



# Impulse

Jerome J. Lohr College of Engineering  
South Dakota State University Spring 2014

RAVEN

THE IMPACT OF  
**RAVEN**





## Dear **ALUMNI AND FRIENDS,**

**G**reetings from the Jerome J. Lohr College of Engineering. We near the end of another school year and start of another growing season. Life does seem to be a connected circle.

That is certainly true with the college and we see it in this issue of Impulse. Our purpose is student success, but that is dependent upon connections made by alumni and faculty. It is facilities, opportunities and commitments melded with the drive and initiative in bright, young minds that form the circle of a successful SDSU experience.

In February, we were excited to honor Dr. Nadim Wehbe as the first recipient of the John M. Hanson Professorship in Structural and Construction Engineering. Dr. Hanson's generosity has created the second endowed professorship in the college.

Of course, there are other ways to come alongside the college.

Several firms have made the step to help upgrade current facilities in Crothers and Daktronics Engineering Halls by sponsoring rooms. Many more opportunities are available in the Architecture, Mathematics and Engineering Building, which is scheduled for completion in early 2015. See Page 7 for a list of opportunities.

A partnership with Raven Industries has provided research opportunities for four of our students. Indeed, next year there may be more Raven internships with our students working at the Research Park at South Dakota State University, just a few blocks from where they take classes.

But know that it is not just corporations that can make an impact on our students. The gifts of individuals, particularly Dean's Club members, help make it possible for our college to produce these successful graduates.

For your gifts, we thank you. Always feel free to drop us a line or stop in for a visit if you're in our area. Remember, Jackrabbits are always welcome.

*Lewis Brown, Ph.D.*  
Dean of Engineering



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- **Kathryn Walker** '81, executive, Openair Ventures
- **Jim Wilcox** '76, manager of government and regulatory affairs, Xcel Energy

## ABOUT THE COVER

Four students in the Jerome J. Lohr College of Engineering serve as interns with Raven Industries at Raven's location in the Research Park at South Dakota State University.

From left is Shane Swedlund, facility and engineering manager with Raven Industries' Applied Technology Division, and SDSU students Chad Egeberg, Joshua McQuade, Tyler Etrheim and Nicole Westerman. See story Page 8.

## IMPULSE

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# Impulse

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# Reconnected

Ceremony brings Wehbe, Hanson together again after 12 years

“We all like to think we got here based on our own hard work ... (But) to grow professionally, you have to have a good support system.” —Nadim Wehbe

Nadim Wehbe, left, department head of the Department of Civil and Environmental Engineering at South Dakota State University, and John Hanson display medallions received at a Feb. 4, 2014, ceremony in which Wehbe was honored as the first John M. Hanson Endowed Professor in Structural and Construction Engineering at SDSU.



**T**welve years ago assistant professor Nadim Wehbe had a chance hallway meeting with renowned engineer John M. Hanson, a 1953 SDSU grad.

They were together again at the University Student Union Feb. 4, 2014, when Wehbe, a professor and department head of the civil and environmental engineering department, was recognized as the first recipient of the John M. Hanson Professorship in Structural and Construction Engineering at SDSU.

Their first meeting was in Phoenix at the 2002 fall convention of the American Concrete Institute.

Wehbe was in his fourth year at SDSU, having come from the University of Nevada-Reno. Hanson was the past president of the institute and was a well-known name in the field of concrete and structural engineering.

Wehbe heard Hanson say “South Dakota State University” as Wehbe was talking with a State grad in the hallway and introduced himself.

Wehbe told the 60 people gathered for the investiture ceremony, “I knew who he (Hanson) was, but I didn’t know he was a State grad. I never thought that 12 years later I would be the first recipient of the John M. Hanson Professorship. I truly am honored.”

#### **Endowed professors part of long-range plan**

But those words in the hallway aren’t why Wehbe now holds the Hanson Professorship.

Hanson, a Brookings native, signed an agreement Oct. 24, 2013, to create the endowed professorship. Wehbe was selected in January 2014 by a university committee and confirmed by Dean Lew Brown and Academic Affairs Provost Laurie Nichols.

Endowed professorships are a relatively new concept for the university, but it is a growth area, Nichols told the group.

By 2018, when the university’s current strategic plan culminates, there are to be 16 such positions, she said. There are now six—

one each in dairy, health and pharmacy, the dean of the College of Agriculture and Biological Sciences, and two in engineering.

David Galipeau was installed as the Harold C. Hohbach Endowed Professor in Electrical Engineering Nov. 10, 2011.

Nichols said endowed professorships address all four areas of the university’s strategic plan by enhancing academic excellence, lifting up the research profile of the entire college, growing highly collaborative, connected relationships with industry and university peers, and providing enhanced resources.

#### **Hanson a former endowed professor**

It is the enhanced resources part where Hanson stepped in.

He spent most of his career in private enterprise, including 20 years with Wiss, Janney, Elstner Associates in Northbrook, Ill., near Chicago. The firm specializes in solving civil engineering problems, and Hanson was its president from 1978 until his retirement in 1992.

For the last eight years of his career he was Distinguished Professor of Civil Engineering and Construction at North Carolina State University.

In that position, Hanson “recognized the many advantages that the professor had,” he said.

Those advantages included being able to support the research work of a graduate student, travel to professional functions and participate in industry activities. The Hanson Professorship at SDSU will offer Wehbe similar benefits, Brown said.

The Hanson Professorship is funded with a \$1 million endowment, which provides income for a salary stipend to the faculty member plus discretionary funding for student support, research, travel and other scholarly activities.

The funding is permanently endowed and the selected faculty member serves terms of five years with no limits on reappointment.

#### **Six others join Hanson with gifts**

As the name of the professorship implies, Hanson was the primary contributor, but he was joined by a number of others:

- Wiss, Janney, Elstner Associates;
- Gage Brothers Concrete of Sioux Falls, a family-owned business specializing in precast concrete and a major contributor to the college’s new Architecture, Math and Engineering Building;
- Jerry Lohr, a 1958 civil engineering graduate who, in addition, has given in excess of \$10 million for college construction projects;
- Oren Strom, a classmate of Hanson whose career was with the Air Force and the University of Colorado-Denver;
- Ian Chin, vice president and senior principal of Wiss, Janney, Elstner;
- George Lohr, a classmate of Hanson and a retired justice of the Colorado Supreme Court.

#### **Structures program a college strength**

Dean Brown commented that the Hanson Professorship “strengthens us in an area where we already have strength.” This is by no means the first honor for Wehbe. He was named a fellow of the American Concrete Institute in March 2012 and received the same honor from the Structural Engineering Institute April 5 (see story, p. 24).

In addition, he was named the college’s researcher of the year in 2011 and won the college’s Grantswinship Award in 2011, 2012 and 2013.

Wehbe has served as director of the Jerome Lohr Structures Lab since it was created in the 2002 addition and renovation of Crothers Engineering Hall. He also guided





the equipping of the 4,000-square-foot, high-bay structures lab.

The lab is the only one of its kind in the Dakotas and has been embraced by industry as a testing facility.

### 'Good support system' aides Wehbe

In Hanson's remarks Feb. 4, he said the program still has needs, particularly for equipment and named scholarships. He said he wants the program to continue to be lab-oriented. "I hope it will not become a computer class. Students need to see how structures really function."

Undergraduate students can take electives in structural engineering, and there are 10 students pursuing a master's degree in civil engineering with a structural engineering emphasis.

Without "top-notch graduate students," Wehbe said his research program would

have been "next to nothing. Without that lab, our graduate program would have been at a much smaller scale." The support of colleagues, college administration and family also put him in position for the professorship, he said.

"We all like to think we got here based on our own hard work ... (But) to grow professionally, you have to have a good support system," Wehbe said.

That support system includes acquaintances he has developed within industry.

Wehbe said he plans to continue to develop that network.

"(In March) I will be at the ACI convention, and I will be proudly wearing my new title—John M. Hanson Professor of Structural and Construction Engineering," Wehbe said.

*Dave Graves*

## Many duties

But above all Wehbe thrives on research

Nadim Wehbe already is a man with many titles:

- Professor and department head in civil and environmental engineering;
- Director of the Jerome Lohr Structures Laboratory;
- Director of the Mountain-Plains Consortium Regional Transportation Center program at SDSU;
- Chair of the Structural Engineering Institute's South Dakota technical group.

But on Feb. 4, 2014, he gained a title that he believes will even further advance his research career. Wehbe was named the first recipient of the John M. Hanson Professorship in Structural and Construction Engineering.

The professorship was created through a \$1 million endowment, which provides funds annually for a salary stipend to the faculty member plus discretionary funding for student support, research, travel and other scholarly activities.

Wehbe, 55, holds the title for five years and can apply for reappointment.

He said he plans to use the new position and resources to advance his scholarly activities and expand the research program in structural engineering.

Having a source of discretionary funds means he will be able to cover expenses of conducting exploratory studies and generating preliminary data on some promising research ideas without the need to go through a waiting period to secure a sponsor.

"For example, I can now recruit graduate and undergraduate research assistants to help me conduct those initial studies. The results could be used later to make the case for a comprehensive-sponsored research study," Wehbe said.

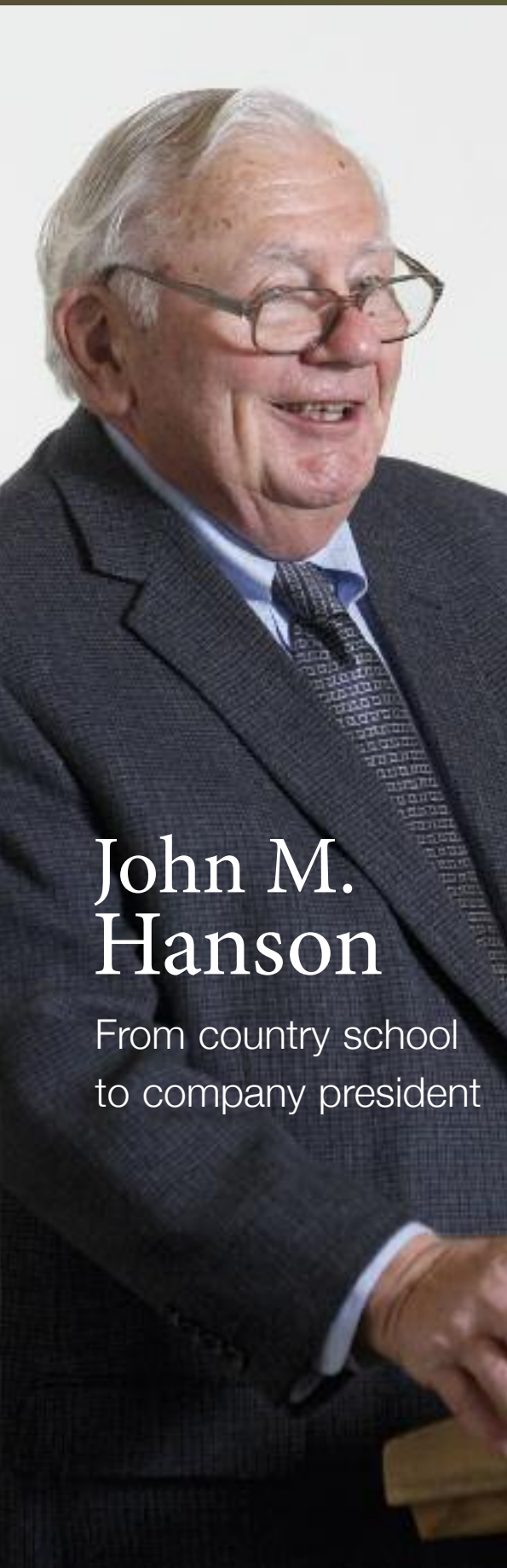
Areas that he is considering further study include developing innovative precast concrete structural components for residential and commercial buildings and highway structures, and investigating the potential of using advanced materials and innovative technologies in structure construction.

