

# SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY QUARTERLY

SUMMER/FALL 2001

From the sky  
to the Earth  
Software program  
wins award

*-Story Page 8*



A PUBLICATION OF SDSM&T



## Perspectives



Dear Friends,

On the morning of September 11, 2001, the world witnessed shock, terror, and horror that soon turned into heroism, sadness, anger, and resolve. The South Dakota Tech community gathered for a noon prayer service, the first of many similar services, meetings, and forums.

Many people from throughout the Black Hills joined the university community to contemplate the meaning and impact of the changes

occurring as a result of the tragic events. The diversity of the students and faculty of the university brought perspectives from across the far reaches of the world to the discussions that ranged from standing-room-only crowds in the Surbeck Student Center, to groups huddled over cups of coffee. We witnessed a time for listening, contemplating, and sharing as we all worked to develop a new normalcy.

The university, like most communities, has returned to many of the same processes that existed prior to the tragedies, but the seriousness and resolve of the nation have brought a new focus to our teaching and learning. Thankfully, the university community, joined by our many friends, remains strong in our commitment to continue our proud tradition of nurturing each other to develop the knowledge and wisdom essential to shape the future.

The days and weeks since September 11 have challenged each of us to examine how we relate to our changing times. With each day, we experience the richness of the intellect, character, and spirit of the many individuals that join together to form our university community. The outstanding achievements of our students and faculty, linked with the accomplishments of our alumni, provide the assurance that we will surpass all challenges as we build on our proud traditions of excellence.

Sincerely,

Richard J. Gowen, President

# SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY QUARTERLY

SUMMER/FALL 2001

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## CAMPUS

## Profile

The South Dakota School of Mines and Technology, founded in 1885, has been a national leader in preparing world-class engineers and scientists. Our graduates design, construct, and operate modern technology to meet complex challenges such as global warming, health care delivery, energy resource development, mineral extraction and processing, environment quality, futuristic transportation, and national defense. Our alumni are held in the highest regard by their fellow leaders in industry, consulting, government, health, and education.

Tech has diversified to meet the needs of engineering and science throughout the world. South Dakota Tech's intellectual environment was shaped a century ago by the ingenuity and rugged individualism of pioneers in science and technology. Tech's present day pioneers provide inspiration and remain on the cutting edge in the fields of engineering and the sciences.

**ACADEMIC PROGRAM:** SDSM&T is a state-assisted university providing graduate and undergraduate degrees in science, engineering, and interdisciplinary studies, as well as an associate of arts degree in general studies.

### ASSOCIATE OF ARTS DEGREE

General Studies

### BACHELOR OF SCIENCE DEGREES

Chemical Engineering	Geology
Chemistry	Industrial Engineering
Civil Engineering	Interdisciplinary Science
Computer Engineering	Mathematics
Computer Science	Mechanical Engineering
Electrical Engineering	Metallurgical Engineering
Environmental Engineering	Mining Engineering
Geological Engineering	Physics

### MASTER OF SCIENCE DEGREES

Atmospheric Sciences	Materials Engineering and Science
Chemical Engineering	Science
Civil Engineering	Mechanical Engineering
Computer Science	Paleontology
Electrical Engineering	Technology Management
Geology and Geological Engineering	

### DOCTORATE OF PHILOSOPHY DEGREES

Atmospheric, Environmental, and Water Resources  
Geology and Geological Engineering  
Materials Engineering and Science

**ENROLLMENT:** The University has a diverse enrollment of approximately 2,400 students from 39 states and 27 countries. Our 13 departments offer 29 degree programs in engineering and science disciplines at the baccalaureate, masters, and doctoral levels. Students enter the university with the highest ACT composite in the state and more than half graduating within the top 25% of their high school.

**COSTS AND FEES:** Annual undergraduate costs for tuition, fees, room, and board total less than \$8,300 per year for South Dakota residents and less than \$9,300 for residents of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Iowa, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, Utah, Washington, and Wyoming. Annual total costs for all other undergraduates is less than \$12,400 per year.

**RESEARCH:** High quality research is conducted in departments and in our research institutes.

**FACULTY:** There are approximately 125 faculty with degrees from more than 150 institutions, 85 percent of which have earned doctoral degrees.



# 28 PEOPLE, 28 TRIPS



*The group from the South Dakota School of Mines and Technology takes a break during a visit to a plant in Turkey. Photo courtesy of Dr. Alvis Lisenbee*

## Students, profs discover themselves during adventure to Turkey

Countries and empires have battled for Turkey for centuries. Its location — at a point where Asia, Africa, and Europe are closest to each other and where Europe and Asia meet — has allowed it to find favor throughout history, and it is the birthplace of great civilizations.

Turkey is called the “cradle of civilization” because it has been home to tribes and nations since 6,500 B.C. It has been a center of commerce and has been a meeting place for nations. People travel here to discover their past and learn about themselves.

That’s what happened to a South Dakota Tech group that traveled to Turkey during spring break 2001. They went to study geology and taste the Turkish culture.

They found much more.

“Twenty-eight people went,” Tech geology professor Dr. Alvis Lisenbee said. We all saw the same things and went to the same places, but it was really 28 different trips.”

### ‘There were Patersons here’

Tech geology professor Dr. Colin Paterson celebrated ANZAC Day in his native New Zealand just like everyone else. He took the day off from school or work. He had heard the ANZAC story, of course, but it was ancient history from World War I that held little real meaning.

That changed during the spring break trip to Turkey. The group visited the Gallipoli Peninsula that Allied troops targeted as the path to Istanbul, an important strategic location during World War I. Istanbul sat at the western end of the Dardanelles, a straight that has been strategic treasure for centuries. According to John Keegan’s book, “The First World War,” historians

record 15 battles in the region between 378 and 1913. In World War I, the Allies considered taking Istanbul, the capital of the Ottoman Empire, as a way of breaking the impasse on the Western Front and of giving Russia a permanent access to warm water.

In 1915, the Australian and New Zealand Army Corps, or ANZACs, landed on the north side of the Gallipoli Peninsula. Unfortunately for them, they landed on the wrong beach, a narrow spit of sand guarded by high cliffs. Turkish defenders assembled quickly and caught the ANZACs while the troops were scaling the cliffs.

“The ANZACs, clinging lost and leaderless to the hillsides, began, as the hot afternoon gave way to gray drizzle, to experience their martyrdom,” Keegan wrote.

The Turks wounded or killed more than 2,000 ANZACs on the battle’s first day. Nearly 10,000 ANZACs were killed by May 4. The troops battled on through the summer and fall, but made little progress. Military leaders ordered evacuation in December. By then, 265,000 Allied troops were wounded, dead, or missing.

Tech’s Paterson visited the beach where ANZAC troops landed. A memorial stands there now, a testament to the losses on both sides.

“We toured the area and looked at the memorials,” Paterson said. “There are Patersons listed there. It brought home to me what happened there. It also brought home the futility of war.”



*Photo courtesy of Dr. Colin Paterson*

*Tech geology professor Dr. Colin Paterson stands at the top of a beach where many soldiers from Australia and New Zealand died during vicious fighting in World War I. Paterson is from New Zealand.*

## Joy's grandmother escapes the Nazis

War threatened 1935 Ukraine. Joy Lester's family knew that, and sent 16-year-old Tania Furda on the long trip to the United States. Furda, at 81, now lives in Oregon, and has told her granddaughter Lester about that trip. Lester is a graduate student in Geology and Geological Engineering and president of Tech's chapter of the Society of Economic Geologists, the group that sponsored the spring break trip.

Furda, and her younger brother, headed south out of Ukraine, and boarded a ship in Turkey. The ship moved through the Bosphorus Strait that separates Asia and Europe, into the Mediterranean and across the Atlantic Ocean.

The strait now is a main route for Asian oil. Through history, the Bosphorus has been a main artery for travelers.

When Germany invaded Ukraine a few years later, the Nazis raided the wealthy family's farm, killed Furda's father and burned the buildings. Furda's mother and siblings escaped to a nearby village.

Furda never again saw the family members who stayed in Ukraine, but read the account in letters sent by her mother.

During the spring break trip, Lester stood on the banks of the Bosphorus, and looked across the narrow waterway that was her grandmother's escape.

"I could imagine her being a 16-year-old girl, leaving her family and going to a place she didn't know," Lester said. "I knew about what happened, but it wasn't



Photo courtesy of Joy Lester

*Joy Lester, a Tech graduate student in Geology and Geological Engineering, poses in front of the Bosphorus Strait in Turkey. Lesters' grandmother traveled through the strait to escape the Nazi invasion of Ukraine.*

until I stood there and looked out that I understood what happened. If she didn't make that trip, I wouldn't be here.

"It was very emotional."

### 'This is where it all happened'

Tech student Micah Keller (GEOE, Dickinson, N.D.) grew up in a devout Catholic family. She attended Catholic schools and studied the Bible and its stories. She had never been out of the United States before the trip to Turkey, and she went excited about studying the country's geology and experiencing its culture and history.

Keller visited mosques and was struck by the fact that followers of different

religions used the places of worship at different times in history.

"It was neat for me to see different people worshipping the same god in the same place," Keller said.

But it was two other places – the city of Ephesus and the House of Mary – that affected Keller most.

In the ancient city of Ephesus, Keller walked the same streets that St. Paul and St. John walked and preached Christianity. The people of Ephesus chased St. Paul from the city before he could preach in the city's amphitheater. St. Paul wrote his letter to the Ephesians on his trip away from the city. That letter became a book in the Bible.

"This is where it all happened," Keller said. "It brought it all to life for me and helped me relate. You can say you're a Christian but not follow through with your actions. But St. Paul and St. John went through hard times and they talked the talk and walked the walk."

Keller cried as she walked into the House of Mary – the place where Mary, the mother of Jesus, is believed to have spent her final years. The small stone house was neither regal nor majestic.

"It was what I expected, simple and quaint," she said. "I don't know what it was about the place, but it was instant fulfillment when I walked inside. I couldn't help but cry."

Keller didn't expect to find that experience. Joy Lester and Colin Paterson also found something special. That's what made the trip so unique.



Photo courtesy of Dr. Ahis Lisenbee



*The Tech students and professors visited areas of Turkey ravaged by a massive earthquake in the 1990s. The quake demolished some buildings and left others damage-free.*



# Rollin', Tech Concrete Canoe Squad

The South Dakota Tech concrete canoe team rolled out of Rapid City June 11 and drove toward San Diego, Calif., nine months after they began work on their canoe, “Storm Chaser.”

They were headed for the ultimate test – the National Concrete Canoe Competition – where judges would evaluate the team’s academic, design, construction, and athletic abilities.

The team met great weather and tough competition in San Diego. As the temperature rose through the three days of the competition, so did the tests the team faced.

The Tech team qualified for nationals by taking overall first place at the 2001 American Society of Civil Engineers Rocky Mountain Region Conference held in April in Colorado Springs, Colo. It was Tech’s 12th regional win in the past 14 years, making Tech one of the most successful teams in the country. The regional competition also featured a steel bridge contest, but organizers scrap that for the nationals, allowing teams to concentrate on their canoes.

Tech finished 11th in the 2000 national

championship, and finished in the top five in two of the previous four years. Tech won the national championship in 1995. The team took aim at a top spot with this year’s boat. Team members completely redesigned the hull to make a faster, more maneuverable canoe. The canoe weighed 74 pounds, and was just longer than 20 feet. The canoe was the second lightest in the competition.

The team sailed into the national competition with Storm Chaser with hopes of returning the team to a top spot and letting other universities know that 1999 11th place finish was a fluke.

## Day 1

The first day of the National Concrete Canoe Championship seemed like the calm before the storm.

Tech’s team arrived in San Diego early the day before the competition began after driving straight through the 1,300 miles to San Diego State University. Team members worked on last-minute details until the contest started.

“We wanted to make sure everything

was just right,” team captain David Tullis said. On day one, teams, including the 13-member squad from South Dakota Tech, faced only one test. A team of five judges, all professional engineers, evaluated each team’s 10-foot by 10-foot project display. The displays used photos and text to summarize the path each team followed to build their concrete canoes.

Display scores were not released, but the evaluation was easy compared to the tests that would come on days two and three.

## Day 2

The storm came, and South Dakota Tech’s Storm Chaser sailed right through it. The South Dakota School of Mines and Technology concrete canoe team faced three difficult tests Friday at the national concrete canoe championships in San Diego, Calif.

The day began with an academic presentation given by team captain Tullis. After summarizing nine months of work in five minutes, a panel of judges asked hard-hitting questions that probed the team’s



The Tech concrete canoe squad poses for a team photo on the campus of San Diego State University.



Team captain David Tullis (CEE '01) explains the path the team took to create their canoe. Five judges evaluated each team’s display during the first day of competition.

Photos by Steve Buchholz

# Rollin' paddles to fifth-place finish

decisions and the process team members followed. “They try to make you cry if they can,” Tullis said. “The presentation is the biggest weight off my shoulders. The rest of this stuff is just fun.”

The rest of Friday’s activities included a swamp test that required the team to submerge its canoe. The canoe then needed to float while it was full of water. Tech’s canoe passed easily. The swamp test is done for safety and to prove that concrete floats, Elizabeth Sparkman, competition committee member, said.

A team of judges also evaluated Tech’s canoe for its aesthetics and quality of construction. The judges looked for dimples in the concrete and other imperfections. “We’re in good shape,” Tullis said. “I really think we have one of the most sophisticated hulls here.”

Day three’s endurance and sprint races would test the hull design.

“We’re a small school, so we don’t have the athletes that other schools have,” Tullis said, “but I think we can compensate with the speed and maneuverability of our boat.”

## Day 3

Storm Chaser hit some choppy water on the racecourse on day three, but that didn’t keep the Tech team from being confident about their chancing of a top five finish. The races are important. The results count for 30 percent of each team’s final score. The Tech women sprint racers qualified for the grand final, and finished in fifth place. The men’s sprint team paddled to the wrong turnaround buoy and had to backtrack to right their course. They finished 20th. The coed sprint team finished ninth. The men’s endurance racers finished ninth and the women’s endurance team finished sixth. The team’s race points did not match the high scores the team received for the academic portions of the competition.

