to which it provides a home.

The work not only yielded valuable data, it led to four Master of Science degree students graduating from the Integrated Water Resource Management program in Mongolia and one new Mongolian doctoral candidate under his supervision at SD Mines.

Kenner's current work is a continuation of his Fulbright research. He is collaborating with the Science and Technological School at Erdenet and the Erdenet Copper Mine to develop a water budget to minimize the use of make-up water to the mine from the Selenge River.

"I get so fired up every time I go back. Mongolians are driven by their desire to learn and advance. It's a growing country, a really neat opportunity for sharing knowledge, and I've been able to grow by sharing my expertise," he said.

Kenner is a registered professional engineer and professor in the Department of Civil & Environmental Engineering at the South Dakota School of Mines & Technology.

Eight Initiated into Order of Omega Honor Society

Eight SD Mines seniors have been initiated into the Order of Omega national Greek honor society.

Order of Omega has more than 500 chapters throughout North America and recognizes juniors and seniors who have exemplified high standards in the areas of scholarship, leadership and involvement within their respective Greek organizations, their university campuses and their local community. The Xi Tau Chapter was established at SD Mines in 1995.

Students selected for initiation this fall:

Christina Albertini, Alpha Omega Epsilon

Hometown: Rock Springs, Wyo.

Major: Mining Engineering and Management

Activities: Participated in Greek Games, intramural sports and Town Clean-Up; served as secretary for the Society of Mining Engineers and International Society of Explosive Engineers and a mentor for Women in Science and Engineering; assisted with blood drives and volunteered for other community events

Danny Besmer, Delta Sigma Phi

Hometown: Bismarck, N.D.

Major: Mechanical Engineering

Activities: Served as treasurer, social chair and ritual chair for Delta Sigma Phi; volunteered for Habitat for Humanity and Highway Clean-Up; member of the North Dakota Motorcycle Association and Pheasants Forever

Ryan Casanova, Triangle

Hometown: Sioux Falls

Major: Electrical Engineering

Activities: Served as Triangle's webmaster, secretary for the 3D Printer Club and historian for Gamers for Service; is a member of the Unmanned Aerial Vehicle team, International Society of Explosive Engineers, Rotaract and Hardrocker Pep Band

Cori Christensen, Alpha Delta Pi

Hometown: Guernsey, Wyo.

Major: Geology

Activities: Served as recruitment vice president and philanthropy chair for Alpha Delta Pi; thrower on the Hardrocker Track and Field Team; served as a mentor and volunteer for Girl Scouts

Randy Hagen, Triangle

Hometown: Aberdeen

Major: Chemical Engineering

Activities: Served as business manager and Interfraternity Council representative for Triangle; participated in Mines Buddies and Highway Clean-Up; was a member of the Rocker Days planning committee, Rotaract, American Institute of Chemical Engineers and Student Association; volunteered for Working Against Violence, Inc.

Sam Hill, Delta Sigma Phi

Hometown: Sandwich, Ill.

Major: Mechanical Engineering

Activities: Served as assistant housing director, housing director and treasurer for Delta Sigma Phi; was a member of the Hardrocker Football Team in 2011 and the track and field team from 2011 to 2014; served as an Orientation Leader and member of the American Society of Mechanical Engineers; volunteered for Habitat for Humanity, Martin Luther King, Jr. Day food drive, Nemo Outhouse Races for the Shriner Hospitals and Highway Clean-Up

Darrah Jorgensen, Alpha Chi Sigma

Hometown: Ottawa, Kan.

Major: Geology

Activities: Served as reporter and a member of the scholarship and ritual committees for Alpha Chi Sigma; helped plan and participate in chemistry outreach events; member of the Symphonic Band and Brass Choir; served as co-publicist and actor for the Hardrockin' Drama Club, vice president of the Paleontology Club, a member of the Journal Club, research assistant; worked in the Paleontology Research Lab and as an instructional assistant at the Discovery Center for Knollwood Elementary School; conducted tours and fossil identifications at the Museum of Geology

Alex Piechl, Theta Tau

Hometown: Dexter, Iowa

Major: Mining Engineering and Management

Activities: Served as corresponding secretary, risk management chair, and president of Theta Tau; organized Highway Clean-Up and Habitat for Humanity events; member of Phi Eta Sigma National Honor Society; helped found the Hardrocker Lumberjacks and served as president

The initiation ceremony was held Nov. 20.

Nucor Visits to Conduct Campus-Wide Board Game



Representatives from Nucor, the largest steel producer in the United States, visited the SD Mines Downtown Campus to conduct "Dollars and Tons," a board game developed by the company that combines aspects of business, safety and engineering principals.

Six student teams competed in the game built around the concept of optimizing the operation of a steel mill in terms of safety, productivity and profits. Students were given a hypothetical steel mill and had to react to market conditions presented through a mix of computer-based chance and dice rolls in order to maximize the mill operation. Much like Monopoly, the game progressed by teams taking turns in sequence.