He said that lure and excitement of discovery continues to fuel his desire to do research, even though his administrative duties have expanded.

"When you add to that the satisfaction of mentoring young men and women to become the best in their field, you end up with an irresistible incentive to continue doing research," Wehbe said.

*Dave Graves*

Above: From left, Dean Lew Brown, Nadim Wehbe, John Hanson and Provost Laurie Nichols.



# John M. Hanson

From country school to company president

**B**eginning in country school and continuing through college, John M. Hanson was known for stepping up to take on a challenge.

The 1953 civil engineering graduate started his career fulfilling a two-year Air Force commitment, during which he oversaw the construction of an Olympic-sized swimming pool in South Korea. He then designed bridges for Sverdrup and Parcel, an engineering firm in St. Louis.

A year later he had enrolled at Iowa State University. By age 25 he had earned his master's degree in structural engineering and was working with Banner and Associates in Laramie, Wyo.

He moved to Denver in 1958 to work as Banner's representative with Phillips-Carter-Osborn designing a bridge over the Snake River near Jackson Hole, Wyo. Following the completion of the design, he stayed with Phillips in Denver until 1960, when he decided to pursue a doctorate at Lehigh University in Pennsylvania.

After earning his Ph.D. in 1964 and teaching for one year at Lehigh University, he worked for seven years in the structural laboratory of Portland Cement Association doing research on the strength and behavior of concrete structures.

But he is most defined by his 20 years at Wiss, Janney, Elstner Associates, where he spent 14 years as president, retiring in December 1992. The Chicago-based firm, which has more than 500 employees nationwide, specializes in solving civil engineering problems.

The year he retired from Wiss, Janney, Elstner, his peers tabbed him for membership in the National Academy of Engineering, one of the highest professional honors accorded an engineer.

## **Roots nourished at one-room school**

But way back in 1945, his teacher at Grand View Country School just north of Brookings knew Hanson had the potential for big things. The one-room schoolteacher figured the school's only seventh-grader was capable of learning what she was teaching the three eighth-graders.

That was the case. He also posted high marks at Brookings High School, graduating in 1949 and heading to college at age 17.

Though Hanson's father was a railroad mail clerk, the family lived on a farm three miles north of Brookings until 1948, when they moved into town.

From 1949 to 1952, he worked summers for construction companies on Missouri

River dam projects. Thus it was natural that he became interested in SDSU's civil engineering program, headed by Emory Johnson, Hanson said.

Like most males in that era, he was in the ROTC program and advanced to Air Force cadet colonel in his senior class.

## **Esteemed by college classmates**

But it was in engineering where he really turned heads. Classmate Oren Strom said, "Even though we kidded him a lot about his academic record, we very much respected him. We used to joke, 'John didn't have to remember the formulas. He derived them.'"

Indeed, he was a member of Sigma Tau, the engineering honor society, as well as eight other groups and was selected for Who's Who among Students in America.

Hanson's doctoral thesis at Lehigh University was "Shear Failure of Prestressed Concrete Beams."

That work led to a job offer from Portland Cement Association. "I wanted the additional experience of research at a very well-known structural laboratory," he said.

## **A career studying failures**

While working with Portland Cement, based in Skokie, Ill., he became acquainted with engineers at Wiss, Janney, Elstner, which specialized in solving engineering failures. That produced a job offer.

Most of his assignments with the Northbrook, Ill., firm were comparatively routine—analyzing problems and failures in concrete construction, for example.

However, he also was project manager on some high-profile investigations, including the collapse of sky bridges at the Hyatt Regency Hotels in Kansas City in 1981 that took the lives of more than 100 people, and the Schoharie Creek Bridge collapse on the New York State Freeway that killed seven people in 1987.

Reflecting on the success in his career, he sees hard work as an opportunity for high-profile work experience and professional involvement.

Bill Nugent, the current chief executive officer of Wiss, Janney, Elstner, who was hired by Hanson, also sees "a consummate professional, an exceptionally talented structural engineer, a steadfast leader and a devoted teacher.

"John taught me a lot about being a consulting professional, particularly about effectively communicating investigative results."

*Dave Graves*





# Sponsored Room

Opportunities for

## Architecture, Mathematics, Engineering

The construction of the Architecture, Mathematics and Engineering Building is just the latest facility upgrade in the Jerome J. Lohr College of Engineering. Scheduled for completion in early 2015, it is the fourth construction project for the college since 2002.

In addition to having the college named in his honor, Jerry Lohr has played a significant role in raising funds for the various building projects whether it is a new building or an upgrade to an existing one. The ability to update facilities allows the college to continue its climb up the various rankings, including the most recent listing in the EE Times, an online resource for people in the global electronics industry. After conducting interviews with faculty at Stanford and the Massachusetts Institute of Technology as well as the U.S. News and World Report annual rankings, EE Times ranked the Lohr College ninth in a list of 10 engineering schools considered “up-and-comers” among higher education options.

“An obvious aspect of high-quality facilities is their resulting positive impact on our educational classrooms and laboratories. However, the facilities of the college also play a critical role in our ability to attract and retain the most talented faculty members who will also use the facilities to advance research and scholarly works. Attracting high-performing faculty helps us attract the highest-performing students,” said Lew Brown, dean of the Lohr College of Engineering.

“We are not even finished with our most recent building project and already our present new and renovated facilities have had a measurable impact on our recruitment of top-performing faculty and students. It should be clearly understood by all that we could not have done it without the strong financial support of our many friends and corporate partners.”

The list of friends and corporate partners who have sponsored rooms is extensive. Here are a few profiles of recent donations.

### GeoTek

The GeoTek classroom in Crothers Engineering Hall is one of several spaces that provide students the latest in technology.

“Jerry Lohr and Tim Reed reached out to us a number of years ago to consider a donation,” said Ralph Lindner, president and owner of GeoTek Engineering and Testing Services of Sioux Falls. He is a 1975 civil engineering graduate.

Lindner said Bruce Berdanier, former head of the civil engineering department, and Associate Dean Rich Reid also influenced him on the room’s development.

“Dr. ‘B’ and I had a couple conversations ... those put me closer to making the decision,” said Lindner. “We talked about the need for it and we connected on that issue and then it happened. I was pleased with how nice things looked. I enjoyed the moment and glad I made the decision to sponsor the classroom.

“It’s a personal decision. You have to have that mindset,” he continued. “About 40 years

ago, my parents bought me an electronic slide rule, (Texas Instrument calculator), for Christmas. The calculator, along with some timely advice from professor Arden Sigl, allowed me to successfully do the work, complete my courses and graduate from school. I look at the improvements to the classroom as a learning or teaching aid that will help other students complete the courses and graduate the same way as the Christmas gift from my parents helped me.”

In addition to the monitors and other upgrades, students get a look at their potential career.

This is a beautiful new classroom, which has the latest in classroom instructional technology,” Brown said. “The GeoTek pictures on the walls also show the many students who enter the classroom every day fascinating engineering projects that can help them visualize their future professional careers. We could not have done this significant renovation without the generous financial support of GeoTek, and we are very grateful for their support.”

### Banner Associates

Creation of the Banner Capstone Laboratory in Civil Engineering in Crothers is just one of several donations Banner Associates of Brookings has made to the college.

“For us, it’s a way to give to SDSU for everything it has done for our organization and engineering as an overall business,” said former president Daryl Englund ’72. “We have



invested through the years in several of the different campaigns.

“This last investment has been directed to the capstone design room in Crothers and it’s more specific to civil engineering as a majority of our technical people are in that field,” he continued. “What we wanted to do was create an area that would be very similar to an office the students would see in the real world. We always took a strong interest in the capstone design projects but noticed that where they were being conducted, it was not a good setting,”

Banner has also sponsored the Cal Vaudrey Conference Room in honor of its founder. Englund and previous Banner presidents, in addition to Lohr, contributed to that project.

“We owe Banner and the friends of Cal Vaudrey so much for this new space,” Brown said. “It started with a very creative vision from Banner Associates for a state-of-the-art ‘laboratory’ that looks and feels like the same professional work environment used in modern engineering firms. Our senior civil engineering students absolutely love the new facilities and take great pride in using them. This is another example of a substantial enhancement for our program and students that would not have been possible without the generous financial support of our friends and stakeholders.”

### DGR Engineering

With an office in Sioux Falls and two in northwest Iowa, DGR Engineering has

successfully hired dozens of SDSU graduates. One is Blair Metzger, a 1986 graduate in electrical engineering. Metzger is now the president and CEO of DGR Engineering.

“Our management team discussed the need to support those entities that will be key to our future success, which is directly tied to recruiting the right type of engineering graduate,” said Metzger, noting that a personal visit from Lohr helped the discussion. “By becoming a sponsor, we not only are able to give support to the Jerome J. Lohr College of Engineering as it develops those students, but also are able to get our name in front of students whom we may wish to recruit.

“The room that bears our company’s name is a state-of-the-art learning space, set up to maximize the use of technology and collaboration among students,” he continued. “It is an impressive space, and we are glad to be associated with it.”

In addition to sponsoring a room, DGR employees fund five Jackrabbit Guarantee scholarships from annual contributions made by 20 of the State alumni at DGR.

“I would encourage others to make a similar commitment as the entire region ultimately will benefit through the development of tomorrow’s engineering leaders,” he said. “With the importance of having a source of quality students nearby as we grow our company, it makes sense for us to become part of the exciting things happening at SDSU.”

*Matt Schmidt*

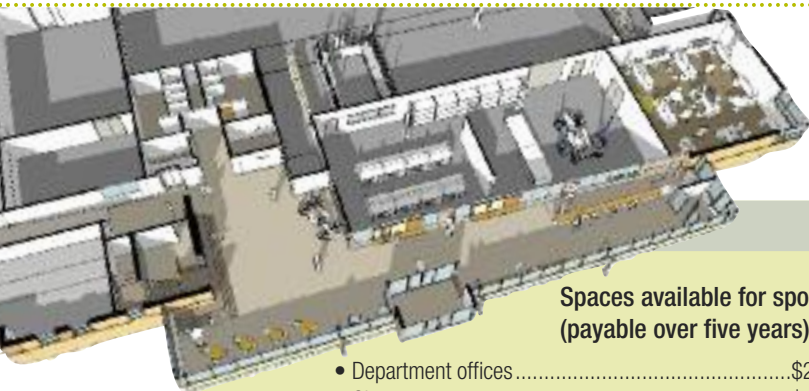


**Top photo:** Chris Jankowski, left, and Nicholas Rock review assignments while preparing for an upcoming presentation in the Cal Vaudrey Conference Room.

**Second:** Students review assignments in the Banner Capstone Laboratory in Civil Engineering.

**Third:** New monitors and field photos decorate the GeoTek classroom in Crothers Hall.

**Bottom:** DGR Engineering sponsors an active learning classroom in Daktronics Engineering Hall. In addition, DGR Engineering employees fund five Jackrabbit Guarantee scholarships.