“Our paddlers aren’t professional athletes, so we have to make up those points in other areas,” team captain Tullis said. “Academically, I think we won the competition.” Organizers announced the results of the competition during a banquet Saturday. South Dakota Tech placed fifth and restored Tech’s concrete canoe

program reputation. The University of Alabama Huntsville won the competition. Two-time defending champion Clemson University took second place.

After nine months of designing, building, and practicing with its canoe, and 100-hour weeks making sure the canoe was the best it could be, the end of the national competition was a relief.

“It’s been a lot of work and a lot of late nights,” Tullis said. “It’s a relief to get back to life and get on with other things.” That doesn’t mean the project wasn’t a good experience. Team members learned what the competition is supposed to teach – teamwork and leadership – and it gave the canoers a taste of what the working world is like. “These students have experienced something that is quite close to what they will face when they graduate and find jobs,” Parke Boyer, vice president of marketing for Masterbuilders, one of the competition’s sponsors, said. “These are dedicated young people who have given up a year to work as a team. What they learned during that year is more important than where they finished.”



Team members David Tullis (CEE '01), right, and Patrick Schwickerath (CEE, Newton, Iowa) prepare to dunk the team canoe for a swamp test. The canoe needed to float when it was full of water. The canoe passed the test.



Tech paddlers Josh Sletten (CEE '01) and Justin Fejfar (CEE '01) race in the men’s endurance test.



# BEFORE AND AFTER

## Project brings history to life and science to children



*Contractors began working on the Children's Science Center north wing early this year. The workers turned a dingy, depressing, dark wing into a shining crown. The remodeled Rapid City Journal Gallery will be used as a multi-purpose room. It will be used for Science Center programs, overnight programs, meetings, and other uses. The room gives the Science Center extra space to expand educational offerings to students, children, and families.*



Photos by Steve Buchholz

*Construction crews finished work on the Children's Science Center Rapid City Journal Gallery on March 20. Just an hour later, workers began to move in specimens that were part of the Great Russian Dinosaurs and Dinosaurs of Darkness exhibits. The exhibits were on display in this room and at the Old Gym on the Tech campus from March 23 to September 2. The work in this room was funded with a \$100,000 donation from the Rapid City Journal and a \$10,000 grant from the South Dakota State Historical Society.*

A feeling as much as anything has emerged from the North Wing of the Children's Science Center. As crews peeled back decades of work that covered the original walls and hid the wing's high ceiling, the room's original beauty and intent has returned.

Workers removed boards that covered the windows. The sun now strikes the new wood paneling and creates a romantic and subtle golden light.

The North Wing renovation, funded with a \$100,000 donation from the Rapid City Journal and \$10,000 from the South Dakota State Historical Society, was finished in March, on the day Science Center and Museum of Geology workers and volunteers began installing the Dinosaurs of Darkness exhibit. The room, called the Rapid City Journal Gallery, is the center's crown jewel, setting the standard for future renovations.

The South Dakota School of Mines and Technology started a major renovation of the Children's Science Center in December 2000. A three-year renovation plan will recreate the grandeur of the

Science Center building and allow Tech to operate a first-class Science Center for the children of Western South Dakota.

The building that houses the Science Center was designed as a museum. The building dates from a meeting in early 1936 between several Rapid City commissioners and architect Waldo Winter. The Works Progress Administration began construction in 1936 and completed the project in the spring of 1938. Local artisans and craftsmen built the museum.

Waldo Winter designed the building in the Adirondack rustic style. This style was part of the on-going craftsman movement of the late 19th and early 20th centuries. A rustic appearance created with logs and local stone characterizes the style. The museum building was built with local limestone blocks on a rectangular plan. The building features exposed rafter ends, ridge pieces and purlins, wrought-iron grills covering the windows, slate floors, and large stone chimneys. The building is unique in Rapid City.

A west wing was added in 1957 using the same exterior treatment as the original construction. James Ewing, another local architect, designed the new wing. Matching limestone blocks for the addition came from the former Lincoln School, which had recently been demolished.

The museum building is located in a beautiful setting in Halley Park in downtown Rapid City. Towering Black Hills spruce, and other shade trees outline the park. Rose, tulip, and other flower beds grow throughout the park, as do a variety of decorative shrubs. Park visitors can wander between the flower beds or rest at picnic tables in this historic setting. A historic marker in front of the building marks the campsite of Rapid City's founder, and a sundial remembers Alice Gossage, a pioneer and co-founder of the Rapid City Journal. A native stone wall and flagpole with bronze plaques behind the museum honors veterans of the Spanish American War, World War I, World War II, and the Korean War. The Pap Madison Cabin, the oldest building in Rapid City, also is located in the park.



The Sioux Museum opened in the building in 1938 and operated until 1997, when the collections and staff of both the Sioux Indian Museum and the Minnelusa Pioneer Museum moved to the new Journey Museum. Rapid City then loaned the building to Tech for 25 years for use as a Children's Science Center.

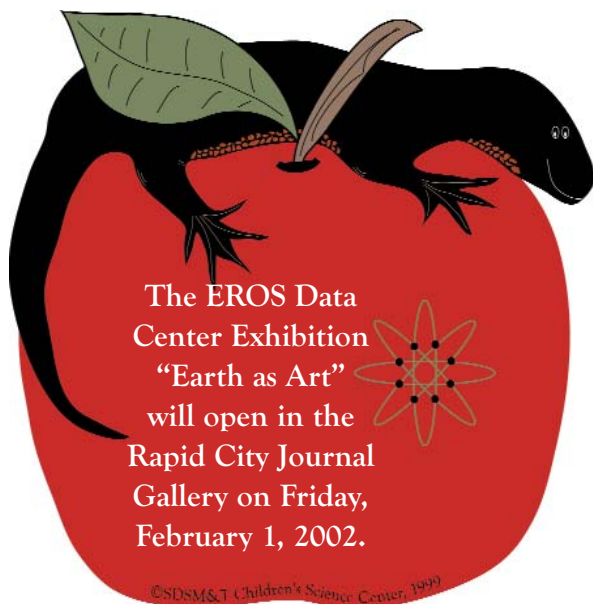
The building was changed over the years. Tech is working to bring the historic landmark back to life.

Tech estimates that it will cost nearly \$500,000 to complete the renovations. The first phase is the completed Rapid City Journal Gallery. Workers recreated the original windows, paneling and ornate molding and ironwork, and they updated the heating and electrical systems to meet modern code requirements. The project will allow the Science Center to expand the number of exhibits and educational programs. The room also will be used for special traveling exhibits such as the Dinosaurs of Darkness.

Future work includes renovating the lobby and the South and West wings, as well as completing some work on the building's facade. Fund-raising efforts will drive the schedule.

The feeling emerging from the Rapid City Journal Gallery will grow as work is completed and the Children's Science Center showcases unique architecture and craftsmanship.

If you are interested in being part of the Children's Science Center project, please call the South Dakota School of Mines and Technology Foundation Office at (605) 394-2436.



**The EROS Data  
Center Exhibition  
"Earth as Art"  
will open in the  
Rapid City Journal  
Gallery on Friday,  
February 1, 2002.**

©SDSM&T Children's Science Center, 1999

# A DYNAMIC DUO



**B**eware all those who think science is boring, there is a new force to be reckoned with in Rapid City. The force is spearheaded by two local community giants, South Dakota School of Mines and Technology and The Rapid City Journal, teaming up to educate the youth of West River about the wonders of science.

The product of this dynamic duo is The Nature of Things, a weekly installment of science subject matter published in the Monday edition of the Journal.

"The Journal page is a tool to help South Dakota Tech spread the message that science and learning is fun," Julie Smoragiewicz, Tech's vice president for University Relations, said. "It lets the university put that message into the homes and classrooms of thousands of readers every week."

Providing an outlet for that message has solidified the Rapid City Journal's commitment to local youth education, which has also included a \$100,000 donation for the creation of the Rapid City Journal Gallery at the Children's Science Center.

Black Hills Wildlife, the introductory eight-week theme for The Nature of Things, sought to introduce area youth to the fascinating animals that make their homes in the Black Hills.

In addition to providing content for the pages, South Dakota Tech will provide additional information through its educational outreach program, the Children's Science Center. "The page provides good, reliable content for kids and we were glad to keep it," Rapid City Journal Editor Peggy Sagen said. "It's really hard to get good content for children, and investing in them is really important to us."

Dino Kids gave way to the first editorial collaboration between South Dakota Tech and the Journal, Dino Kids II. Dino Kids II presented a locally discovered dinosaur every week, along with interesting facts that explain the dinosaur and its role in pre-historic South Dakota. The page was intended for children to not only read about these mysterious creatures, but also to get more involved by visiting the Museum of Geology and to witness for themselves the awesome creatures dinosaurs were.

The page will delve into other science disciplines, including earth science, chemistry, space science, and others.

**the  
Nature  
of things**





# ut of this world

*Tech team writes software that translates images for scientists and researchers*

A team of Tech engineers, mathematicians, and software experts is helping the world's scientists and researchers study pollution, global warming, and many other important economic and environmental issues.

The team's work began when the EROS Data Center in Sioux Falls contacted Tech in the summer of 2000 with a problem. The Moderate Resolution Imaging Spectroradiometer (MODIS) was launched into space as part of NASA's Earth Observing System platform in December 1999. The objective of MODIS is to provide a comprehensive series of global observations of the Earth's land, oceans, and atmosphere. The observations are critical for studies of climate, vegetation, pollution, global warming, and other issues, but the images are not supported by most existing software programs.

That's where Tech came in.

The Tech team wrote what's called the MODIS Reprojection Tool. The software allows scientists and researchers to see and use MODIS images on several platforms, including Sun Solaris

workstations, SGI IRIX workstations, Linux, and Microsoft Windows/NT. The look and feel of the software is the same across different platforms.

That was one of the problems the Tech team faced, Dr. Toni Logar, chair of the Math and Computer Science Department, said. The team also was treading on new territory so there were no experts team members could consult. A third problem was integrating new software code into a large existing code.

"That is always difficult," Logar said.

Universities around the world, as well as companies and government agencies, use the software. The list includes Arizona State University, Michigan State University, Texas A&M University, the University of

Berlin, as well as NASA Goddard Space Flight Center, the USDA Forest Service, and many others around the globe.

"This is a tremendous opportunity for us," Logar said.

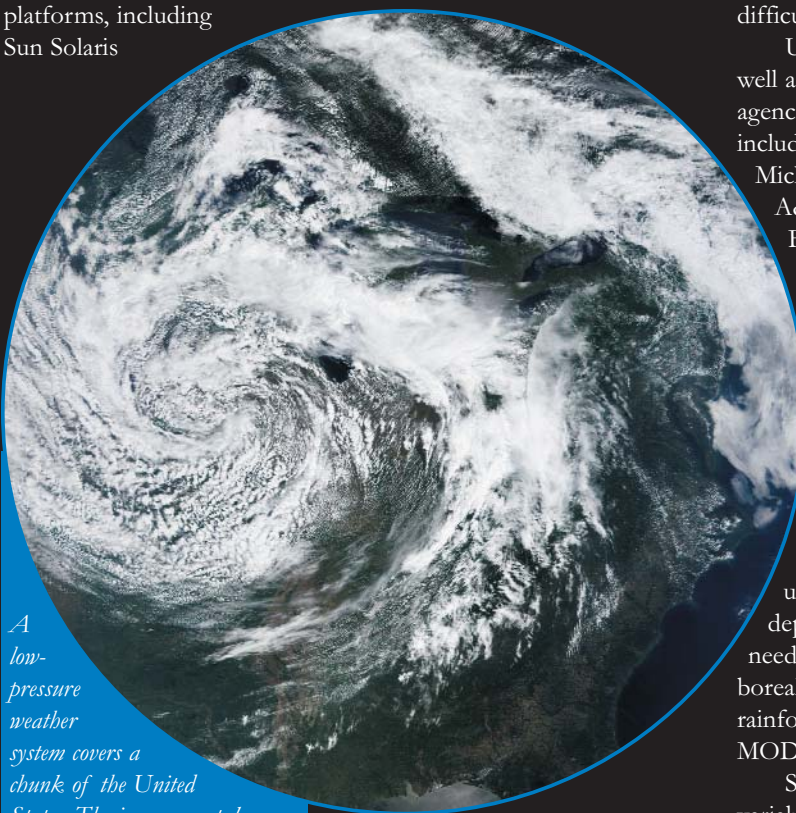
"We will get worldwide exposure. If you are using MODIS data, you are using our tool."

MODIS and the images it produces are important.

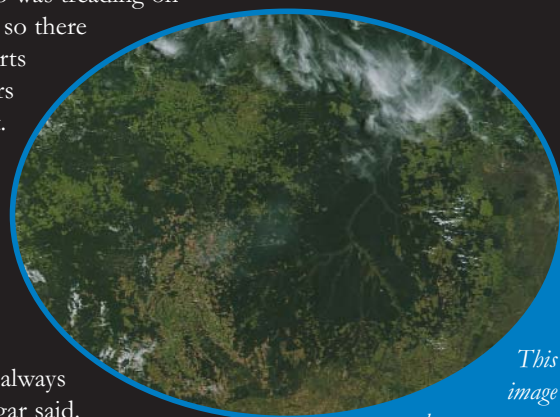
Its objective is to provide a comprehensive series of global observations of the Earth's land, oceans, and atmosphere in such a way as to view the entire surface of the Earth every two days, according to a NASA pamphlet.

Currently, adequate data does not exist to fully understand the effects of critical issues such as resource depletion and region-wide pollution. For example, scientists need more data to fully understand the effects of acid rain on the boreal forests of Europe and North America. In South America, rainforests are being burned to make croplands. Scientists will use MODIS to detect the rate of deforestation.