"The opportunity was really for our students to see the real-world implications of engineering on a much bigger canvas than they can from the classroom," said Jon Kellar, Ph.D., professor and Douglas Fuerstenau professor, Department of Materials & Metallurgical Engineering.

The competition was open to a diverse group of teams, including the Football Team, Student Government Team, Center for Advanced Manufacturing & Production Team, Metallurgical Engineering Freshmen Team, Metallurgical Engineering Junior/Senior Design Team and the Cultural and Attitude Scholars Team. These teams comprised of 25 students total competed for a top prize of \$400 and a second-place prize of \$200. The Football Team, which had the highest-rank at the end of the second day, won the competition. The Metallurgical Engineering Junior/Senior Design Team came in second.

Marc Robinson Named Coyle Professor



Marc Robinson, Ph.D., assistant professor in the Department of Civil & Environmental Engineering at the South Dakota School of Mines & Technology, has been awarded the William V. Coyle Professorship.

Named after the iconic former head of the university's civil engineering department, the Coyle Professorship recognizes Robinson for his strong commitment and outstanding contributions to student learning through his teaching, research and outreach efforts.

Robinson's research and academic expertise lies in processing of advanced composites, design and analysis of lightweight composite structures, development of rapidly deployable bridging, in-field testing and bridge monitoring.

He is among a group of SD Mines researchers awarded a \$2 million South Dakota Governor's Center Grant in 2013 to establish the Composite and Nanocomposites Advanced Manufacturing Center, which is investigating advanced techniques to apply in the automotive, aerospace, energy, construction and other industries. Additionally, Robinson is working with a team of SD Mines researchers to develop structural thermal insulation composites for lunar habitation through a \$750,000 contract from NASA EPSCoR.

Robinson earned his bachelor's and master's degrees from Utah State University and his doctorate from the University of California-San Diego.

Coyle retired in 1987 after 40 years at the university and continued as emeritus professor for several more years. His widow, Myrna Coyle, established the William V. Coyle Endowment to honor Coyle's memory by creating a professorship to provide assistance for broadening and enhancing the civil and environmental engineering program at SD Mines.

New Mexican Art Travels North with the Newest Gallery Exhibit



SD Mines will host its newest exhibition, "Ah Shi Sle Pah," by artist Kim Arthun through Dec. 5 at the Apex Gallery. "Ah Shi Sle Pah" is an exhibition of photographs of New Mexico's landscape printed on 3m vinyl, used in the sign industry for car wraps and other advertising, and adhered directly to the walls with no glass or frames.

"I like using non-fine-art technologies to make fine-art images. The area of these photos is a hidden gem that we stumbled across looking for ancestral pueblo sites or outliers as they are called," Arthun said.

Born and raised in Albuquerque, N.M., Arthun has a long-held fascination with Native American use of abstract geometry in art, a motif that appears in his three decades of work ranging from collage and sculpture to photography and film.

"The past two years I have been following a compulsion that I have had my whole life to study and better understand the peoples who have lived in this high desert for at least 10,000 years. I have been using Google maps and its satellite imagery to find, locate and travel to these ancient sites," Arthun added.

Arthun owns a billboard company in New Mexico and is co-founder of EXHIBIT/208, an art exhibition venue that has hosted more than 150 local artist shows.

Professor Joins Live SDPB Panel on Climate Change



SD Mines professor and climate scientist Pallaoor V. Sundareshwar, Ph.D., joined a live panel discussion on climate change on "South Dakota Focus" on Nov. 20, hosted by South Dakota Public Broadcasting. Mark Anderson, United States Geological Survey, and Carter Johnson, Ph.D., and State Climatologist Dennis Today, Ph.D., South Dakota State University, joined Sundareshwar.

The broadcast zeroed in on scientific information regarding climate change, exploring:

How climate change is impacting South Dakota, the United States and the globe

How to separate human and natural influences on climate

The impact on crop production and operating changes in the agricultural industry as a response

Concerns over water supply and food security

The impact on plant and animals species and human health

Extreme weather and climate change

How the climate is projected to change in the future and if global warming can be reversed

Climate planning for rural and tribal communities

Having recently completed a two-year rotation as a Science & Technology Policy Fellow of the American Association for the Advancement of Science, Sundareshwar served as a Climate Change Advisor to the Bureau for Africa of the U.S. Agency for International Development. Sundareshwar is an associate professor at the South Dakota School of Mines & Technology.

About Legacy News

Legacy News is produced by the Office of University Relations the first Wednesday of each month. The newsletter is a compilation of news releases, photos and Web articles.

To submit news or story ideas or to subscribe to the email distribution list, please contact Fran LeFort, communications manager, at 605.394.6082 or at fran.lefort@sdsmt.edu. For more Mines news, visit news.sdsmt.edu

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