### Spaces available for sponsoring (payable over five years)

- Department offices .....\$25,000/\$35,000
- Classrooms .....\$50,000/\$100,000
- CEE Department Office Suite .....\$250,000
- ME Department Office Suite .....\$250,000
- Lohr College of Engineering Dean’s Office Suite ....\$500,000
- Math Help Center .....\$50,000
- Production Laboratories .....\$50,000/\$300,000
- AME Gathering Space .....\$500,000

If you or your company has an interest in sponsoring a space in the Jerome J. Lohr College of Engineering buildings, please contact Tim Reed, development director for the Lohr College of Engineering, at 888-747-7378 or [tim.reed@sdstatefoundation.org](mailto:tim.reed@sdstatefoundation.org).



# Raven Partnership

provides internship opportunities

The partnership between Raven Industries, SDSU and the Research Park at South Dakota State University has provided internship opportunities for four Jerome J. Lohr College of Engineering students.

Chad Egeberg, Tyler Etrheim, Joshua McQuade and Nicole Westerman are working with Raven at the Research Park location. Egeberg, Etrheim and Westerman are working in Raven's Applied Technology Division while McQuade is involved with Raven's Aerostar Division.

"We're doing a combination of projects with the interns," said Shane Swedlund, facility and engineering manager with Raven Industries' Applied Technology Division. He oversees the interns' work in Brookings.

Raven's Applied Technology Division provides electronic precision agriculture solutions and information management tools designed to reduce operating costs and

improve yields for the global agriculture market.

"We have a few projects that are research-based—ones where they are looking into some different areas or technologies that we may consider integrating with our precision agriculture products," said Swedlund. "We also have our interns working on current active projects—real development projects—that we're planning on bringing to market."

"With the different areas of engineering that SDSU offers—great programs with a solid reputation—along with the agricultural emphasis at the university, such as ag engineering, applied technology systems and plant sciences, for what our Applied Technology Division does, it's a great fit."

#### Perfect fit

By combining his agriculture background with his engineering education, Tyler Etrheim saw Raven as a perfect fit.

He met with Raven at the fall 2013 Lohr College of Engineering Career Fair. After interviewing, he felt it was a great opportunity and one that allowed him to work with an outside company during the school year.

"My dad (Bryan) is a farmer and my uncle (Rob) also farms with him. I've grown up around a lot of ag machinery so I have an aptitude for that," he said. "Having the ag background helps because almost every project I'm going to be working on deals with precision farming technology. Having at least a little bit of experience with the machines our products are going onto and knowing how they actually work helps me have a better understanding of it all."

He's currently working with a sensor that measures red and near infrared spectral bands to determine plant health. Etrheim plans to be in various fields this growing season to take readings and collect data to



better understand differences of the sensors and advantages of these systems.

While Etrheim has a hands-on approach to a product, Nicole Westerman works to improve products by developing software.

"I actually thought about being an ag engineer for a while but just decided that wasn't quite what I wanted to do, so this is a nice opportunity," said Westerman, who is majoring in computer science. "Specifically, I'm working on a light bar guidance module for Raven's new Viper® 4 field computer.

"One of the big differences between the classroom and this (work) is the guidance system is a much larger project; a lot more code than any of the programs we've run in class," she continued. "In class, we cover all of the basics and learn how to implement things but on a much smaller scale. This project takes all that and lets you really see how much code is needed to make a program work."

Swedlund said plans for Westerman and future software interns will be to develop applications that will be added into ROS (Raven Operating Software). Westerman's current project provides on-screen guidance



**Above:** Shane Swedlund, facility and engineering manager with Raven Industries' Applied Technology Division, demonstrates aspects of Raven's new Viper 4® field computer to Joshua McQuade.

**Left:** Tyler Etrheim uses a sensor to determine plant health. He plans to visit area fields to collect data to hone the sensor.



Joshua McQuade works on a design to build parts for balloons and tethered aerostats with Raven's Aerostar Division.

so growers or custom applicators can see what direction to steer, in order to prevent costly overlaps or skips in the field. The module will also interface with Raven's SmarTrax assisted steering system.

Chad Egeberg had worked full time at Raven for four years before deciding to pursue his degree full time at State, after some of Raven's engineers encouraged him to continue college. He's using his background and education to test Wi-Fi and Bluetooth modules using the Raven field computer systems.

"As a result of continuing my education, I now have a better understanding of how the electronics work, why they are designed and constructed the way they are," he said. "Before, as a technician, I just had to figure out why the product didn't work. As a technician, sometimes you change out a component not knowing exactly why it was bad, but when you change out the part the unit starts to work so you are satisfied. Now, because I have a better understanding of how the electronics work, I also have a better understanding of what caused the failure."

#### **Aerostar division**

When initially told about working for Raven Industries, Joshua McQuade had never heard of the company. After a quick tour of the firm's website, he applied.

"I've always had a love for rockets, space and airplanes—that was the industry I was looking to get into with my mechanical engineering degree," said McQuade, a senior from Sioux Falls.

Raven's Aerostar Division has been working closely with Google in Project

Loon, a pilot project designed to provide wireless Internet access to millions of people worldwide. This innovative solution uses Raven Aerostar high-altitude balloons. In addition to assisting with Project Loon, McQuade has been designing assembly jigs to build parts for balloons and tethered aerostats in a safe and efficient manner.

#### **More internships possible**

Swedlund said plans are to have a minimum of four full-time internships available this summer in Brookings, along with additional opportunities at Raven's office in Sioux Falls. He said Raven is also looking to hire a full-time design engineer for the Brookings' office this year. Raven hopes to have five or six internships available for the upcoming fall semester and plans on additional growth to the internship program in 2015.

Swedlund is pleased with the work shown by the interns and looks forward to what they and future interns will do.

"We hope that the internships give experience with real applications, as well as interaction with other engineers at Raven Industries," Swedlund said. "Many of our interns are assigned a mentor from our Sioux Falls office whom they work closely with for their project development. The mentor program allows for that interaction within our engineering teams, as well as other departments in our company. It helps them to get to know Raven, and after that experience, hopefully Raven will be a company they want to work for after graduation."

*Matt Schmidt*

# Scholarships Investing in Students



## Loyal Jack gives back Dale M. Stevens Scholarship

**D**ale Stevens '62 said he was not always a "stellar student," but worked hard and enjoyed his college years.

"I always wished there was some kind of scholarship program for the underdog," said Stevens. "There were scholarships for the high achievers, but nothing for the students who worked hard and needed a little help."

That feeling inspired Stevens to start a scholarship endowment of his own.

Stevens notified the SDSU Foundation of his intention to fund the scholarship with a \$100,000 bequest in his will. Stevens has directed the bequest to support civil engineering students entering their junior or senior years and enrolled in ROTC. However, preference will be given to Army ROTC students.

From a young age, Stevens, originally from Boyd, Minn., enjoyed small construction projects—birdhouses, mini airplanes and ship models.

He transferred that gift for hands-on work to his college education.

Anytime he was asked what he wanted to do after high school he answered, "I guess I'll be an engineer."

In 1957, he started his military career and joined the Minnesota National Guard. "I came from a small high school—there were 21 in my graduating class, so, it felt like I was

hitting the big time when I enrolled at South Dakota State College in Brookings," said Stevens.

When Stevens enrolled in the engineering program, the curriculum was under review and not yet accredited. "It didn't make any difference to me," said Stevens. "I was interested in engineering because, growing up, my dad sold culverts to road construction companies and townships."

At State, ROTC was mandatory for all men their first two years, and Stevens' prior National Guard experience helped him excel. In civil engineering, Stevens' specialty coursework was in concrete and steel design.

He lived in Harding Hall his freshman year, followed by Scobey Hall his second year.

"Two of my good friends, Dr. Errol EerNisse and Al Tuntland, have made significant contributions to SDSU," said Stevens. "Although I can't do as much as they have, I want to contribute to the institution that has provided my career."

During his time at State, Stevens represented the civil engineers on the Joint Engineering Council and was on the ROTC brigade staff his senior year.

"Sophomore year, I joined the civil engineering student group," he said. "We had monthly meetings, and one of the biggest reasons I went was because Dr. Anderson,

who taught sanitation, asked a quiz question about the meeting the next day. We had some fun, too, so it was beneficial."

Having met the academic requirements one semester, Stevens was invited to join Chi Epsilon Civil Engineering Honor Society, and was a representative at the national conference in Illinois.

### Applying his skills

His senior year, Stevens was designated as a distinguished military student and accepted a U.S. Army commission as a second lieutenant in the U.S. Army Corps of Engineers.

In 1969, Stevens was assigned as an associate professor of military science at South Dakota School of Mines and Technology. Alongside his instructor duties, he enrolled in the civil engineering graduate program and graduated in 1973. During the last month of final exams he also took the South Dakota Professional Engineering Exam.

During his 20 years of active duty, Stevens' schedule rarely slowed traveling to Panama, Okinawa, Vietnam, Thailand and the Philippines, and 49 of the 50 U.S. states.

His last duty assignment was as an adviser to the Alabama National Guard, 1169th Engineering Group. He retired from active



duty in 1983 and elected to stay in Huntsville, Ala.

After his military service, Stevens worked for various corporations as a senior professional engineer contractor. He supported the national chemical demilitarization program and later construction activities of target and missile defense facilities for the U.S. Army Strategic Defense Command and the Missile Defense Agency.

He is active in the American Society of Civil Engineers, has served in every leadership position at the local and state level. He holds professional engineer registration in South Dakota and Alabama, and is an American Society Civil Engineer Fellow and a Life Member.

Today, Stevens and his wife, Marianne, reside in Huntsville, and have two grown children. Their daughter Joan lives with her husband, Peter, and their son in Los Angeles, Calif., where she is a teacher, and their son Jeff lives with his wife and three children in Huntsville where he is the chief engineer for the Integrated Air and Missile Defense program office.

### Hobo Day in the South

Over the years, and numerous trips around the world, Stevens never left behind his Jackrabbit roots.

“I had a lot of good friends in college, and some of them I’m still in touch with,” said Stevens. “We send Christmas cards and email back and forth.” He returned to State for his 25- and 50-year class reunions.

Stevens flies an SDSU flag outside his home every Jacks football game day, and emails his buddies score updates afterward.

He has always had a strong sense of school pride, to put it lightly.

And even though he lives more than a thousand miles from Brookings that doesn’t stop him from celebrating Hobo Day each year.

Stevens and his wife have hosted Hobo Day in the South for more than 20 years and guests include State alums from below the Mason-Dixon Line.

It all started one day when Stevens was driving behind a vehicle with an SDSU decal in the window. He had followed the vehicle many times before he found a way to meet the driver. “I stopped behind the car at a red light, ran up to his window and handed him my business card,” said Stevens. “I’m sure he was a little confused, but in a city of 150,000 people, it was the only way I knew to connect with him.”

Stevens received a call from the driver, Lane Mousel ’78, a couple of days later.

“We had also seen a ’65 Mustang with a South Dakota license and a military sticker

on the windshield,” said Stevens. “Lane thought he knew the individual who turned out to be the Col. Wil Etbauer, ’66 grad.

The three met at the Etbauer’s home and decided to arrange a gathering of the Hobos.