Scientists also need better global data on surface climate variable such as temperature and humidity, as well as more accurate measurements of snow and ice cover. MODIS will give scientists



*A low-pressure weather system covers a chunk of the United States. The image was taken May 24, 2001.*

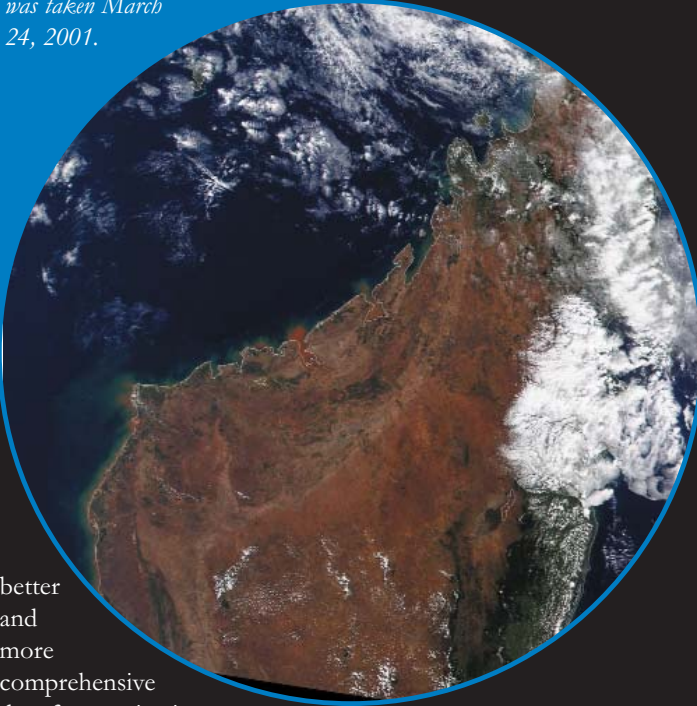


*This image shows numerous fires burning near the Xingu River in South America. It also shows areas that have been deforested. It was taken May 2, 2001.*

*All Images courtesy of NASA*



*This image shows northern Madagascar and part of the Indian Ocean. It was taken March 24, 2001.*



better and more comprehensive data for monitoring these often rapidly varying land surface features.

MODIS is a key instrument aboard the Terra and Aqua satellites. The MODIS Proto-Flight Model was successfully launched from Vandenberg Air Force Base, Calif., on Dec. 18, 1999 aboard the Terra satellite. The Aqua satellite was launched in December 2000.

The data the two satellites send back will improve scientists' understanding of global dynamics and the processes that occur on the land, in the ocean, and in the lower atmosphere. MODIS is playing a vital role in the development of validated, global, interactive Earth system models able to predict global change

accurately enough to assist policy makers in making sound decisions concerning the protection of our environment.

Tech was chosen because the university has strong image-processing expertise and significant experience dealing with satellite imagery, Logar said. That experience helped.

"We finished on time, under budget, and with no major errors," she said. "That's pretty amazing for a software project. When was the last time you bought version 1.0 of something and it actually worked?"

Logar provided project oversight. Dr. John Weiss, associate professor in the Math and Computer Science Department, acted as technical lead while Gail Schmidt from Raytheon was the liaison between Tech and the EROS Data Center. Several students also worked on the project.

*This MODIS image shows scattered wildfires burning throughout Florida. The fires are shown by the red dots. The image was taken May 19, 2001.*



They are: Shujing Jia (CSC, Hutchinson, Minn.), John Rishea (CSC, Rapid City), and Klaus Heuser (CSC, Rapid City). Former students Rob Burrell (CSC, '93) and Chris Ahlers (CENG, '00), worked as consultants. Dr. Judy Sneller, associate professor, Department of Humanities, and Dr. Gregg Stubbendieck, assistant professor,

Department of Mathematics and Computer Science, also worked on the project.

"It is a rewarding experience to work with such talented students on a project of this magnitude," Tech's Weiss said.

The NASA Earth Science Data and Information Systems Project funded the project.

The team has received a NASA Space Act Award for its work. The NASA Space Act Program was created to recognize and reward inventions and other scientific and technical contributions that have helped to achieve NASA's aeronautical, commercialization, and space goals. The ability of MODIS to aid in handling satellite data was recognized by NASA as a significant technical accomplishment that supports its mission.

"This collaboration is an excellent example of how we can work with industry to enhance the educational experience of our students," said Dr. Karen Whitehead, Vice President for Academic Affairs. "We are proud of the work our MODIS team has done. It is great to see them receiving national recognition."



*Photo by Steve Buchholz*



*The Tech team was thanked for its work. Pictured, from left, Dr. Toni Logar, Dr. Judy Sneller, Dr. John Weiss, John Rishea, Shujing Jia, Klaus Heuser, Brad Misterek, Dr. Gregg Stubbendieck, and Gail Schmidt. The team worked on the software project for months.*

# Teeing off

Tech's new golf coach had an important test before he takes to the links to lead the Hardrockers into competition.

On June 14, Aaron Roeber headed to Denver, Colo., to play 36 holes in one day. He needed to shoot eight over par or better for the two rounds to finish the first of four steps toward winning his Class A professional golfer's designation.

"I've been working hard getting ready for it," the 25-year-old Roeber said. "I've mostly been working on my short game – chipping and putting. The last two times I didn't make it, my short game killed me."

The June 14th test was Roeber's fourth swing at the player ability test. Rain cancelled his June 13 practice round, and the morning of the test brought 50-degree temperatures and wind.

"It was not the kind of weather I was hoping for at all," he said.

Roeber played solid golf for the first 31 holes and was at six strokes over par. He double-bogeyed the 32nd hole, putting him at eight-over. He couldn't make another mistake. He eagled the 33rd hole and pared the final two holes.

"I passed by two strokes," he said. Only three of the 40 players passed the test.

Roeber now must attend and pass through the Professional Readiness Orientation, a golf business school, and an interview with the Professional Golfer's Association. He would then receive his Class A card. The card would allow him to become a golf course head professional.

Roeber, a Rapid City native and Stevens High School graduate, mixes his practice rounds with his teaching and management responsibilities at Rapid City's Meadowbrook Golf Club, where he is one of two assistant professionals. He also has met some of the Tech students are Hardrocker golfers. Roeber coaches the men's and women's golf teams.

Tech reinstated golf as a varsity sport after a 17-year layoff.

"We are excited to be adding these additional athletic opportunities for students considering attending Tech," Athletic Director Hugh Welsh said. "South Dakota Tech had a rich tradition in golf before the program was discontinued in 1984. We look forward to building a great program."

## Meadowbrook pro leads Tech's resurrected golf program

Tech joins Dickinson State, Minot State, Jamestown College, and Dakota State as schools in the DAC-10 conference with golf programs. The University of Mary in Bismarck, N.D., is considering adding the sport.

Golfers reported Sept. 4. The team's first meet was at Dickinson State on September 7. The DAC-10 Conference meet and NAIA District meet will be combined to determine the national tournament participant in early October. The team includes current Tech students, incoming freshmen, and transfer students.

Welsh hired Roeber as golf coach in May. Roeber has been a Meadowbrook assistant pro since 1998, but has worked at the course since he was 13. He also is a graduate of South Dakota State University, where he played on the men's golf team.

"Aaron is an excellent teacher who is very excited about the opportunity to coach golf at the collegiate level," Welsh said. "Aaron has done a great job in getting our program off of the ground and moving in the right direction."

Roeber said teaching is an important part of the Tech position, but the teaching will extend beyond the fine-tuning of swings and harassment about hand position.

"The mental part of the game is as important as the physical part," he said. "A 3-foot putt seems easy, but when it's an important putt, it's much harder. It really puts your ability to the test."

Roeber started golfing at age 8, and felt he had a natural talent for the game. He worked hard to improve and won his first tournament – the Meadowbrook Junior Club Championship – at age 16.

"Playing competitively made me want to get better," he said.

Roeber worked especially hard at his game between his junior and senior years in high school. The hard work has continued since, and Roeber believes that will help him as Tech's golf coach.

"Until a few months ago, I never thought about coaching, but I think I'll enjoy it," he said. "I think I can relate to people, and I've played competitively, so I know what that's like. And I was a student, so I know what it's like to study and play."

"I've just been really looking forward to it," he said. "I'm excited to see what will happen. I want to help every kid on the team get better. With a little help, we can get them there."



*Aaron Roeber teaches a beginner's class at Meadowbrook Golf Club in Rapid City. Roeber, a Rapid City native and graduate of South Dakota State University in Brookings, is Tech's new golf coach. Roeber will coach both the men's and women's varsity teams. Tech reinstated the golf programs after a 17-year hiatus. Tech will compete against other DAC-10 schools with golf programs.*

Photo by Steve Buchholz





# IN THE MIDST OF TERROR



file photo

Julie Smoragiewicz, Tech's Vice President for University Relations, was in Washington, D.C., on Tuesday, Sept. 11. She writes about what she saw and how she felt during that and the following three days.

## Tuesday, September 11

**7:30 a.m.** - I awaken in a Washington, D.C., hotel room after an unusual night of fitful sleep. Nights on the road generally offer the best sleep. There's no snoring husband, no purring cat, no barking dog, and no children wanting to climb into bed in the middle of night.

**8:45 a.m.** - I grab a taxi. We pass the south side of the White House. Although I have traveled this route many times, today the White House and the grounds seem too close to public access and vulnerable for some reason.

**9 a.m.** - The taxi driver drops me off outside the Hart Building, one of several Senate Office buildings near the Capitol. Security clears me through the gate and I head to the elevator and the fifth floor.

**9:05 a.m.** - As I enter the lobby of Senator Daschle's office, I turn to the television tuned to CSPAN. The scene isn't a vote or debate on the Senate or House floor. I see one of the World Trade Center towers ablaze and watch in disbelief as another plane hits the second tower.

**9:10 a.m.** - Paul Batcheller, a Daschle

staffer, calls me back to one of the conference rooms. We talk briefly of the horror we just witnessed. I think of my husband's boyhood friend who works in the World Trade Center, his wife and their four young children. My voice falters a bit. Paul and I go about the business at hand, updating each other on current activities and discussing options for a proposed demonstration project.

**9:45 a.m.** - A voice in the hall loudly and firmly tells everyone to "Evacuate the building now. Go home. Call your voice mail for a message from me later." Again she repeats, "Evacuate the building now. Go home." Paul heads around the corner to his office. I follow a stream of people out through the lobby and down the stairs. I see another Daschle staff member dialing his cell phone. As he closes it, I ask if he knows what's happening. He responds only that it is serious. I dial Congressman Thune's Office, the location for my next meeting. The cell phone traffic has jammed the airways.

The streets outside the Hart Building fill with staff and visitors. Nearly everyone is trying to use cell phones. I head toward Union Station a few blocks away. I overhear people talking about another plane that has crashed into the Pentagon. I look over my shoulder and see dark smoke rising from the direction of the Pentagon. I dial my husband and leave a message on the cell phone - "A plane has just crashed into the Pentagon. I am near the Capitol. I am going to try to catch a taxi and head back to the hotel. I love you. Please call me." I feel badly about my trembling voice. I regain my composure and dial again. I can't get through. I say a prayer for those that have suffered and ask God to keep me safe.

**9:50 a.m.** - I consider my transportation options. Although the Metro is just downstairs, the thought of potentially being trapped below ground isn't one of comfort. I reach Union Station and head for the taxi queue line. I am thrilled the line is very short. I dial my husband again - no luck. The same is true for my office at Tech. I dial Thune's Office to confirm the

cancellation of my appointment. The receptionist's familiar greeting "Congressman John Thune's office" surprises me. I ask to speak to David Fisher. We are disconnected.

**9:55 a.m.** - I climb into the taxi and give the address of my hotel - 24th and M Street. The traffic is surprisingly light. We head past the Washington Mall and see people streaming toward the street. The cab driver picks up another passenger. His destination is the same hotel. He is from California, traveling on business and was on his way to visit Senator Baccus, an old friend of his. He explains that his wife is in New York, but he doesn't think she should be near the Trade Center. He hasn't been able to get through on the cell phone. We listen to Bob Edwards on NPR as he describes the situation. The streets fill with people and the traffic slows. The cab driver picks up another passenger. She climbs in and announces an unfamiliar address, apparently some point beyond the hotel. We again unsuccessfully dial our cell phones.

We hear sirens from every direction. I'm amazed and comforted that people on the street remain calm.

Bob Edwards describes the Pentagon scene from the television he is watching. We turn and see smoke darken and fill the sky to the south. As we travel past taller buildings, we see people in the upper floors looking out.

Bob Edwards announces that the second World Trade Center tower hit is collapsing before his eyes. We all gasp inside the taxi. I think of Mike and hope that he has made it out of the building. Mike is a successful investment broker who planned to work only another year or two and then retire to spend time with his family. I tell myself that I will never again be envious of his success. I wish I were back in Rapid City with my family and I wonder what will happen next.

Traffic becomes gridlock near the White House. Security vehicles have set up a perimeter several blocks away. More sirens. Military vehicles close streets. We

*continued on page 18*

Photo courtesy of FEMA



*An American flag hangs from the Pentagon, near the spot where a plane crashed into the building.*

# CHASING BLISS

## New museum director comes home

**D**r. Gale A. Bishop has a simple explanation for his 25-year interest in prehistoric crabs, lobsters, and shrimp.

It's my bliss," he said. "Some people play golf. I don't understand the attraction of that, but it's probably the same for golfers as my research has been for me."

Bishop (BS Geol '65, MS Geol '67) was named director of Tech's Museum of Geology in February. He accepted the position after a year of volunteering at the museum five to six days a week and 25 years of visiting South Dakota annually to search for the fossilized crustaceans that constituted his bliss.

As director, Bishop runs the museum's programs, including informal education for visitors. He also takes care of administrative duties, recruiting students for Tech's geology programs and "carrying the good word to the community about the importance of the School of Mines, the museum, and the geology of the Northern Great Plains."

Bishop cherishes the museum's mission to collect and preserve the mineral and fossil treasures of the Black Hills and the Great Plains.

"People are very fond of the land on which we live," he said. "The land is formed by rocks, the rocks are formed by minerals, and the rocks have fossils. The better we understand that geology, the better we can live in harmony with the land. The better educated citizens are, the better able we are to have a sustainable economy."

"How the resources are taken out of rocks determines if we disrupt or enhance our lifestyle and our ability to understand the land and make use of it in a manner which demonstrates good stewardship," he said.

Bishop grew up in the Black Hills, and took a teaching job at Georgia Southern University after earning a Ph.D at the University of Texas at Austin. Bishop's



*Museum of Geology Director Dr. Gale Bishop photographs copulating crabs on a beach at Saint Catherine's Island, Georgia, during a summer research trip. Bishop researches the crabs while conducting research on the sea turtles that use the island.*



*Photos courtesy of Gale Bishop*

*Museum of Geology Director Gale Bishop gets a close-up look at a female loggerhead sea turtle during a research trip to Saint Catherine's Island, Georgia.*

interest in decapods was sparked in 1963 before he left South Dakota when the late Harold E. Martin, chief preparator at the Museum of Geology, asked Bishop if he would drive to Bump-Young Hill on the east valley wall of the Cheyenne River to salvage any fossils from the reconstruction of Highway 40.

He found fossilized crabs, and "it just clicked," he said.

That click triggered an interest and passion for understanding the history of the Cretaceous crabs, shrimp, and lobsters that populated the Western Interior Seaway. Bishop visited South Dakota annually while he worked in Georgia. He brought his geology classes to help in the search for the creatures that provided materials for 43 of the 75 papers Bishop published during his career.

Bishop's research led to more recent studies of the distribution of modern Ghost Shrimp on the Georgia coast, the accumulation and distribution of deposits of heavy mineral deposits, and the evolution of Georgia's Barrier Islands. His studies led to the creation of the St. Catherine's Island Sea Turtle Conservation Program. The program brings teachers to the island to study the turtles. The program is in its ninth year.

Bishop's decapod research also led to a massive addition to the Museum of Geology's collections. Bishop donated more than 22,000 specimens, and a library of books, reprints, manuscripts, and proposals that define Bishop's 25 years of research.

The collection of fossil decapods, thought to be one of the largest in the world, consists mostly of fossils collected from the Cretaceous time period, between 130-65 million years ago. Bishop collected most of the fossils in South Dakota. The collection also includes fossils from northern Mississippi, central Texas, Georgia, and South Carolina.

The donation, and Bishop's enthusiasm for spreading the word about the Museum of Geology, will allow him to share his bliss with students and visitors from around the world. That's as valuable as any collection.







Dr. Jim Feiszli has 12 filing cabinet drawers full of choral sheet music in his office at the South Dakota School of Mines and Technology. There was a time when he alone had access to this treasure trove of music, but that's not the case any longer.

Thanks to Feiszli's efforts, any music director in the world can access these files and choose the best music for upcoming concerts.

"Music directors spend many hours looking for appropriate music for the singers and the audience," Feiszli said. "This makes that search a lot easier."

Feiszli's efforts also allowed South Dakota Tech, not exactly a bastion of musical education, to be an important player in the world of choral music. Feiszli,

Tech's music director, is president and executive director of ChoralNet, the Internet Center for Choral Music. The ChoralNet website is the result of years of work aimed toward making the world of choral musicians a bit smaller. Feiszli has been involved with ChoralNet from the very beginning.

ChoralNet is not just a website, but a non-profit corporation that has a website and much more. It runs e-mail distribution lists and other Internet-related communication exchange forums.

"We don't have any music majors here at Tech, but we've had a major impact," Feiszli said.

The ChoralNet odyssey began when Feiszli was a student at Arizona State University. In 1981 Feiszli entered Arizona

State as a doctoral student after years of public school teaching and a master's degree from the University of Akron. Feiszli discovered computers there and created a database of the university's entire choral catalog. When Feiszli came to Tech in 1983, he purchased one

of the first computers available to faculty members on campus. He used it to catalog the thousands of pieces of music he had collected through the years. In 1990, he traveled to Belgium and merged his database with MUSICA (www.musicanet.org) a European database that already existed.

"That was my first exposure to the international music scene," he said. Feiszli returned to Tech with a mission. "I kept thinking about how we could all get connected," he said. Feiszli and other music directors met during a 1993 convention in San Antonio and talked about connecting choral musicians through the Internet, which was just growing in public use. That group created an e-mail list in March 1993 and used it to exchange ideas, thoughts, concert announcements, and other information. Feiszli became list manager.

"I thought it would be a nice little thing for 150 choral music directors," he said. "Two years later, we had 1,500 members."

Often-repeated questions and the deteriorating quality of discussion led Feiszli to create two new lists in 1995. Each was designed for certain content. All three still operate and are very popular.

"Choral directors are the biggest bunch of know-it-alls," Feiszli said. "I'm a prime example, but there are people out there worse than me."

Those three lists became the basis for the ChoralNet website, launched in 1995.

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*Feiszli rehearsing: Dr. James Feiszli, Tech's director of music, rehearses with the Tech Concert Choir for last December's annual Christmas Concert. Feiszli has made a virtual mark in the music world during his tenure at Tech.*

*Photo by Steve Buchholz*



*A space odyssey came to Rapid City's Civic Center on May 4-6 as the South Dakota Space Grant Consortium sponsored "SD/NASA Space Days 2001." About 4,500 students and members of the public attended this special event. Space Days is an annual event that promotes the benefits that we enjoy every day as a result of space science, earth science, and technology. Thousands of students are shown practical examples of the fruits of these sciences while at the same time, learning the importance of studying math, science, and engineering. Astronaut Colonel Charles "Sam" Gemar, a native South Dakotan, was the featured speaker.*

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## SDSM&T REACHING OUT

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*The South Dakota School of Mines and Technology has a firm belief in partnering their faculty, staff, and students with communities, businesses, and K-12 educational organizations throughout the region.*



*Richard Wold, lab storekeeper in the Department of Chemistry and Chemical Engineering, speaks with the Humphrey Fellows during the groups' tour of the Tech campus. The fellowship program brings accomplished professionals from designated countries to the United States at a midpoint in their careers for a year of non-degree graduate study. The group was interested in the closing of Homestake and the effect that would have locally, regionally, and globally. The group also visited Pine Ridge as a part of their professional development program. Group members were nominated by U.S. Embassies or Fulbright Commissions, based on their potential for national leadership and a demonstrated commitment to public service in either the public or private sector.*



*Ellie and Evan Snyder blow bubbles during the Bubble Festival held June 2 at the Children's Science Center. Their dad, Brad, brought the kids from Wall for the event. Children of all ages created bubbles of different colors, different sizes, and different shapes.*

Photos by Steve Buchholz





*(Photo courtesy of the Black Hills Pioneer): Tech President Dr. Richard Gowen acted as Grand Marshal of the July Fourth parade in Lead and Deadwood. Nancy Gowen accompanied Dr. Gowen during their top-down cruise through the two Northern Black Hills towns. Parade organizers selected Gowen to thank him for his work in the National Underground Science Laboratory at Homestake project.*



*Yankton High School student Andy Rehurek works on a liquid crystal display project with Tech's electrical technician Keith Pruitt during the Youth Engineering Adventure program, held on Tech's campus in June. Forty high school students from across the state attended the weeklong program. The students stayed in Tech's residence halls and worked on hands-on projects that gave them the taste of a life in engineering.*



*Jim Sampson, left, Marci Leberman, and Connie Nybaug, technology coordinators at South Dakota school districts, work on a project during a Technology for Teaching and Learning academy at Tech this past summer. The program, sponsored by the South Dakota Department of Education and Cultural Affairs, was designed to teach educators about network creation, server maintenance and repair, network diagramming, software configuration, passwords, e-mail accounts, and security, Internet access and firewalls in addition to a host of other topics. Forty-five South Dakota educators attended one of three academies held at Tech.*



*Seventy-three students from South Dakota, Nebraska, and Oklahoma attended the six-week Scientific Knowledge for Indian Leadership and Learning program held on the Tech campus this summer. The students attended classes in math, computer science, communications, American Indian studies, physics, and other subjects. They also attended seminars and took field trips to places such as Wind Cave National Park and Badlands National Park. The students stayed in Tech's residence halls during the program, designed to help students prepare for college.*

# A Family Affair

## Establishing a Legacy

To sophomore Charlie Knight (EE, Ottumwa, Iowa), the names Ruth and Rudy Baukol have a special meaning. Knight receives the Ruth and Rudy Baukol Scholarship established through the South Dakota School of Mines and Technology Foundation nearly 10 years ago. The scholarship helps Knight cover the cost of tuition and other school-related expenses. It allows him to focus on his education rather than finding money to pay for it.

To several Tech graduates, however, the Baukol name means much more than a scholarship. The name means family, and the Baukol family connections run deep at Tech. Nieces, nephews, aunts, uncles, and cousins with the surnames Simonson, Hoyer, Anderson, and Braun have left impressions at the university for three generations and are all part of the family's

impressive legacy.

Members of this family have assured that their family's name and legacy will forever remain on campus in two ways. The family encourages college-aged relatives to attend South Dakota Tech, and they have established a series of scholarships to honor parents and family members.



*Julane and LeRoy Hoyer*



*Marjean Simonson*

The family's Tech legacy began May 26, 1918, when Rudolph "Rudy" Baukol was born in Roslyn, S.D. He and his three sisters, Marlys, Julane, and ElRose, all were grandchildren of Norwegian immigrants who came to the United States in the 1860s. After graduating from Roslyn High School in 1935, Rudy attended Northern Normal and Industrial

School (now Northern State University), taught in the Day County rural school system, and served in the United States Army before enrolling at Tech.

After graduating from Tech with a bachelor's degree in electrical engineering in 1949, Rudy worked for Montana Dakota Utilities in South Dakota, Minnesota, Montana, and North Dakota until his retirement in 1987 when he and his wife, Ruth, returned to Rapid City.

Rudy recognized the impact his education at Tech had on his career. In return, he acted as a key player in influencing five of his nephews to choose South Dakota Tech. The nephews are Larry Simonson (EE '69), professor and chair of Tech's Department of Electrical and Computer Engineering;

Darrell Hoyer (GeolE '73), a former senior petrophysicist with Union Texas Petroleum in Houston, Texas, who is a consultant and now lives in Fort Collins, Colo.; Dan Hoyer (CE '77), a former production engineer with Unocal Geothermal in the Philippines



*Myrene and Louis Braun*

who now is a graduate student at Tech; Allen Anderson (Met '77), a former project manager with Battle Mountain Gold in Bolivia, South America, who now is with Winter's Company in Tucson, Arizona; and Bruce Anderson (CE '81), a project engineer for the Army Corps of Engineers at Ellsworth Air Force Base in Rapid City.



*ElRose and Reuben Anderson*



*Ruth and Rudy Baukol*

Photos courtesy of SDSM&T Foundation

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# A new degree for A new customer

## Associate's of Arts broadens Tech's reach

Tech Academic and Enrollment Services Director Bill Jones likes talking about the university's new Associate's of Arts degree.

Jones believes the degree will increase Tech's enrollment, but more importantly, he thinks it will open Tech's doors to a new set of potential students. Jones, like other Tech administrators and professors, knows that Tech suffers from a "Harvard on the hill" reputation. Many potential students believe that Tech classes and programs are too difficult, so they look elsewhere to further their education.

"This is perfect for students who aren't interested in science or technology, but for whatever reason, aren't ready to leave the Rapid City area just yet," Jones said. "The AA degree provides students with the opportunity to pursue a two-year degree and leave here to go someplace else or leave with a very marketable degree.

"It's also a way for students to find out what school is like," he said.

The South Dakota Board of Regents approved the degree for Tech last year. Tech first offered it during the spring 2001 semester. Two students who qualified for the degree walked across the stage and received Associate's degrees during the spring 2001 commencement.

Students must complete 64 credit hours to qualify for the Associate's degree. Thirty-two of the credits must be from Tech's offering of general education core classes, which are designed to expose students to a wide range of topics and skills. General education classes include courses in humanities, social sciences, math, natural sciences, cultural diversity, information technology, and written and oral communication. Students also must complete 32 credit hours from other Tech programs. AA students work with an advisor from the College of Interdisciplinary Sciences to schedule those classes.

That discretion in selecting half the required courses is one of the things that make the degree special, Jones said. Students can use those 32 credit hours to focus on classes that meet their needs and interests. For example, students who want to learn web site design or network administration may take the computer classes that apply to those fields, provided all prerequisites have been met.

Follow an AA degree focused like that with a Microsoft certification and you have a set of skills that could lead to a job that pays well, Darrell Sawyer, Tech's director of career placement.

Students pursuing an AA degree also must pass the CAAP proficiency tests prior to graduation.

Students can complete the degree requirements in two years if they take 16 credit hours per semester. Jones uses that, along with the degree's other benefits, to promote it to prospective students.

"It's very affordable, and convenient," Jones said. "Students can explore different areas if they aren't sure what they want to do with their career, and it can help them assess where they are with their goals and objectives."

The degree also gives students a short-term goal to aim for as they make their way through their college careers.

"It's something that's worthwhile for someone who starts out at Tech and has something to walk away with instead of a stack of credits," said Daniel Stanton, who received an AA degree in May 2001. Stanton, of Rapid City, is on schedule to receive a bachelor's degree in Civil Engineering in December.

Jones agreed.

"Students, after just two years, leave here with a degree instead of a list of courses on a transcript," he said. "That will help students, whether they want to go on to another university or head into the workforce.