“I called up to the SDSU Alumni Association and Barb Koenders gave me a list of alums from Alabama and Tennessee,” Stevens said. “I started calling, emailing and writing former students asking if they wanted to get together. I thought, what the heck, we have enough students down here we should celebrate our school.”

The first couple of years, the Hobos telephoned WNAX in Brookings for a game connection, and they hooked an amplifier to the phone to hear the game. Their means of hearing the game improved over the years, “last year we watched the game on an 80-inch TV,” said Stevens.

*Karissa Kuhle*

A crew of Hobos joined together at Stevens’ Alabama home for Hobo Day in the South 2013. Front row, left to right, Carol Reimer ’67, Cecil Mousel ’41, Georgia Mousel ’41. Second row: Paul DeSmet ’84, Harvey Reimer ’66, Kate Mousel ’78, and Dale Stevens ’62. Back row: Wil Etbauer ’65, Joan Etbauer ’66, Lane Mousel ’78 and Brice Gamble ’53. Future Staters in the front are Elijah Stevens (Stevens’ grandson) and Ben DeSmet.  
**Inset:** Dale Stevens

## The gift that grew Emmett Myhre Endowment



At age 87, one can’t expect much time to grow a scholarship gift.

But thanks to good health and a favorable market, Emmett Myhre, of Missoula, Mont.,

was able to see his gift for future mechanical engineering students grow from an estimated \$200,000 in 1997, to a bequest of \$330,000 by the time he died at age 102 on June 4, 2013.

“We appreciate alumni who think of the university when planning their estate,” said Tim Reed, development director for the Jerome J. Lohr College of Engineering. “The endowment provided by Mr. Myhre’s will provide up to \$13,000 of scholarship funding annually to mechanical engineering students starting in 2015.”

In addition to SDSU in his estate plan, Myhre was a long-time contributor to the college’s Phonathon.

In a 2009 interview after making a \$500 pledge to continue membership in the Dean’s Club, Myhre matter-of-factly said, “It helps the college a little bit.” At that point the 1936 mechanical engineering graduate had been giving to the Phonathon for 21 years.

Myhre recalled that he was “fortunate enough to have jobs and was able to get a loan” to pay for college.

Of course, he also remembered that tuition was \$24 per quarter—\$72 for the whole year. “I could be a dollar or two off,” he said.

He probably wasn’t. Myhre grew up in an era when every dollar counted, and so did the pennies. He thought about pursuing a career in dentistry, but knew he couldn’t afford the education for that. Because of the economy, it was an eight-year process for him to get his engineering degree and included two years at Augustana College.

He enrolled at State in fall 1933. After graduation, Myhre spent five years with Northern States Power Co.

He then joined the U.S. Bureau of Reclamation, first working nine years at the Hoover Dam in Nevada and then at Hungry Horse dam and power plant in Montana, involved mostly in the power plant equipment installation, but eventually becoming superintendent.

Myhre also worked on a hydroelectric plant in Palisades, Idaho, on the Snake River.

He worked a total of 35 years in the engineering field, retiring in May 1971. That meant he was retired for 42 years—seven years longer than he worked. He kept active with Rotary, playing his parlor grand piano, church work and riding an exercycle.

Of course, he also took time to connect with callers from his alma mater and created a way it won’t forget him.

*Dave Graves*



## Distinguished Scholars Weekend an impacting first impression

Each year, top-performing high school students make a trip to SDSU for Distinguished Scholars Weekend.

“First impressions are everything,” said Richard Reid, associate dean for the Jerome J. Lohr College of Engineering. “We want to make sure prospective students get a great first impression. It can make the difference of them choosing State, or going somewhere else.”

That’s why Reid, along with the rest of the Scholars Weekend committee, puts effort into making the weekend engaging, educational and a positive picture of what a student’s life at State can be like.

Scholars Weekend brings in students who are in the nation’s top 5 percent in terms of their ACT score. Thanks to planned gifts and donations, typically more than 80 percent of students interviewed for these significant scholarships at Scholars Weekend choose to attend SDSU.

Students are interviewed for various Lohr College of Engineering scholarships including the Stephen F. Briggs and Jerome J. Lohr scholarships. Non-engineering students also attend the weekend event.

Each student who attends receives a substantial scholarship, and Admissions and engineering faculty determine where each scholarship goes.

The weekend affair includes a welcome banquet, an interview, a campus tour and information sessions with professors, faculty and current SDSU students.

Students and their families stay in hotels in Brookings, however Friday night after the banquet, students spend time with current SDSU students relaxing and playing games, and acclimating themselves with the residence halls and student life.

Saturday is the day the 15-minute scholar interviews are held. Students can also go on campus tours and inquire about campus

activities. A luncheon wraps up the weekend events.

### From interviewee to host

Current students act as hosts for the weekend.

Austin VanderWal, a junior mechanical engineering major, remembers being one of those eager high school students at Scholars Weekend.

He attended as a high school senior in 2011, and began receiving the Briggs renewable scholarship his freshman year of college.

VanderWal, originally from Volga, expects to graduate in May 2015, and is considering graduate school.

“Before Scholars Weekend, I had been to campus a lot,” said VanderWal. “I basically grew up coming to campus. My mom, dad and grandma all went to school here, so, I come from a long generation of SDSUers.”





Having visited campus many times before, VanderWal knew what to expect, but was further motivated to attend.

“Everything was set up really nice, and the people putting it on were welcoming,” he said. “I was just nervous for the interviews.”

His scholar interview consisted of answering questions in front of a nine-person board. “There was a rep from each engineering department,” said VanderWal. “I knew one of the interviewers—Kurt Bassett, head of the mechanical engineering department—because he lived just down the street from me. It was comforting to see a familiar face.”

VanderWal also went through two musical auditions that weekend—one for a vocal scholarship and one for a trumpet scholarship, which he received.

For VanderWal, the Friday night following the banquet was memorable. “We hung out and played pool and talked to current students,” he said. “It was pretty cool, but I knew I had a big day ahead of me.”

This year, VanderWal was a Scholars Weekend host, and led a prospective student and family around.

His duties included answering questions, taking the family to events and making them feel comfortable at State.

### Bright future

VanderWal said receiving the Briggs scholarship motivated him to explore other campus opportunities.

Aside from his engineering studies, VanderWal is doing undergraduate research with mechanical engineering professor Stephen Gent and instructor Mike Twedt.

He is working on maximizing the energy efficiency of corn dryers. “It’s nice because I

get to apply what I learn in class to real-life situations,” he said.

VanderWal has stayed active during his time at State by serving as:

- Vice president of SDSU’s branch of the American Society of Mechanical Engineers;
- Lead designer and builder of the winning 2012 ASME Hobo Day float “Saturn V Rocket”;
- Briggs Scholars Students’ Organization co-president;
- Events coordinator for the 2013 Hobo Day Committee;
- Admissions Ambassador;
- Trumpeter in The Pride of the Dakotas, Brassline, concert band and pep band;
- Pi Tau Sigma (Mechanical Engineering Honor Society) member;
- Jackrabbit Yearbook editor;
- Students’ Association Senator;
- 2011-12 State FFA Ambassador for South Dakota; and
- Singer in the Statesmen men’s choir.

This summer, he’s getting married to another State student, Vanessa Dykhouse—a music education major.

After college, VanderWal wants to work with an agricultural company in the Midwest.

“I grew up on a farm, and I love ag,” said VanderWal, who started a side business round-baling for area farmers. “And mechanical engineering is very broad, so I’m sure I will find a career related to both ag and engineering with my degree.”

### Important contributions

Scholars Weekend, formerly known as Briggs Weekend, has been held since 1962.

According to Reid, it’s the scholarship donors who make this successful weekend possible.

“Because of the help from financial donors throughout the years, SDSU has invested significant funding into updating academic facilities, athletic facilities, residence halls, the Union, the Wellness Center and many others,” said Reid. “Those improvements and the increase in research has made SDSU much more attractive to high-performing students. As recently as 2002, there were only 20 students with an ACT higher than 30 who applied to the Lohr College of Engineering. This year, there were 64 students in that ACT range who applied as of January. The scholarships and campus improvements have had a significant impact of the number of high-performing students choosing to apply to, and attend, SDSU.

“But it takes scholarships to get them here—usually on the order of up to \$5,000 a year,” Reid said. “Some alumni may not realize that, now, four years of college (tuition fees, room, board, books) costs more than \$60,000 in many cases.

“In 1976, it was less than \$10,000 for four years. A student isn’t going to make \$60,000 during a summer job—they need these scholarships. And with the decrease of state aid, we are looking to come up with more scholarships for students.”

*Karissa Kuhle*

**Opposite:** High school students and their families wrap up the weekend with a luncheon.

**Above, from left:** Jeremiah Atkinson, a biology/pre-med major, left, and Austin VanderWal, a mechanical engineering major, served as Scholars Weekend hosts.

VanderWal taking a break during Scholars Weekend.

VanderWal was the lead designer and builder of the winning 2012 ASME Hobo Day float “Saturn V Rocket.”



## 3M engineer supports

Lohr College of Engineering students with estate scholarships

Education was something James Fergen '70 never took for granted. His admiration for education, and South Dakota State, led to a generous estate gift for endowed engineering scholarships.

"Jim had great relationships with a number of professors at State," said his identical twin brother, Joe Fergen, a 1970 civil engineering graduate. "The scholarship was his way of thanking the university for the great education he received."

The funds Jim, an electrical engineering alum, gifted to SDSU have created four scholarships, with the yearly awards totaling \$12,000.

Available for the upcoming 2014-15 school year, the individual scholarships range from \$1,000 to \$3,500 per year for engineering students with a few particular criteria:

- James E. Fergen Renewable Engineering Scholarship is awarded to one incoming freshman majoring in a Lohr College of Engineering program each year, and is renewable for three additional years, provided the student maintains a GPA of 3.0 or higher.
- James E. Fergen Scholarships for Women in Engineering are awarded to three qualified females studying within the college.

- James E. Fergen Electrical Engineering Scholarships are awarded to two students of any class year majoring in electrical engineering.
- James E. Fergen Electronics Technology Scholarship is an award available each year for a student of any class year majoring in electronics technology.

### Motivated by parents

Jim worked as an engineer with the 3M Company in St. Paul, Minn., for 38 years, and served as a major in the U.S. Army Reserve until retirement. Jim passed away in 2010, at the age of 63.

Originally from Sioux Falls, Jim was known as a warm, friendly and gentle spirit who was always willing to help others. He loved meeting people, cooking, cycling, "West Coast swing" and "Chicago-style steppin'" dancing. He had two children, Stephanie and Henry.

Jim and his brother Joe remained close during their adult lives, residing 20 minutes from each other.

"We went to SDSU at the same time and both graduated from the engineering program," said Joe. "We both always knew we wanted to be engineers, and were involved with starting the Lambda Chi Alpha fraternity with President Chicoine."

In 2004, Joe and Jim started a smaller scholarship at SDSU in honor of their parents called the Al and Veronica Fergen scholarship.

"Our mom and dad always stressed the importance of getting a college degree," Joe said. "They encouraged us to try hard and work for good grades. So, both of these scholarships are a way of continuing their legacy," said Joe.

Joe said that Jim's educational enthusiasm was likely sparked by their parents. "Our parents went through the Great Depression and their education was cut short," Joe said. "My dad earned his GED later in life, and that was a big deal for him. He really instilled a will to attend college in both my brother and me."