"It's really a win-win for everyone."



file photos



South Dakota Tech President Dr. Richard Gowen presents the university's first AA degree to Stacy Watters during the May 2001 graduation ceremony at the Rushmore Plaza Civic Center. The degree could open Tech to a new set of students.



Daniel Stanton receives his AA degree from Dr. Richard Gowen. Stanton is on track to receive a Civil Engineering degree in December 2001.

## IN THE MIDST OF TERROR

*continued from page 11*

listen to Bob Edwards for more news. We hear that the State Department has been bombed. We later learn this is a false report.

We see businesses close their doors. I see a crowd at the Avis rental car desk. Many customers have their arms in the air.

As we near the hotel, traffic comes to a complete halt. We opt to walk the remaining three blocks. The cab driver announces the total fare is only \$9, the same fare as my rush-hour ride earlier that morning.

I arrive in the hotel and take the elevator to the sixth floor. I am happy to be so near street level. I check my voice mail. My husband has left a message "Please call. We've seen the news and we're worried. I love you."

I call my husband. We talk and watch CNN. He has called the elementary school where our two sons attend to let the staff know I'm OK in the event the boys hear the news. He has called the home of Mike, his friend of 30 years. Mike's wife Julie has left a message on their voicemail, "Mike is alive." Julie and I gave birth to our first children only days apart. I wonder about Rick, my sister-in-law's cousin. He was an investment banker who had moved to New York for just few years. Like Mike, he had been very successful and planned to retire within a few years to spend time with his family.

**10:28 a.m.** – Jim and I continue to watch CNN as we talk. The second tower collapses. My heart sinks again. Jim tells me that my parents are worried and asks me to please call my dad. I say goodbye to Jim and tell him that I love him and ask him to give our boys a big hug for me. I

promise to keep in touch.

**10:35 a.m.** – I call my dad at his office in Rapid City. His secretary answers the phone. "Please hold. I'll get him. He's been waiting to hear from you." My dad asks how I am and how things are in DC. I recap the morning and that although I am nervous, I am in no immediate danger. I say goodbye and that I love him and please give my love to my mom when he calls her.

**11:05 a.m.** – I call the office. I recap my morning. Outside, the traffic is nearly at a standstill and the sound of sirens continually fills the air, but everybody is relatively calm.

**11:40 a.m.** – I sit in the hotel room and watch CNN. A plane has crashed in western Pennsylvania. An image of a web site indicates that a plane has just crashed near Camp David. This is later determined to be a false report. I hear an announcement to evacuate the building. At first, I think it is from the news studio. Moments later, I hear it again and realize it is coming from a speaker in my room. I hear people in the hall. I grab two bottles of water, my cell phone and charger, and stuff them in my backpack on the way out the door. I look back at my suitcase and think about changing into comfortable clothes. I decide not to take the time. Hotel guests and staff are ushered to the north to the end of the block. I talk to a woman next to me. She is in D.C. on business from Virginia. She says she thought about leaving the previous night, but didn't. We talk to a hotel employee. She tells us that the hotel received a bomb threat. "The last time this happened, it took more than three hours to search the building," she says. I check the time and begin to calculate. If it took three hours on a day when they may have been a priority and when traffic was normal, how long would it take today? Maybe twice as long or longer? It might be

dark before we have access, assuming that we receive an all clear.

**11:45 a.m.** – I call Shelly, a friend and former colleague who now works in DC. We were scheduled to meet for dinner, so I know she is in town. She works for the federal government and like others had gone home. She encourages me to come to her apartment. I write down her new address — about 10 blocks east of the Capitol. I call my husband to keep him apprised of my plans, and start to walk the 40 or so blocks, wishing now that I had at

least changed out of my heels into comfortable shoes.

**12:10 p.m.** – The streets are filled with cars and pedestrians. Many of the shops have closed. On K Street, I overhear a woman asking a man directions to the Renaissance Hotel. Our paths meet and she asks, "What is going on? Why all the traffic?" She explains that she went to the Kenyan Embassy where she had a meeting scheduled, but found the doors locked. I briefly explained the events of the day. She gasped and asked repeatedly "Who would do such a thing? And Why?" We comfort one another with a hug. She asks if I am a Christian. I smile and tell her I am. We talk as we walk until we reached her destination. We wish each well. She left saying, "God bless you, my sister."

The world has changed. It is a smaller place.

**12:45 p.m.** – The streets become more deserted as I near the Capitol area. I pass the NPR building. There are security guards near the entrance. I think about the reporters inside and how many people they are reaching at this very moment, wishing one of them was me. I feel uncomfortable not having heard any news in more than an hour. My feet hurt. I can feel blisters starting to form on my heels and little toes. I look for a shoe store. No luck. My concern for those in the World Trade Center and the Pentagon refocuses reality. I walk on.

**1 p.m.** – The streets are nearly empty. In eight blocks, I see only one vehicle and a bicycle. There are a few more people on the streets as I near Shelly's apartment. They talk to neighbors and street vendors.

**1:15 p.m.** – I finally reach Shelly's apartment. She buzzes me in and I walk up the stairs to her apartment to a familiar face. I call my husband and office to tell them I have arrived safely.

All afternoon and into the evening Shelly, her roommate, a stranded co-worker, and I watch the news. I talk to my staff, my family, and the Rapid City Journal. I talk with Paul in Senator Daschle's office. He called to make sure I had gotten out of the building and had a safe place to stay.

**7 p.m.** – We order dinner and walk a few blocks to pick it up. The bullet proof glass is another reminder of the urban violence that plagues much of our country everyday that escapes my mind living in Rapid City. The streets are empty. Shelly and her roommate comment that the street is this quiet only in the predawn hours of the

Photo courtesy of FEMA



*Crews look for survivors at the World Trade Center site.*



morning. I call the hotel. They are letting guests back into the hotel. We watch and listen to the President's address. Shelly drives me back to the hotel passing but a few cars. We see a police helicopter with a searchlight circling the area. More sirens. The perimeter around the White House appears to have increased. Streets are still closed. Military troops with their Humvees are on many street corners.

I return to my room and check in with my family. Mike is alive. No news on Rick. I talk to my sons for a long time. They have many questions "Did you have to run away? Are you hurt? When will you be home? Will you have to fly in an airplane?" I reassure them as best I can and tell them that I love them.

I return to CNN coverage. I think about how many failed hijacking attempts there might have been and where the would-be hijackers are now and what they might be planning.

**10 p.m.** – I try to sleep, but decide I should keep the television on low volume in the event I need an immediate update at some point in the middle of the night.

**10:10 p.m.** – I quickly get out of bed thinking that I need to be prepared in the event of another evacuation. I set out my clothes and comfortable shoes. I pack my backpack with bottled water and healthy snack, and I plug in my cell phone and keep it within arms length.

**10:15 p.m.** – The phone rings. It is Hillary, the contact for the conference where I was to present the following day. The conference has been cancelled and she asks me to join her for lunch. We agree to talk in the morning.

**10:30 p.m.** – I hear sirens, a fighter jet and a helicopter. I pull the drapes to look outside. Nothing visible except the office building next door. It is empty but lights on in every window, and the construction site across the way also is lit by stringers of lights. They are all signs that workers left in haste. I decide to watch the news for a bit longer.

**11 p.m.** – I finally go to sleep.

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### Wednesday, September 12

**7 a.m.** – I wake hoping that this was all a nightmare. The news confirms that it was not.

**9 a.m.** – Hillary calls and we arrange to meet for lunch. I walk and grab a cup of coffee. The streets are filled with people, mostly dressed casually, all looking a bit numb, just as I feel.

We have lunch and walk a bit more. I watch the news and call the travel agent. National Airport is closed, as are all other airports, but they are hopeful to be open in the morning. I watch the news and talk with family and co-workers.

I again prepare for an unexpected evacuation before I go to sleep. I fear that this may be a ritual to be repeated during my future travels.

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### Thursday, September 12

I wake and watch the news. While many airports begin limited service, National Airport will remain closed, rumors suggest indefinitely. I am determined to go home. It is still too early to call a travel agent in Rapid City, but I begin calling rental car companies. I wait through the automated phone system for an agent. They tell me no one-way rentals will be allowed, but to call Avis. I call Avis and again wait for an agent. I call UHaul with my cell phone. I know they permit one-way rentals. I reserve a small truck as a back up while I wait for Avis. An Avis agent finally answers. Yes, they have a vehicle at Dulles Airport. I reserve it and take a taxi to Dulles. I call the travel agent and make arrangements for a flight out of Pittsburgh for Thursday morning. This could put me back in Rapid City before noon. Great news.

**1 p.m.** – I check out of the hotel and head for Pittsburgh. Finally, I feel like I have a little control.

**6:20 p.m.** – I reach the Pittsburgh Airport and decide to make sure it is open and the flight is still scheduled. The airport is empty. There appear to be as many security staff as travelers. The ticket agent tells me that there is room on a flight leaving in 45 minutes. I hurry to return the rental car and rush to the gate.

**6:50 p.m.** – My bags are searched. Security finds a two-inch pair of scissors in a sewing kit. I quickly stuff things back in my bag. I patiently wait for the shuttle to the gate.

**7 p.m.** – I reach the gate to see the plane 100 feet from the gate. I stop to catch my breath, charge my cell phone, and see if the plane returns to the gate.

**7:15 p.m.** – The plane returns. I board the plane and we wait.

**8 p.m.** – They ask us to exit the plane. No more flights will take off tonight. I deplane and rebook for the 6:30 a.m. flight on Friday.

**8:30 p.m.** – I check into the airport hotel. I call my family and staff to give them an

update. I watch the news and eat dinner.

**9:30 p.m.** – I try to sleep.

**10 p.m.** – I hear what I think is a jet plane and a loud crash. I race to the window. It is only thunder from a rainstorm I hadn't noticed.



Photo courtesy of FEMA

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### Friday, September 14

**4 a.m.** – My alarm rings.

**4:45 a.m.** – I wait in line for the ticket agent. There are 25 other travelers in front of me.

**6:15 a.m.** – I finally reach the desk and receive a boarding pass.

**6:30 a.m.** – I reach the gate and board the plane. We depart only a few minutes late.

I arrive in Minneapolis at the gate to learn that there has been a gate change. I race to the new gate to learn the flight has been cancelled. I get rebooked on a 1:30 p.m. flight and find a television to watch the news.

**Noon** – I decide to eat lunch. Much to my discomfort, I see a 12 oz steak on the menu. I assume that the wait staff would provide a steak knife along with that steak. Dread enters my mind as I imagine someone stuffing the knife in their bag and taking it onto an airplane. The restaurants are on the plane side of the security. I no longer was very hungry. Should I say something and risk suspicion? This could mean a delay in getting home. I decide to ask once I am on the ground in Rapid City.

The flight is delayed. They are missing a flight attendant. A flight attendant is found but she must now complete a safety check. Waiting passengers cheer and give her a warm round of applause. Now we are told that each flight crew is conducting an independent safety check. This is okay.

**3:45 p.m.** – We finally take off.

**4:15 p.m.** – We land in Rapid City. I am so thankful to be home and to see the Black Hills in the distance. I call home. Smiling, I announce that I am on the ground. I leave the building to be see that my truck has been towed and the reality hits me again. Even Rapid City has changed.

I drive home looking forward to spending a night in my own bed with a snoring husband, a purring cat, a barking dog, and children wanting to climb into bed in the middle of night.



# A Family Affair

*continued from page 16*

Following Rudy's death in 1992, the group of five nephews decided to start a scholarship fund at Tech in memory of "Uncle Rudy."

"I remember receiving a scholarship during my second semester at Tech. The fact that I had earned a scholarship was very important to me," Simonson said. "When the five of us looked back over the years, we were disappointed that we had not thought of establishing this scholarship to honor Rudy before he died so that he could have known about it."

That regret spurred the group to establish scholarships in honor of other family members. Soon after, each of the cousins had established separate scholarship funds to honor their parents.

The idea of beginning scholarship endowments was not new to Simonson. In the 1980s, he spearheaded the establishment of two scholarship endowments. One fund, the Ruth and Clem Knecht Memorial Scholarship, honored Ruth Knecht, a former landlady to many Tech students. The other, the William Coyle/Delta Sigma Phi Athletic Scholarship, honored William V. Coyle (CE '44), former Department Head for the Civil Engineering Department, for the work he did to assist Delta Sigma Phi with structural analysis of their fraternity house.

The family scholarships that were established as a result of the Baukol Scholarship are the Marlys and Leslie Simonson ECE Scholarship, which honors Larry Simonson's parents, who operated the family farm near Roslyn, South Dakota; the Julane and LeRoy Hoyer Memorial Scholarship, which remembers Darrell and Dan Hoyer's parents, who spent most of their years in Rapid City while LeRoy was employed by Montana Dakota Utilities; and the ElRose and Reuben Anderson Scholarship, which honors Allen and Bruce Anderson's parents who lived in Blue Earth, Minn., where Reuben was a high school industrial arts teacher.

Soon after, with the help of the Braun cousins, the family established the Myrene and Louis Braun Scholarship to honor Rudy's cousin, Myrene Braun, and her husband Louis. Myrene and Louis owned and operated Braun's Ladies Apparel clothing store in Rapid City until it closed in 1997. The Brauns have two sons who graduated from Tech, Chuck Braun (ChemE '59) and his wife, Kathy Braun (Math '59), and David Braun (ME '61).



*Larry Simonson*

The Braun's grandson, Travis Braun (CompE '00), is one of the family's third-generation Tech graduates. The other third-generation graduate is Jared Holzwarth (ME '00) who is a nephew to Dan and Darrell Hoyer. His parents are Sandi Hoyer, who attended classes at Tech and was a Hardrocker cheerleader before transferring to Augustana, and Don Holzwarth (ChemE '68).

Not long after the establishment of the Louis and Myrene Braun Scholarship, Simonson had the idea for yet another



*Marlys and Leslie Simonson*

scholarship – one to honor his sister, Marjean Simonson, who died

from Lupus in 1969 while she was a freshman at Roslyn High School. Simonson has also set up the Larry Simonson Athletic Scholarship to provide support to a student who is participating in varsity athletics at Tech. He also established the Larry Simonson Endowment, which provides unrestricted educational support for Tech's Electrical and Computer Engineering Department.