Joe and his brother were both grateful for the years they spent at State.

"Jim always had a great affinity for SDSU and the College of Engineering," said Joe. "I know he wanted others to be able to receive the kind of education that we did at State. And his scholarship donation confirms that."

*Karissa Kuhle*

Jim Fergen, left, and his identical twin brother, Joe, both graduated from South Dakota State in 1970. Jim graduated from the electrical engineering department and Joe graduated from the civil engineering department.



## Construction Management

looks to build industry awareness

The South Dakota State University Construction and Operations Management Program has been named a recipient of a 2014 Homebuilding Education Leadership Program (HELP) grant from the National Housing Endowment. SDSU is one of three institutions to receive an award this year.

SDSU received the first installment of a four-year grant worth nearly \$100,000 at the International Builders' Show in Las Vegas, Feb. 5. A team of SDSU students also participated in the National Association of Home Builders Residential Construction Management Competition and received high marks. Making the presentation were: Micala Jones, Seth Lukonen, Nick McCann, Brett Smid, Michael Wieseler and Spencer Yearous.

"Our proposal was intriguing to them because it's about building awareness of the industry," said Teresa Hall, department head of SDSU's Construction and Operations Management Program. "There is a huge hole in residential construction in terms of workers. There are young and the older workers, but the middle is gone because of the housing industry crash. We looked at not only what we are doing on campus in terms of building that residential track but also leveraging our articulation agreements. One of the pieces is to use what we have now and expand the area of our matriculation agreements.

"We're trying to establish the connection that construction management is a career path where one can earn a professional degree and enter the



Teresa Hall, department head of SDSU's Construction and Operations Management Program and instructor Ken Bertolini receive the first installment of its Homebuilding Education Leadership Program (HELP) grant from the National Housing Endowment Chairman Bob Mitchell at the International Builders' Show in Las Vegas.

profession," she continued. "I think another reason SDSU was appealing is our new architecture program and building. We're also willing to build the residential track in the construction management program and we're a good-sized program."

Hall said SDSU works with entities such as the Brookings Regional Builders Association and the Home Builders Association of the Sioux Empire.

HELP was launched in 2006 to establish closer relationships with institutions of higher education by awarding major seed grants to leading two- and four-year colleges and universities to help them create, expand or enhance existing residential construction management programs.

HELP's key goal is to increase the number of qualified college graduates entering the residential construction profession and becoming future members of NAHB. To date, the National Housing Endowment HELP Grant program has awarded more than \$3 million in monies

to support the residential construction management programs at 25 institutions of higher education across the country.

*Matt Schmidt*

**"We're trying to establish the connection that construction management is a career path where one can earn a professional degree and enter the profession."**

— Teresa Hall, department head of SDSU's Construction and Operations Management Program

## Construction Management

Construction Management student team finishes second in competition

A team from South Dakota State University finished second at the 21st annual Associated Schools of Construction Region IV Construction Management Student Competition held Oct. 23-26 at the Lied Lodge and Conference Center in Nebraska City, Neb.

SDSU's team of Kasey Klosterman, Michala Jones, Seth Lukonon, Nicholas McCann, Michael Wieseler and Spencer Yarous finished second in the commercial construction division. In the seven-state region, 31 teams from 11 universities competed. Results were not available for the residential construction portion.

The competition used project plans and specifications for projects that have already been or are currently under construction in the U.S. Teams were required to schedule,

estimate, run cost analyses and resolve possible management issues. This year's project consisted of adding a new hospital to a complex while keeping an existing facility running. Following construction of the new building, the older facility was to be demolished.

"The teams are given the information and then sequestered from 7 a.m. until midnight," said Ken Bertolini, an instructor with SDSU's Construction and Operations Management Program. He coached both teams. "They used that time to put their proposal together. They did a great job of dividing the workload and hitting the mark."

After submitting their proposal at the deadline, an oral presentation is given the following day.

## Eta Kappa Nu

earns 'outstanding' honor again

For the sixth-straight year, Eta Kappa Nu, an electrical and computer engineering national honor society, named the SDSU student chapter as an outstanding chapter. SDSU was one of 21 chapters chosen for the 2012-13 award from among 205 national and international chapters.

Other schools receiving the award include Carnegie Mellon University, Massachusetts Institute of Technology and Purdue University.

The award was presented March 24, 2014, at the annual meeting of the Electrical and Computer Engineering

Department Heads Association in Napa, Calif.

Selection is based on service and outreach activities and demonstrated leadership, according to the chapter's adviser, professor Steven Hietpas.

Gamma Rho chapter was chartered in 1957. Its recent activities include development of an inexpensive Faraday Flashlight to teach about energy conversion and basic electronics. With ambition to reach all science classes in South Dakota, this project—developed over the last six years—has been used by 14 South Dakota middle and high schools.

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Spc. Dalton DeBoer, center, is awarded the Soldier of the Year trophy for the enlisted category during an awards ceremony for the annual South Dakota Army National Guard Best Warrior Competition Sept. 22, 2013, at Camp Rapid in Rapid City, S.D. Also pictured are Command Chief Master Sgt. James Welch, left, and State Command Sgt. Maj. Susan Shoe. (Army National Guard photo by Staff Sgt. Michael Beck)

Spc. Dalton DeBoer competes in the 6-mile road march during the annual South Dakota Army National Guard Best Warrior Competition at Camp Rapid in Rapid City, S.D. DeBoer is a sophomore at SDSU. (Army National Guard photo by Staff Sgt. Michael Beck)

## Soldier of the Year

### Construction management student prepares for upcoming competitions

Specialist Dalton DeBoer was named the South Dakota Army National Guard Soldier of the Year following the state's Best Warrior Competition Sept. 19-22, 2013, at Camp Rapid in Rapid City. DeBoer, a sophomore majoring in construction management, won the enlisted category and will now compete in a six-state regional competition May 18-22, 2014, in Rapid City. The regional winner advances to the National Guard competition in Little Rock, Ark., in July.

"I'm kind of nervous for it, but more excited," said DeBoer, noting he received notice about the event in late February. "I have a better understanding in terms of what to do as there will be a lot of the same events. I learned a lot from doing those the last time so I should be better prepared this time. And I know what to expect physically as well."

DeBoer, who joined the National Guard in April 2011 as a multiple launch rocket

system operations and fire direction specialist for the 1-147th Field Artillery Battalion, was also named the 2013 Soldier of the Year by the Brookings County Veterans Affairs Committee. DeBoer is also a member of the SDSU Army ROTC.

The state's three-day competition consisted of a series of 12 events including a written exam, essay writing, battle drills, M-16 rifle marksmanship, land navigation, an obstacle course, a 6-mile road march while carrying a 40-pound pack, and a physical fitness test. DeBoer expects a tougher version of events at the regional competition.

"I thought the toughest part was going to be the boards, going in front of the sergeant majors and answering their questions. After doing it, it was the hardest part. It was the most stressful," said DeBoer, who is from Clear Lake. "They gave us a big study guide but there was a lot to study."

DeBoer also participated in the 20th Annual University of Kansas Army ROTC Ranger Buddy Competition, held April 18-20. Up to 180 different teams have competed in recent competitions.

Prior to that competition, DeBoer did field training exercises with other Army ROTC cadets from the University of South Dakota and South Dakota School of Mines and Technology.

"He's top notch," said Lt. Col. Aaron Schultz, professor of military science at SDSU. "Dalton has a commanding presence in front of the other cadets. They respond to him. He always carries himself in a high, professional manner. He has that commanding presence you typically don't see at such a young age, which is pretty impressive, and he's still humble. He's going to do great things in the Army, there's no question about it."

*Matt Schmidt*



## Basketball

### Winners on and off the court

The 2013-14 South Dakota State basketball seasons did not quite reach the heights of the previous two seasons when both the men's and women's programs qualified for the NCAA Tournaments. However, both Jackrabbit teams did participate in postseason play. And, again, students in the Jerome J. Lohr College of Engineering helped lead the way.

Megan Waytashek, who is majoring in mechanical engineering, led the Jackrabbits in the WNIT semifinals. She led the team in scoring, ranked second in steals and rebounds and was third in assists. She also set a record for free-throw percentage, 91.8 percent.

Waytashek, who was featured on ESPN.com after the Jackrabbits defeated No. 12 Penn State in December, repeated as a first team All-Summit League selection both academically and on the court.

In addition to her performance on the court, Waytashek was named to the 2014 Capital One Academic All-District 6 Team. She has a 3.97 GPA. Prior to this season, Waytashek had been honored as a two-time Summit League Distinguished Scholar on the league's honor roll and was twice named to the Commissioner's List of Academic Excellence. Waytashek was secretary of the Tau Beta Pi Engineering Honor Society and a member of the Pi Tau Sigma Honor Society.

Tiffany Flaata, a 6-foot-2 center, sat out the season as a redshirt. She recorded a 4.0 GPA in her first semester while majoring in mechanical engineering.

Marcus Heemstra, a mathematics major, was one of four seniors on the squad and one of four players to appear in all 32 games. A valuable reserve, he ranked among the team leaders in field goal and free-throw percentage as the Jacks competed in the College Basketball Invitational, falling at Old Dominion.

With the season on the line, Heemstra scored 10 first-half points to lead the Jackrabbits to a Summit League Championship quarterfinal win over Western Illinois. Heemstra recorded nine points and seven rebounds, including a game-high five on the offensive end, in the CBI.

He was one of 74 NCAA Division I nominees for the 2014 Allstate NABC and WBCA Good Works Teams®. In its second year, the Allstate NABC and WBCA Good Works Teams® honor players at all levels of college basketball who represent the sport's finest in the areas of leadership and charitable achievements amongst their peers.

The student-athletes nominated for this prestigious award embody the true spirit of teamwork and giving back. In addition to serving on the SAAC Leadership team in past seasons and working at Harvest Table in Brookings, Heemstra joined his teammates for a weeklong trip to Haiti last summer, where they distributed shoes and food to needy children and families.

Heemstra's playing days at State are not done as he joined the baseball team shortly after the basketball season ended. Prior to the 2014 season, the 6-9 Heemstra appeared in 21 games as a right-handed pitcher.

He also has appeared on The Summit League Honor Roll and Commissioner's List of Academic Excellence in both basketball and baseball.

*Matt Schmidt*

Senior forward Marcus Heemstra helped lead the Jackrabbits to The Summit League semifinals and a berth in the College Basketball Invitational.

**Inset:** Junior guard/forward Megan Waytashek ranked among the team leaders in scoring, rebounding, steals and assists as the Jackrabbits advanced to the WNIT semifinals.





# Bryan Witzmann

Prepares for the National Football League draft

**B**ryan Witzmann, who graduated with his degree in civil engineering this past December, has been busy preparing for the upcoming National Football League draft. The draft will be held May 8-10.

Witzmann, a two-time All-America selection while playing left tackle for the SDSU football program, hails from Houlton, Wis.

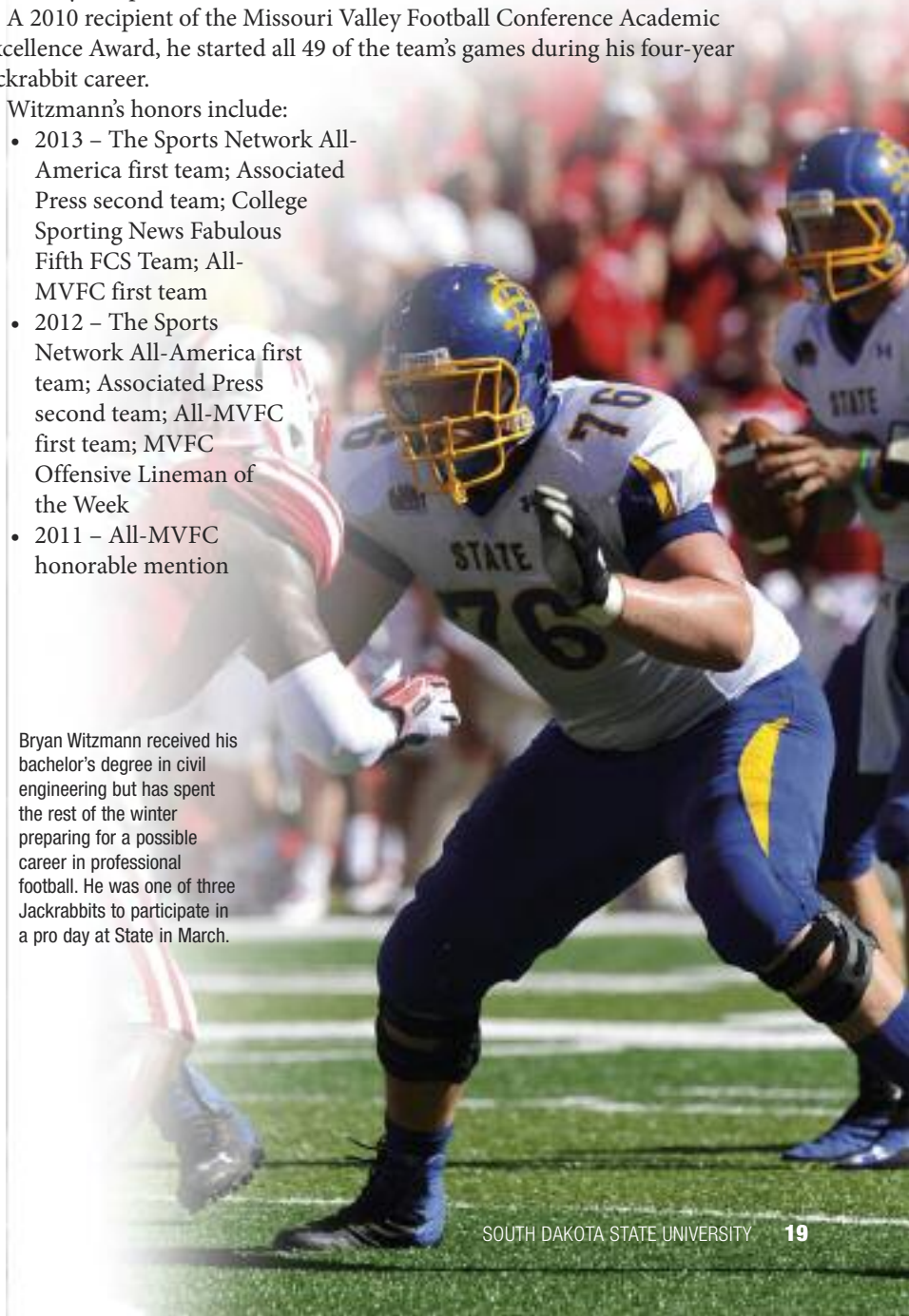
Following the Jackrabbits' 2013 season, Witzmann was selected to play in the College All Star Bowl. The game was played at Paladin Stadium on the Furman University campus in Greenville, S.C.

A 2010 recipient of the Missouri Valley Football Conference Academic Excellence Award, he started all 49 of the team's games during his four-year Jackrabbit career.

Witzmann's honors include:

- 2013 – The Sports Network All-America first team; Associated Press second team; College Sporting News Fabulous Fifth FCS Team; All-MVFC first team
- 2012 – The Sports Network All-America first team; Associated Press second team; All-MVFC first team; MVFC Offensive Lineman of the Week
- 2011 – All-MVFC honorable mention

Bryan Witzmann received his bachelor's degree in civil engineering but has spent the rest of the winter preparing for a possible career in professional football. He was one of three Jackrabbits to participate in a pro day at State in March.



## NASA Award for Landsat 8 grad students among NASA award winners

Orbiting 4,400 miles above Earth, the Landsat 8 remote sensing satellite takes continuous pictures of the globe that become scientific gold mines for researchers studying global land cover and land use changes, producing 550 images per day or 160,000 images in its first year.

But getting accurate images from the unmanned satellite is no simple process.

It involves detectors, algorithms, sensors, imagers and members of the South Dakota State University Image Processing Lab.

The lab's function is to verify that the images received are indeed accurate images of what is being photographed and to ensure that the images coming from Landsat 8 are comparable with the images from the previous seven satellites.

Dennis Helder, associate dean for research with the Jerome J. Lohr College of Engineering at SDSU, heads the lab. Larry Leigh directs day-to-day operations with assistance from David Aaron and Nischal Mishra and a cadre of graduate students. Together they are part of a team of calibration experts from NASA, the U.S. Geological Society, academia and industry partners.

NASA was so impressed by the work of the calibration team for Landsat 8 that it has been notified that it will receive a NASA Robert H. Goddard Award for Exceptional Scientific Achievement.

### A first for grad students

It's an award that Helder and his crew have won before, but what makes the 2014 presentation noteworthy is this is the first time that graduate students have been included among the award recipients.

Helder called that inclusion "unprecedented."

The prized graduate students are Jacob Brinkman and Frank Pesta, who both earned their undergraduate degrees in electrical engineering from SDSU.

Brinkman is the senior member, having started on the project in August 2011, about nine months before earning his

undergraduate degree. Pesta joined the project in May 2012, a year before his graduation.

### Writing algorithms for fun

Both had taken basic computer programming before starting in the lab, but learning image processing was a steep curve.

Brinkman, who is to complete his master's degree in electrical engineering in May, said learning to write computer code for calibration algorithms "sounds scarier than it is. Once you start getting into it, it's fun." He is writing his thesis on his work and Pesta will do the same.

Landsat 8 was launched Feb. 11, 2013, but plans for the free-flying spacecraft have been in place since 2006.

So a set of image-processing parameters were already in place when Brinkman started at the SDSU lab. "We were given these algorithms to see if they worked, how they worked and where we could improve them," the Hamburg, Minn., resident said. The students wrote computer code both before and after the satellite's launch.

In the prelaunch phase, the imager was placed in a vacuum chamber for testing at various light levels.

### Accommodating new technology

Another challenge for the calibration team was meshing information from previous satellites with images from Landsat 8, which uses different technology.

Instead of having a few dozen moving detectors, Landsat 8 has more than 70,000 static detectors with each of them needing to be calibrated precisely, Brinkman said.

"Our algorithms make the images uniform because in the fabrication process you can't put the atoms in the exact same



SDSU electrical engineering graduate students Jacob Brinkman, left, and Frank Pesta pose in the SDSU Image Processing Lab, where they worked on cross-calibration for the Landsat 8 global imaging satellite. They are part of a team that won a NASA award for their work and are the first SDSU students to be so honored.

place. Because of that, they don't transfer energy exactly the same, and you can't get uniform images. But if you characterize and correct it with algorithms like we wrote, you can get good images," said Brinkman, a graduate of Mayer (Minn.) Lutheran High School.

The lab continues calibration work "to make sure the models we have for the imagers are accurate," he said.

NASA will present the Goddard Award May 8 at the Goddard Space Flight Center in Greenbelt, Md. That's two days before Brinkman graduates with his master's degree, so he won't be making the trip. But he does consider the award both a major surprise and high honor.

"The engineers and scientists at NASA are so smart, it's hard to think of our contribution being on the same level," said Brinkman, who is undecided on his career plans.

Pesta, of Apple Valley, Minn., hopes to use his experience in the SDSU Image Processing Lab to gain a full-time position in calibrating satellites. One possibility would be at the EROS Data Center near Garretson, which has archived Landsat images since the initial launch in 1972.

"It's awesome to be included in the award. You and I are the only grad students on that list," he told Brinkman.

*Dave Graves*



# Top grad student

## Ice load on bridge piers focus of research

**D**rivers are only concerned if there is ice on the bridge, but an SDSU graduate student has been awarded for her work on studying ice under the bridge.

Brittney Ahrenstorff, a graduate student in the civil and environmental engineering program, was named the Outstanding Graduate Student of the Year for 2013 for the Mountain-Plains Consortium, a university transportation center formed by eight universities stretching from Utah to North Dakota.

She and winners from other regions received their honors at a banquet in Washington, D.C., Jan. 11.

Ahrenstorff's research measures and evaluates ice loads on bridge piers in South Dakota. The two-year study's main objective is to calibrate the ice load equations given in bridge design codes and develop realistic estimates of the loads imposed by the ice formation found in South Dakota rivers.

The study is co-sponsored by the Mountain-Plains Consortium at SDSU and the South Dakota Department of Transportation.

While data from this winter is still being collected, Ahrenstorff, of Lake Park, Iowa, is writing her thesis on information from the first winter. The 2012 SDSU undergrad expects to complete her master's degree in May and then she plans to begin work as a design engineer with Kiewit Engineering Company in Omaha, Neb.

Data is being collected from the I-29 southbound bridge over the Big Sioux River south of Brookings and the bridge over the James River on U.S. 14 east of Huron.

### Design 'more than adequate'

"Based on our first-year collection we have seen that the design practices are more than adequate." In fact, the state may be "overdesigning their bridges," Ahrenstorff said. The research includes measurements of ice thickness and taking ice core samples that are crushed to measure the ice's strength.

But the key component being measured is the impact load that "ice cakes" deliver to the

bridge piers, the 2007 Harris-Lake Park High School grad said.

To measure that, Ahrenstorff and her faculty supervisors designed a system in which a 12-inch hollow pipe was fastened to a bridge pier with steel plates. The plates also hold in place 12 string gauges, which record the strain being applied from the ice. That can be mathematically converted to force, she said.

Because there is not an established method for this type of testing, Ahrenstorff said she and her faculty mentors devised this one based on feasibility, accuracy, ease of installation and cost.

### First award for SDSU in five years

Nadim Wehbe, head of the SDSU Civil and Environmental Engineering Department and director of the Mountain-Plains Consortium program at SDSU, calls Ahrenstorff

"an individual of great intellect, solid work ethics, high aptitude and genuine personality." She has a 4.0 GPA as a graduate student.

"Her research work will undoubtedly result in significant advancement in the field of bridge engineering," Wehbe said.

As the Mountain-Plains Consortium

Student of the Year, Ahrenstorff received \$1,000 and an all-expense paid trip to Washington, D.C., to attend with a guest the banquet of the Council of University Transportation Centers. While in D.C., she visited two Smithsonian Museums and went on a walking tour of the national monuments.

Ahrenstorff is the first SDSU student to receive the award since Chad Stripling was honored at the 2009 ceremony.

*Dave Graves*



**Top:** Ice hugs a bridge pier and an attached measuring device in the James River east of Huron. The device is used in a project to calculate ice load.

SDSU graduate student Brittney Ahrenstorff stands by a measuring device installed on a pier of the southbound I-29 bridge south of Brookings after it was installed in fall 2012. Her research is being conducted through the Mountain-Plains Consortium at SDSU.