The eight family funds total an endowment of almost \$220,000.

"These scholarships have been the most appropriate and fitting way that any of us could think of to honor and memorialize members of our family," Simonson said. "We know that we are providing much-needed assistance to wonderful students. This assistance will allow them to concentrate on their education at the School of Mines and position themselves to establish their careers at the same time.

"I would encourage others to utilize this avenue to honor those people who are important in their lives," Simonson said. "The establishment of a named endowment is a gift that never stops giving."

The Tech Foundation is available to talk with any alumni or friends about creating their own family legacy at the South Dakota School of Mines and Technology. Interested individuals should contact the Foundation.





## STUDENT SPOTLIGHT

Several Tech students presented posters at the Society of Vertebrate Paleontology annual meeting. The students: **Andy Farke** (GEOL, Armour, S.D.), **Dan Lien** (GEOL, Rapid City) **Frank Varriale** (PALE, Lake Luzerne, N.Y.) and **Jennifer Cavin** (PALE, Chadron, Neb.) The poster: Farke, A.A., F.J. Varriale, D.B. Lien, J.L. Cavin, and J.T. Sankey. 2001. First trackway evidence of vertebrate animals from the Fall River Formation (Lower Cretaceous) of western South Dakota, USA. *Journal of Vertebrate Paleontology Abstracts of Papers* 21(3):48A.

The South Dakota School of Mines and Technology Human Powered Vehicle team finished in 11th place during the Human Powered



Vehicle Challenge held in Reno, Nev. The vehicles were judged on design and safety, and in sprint and endurance races against 20 teams from across the country. The Tech team, which designed its bike so riders sat in a recumbent position, competed in the single rider events. The team placed third in the competition's design component, but did not crack the top three in the sprint or endurance races.

"Placing third in design is very significant, since this is first and foremost an engineering competition," team adviser **Dr. Chris Jenkins**, professor, Department of Mechanical Engineering, said. "However, the vehicle finished both races and performed without problems."

The South Dakota School of Mines and Technology Mini Baja team finished sixth in the 2001 Society of Automotive Engineers Mini Baja West competition held in Manhattan, Kan. Tech competed against 100 engineering design teams from colleges across the United States, Mexico, and Canada. The Baja cars were judged on design, cost, and safety. Teams gave presentations about their cars, and showed off their performance during hill climb, maneuverability, and acceleration events.

The Baja cars and drivers were also put to the test during the four-hour endurance race over the rugged terrain of the School Creek Off-Road Vehicle Area of Milford Lake.

Tech's Formula SAE Mini-Indy team finished in 59th place during the annual competition held recently at the Pontiac Silverdome in Detroit, Mich. Now in its 23rd year, the event pitted engineering students from 123 universities in the United States, Canada, Mexico, Puerto Rico, Japan, and the United Kingdom against each other. Students design, fabricate and compete with small formula-style racecars. Restrictions are placed on the car frame and engine so the students' knowledge, creativity, and imagination are tested. Four-cycle engines up to 610cc can be turbocharged or supercharged to add a new dimension to the challenge of engine design.

Cornell University won the event for the sixth time since 1988. For complete race results and information visit [www.sae.org/students/formula.htm](http://www.sae.org/students/formula.htm).

Tech's Aero Design team finished in 12th place with its first ever entry in the Aero Design West competition held recently in Palmdale, Calif. The Aero Design Competition challenges engineering students to conceive, design, fabricate, and test a radio-controlled aircraft that can take off and land while carrying the maximum cargo. This gives students the opportunity to apply the knowledge learned in the classroom on a practical problem. Thirty-seven teams from around the country competed. The University of Akron and its plane "Jerry Bird" won the competition. Tech's team received help from many alumni and friends with their first flight effort. A list of sponsors, and links to results and more, is on their website at [www.sdsmt.edu/student-orgs/sae/aerodesign/index.html](http://www.sdsmt.edu/student-orgs/sae/aerodesign/index.html).

Tech ChemE students race chemical car in New Mexico. Students from the SDSM&T American Institute of Chemical Engineers (AIChE) student chapter recently attended the Rocky Mountain Regional Student Chapters Conference on the campus of

New Mexico State University in Las Cruces, N.M. The SDSM&T students held the distinction of longest distance driven to get to the conference. Thirteen students and their advisor, **Dr. Dave Dixon** (ChemE '78), associate professor, Department of Chemistry and Chemical Engineering, represented Tech. The Tech student chapter had two teams entered in the Regional AIChE ChemE Car Competition. In this competition, the team must design and construct a model car that is powered (and stopped) only by control of a chemical reaction. Tech's team, the defending Rocky Mountain Region champions, had a good showing in the performance competition, but unfortunately came up short and was dethroned by a Colorado school. Support for this trip was made possible, in part, by generous donations from alumni. To see photos from the trip, or to send the team an email, visit [www.sdsmt.edu/mse/chem-che/chemE/aiche/RM-regional.html](http://www.sdsmt.edu/mse/chem-che/chemE/aiche/RM-regional.html).

The IEEE/CAMP Robotics Team placed third out of a field of nearly twenty teams from prominent engineering schools in the recent IEEE Region 5 Robotics Contest in Colorado Springs, Colo. Each robot took two trips through a maze. The first was to map the maze and the second was timed, with the winner being the fastest time. The first place robot was from Texas Tech. According to **Dr. Mike Batchelder**, co-director for Tech's CAMP program and professor, Department of Electrical and Computer Engineering, "the winning robot was fast but unstable, often not being able to complete the maze." The robotics team has generated local interest and was invited to bring their maze and robot to Sturgis High School, Southwest Middle School and a number of elementary schools.

Tau Beta Pi recently awarded scholarships to two Tech students. The \$2,000 awards went to **Mark Fersdahl** (EE, Renner), and **Zach Mader** (ME, Biddle, Mont.) "It is quite an honor to be chosen for this scholarship because of the number of applicants and the level of competition," former student and Tau Beta Pi member **Jason Thuringer** (ME '01) said. "Receiving two of the 16 scholarships is proof of the quality of students at Tech."

**Dr. Julia Sankey**, Haslem Fellow and Assistant Professor, Museum of Geology, presented the following research (poster) at the Society of Vertebrate Paleontology annual meeting on Thurs. Oct. 4 in Bozeman, Mont.: Sankey, J.T.



2001. Late Cretaceous theropod dinosaurs from new microvertebrate sites, Big Bend National Park, Texas. *Journal of Vertebrate Paleontology Abstracts of Papers* 21(3):96A. Sankey also presented this research (oral and poster) at the Sixth Conference on Fossil Resources in Grand Junction, Colorado (Sept. 11 and 12): Sankey, J.T. and J.A. Schiebout. 2001. Late Cretaceous dinosaurs and other vertebrates in microvertebrate sites, Big Bend National Park, Texas: important paleontological resource. *The Sixth Conference on Fossil Resources. Abstracts with Programs.* Grand Junction, Colorado.

**Dr. Richard Gowen**, president, South Dakota School of Mines and Technology, spoke during the 2001 Rocky Mountain Bioengineering Symposium held April 20 through April 22 in Copper Mountain, Colo. Gowen, a founder of the symposium, talked about the beginnings of the event.

**Dr. Chris Jenkins**, professor, Department of Mechanical Engineering, and coordinator, Materials Engineering and Science Ph.D. Program, was a Panelist during the Technical Review of the NASA Ultra-Long Duration Balloon Program. NASA is developing a new class of advanced scientific balloons to fly longer and with greater payloads than is currently possible. Recent failures during prototype test flights prompted the Review, held April 5 and 6, 2001, at the NASA Wallops Flight Facility, Wallops Island, VA. Jenkins also was General Chair of the Gossamer Spacecraft Forum, held April 16 - 19, 2001, Seattle, WA, in conjunction with the 42nd AIAA/ASME/ASCE/AHS/ASC Structures, Dynamics, and Materials Conference. The Forum had over 60 papers in 11 sessions, plus panel discussions and keynote lectures. Dr. Jenkins presented three papers at the conference.

In April, the Tech campus honored Career Service Association employees for their years of state service.

## 10 Years:

**James Hartman**, systems programmer, Information Technology Services; **Marilyn Haskell**, librarian, Devereaux Library; **Jeanette Nilson**, administrative assistant I, Graduate Education/Sponsored Programs; and **Jamie Sumners**, programmer analyst, High Plains Center for Technology

## 15 Years:

**Dennis Rush**, electronics technician supervisor, Electrical and Computer Engineering; **Gayla Schlei**, secretary, Residence Life

## 20 Years:

**Karen Henrichsen**, bookstore buyer, University Bookstore

## 30 Years:

**Carol Hirsch**, administrative assistant I, Institute of Atmospheric Sciences

**Kata McCarville**, director of the South Dakota School of Mines and Technology's Information Technology Services, has been granted a Bush Foundation Fellowship that will allow her to pursue a doctorate degree at South Dakota Tech. Twenty-one people from Minnesota, North Dakota, South Dakota, and Wisconsin have been granted fellowships for 2001. Fields represented by fellows include arts administration, business administration, education, engineering, health administration, historic preservation, human services, journalism, law, public administration, nursing, and trade unionism. McCarville has been at Tech since 1997. She earned a bachelor's degree at UCLA and a master's degree from the Colorado School of Mines. McCarville will use the fellowship to complete a doctorate degree in geology at South Dakota Tech. During the past 36 years, the Bush Leadership Fellows Program has granted more than 1,100 mid-career fellowships. The Bush Leadership Fellows Program was established in 1965 to provide accomplished and motivated individuals with educational opportunities that prepare them for greater leadership responsibilities within their professions and communities.

More than 40 high school students heading into their junior year learned about engineering and engineering careers during the first annual Youth Engineering Adventure held at Tech from June 10 to June 17. "We wanted to introduce high school students to some of the important and interesting projects that engineers work on by letting them explore hands-on activities," **Dr. Larry Simonson**, program coordinator, said. He also is chair of Tech's Department of Electrical and Computer Engineering. "Engineers help make the world run. We want to show students how they do that." Having incoming high school juniors attend the event gives them two years to take the courses that will help prepare them to study engineering in college. Students stayed in Tech's residence halls. The week featured many activities, including personalizing a circuit board display. Students also toured local engineering firms, learned about teamwork and leadership, explored engineering career opportunities, and had fun.

The National Association of College Stores has named **Marlin Kinzer**, director of the South Dakota School of Mines and Technology bookstore, a Certified Store Professional. Requirements of the certification include



experience, industry involvement, community service, and completion of a four-hour examination. Fewer than six percent of the thousands of professional college store managers have successfully attained the designation. "I am proud to have achieved CSP designation as recognition of my accomplishments and activities in the higher education retail market," Kinzer said. "I intend to continue the level of professionalism that the designation presents." Kinzer has been director of the Tech Bookstore since 1993. He also is an active member of the Rocky Mountain Skyline Bookstore Association, where he has served as chairperson of the awards, membership, and industry issues committees.

**Michelle Howell**, director of South Dakota Tech's Student Activities and



Leadership Center, recently was selected as one of eight people from around the world to serve as a facilitator for the Association for College Unions International's Institute for Leadership Education and Development. The selection process for this very prestigious honor was very competitive. Howell will serve as a scholar-in-residence for one week for about 100 student leaders from colleges around the world. She will lead workshops, experiential activities, and group sessions throughout the week. The workshop was held from July 25 to Aug. 1 in Bloomington, Ind. Howell has been at Tech since 1997.

The annual meeting for the South Dakota Academy of Science was held at the University of South Dakota in Vermillion in April. A large contingent from Tech participated in the meetings. Presenters' names appear in italics.

#### **Tech's undergraduate participants:**

*John Keefner* (GeolE, Rapid City), *Angie Monheim* (MS.EE, Rapid City), and *Lori Glover* (CHEM, Sturgis), "Deployment of a Membrane Reflector in Zero-G"

*Andrew A. Farke* (GEOL, Armour), *Jennifer L. Cavin* (MS.PALE, Chadron, Neb.), and *Dr. Julia T. Sankey*, Haslem Fellow, Museum of Geology and Department of Geology and Geological Engineering, "A Crocodilian Footprint from the Fall River Formation (Lower Cretaceous) of South Dakota"

*Jamie Forish* (GEOL, St. Petersburg, Fla.), "An Invertebrate Faunal Study within the Pierre Shale"

#### **Tech's graduate participants:**

*Merrilee Guenther* (MS.PALE, Itasca, Ill.) and *Julia Sankey*, "Statistical Analysis of Small Theropod Teeth from the Late Cretaceous (Late Campanian) Judith River Group, Alberta"

*Xuescia Chen* (Ph.D.AEWR, China), *Dr. Lee Vierling*, assistant professor, Institute of Atmospheric Sciences, *Matt Doering* (CENG, Rapid City), *Roar Engebretsen* (CENG, Norway), *Gary*

*Johnson*, research scientist, Institute of Atmospheric Sciences), *Kurtis Nelson* (IS, Hermantown, Minn.), *Dave Nuenke* (ME, Glenwood, Md.), *Nathan Obr* (CENG, Yankton), and *Dr. Patrick Zimmerman*, director, Institute of Atmospheric Sciences, "Development of the Short Wave Aerostat-Mounted Imager (SWAMI): A Novel Instrument for Conducting Small- to Intermediate-Scale Remote Sensing Measurements"

*Lee Vierling*, *Dr. Brad Baker*, assistant professor, Institute of Atmospheric Sciences, *Denise Dykstra* (MS.ATM, California, Pa.), *Patrick Zimmerman*; *David Clay*, *Cullen Robbins*, and *Tilden Meyers*, Institute of Atmospheric Sciences, South Dakota State University Department of Plant Science; Science and Applications Branch, EROS Data Center; and *National Oceanic and Atmospheric Administration*, Oak Ridge, Tenn., "Short- and Long-Term Studies of Ecosystem-Atmosphere CO<sub>2</sub> Exchange in South Dakota"

*Dr. Larry D. Stetler*, assistant professor, Department of Geology and Geological Engineering, and *Heidi L. Sieverding* (MS.GEO, Rapid City), "Environmental Controls on Fish Spawning Habitat in Spearfish Creek, Black Hills, S.D."