## Donald J. Struck

### Struck marks 50th year of teaching at SDSU

While his contemporaries are listed among the faculty emeriti, Donald J. Struck continues to teach college students.

This year marks his 50th at South Dakota State University. He arrived here in 1964, the same year that:

- South Dakota State College became a university;
- Congress passed the Tonkin Gulf resolution providing President Lyndon B. Johnson authority to commit conventional military force to Vietnam;
- The Beatles took America by storm via an appearance on the Ed Sullivan Show; and
- The first Ford Mustang rolled off the assembly line.

If all that seems like another life ago, you're right. In fact, it was 2 ½ generations ago. Struck had a master's degree and 2 ½ years teaching experience before he came to Brookings from Superior, Wis., as a 27-year-old assistant professor.

Even though Struck will turn 77 on June 25, he hasn't set a retirement date.

#### 'New, exciting work'

"Should I do it now or later? I'm always playing with that question. But the work I'm doing now is new and exciting. Now we're into computer-based instruction. It's much more teamwork," says Struck, who works with two instructors and four teaching assistants in the remedial program.

Students complete tutorials online, seeking help from in-class instructors if needed, he explained.

The university has been using this method for three to four years, Struck said. He added that he has worked with the remedial math program "on and off" for his entire career. Though a nine-month

employee, he still contracts to teach a traditional lecture class in the summer.

"I enjoy young people. You get into a habit you like," Struck said in explaining his continued teaching.

He admits to being concerned about the future of private health insurance and having state group health insurance is reassuring. "That's somewhat of a practical concern, but I'd probably be quitting if I didn't enjoy it," Struck said from his Harding Hall office.

#### Shunning the rocking chair

"When I do retire, I will be playing my accordion in nursing homes and assisted living centers. I love polka music.

"Ideally, I would still teach a class or two. But I'm taking it a year at a time and doing what the Lord tells me to do. Planning very academically when to retire, that's not my case. I do think you can't go in a rocking chair. When you go in a rocking chair, you're dead," he said.

Struck may have gray hair and a hearing aid, but he's a long ways from dead.

Struck's department head, Kurt Cogswell, noted, "Don's energy level and willingness to try new teaching methods and adapt to new technology is remarkable. He's an inspiration to all of us in the department, and remains as popular with students today as he has been for decades."

In Struck's work with remedial students, he has 31 student-contact hours per week. Tuesdays and Thursdays are 8 a.m. to 5 p.m.—nine hours straight with lunch eaten on the run. "It does challenge you," Struck admits, but he accepts the challenge.

He also accepts the challenge of becoming computer savvy.

#### Putting the emphasis on people

"Computers are something I struggle with. I was not raised on computers, but they are part of life now. That's one of the challenges I face right now; more the computers than the math," said Struck, who places students above computers or equations.

"You want to convey the subject matter, but more so you're interested in seeing them develop as a person," he said.

Struck said that has been a trademark of his at State from year one to year 50.

Marc Richards was a student of Struck's in 1972-73. The 1976 public recreation graduate remembers Struck as a "quiet, unassuming guy" who "kind of got me through" a couple lower-level math classes.

Richards had other places he could have turned. His dad, Ernie, was head of the math department.

But when the now-retired city recreation director needed help with math, he went to Struck's basement office in the "HEN House," so named because it housed the home economics and nursing departments.

"I think the tolerance was a little higher with Don's office than my dad's office," Richards said.

#### 'Wanted best for everyone'

Tom Davis, a 1983 ag education major, had Struck for algebra and trigonometry.

"He was good with the kids, patient. He always took everybody's question seriously and wanted the best for everyone regardless of their ability," the Elkton farmer said.

Davis said math came easy for him, but he was behind because he had never had trigonometry in high school. Struck made a point to help him catch up.

Such testimonies underscore the satisfaction Struck gains from teaching. "It's seeing a student succeed, helping them



**“When you see the student who tried hard to succeed, that’s especially meaningful.”** — Donald Struck on the satisfaction of teaching

learn a concept and see that sign of satisfaction when they’re learning something,” the university’s senior faculty member said.

“When you see the student who tried hard to succeed, that’s especially meaningful,” Struck added.

### **Getting the best of teacher**

The students who Struck works with now aren’t going to be taking classes in the department as upperclassmen. “For a lot of them, math is not their favorite thing. Math is a necessary evil. I try to make them feel more comfortable and be positive with them,” he said.

Sometimes that involves humor, and he is known to joke with students about Nick’s Hamburger Shop downtown.

On rare occasions, the humor has been on the other foot. He recalled that in the late 1960s he left some farmers’ buckle overshoes in the hallway of Solberg Hall. When

he went to put them on, a prankster had filled them with water.

Struck also brought up a story about him falling out the window of Solberg Hall while he was teaching. While humorous, that is totally a rumor, he said. The rumor has been around for years and he said he is not sure of the source.

But Struck, in his 50th year at SDSU, is sure of this: “Right now I think I’m doing what I’m meant to do.”

*Dave Graves*

Associate professor Donald J. Struck touches base with McKenzie Smith, a freshman from Lake Crystal, Minn., in a pre-algebra course in the basement of the Northern Plains Biostress Building Feb. 11, 2014. Struck is marking his 50th year at SDSU and the 76-year-old hasn’t set a retirement date yet.



## Wehbe named fellow engineering prof honored by peers



For the second time in two years, colleagues in the engineering profession have honored professor Nadim Wehbe as a fellow.

The structural engineer in the Jerome J. Lohr College of Engineering at South Dakota State University was officially recognized as a fellow of the Structural Engineering Institute at an April 5 luncheon in Boston. The institute was formed in 1996 as an arm of the American Society of Civil Engineers.

In March 2012, Wehbe was named a fellow of the American Concrete Institute, a separate organization.

"It's always gratifying when you get recognized by your peers. But these awards

also have great implications on our program because they show that our faculty members are involved at the national and international stage in their area of expertise," Wehbe said. "The light shines on the program and the university as well as the individual."

The Structural Engineering Institute has more than 25,000 members, but only 124 have been recognized as fellows, about half of 1 percent, Wehbe said. The designation honors those who have at least 10 years of important work in structural engineering. In Wehbe's case, he has 33 years.

Wehbe joined the SDSU faculty in 1998.

### Guided design for lab

"Right after I joined SDSU, plans were made for the addition to Crothers Engineering Hall," he said. Foremost in those plans was building a high-bay structures testing lab on the south end of the 1957 building.

"With my background in large-scale testing in high-bay structural labs, I was able to help set the design criteria for the lab facility at SDSU. My connection to the lab goes back to the early planning stage," said Wehbe, who is director of the Jerome Lohr Structures Lab as well as head of the civil and environmental engineering department.



**“It’s always gratifying when you get recognized by your peers. But these awards also have great implications on our program because they show that our faculty members are involved at the national and international stage in their area of expertise,”** —Nadim Wehbe

“Without that lab, our graduate program would have been at a much smaller scale,” he said.

While undergraduate students can take electives in structural engineering, there are 10 students currently pursuing master’s degrees in civil engineering who have made structural engineering their primary discipline. In his years at State, Wehbe has advised 45 graduate students, including Adam Roark, now with Gage Brothers in Sioux Falls.

Roark ’07/’10 calls Wehbe “a good-humored person, always willing to help those who ask for it, and thoughtful and thorough.”

As an example of the latter, Roark said, “When I was working on my thesis, I would go to him with a set of data that I didn’t understand at all. I would give it to him and he would think about it a while, and say ‘Ah, after thinking about the theory ...’ He could always relate it to theory. You’re not going to know more structural theory than Dr. Wehbe. That’s always what’s running in the background of his mind.”

As an engineer of prestressed, precast concrete, Roark deals with the tangible, but he still needs to know the theory.

Roark said Wehbe “provided me a sound background in understanding the basic classes as an undergrad. Then I continued on and built a sound foundation in engineering theory and concrete design that helps me to take something that is complex and simplify it into its basic components and design it from there.

“Dr. Wehbe is deserving of his title of fellow.”

### **Grad students prepared in premier facility**

Wehbe, a native of Lebanon, said, “Our graduates have been receiving a lot of positive feedback from their employers. We can’t produce them fast enough. They’re getting hired before they graduate (with their master’s degree). They are very well prepared for the real world.”

He estimates about 20 percent of SDSU’s civil engineering undergraduates pursue graduate school.

Those focusing on structural engineering work in a multimillion-dollar facility that has a 34-foot high bay space that is 90 feet long and 39 feet wide with a 4-foot thick reinforced concrete floor. In addition, \$600,000 worth of equipment has been added to the structures lab, beginning with a National Science Foundation grant in 2003.

That \$280,000 grant required the college to match 30 percent of the total.

Since then, other equipment has been added through research grants.

Wehbe has received extensive research funding from the National Science Foundation, the Federal Highway Administration, South Dakota Department of Transportation and many private-sector institutions.

His main research interests include large-scale testing of structural systems, reinforced and prestressed concrete structures, earthquake-resistant structures and advanced composite structural systems.

### **Structures lab unique to region**

The lab is the only one of its kind in the Dakotas and has been embraced by industry as a testing facility for structural systems made with concrete, steel and other construction materials, such as bridge girders and building joists and decks. “This lab not only serves the needs of local industry, but it’s also a tremendous resource for faculty and students to perform experimental research,” Wehbe said.

“We’re in a position where we can confidently test a full range of specimens, from small ones, like bolts, to very large structures,” he said.

The lab is outfitted with a hydraulic structural testing system, two modular loading steel frames, a post-tensioning system, and an array of sensor and data acquisition systems.

Wehbe has been a member of the Structural Engineering Institute since 1998 and has been involved in committee activities. A South Dakota technical group, similar to a chapter, was formed three years ago and Wehbe currently serves as president. However, the group is still establishing itself.

In addition to his teaching and research responsibilities, Wehbe became interim department head in May 2013, was announced as permanent department head March 18, 2014, and he continues to serve as the director of the Mountain-Plains Consortium, which is a federally funded university transportation center.

In 2011, he was selected as the college’s Researcher of the Year.

*Dave Graves*

## **WEHBE GETS SHORTER TITLE**



After serving as interim head of the department of civil and environmental engineering at SDSU since May 2013, Nadim Wehbe was announced March 18, 2014, as the permanent department head. He officially gains the new title May 22.

Wehbe was chosen as a result of a national search with the announcement made by Dean Lew Brown, who noted, “I have high confidence in Dr. Wehbe’s ability to lead the

department and advance the college and university.”

Wehbe, a native of Lebanon, has been on the SDSU faculty since 1998, coming to Brookings from the University of Nevada-Reno. He did work in a high-bay structural lab there and was instrumental in designing and equipping the Jerome Lohr Structures Lab in Crothers Engineering Hall.

As department head, he will oversee 14 faculty members and staff, 229 undergraduate students and 41 graduate students.

He replaces Bruce Berdanier, who resigned in May 2013 to become dean of the School of Engineering at Fairfield (Conn.) University.