#### **Faculty participants:**

*Dr. Julia T. Sankey* and *Dean Pearson*, the Pioneer Trails Regional Museum, Bowman, N.D., "Small Theropod Dinosaur Assemblage, Hell Creek Formation (Late Cretaceous), North Dakota"

*Drs. Andrew Detwiler* and *John Helsdon*, professors, Institute of Atmospheric Sciences, and *Dr. Qixu Mo* and *Donna Kliche*, research scientists, Institute of Atmospheric Sciences, "Recent Observations of Thunderstorm Electrification on the High Plains"

*Dr. Kerri T. Vierling*, assistant professor, Department of Chemistry and Chemical Engineering, and *Peter R. Nelson* (CEE, Rapid City), "Brown Trout Diet Variation Along an Urbanized Gradient"



*continued from page 13*

Besides the three lists, the website contains web boards where choral professionals can post announcements and discussion topics such as job openings. There also are event calendars, a repertory site, and links to the websites of professional choral societies and other resources. The website is truly international. Versions are available in German, Spanish, and French. It receives approximately 20,000 "hits" a day. That translates to approximately 6,000 visitors a day, Feiszli said.

"The problem with the Internet is you don't even know where to begin when you are looking for something," Feiszli said. "Choral musicians now have one place to go where they can find anything, and they don't have to bookmark 17 sites."

Music directors use the site to find help for problems that range from working with a screechy soprano to properly dealing with properly dealing with trying to perform sacred music in a public school setting."

ChoralNet has grown steadily since it was created. It now is a South Dakota not-for-profit corporation, a designation that allows its directors to apply for grants and accept donations. Fund-raising has worked.

In November 1998, John Vucurevich, a Rapid City businessman and philanthropist, issued a challenge grant to ChoralNet in the amount of \$5,000. The first result of this grant was the re-structuring of the ChoralNet Advisory Group into a working Board of Directors with an auxiliary group of Advisors. It also provided impetus for a fund drive that netted ChoralNet another \$7,000 from its users.

"Our whole purpose is communications," Feiszli said. "Nobody can work in a vacuum. If I want to talk to someone who does what I do, I can do that now."



**Dr. David A. Boyles**, professor, Department of Chemistry and Chemical Engineering, and **Dr. John T. Bendler**, former faculty, received \$310,000 from the Department of Defense-US Army Research Office for their project entitled "Modeling, Synthesis and Testing of New High-Performance Polycarbonates for Transparent Armor Applications."

**Dr. Chris H.M. Jenkins**, professor, Department of Mechanical Engineering, and Coordinator, Materials Engineering and Science Ph.D. Program, and **Dr. Robb M. Winter**, R.L. Sandvig Professor, Department of Chemistry and Chemical Engineering, received \$257,863 from the DOD-Air Force Office of Scientific Research for a project entitled "Investigation of Adhesive Joints for Nano-Engineering and Modeling." Dr. Jenkins was also awarded \$13,438 in additional funds from Triton Systems (prime-DOD) for their project entitled "Material Development for Large Deployable Space Optics" and \$10,478 from Princeton University (prime-NSF) for a project entitled "Engineering Support Services for Your Borexino Project."

**Dr. Chris Jenkins**, professor, Department of Mechanical Engineering, was awarded \$70,921 from the Jet Propulsion Laboratory for his project, "Enabling Fabrication, Deployment and Control of Precision Gossamer Apertures Through Adaptive Gore/Seam Architectures."

**Dr. Robb Winter**, professor, Department of Chemistry and Chemical Engineering, received \$148,315 from the National Science Foundation for his project, "Nanomechanics and Interphase Chemistry of Interfacial Fracture."

The following were recipients of Governor Janklow's Advanced Faculty Awards for Teaching with Technology, 2001, awarded by the SD Board of Regents: **Dr. Stan M. Howard**, professor, Department of Materials and Metallurgical Engineering (\$31,860); **Dr. Zbigniew Hladysz**, professor, Mining Engineering and Director, Mining and Mineral Research Institute (\$28,655); **Dr. Larry D. Stetler**, assistant professor, Department of

Geology and Geological Engineering (\$20,947); **Dr. Brad A. Morgan**, professor, Department of Humanities (\$20,646); **Dr. Robert L. Corey**, associate professor, Department of Physics (\$20,307); and **Dr. Roger E. Dendinger**, assistant professor, Department of Social Sciences (\$14,700).

**Dr. Dan Dolan**, professor, Department of Mechanical Engineering, received \$25,326 by the South Dakota Board of Regents for the "Acquisition of Instructional and Research Equipment."

**Dr. Steve McDowell**, chair and associate professor, Department of Chemistry and Chemical Engineering, received \$12,500 by the South Dakota Board of Regents for his project, "Acquisition of Instructional and Research Equipment."



**Dr. Scott Kenner**, associate professor, Department of Civil and Environmental Engineering, received \$2,500 by the South Dakota Department of Environment and Natural Resources for his project, "Development of a BMP Demonstration Project in Wonderland Drainage Basin for Control of Stormwater Runoff to Rapid Creek." Kenner also was awarded \$150,121 by the Belle Fourche River Watershed Partnership for his project, "Belle Fourche River Watershed Assessment." Kenner also received two awards – \$51,375 and \$10,725 – from the South Dakota Department of Game Fish and Parks for his project, "Development of a Multi-agency Systems Approach to Manage a Wild Brown Trout Fishery within an Urbanized Watershed, Rapid Creek, S.D." Kenner also received \$50,000 from the SD Department of Environment and Natural Resources for his project, "Upper Rapid Creek Watershed Assessment."

**Dr. Arden Davis**, professor, Department of Geology and Geological Engineering, **Dr. David Dixon**, associate professor, Department of Chemistry and Chemical Engineering, and **Dr. Cathleen Webb**, former faculty, received \$9,469 by South

Dakota State University for their project, "Arsenic Remediation of Drinking Water: Phase II."

**Dr. David Dixon**, associate professor in the Department of Chemistry and Chemical Engineering, received \$12,500 from the South Dakota Board of Regents for the "Acquisition of Instructional and Research Equipment."

**Dr. Sherry Farwell**, dean, Graduate Education and Research, received \$97,198 from the South Dakota Board of Regents for the "Acquisition of Instructional and Research Equipment." Farwell also received \$8,350 in additional funds from the University of North Dakota for his project, "Public Access Resource Center (PARC) Empowering the General Public to use EOSDIS-Implementation Phase III."

**Dr. Kerri Vierling**, assistant professor, Department of Chemistry and Chemical Engineering, received \$50,000 from the U.S. Forest Service for her project, "Evaluation of a Model Examining Post-fire Impacts of the Jasper Fire on Primary Cavity Nesters."

**Dr. Kerri Vierling**, assistant professor, Department of Chemistry and Chemical Engineering, received \$31,310 from the South Dakota Department of Game Fish and Parks for her project, "Development of a Multi-agency Systems Approach to Manage a Wild Brown Trout Fishery within an Urbanized Watershed, Rapid Creek, SD."

**Dr. Alvis Lisenbee**, professor, Department of Geology and Geological Engineering, received \$8,000 from the West Dakota Water Development District for his project, "Compilation of a 1:24,000 Scale Geologic Map of the Silver City 7.5 Minute Quadrangle."

**Dr. Paul Smith**, professor emeritus, and **Dr. Andy Detwiler**, professor, Institute of Atmospheric Sciences, received \$235,000 from the National Science Foundation for their project, "Armored T-28 Aircraft Facility for Research Requiring Storm Penetrations."



**Dr. Sangchul Bang**, dean, College of Earth Systems, received \$193,932 from the National Science Foundation for his project, "Collaborative Research: Effect of Point of Loading on Lateral Resistance of Rigid Piles."



He also received \$6,250 in additional funds for the same project.

**Dr. Jon Kellar**, chair and professor, Department of Materials and Metallurgical Engineering, received \$65,000 from the National Science Foundation for his project, "A Multi-Scale Approach for Understanding the Role of the Interphase in Polymer Matrix Composites."

**Dr. James Martin**, professor, Department of Geology and Geological Engineering, received \$54,616 from the National Science Foundation for his project, "Collaborative Research: Evolution and Biogeography of Late Cretaceous Vertebrates from the James Ross Basin, Antarctic Peninsula."

**Dr. Maribeth Price**, assistant professor, Department of Geology and Geological Engineering, received \$5,000 from Badlands National Park for her project, "GIS Modeling for the Badlands National Park GMP."



**Dr. William Capehart**, assistant professor, Institute of Atmospheric Sciences, received \$11,200 in additional funds from the National Oceanic and Atmospheric Administration for his project, "Improved Representation of Snow and Its Subgrid Distribution in a Coupled Model System."

**Dr. Pat Zimmerman**, director, Institute of Atmospheric Sciences, received \$22,000 from NASA for his project, "Semi-Arid Grassland Ecosystem Forcing: Replacing Native, Free-Ranging Ungulate Grazing with Human-Managed Livestock Grazing."

**Dr. Julia Sankey**, Haslem Fellow and assistant professor, Museum of Geology, was awarded \$435 in additional funds from

the Earthwatch Institute for her project, "Dinosaurs and Other Cretaceous Wildlife of Big Bend National Park, Texas." Sankey also was awarded \$11,000 from the National Geographic Society for her project, "Latest Cretaceous diversity of theropod dinosaurs and mammals of North Dakota; \$14,400 to \$17,600 from Earthwatch Institute for her project, "The End of the Dinosaurs: Tracking Theropod Dinosaur Diversity in the Hell Creek Formation, Southwestern North Dakota"; and grants from the Jurassic Foundation and the Welles Fund of University of California at Berkeley's Museum of Paleontology for research on Late Cretaceous theropod dinosaurs from Wyoming and Montana. This research was done during three weeks in April/May at the University of California at Berkeley's Museum of Paleontology and a paper is in progress. Sankey also received \$5,465 from Black Hills State University for her project, "The End of the Dinosaurs: Late Cretaceous, Fossils and Geology of South and North Dakota."

**Dr. Henry Mott**, professor, Department of Civil and Environmental Engineering, and **Anf Ziadat**, instructor, Department of Civil and Environmental Engineering, were awarded \$24,999 from Ellsworth Air Force Base for their project, "Assessment, Solid Waste Recycling Opportunities."

**Dr. Sherry Farwell**, dean, Graduate Education and Research, and **Drs. Lee Vierling**, assistant professor, **William Capehart**, assistant professor, and **Pat Zimmerman**, director, Institute of Atmospheric Sciences, were awarded \$512,100 from NASA for their project, "The Use of Remote Sensing for Monitoring, Prediction, and Management of Hydrologic, Agricultural, and Ecological Processes in the Northern Great Plains."

**Barb Dolan**, coordinator of Academic Support Services, was awarded \$327,568 in additional funds from the U.S. Department of Education for her project, "Strengthening Student Success through Student Data System Enhancement and Equipment Upgrades."

**Dr. Terje Preber**, chair and professor, Department of Civil and Environmental Engineering, was awarded \$10,000 from the David and Lucille Packard Foundation for a "Scholarship Grant for Shaun E. Harrod."



**Dr. Jan Puszynski**, dean, College of Materials Science and Engineering, received \$52,500 from the University of Minnesota for his project, "Processing Behavior of Nanoenergetic Materials."

**Dr. Arden Davis**, professor, Department of Geology and Geological Engineering, and **Dr. Cathleen Webb**, former faculty, received \$8,000 in additional funds for their project, "Conduct Studies of the Belle Eldridge Abandoned Mine Site."

**Dr. Colin Paterson**, professor, Department of Geology and Geological Engineering, received \$15,976 in additional funds from Black Hills State University for his project, "A Black Hills Science Teaching Project to Prepare K-8 Teachers for the New Millennium."

**Dr. Mel Klasi**, associate professor, Department of Civil and Environmental Engineering, received \$2,751 from South Dakota State University for his project, "South Dakota Local Transportation Assistance Program."

**Dr. Sookie Bang**, professor, Department of Chemistry and Chemical Engineering, and **Dr. Venkataswamy Ramakrishnan**, Distinguished Professor, Department of Civil and Environmental Engineering, received \$10,000 from the National Science Foundation for their project, "Application of a Microbial Immobilization Technique in Remediation of Concrete Cracks."

**Dr. Alvis Lisenbee**, professor, Department of Geology and Geological Engineering, received \$7,000 from the U.S. Department of Interior – Geological Survey, for his project, "Geologic Map of the Silver City Quadrangle, S.D."

*continued on page 26*

## PERSONNEL CHANGES

### WELCOME:

**Dr. Vladimir L Sobolev**, Faculty, associate professor, Physics, (8/16/01)

**Craig M. Miske**, CSA, program assistant II, Office of the Vice President for Academic Affairs, (7/9/01)

**Kathleen A. Amiotte**, CSA, program assistant I, Academic and Enrollment Services, (6/18/01)

**Sandra L. Henry**, CSA, accounting assistant, Business and Administration, (9/17/01)

**Linda C. Beyer**, CSA, secretary, Humanities-Music, (9/17/01)

**Deborah J East**, CSA, secretary, Humanities, (9/4/01)

**Thomas J Campbell**, Exempt, curator of mineralogy, Museum of Geology, (9/4/01)

**Rebecca P. Lust**, Faculty, instructor, Social Sciences, (8/15/01)

**Dr. Patrick D. Mackin**, Faculty, assistant professor, Social Sciences, (8/15/01)

**Christy J Heacock**, Faculty, instructor, Social Sciences, (8/15/01)

**Russell R Korzeniewski**, Faculty, instructor, Social Sciences, (8/15/01)

**Thomas R. Foertsch**, Faculty, instructor, Mining Engineering Program, (8/15/01)

**Dr. Benjamin Premkumar**, Faculty, associate professor, Electrical and Computer Engineering, (8/15/01)

**Dr. Thomas P Montoya**, Faculty, assistant professor, Electrical and Computer Engineering, (8/15/01)

**Dr. Kathryn E. Jansak**, Exempt, director of academic initiatives, Office of the Vice President for Academic Affairs, (8/15/01)

**Linda D. Carlson**, CSA, secretary, Graduate Education and Sponsored Programs, (8/20/01)

**Dr. Scott A. Williams**, Faculty, assistant professor, Chemistry and Chemical Engineering, (8/15/01)

**Dr. Keith W. Whites**, Faculty, professor and Steven P Miller chair, Electrical and Computer Engineering, (8/15/01)

**Kristy L. Allgier**, Exempt, head women's volleyball coach and intramural director, Intercollegiate Athletics (8/1/01)

**Derek D Gackle**, Exempt, residence hall director, Residence Life, assistant football coach, Intercollegiate Athletics, (8/1/01)

**Brent A Peterson**, Exempt, residence hall director, Residence Life, (8/1/01)

**William J. Arbegast**, Exempt, director, Advanced Materials Processing Center, (9/25/01)

**Linda D. Carlson**, CSA, secretary, Graduate Education and Sponsored Programs, (8/20/01)

**Tisha M. VanRavenhorst**, CSA, secretary, Surbeck Activities and Leadership Center, (9/4/01)

**Amy L. Schiltz**, CSA, secretary, Academic and Enrollment Services, (9/10/01)

### FAREWELL:

**Michelle Hargis**, CSA, Information Technology Services, (4/30/01)

**Leonard Carr**, CSA, Faculty/Staff Lounge, (5/10/01)

**Joyce Godfrey**, CSA, Humanities, (5/15/01)

**Bruce Berdanier**, Faculty, Civil and Environmental Engineering, (5/20/01)

**Arthur (Art) Alleger**, Exempt, Residence Life, (5/31/01)

**Craig DeTample**, Exempt, Children's Science Center, (5/31/01)

**Theresa (Terri) Roth**, CSA, Graduate Education and Sponsored Programs, (6/29/01)

**Dr. Francine Campone**, Exempt, Dean of Students Office, (6/29/01)

**Michelle Kleinhessel**, Faculty, Mathematics and Computer Science, (5/16/01)

**Charles Colombe**, Exempt, Information Technology Services, (6/15/01)

**Carol Hirsch**, CSA, Institute of Atmospheric Sciences, (6/15/01)

**Dr. Robin Lipke**, Faculty, Social Sciences, (7/20/01)

**Dr. Mitchell Stone**, Faculty, Social Sciences, (7/21/01)

**Dr. Cathleen Webb**, Faculty, Chemistry and Chemical Engineering, (7/31/01)

**Connie Mettelle**, Exempt, Intercollegiate Athletics, (7/31/01)

**Dr. E. Ashworth**, Faculty, Civil and Environmental Engineering and Mining Engineering Program, (8/01/01)

**Dr. John Bendler**, Faculty, Chemistry and Chemical Engineering, (8/15/01)

**Annette Sickler**, CSA, Business and Administration, (8/30/01)

### CHANGE IN POSITION:

**Julie Volimas**, CSA, secretary, transferred from Academic and Enrollment Services to SKILL, (4/11/01)

**Maureen (Reeny) Wilson**, Exempt, assistant director, Residence Life, and residence hall director for Connelly, accepted the position of director of residence life and judicial affairs, Residence Life, (6/1/01)

**John Lofberg**, has left the position of CSA, administrative assistant II, Office of the Vice President for Academic Affairs, to accept the position of instructor, Mathematics and Computer Science, (7/1/01)

**Bryan Schumacher**, Exempt, assistant director of computer networking services, Information Technology Services (ITS), will serve as acting director, ITS, for the next eight months for **Kata McCarville**, Exempt, director, ITS, who will be on leave as a Bush Fellow, (10/1/01)

## RESEARCH NOTES

*continued from page 25*

**Dr. Larry Stetler**, assistant professor, Department of Geology and Geological Engineering, received \$40,125 from the South Dakota Department of Game Fish and Parks for his project, "Channel Bottom Cementation and Sediment Yield Effects on a Natural Spawning Habitat in Spearfish Creek, S.D."

**Dr. Thomas Fontaine**, associate professor, Department of Civil and Environmental Engineering, received \$4,708 from the South Dakota Department of Game Fish and Parks for his project, "Analysis for Restoration of Water Quality and Supply for Fishery at Yates Pond, S.D." Fontaine also received \$9,975 by Cherokee/Aqua Metrics for his project, "Flood Frequency Analysis of Streams in South Dakota and North Dakota."



## PUBLICATIONS

**Dr. Mike Hudgens**, assistant professor, Department of Humanities, monograph, "Donald Barthelme: Postmodernist American Writer," recently was published. The book came out of research Hudgens did for several independent study courses toward his doctorate (USD 1998).

"I was interested in Barthelme before that because he and I were both alumni of the now-defunct Houston Post," Hudgens said. "Don reviewed art and film during the 1950s, and I reviewed theatre and film in the late 1960s and early 70s. I met him in 1972, when he was visiting the Post. I had read some of his work by then – short stories in the New Yorker magazine, the novel 'Snow White,' and two collections of short fiction, 'Sadness' and 'City Life' – and I had some understanding of the impact he and John Barth and Thomas Pynchon were having on mainstream literature.

"In fact, at that time it seemed as if postmodernist literature might marginalize conventional fiction. What he told me during our very brief meeting could not have been simpler, that he and some of the others were 'trying to make it new,'" Hudgens said. "In an interview he gave before he died of lung cancer in 1989, he talked about trying 'to make the windmill run backward.'"

That statement led to the book's cover design. "When the manuscript was accepted about a year ago, I wanted something special on the front cover, so I went down to Hermosa early one Saturday morning and shot a windmill," Hudgens said.

The monograph is not a trade book, and costs \$90. It is available in libraries. Hudgens also recently had a short story published in South Dakota Review literary magazine.

The story, "Renata Saved by Body-Man,"

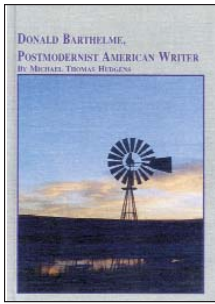
is in the Winter 2000 issue of South Dakota Review. The story is about a "depressed young woman carrying out her meticulously planned suicide" and "is rescued by an angel," Hudgens said.

Hudgens wrote the story in 1996-1997. "The Images in this story came first and needed to be put to paper," he said, "and at one time, there was a small San Francisco Police Department suicide squad that patrolled the Golden Gate Bridge in wrecker trucks."

Hudgens served on the editorial staff of

*South Dakota Review* while finishing his Ph.D. at the University of South Dakota.

The article "Point-spread ratings of NFL teams" by **Dr. Roger Johnson**, Associate Professor of Mathematics, has been accepted for publication in the journal *Math Horizons* and appeared in Fall 2001. The article describes a method of estimating the difference in score between two teams based on games already played. Ratings for the last three NFL seasons and for the upcoming NFL season may be found at [silver.sdsmt.edu/~rwjohnso/nflrank.html](http://silver.sdsmt.edu/~rwjohnso/nflrank.html).



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# You Are Invited . . . CALENDAR OF EVENTS

## NOVEMBER

### November 7

Final Day to fully withdraw & Receive refund

CAAP Exam 12:30 - 4:45p (*Ballroom*)

Volleyball DAC 10 Playoffs

### November 8

CAAP Exam 8am - 12:15pm (*Ballroom*)

College Bowl - 6pm

### November 9

Men's/Women's Basketball vs Dakota

Wesleyan - 6pm & 8pm

Veteran's Day Regional Chess

### November 10

Volleyball DAC 10 Playoffs

Men's/Women's Basketball vs Marty - 6pm & 8pm

### November 11-17

National Hunger & Homelessness

Awareness Week – Sponsored by

United Campus Ministry

### November 12

Veteran's Day Holiday - No Classes

### November 13

Volleyball Region 3 Playoffs

Men's Basketball @ Rocky Mt.

### November 15

Final Day to drop a class for a grade of "W"

Great American Smoke-out

### November 15-17

Drama Club Fall Performance 7 pm

(*Ballroom*)

### November 16

Volleyball Region 3 Playoffs

Women's Basketball SD Tech Classic - 7pm

### November 17

Volleyball Region 3 Playoffs

Men's Basketball @ Colorado Christian

Women's Basketball SD Tech Classic - 7pm

### November 22

Thanksgiving Holiday

No Classes

### November 23-24

No Classes

Men's Basketball Defender Tournament @ Dordt

Women's Basketball @ BHSU Classic - 5pm

### November 26

Men's Basketball @ U of Sioux Falls - 8pm

## November 28-30

Volleyball National Tournament (*Palm Beach*)

## November 30

Men's/Women's Basketball vs.

Jamestown 6pm & 8pm

## DECEMBER

### December 1

Men's/Women's Basketball vs. U of

Mary 6pm & 8pm

Concert Choir & Master Chorale

Concert 7pm (Lead)

### December 2

Christmas Concert (Concert

Choir/Master Chorale) - 7pm (*Christ Episcopal Church*)

### December 4

Parade of Trees (*Ballroom*)

### December 6

Children's Holiday Party 6:30pm

(*Ballroom*)

President's Holiday Dinner

### December 7

Men's/Women's Basketball @

Dickinson - 6pm & 8pm

### December 8

Men's/Women's Basketball @ Minot - 6pm & 8pm

### December 8-9

Concert Choir & Master Chorale

Christmas Concert - 8pm (*Lady of Perpetual Hope*)

### December 13-14

Board of Regents Mtg. (*Rapid City*)

### December 14

President's Graduation Reception

Men's/Women's Basketball vs. Mayville State - 6pm & 8pm

Symphonic Band, Jazz Band Winter

Concert - 7:30pm (*Rushmore Plaza Civic Center Theater*)

### December 15

Fall Graduation

Men's/Women's Basketball vs. Valley City State – 6pm & 8pm

### December 17-21

Final Exams

Textbook Buyback at Tech Bookstore

### December 24

Christmas Eve

### December 25

Christmas Day

### December 28-30

Men's Basketball @ Perkins Classic -

6pm - BHSU

Women's Basketball @ Menlo, CA Classic

## JANUARY

### January 5

Men's/Women's Basketball vs. BHSU

6pm & 8pm

### January 7-8

New Student Orientation

### January 9

Registration

### January 10

Classes Begin

### January 11

Men's/Women's Basketball @ Huron U – 6pm & 8pm

### January 12

Men's/Women's Basketball @ Dakota

State – 6pm & 8pm

### January 13

Friends of Devereaux Film Series – 6pm (*Elk's Theatre*)

### January 18

Final Day to add/drop a course And Adjust fees

Final Day to drop a course for 100% refund

Deadline for Textbook Refunds at Tech Bookstore – receipt required

Men's/Women's Basketball vs. Minot State – 6pm & 8pm

### January 19

Men's/Women's Basketball vs.

Dickinson State – 6pm & 8pm

### January 20

Friends of Devereaux Film Series 6pm (*Elk's Theatre*)

### January 21

Martin Luther King, Jr. Day

No Classes

### January 24

Faculty Recital - 7:30pm (*First Presbyterian Church*)

### January 25

Men's/Women's Basketball @ Valley City State - 6pm & 8pm

### January 26

Men's/Women's Basketball @ Mayville State - 6pm & 8pm

### January 27

Friends of Devereaux Film Series 6pm (*Elk's Theatre*)

### January 31

Men's Basketball @ BHSU - 8pm





# Tech Trivia

## Did you know that...

- Tech's Dr. Philip Bjork, former Director of the Museum of Geology, and paleontology students discovered the skull of a triceratops in 1981? The 1,500-pound skull was airlifted to a flatbed trailer and is now located in the Museum of Geology.



- The Tower on the Hill (TOH) was built in 1981 where the National Smelting Company's smokestack once stood?

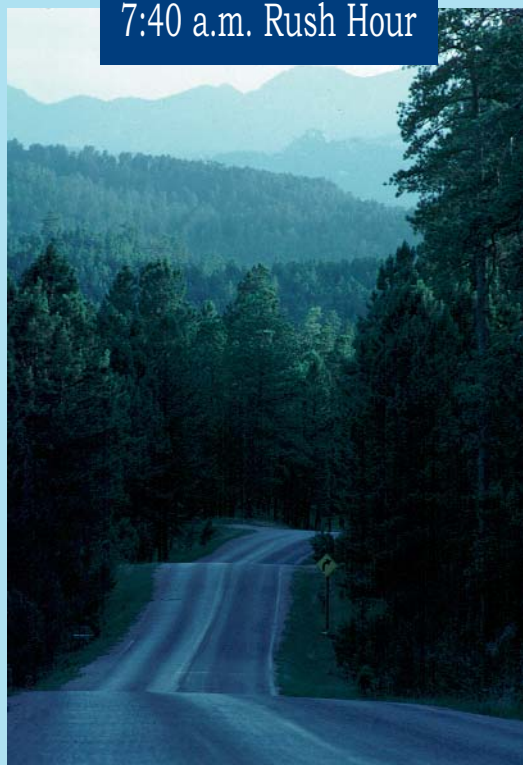


- A little girl, Helen McManus, was the mascot for the 1913 Tech football team, named the "Hardrock Men?"



5,000 copies of this publication were printed at a cost of \$1.35 each (printing costs only).

7:40 a.m. Rush Hour



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### Brent Schneider

*Daktronics project manager and SDSMT graduate*



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