## ENROLLMENTS BY DEGREE (fall 2013)

Undergraduate Majors				
	Female	Male	Total	Percent
Ag & Biosystems Engineering	4	80	84	5.86
Civil & Environmental Eng.	38	191	229	15.98
Construction Management	6	161	167	11.65
Computer Science	24	146	170	11.86
Electrical Engineering	16	130	146	10.19
Electronics Engineering Tech.	2	24	26	1.81
General Engineering	0	21	21	1.47
Operations Management	3	70	73	5.09
Mathematics & Statistics	56	83	139	9.70
Mechanical Engineering	37	341	378	26.38
<b>Total</b>	<b>186</b>	<b>1247</b>	<b>1433</b>	<b>100.00</b>

Master of Science Majors				
	Female	Male	Total	Percent
Ag & Biosystems Engineering	4	9	13	6.10
Civil & Environmental Engineering	8	33	41	19.25
Computer Science	6	16	22	10.33
Electrical Engineering	9	42	51	23.94
Operations Management	9	18	27	12.68
Mathematics	5	11	16	7.51
Mechanical Engineering	7	14	21	9.86
Statistics	9	13	22	10.33
<b>Total</b>	<b>57</b>	<b>156</b>	<b>213</b>	<b>100.00</b>

Doctoral Majors				
	Female	Male	Total	Percent
Computer Science & Statistics	3	21	24	61.54
Electrical Engineering	2	13	15	38.46
<b>Total</b>	<b>5</b>	<b>34</b>	<b>39</b>	<b>100.00</b>
<b>Total Number of Majors</b>	<b>1685</b>			

## ENROLLMENTS BY PROGRAM (fall 2013)

### DEGREES CONFERRED (2012-13)

Undergraduate			
	Female	Male	Total
Ag & Biosystems Engineering	0	7	7
Civil & Environmental Engineering	3	39	42
Construction Management	3	23	26
Computer Science	0	22	22
Electrical Engineering	2	22	24
Electronics Engineering Tech.	0	18	18
Operations Management	0	13	13
Mathematics & Statistics	16	19	35
Mechanical Engineering	6	43	49
Manufacturing Engineering Tech.	1	24	25
Software Engineering	0	7	7
<b>Total</b>	<b>31</b>	<b>237</b>	<b>268</b>

Master of Science Majors			
	Female	Male	Total
Ag & Biosystems Engineering	1	3	4
Civil & Environmental Engineering	4	18	22
Computer Science	2	4	6
Electrical Engineering	1	9	10
Operations Management	1	5	6
Mathematics	2	3	5
Mechanical Engineering	0	6	6
Statistics	1	6	7
<b>Total</b>	<b>12</b>	<b>54</b>	<b>66</b>

Doctoral Majors			
	Female	Male	Total
Ag Eng. Water Resources	1	1	2
Computer Science & Statistics	0	1	1
Electrical Engineering	2	3	5
<b>Total</b>	<b>3</b>	<b>5</b>	<b>8</b>

College of Engineering Facilities		Sq. Ft.
Agricultural Engineering		48,696
Crothers Engineering Hall		89,960
Daktronics Engineering		73,464
Solberg Hall		55,735
Harding Hall		28,441
Architecture, Math & Engineering Building*		62,000
* Opening January 2015		

### Jackrabbit Guarantee Scholarships recipients (2013-14)

First Year	166
Second Year	105
Third Year	86
Fourth Year	110
<b>Total</b>	<b>467</b>
<b>Total enrollment</b>	<b>1,402</b>



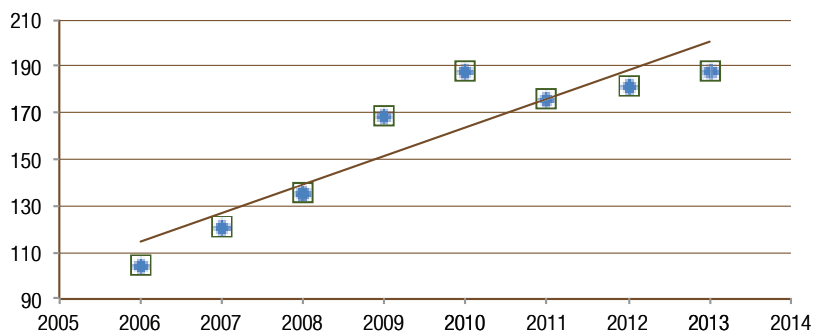
Associate Dean Richard Reid recently attended Innovations in Higher Education Conference 2014 in Riyadh, Saudi Arabia. The Jerome J. Lohr College of Engineering was one of more than 440 exhibitors.



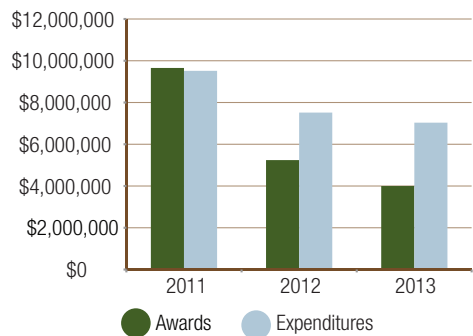


Cheering on the SDSU women's basketball team during the Women's NIT win over Butler were several Jerome J. Lohr College of Engineering students. Holding the various letters are, from left: 'S' Jennifer Blackburne, mechanical engineering; 'S' Brooke Henry, civil engineering; and 'U' Selina Gilbertson, civil engineering. Holding the 'D' is psychology major Ffion Davies.

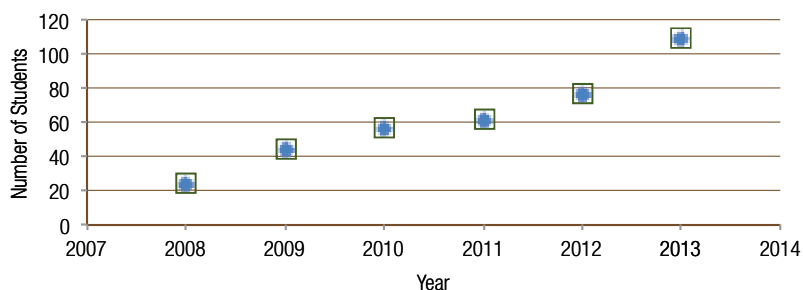
### FY2013 Female Engineering Students at SDSU



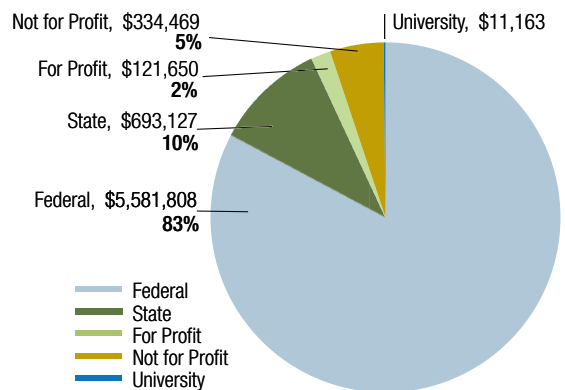
### FY2013 Research Awards and Expenditures



### FY2013 International Undergraduate Engineering Students



### FY2013 COE Expenditures

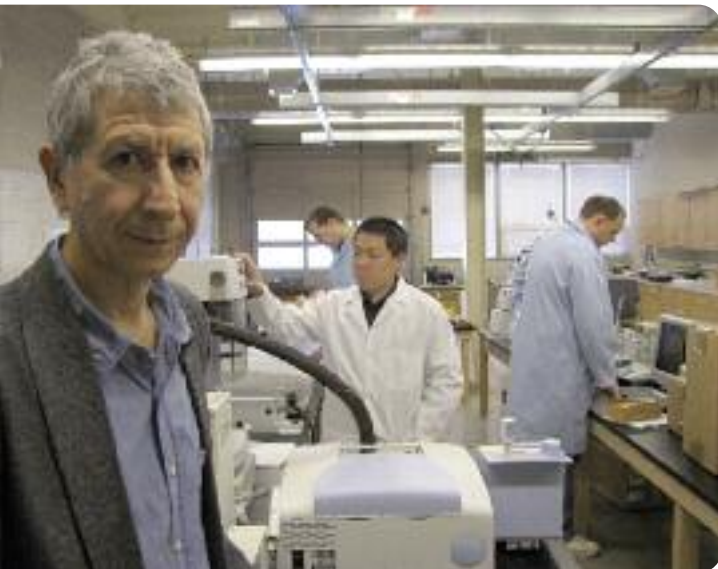


### Alex Moutsoglou

Alex Moutsoglou's career as a college professor has impacted his life tremendously.

"On a personal level, teaching satisfies my innate desire to pass knowledge on to my students—I am still learning new things, even after teaching for nearly 40 years," said Moutsoglou.

He teaches undergraduate and graduate students in the department of mechanical engineering, with his research focusing on biofuels and thermofluids.



Moutsoglou has enjoyed the faculty and student connections he's made on campus over the past 28 years. "The most rewarding part is when students express their appreciation for having me as a teacher," said Moutsoglou.

Moutsoglou grew up in Istanbul, Turkey, and moved to the United States when he was 21. He earned his bachelor's degree in 1973, master's in 1974 and doctorate in 1977, each from the University of Missouri-Rolla.

After college, Moutsoglou worked as a mechanical engineering professor at Villanova University in Pennsylvania, followed by the University of Missouri-Rolla, then Virginia Polytechnic Institute and State University, popularly known as Virginia Tech, before coming to SDSU in 1986.

During his time at State, Moutsoglou served as faculty adviser for the Tau Beta Pi and Pi Tau Sigma mechanical engineering honorary clubs, and secretary-treasurer for Pi Tau Sigma international mechanical engineering honor society.

Four years ago, he put together the biofuels laboratory for the mechanical engineering department through a research grant from the Department of Defense, and has served as director since.

At 63, Moutsoglou looks forward to retirement and more time with his family.

Moutsoglou and his wife, Joyce, have four daughters, Daphne, Maria, Nefeli and Eleni.

"First and foremost, teaching has enabled me to help my daughters with their schooling at home," said Moutsoglou.

Three of Moutsoglou's daughters followed their dad to SDSU, and his youngest has an interest in engineering.

- Daphne graduated from State in 2008 with bachelor degrees in microbiology and chemistry, and is working toward her M.D./Ph.D. at the University of Colorado in Denver.
- Maria graduated from State in 2010 with bachelor degrees in chemistry, biology and microbiology, and is working toward her Ph.D. in biochemistry at SDSU.
- Nefeli graduated from State in 2012 with a bachelor's degree in nursing and is working toward her doctor of nursing practice degree at SDSU.
- Eleni graduates from Brookings High School in May, and plans to pursue a chemical engineering degree at either Purdue or the University of Illinois.

"Brookings has been a great place to raise our family," said Moutsoglou. "Having two daughters at SDSU will make it hard not to be around Brookings for a while after I retire. My wife and I aren't sure where we will reside in the future, but plan on spending time in Athens, Greece."

*Karissa Kuhle*

**Mechanical engineering professor Alex Moutsoglou started the biofuels laboratory four years ago, and has served as director since.**

### Pat Pannell

Two degrees, a stint in the Navy Seabees and more than 30 years in the construction industry taught associate professor Pat Pannell a valuable lesson that he tried to pass on to his SDSU students.



It's not just what you know; it's also who you know. Anthony Durst, who was a student of Pannell's, explained, "What I learned the most, coming out of college, it's not what you know, it's who you know."

The 2007 construction management graduate works as a preconstruction manager with Adolfson & Peterson Construction in Cheyenne, Wyo. "When you work in Wyoming, with a population of 575,000 across the state, everybody knows everybody. I've gotten to know that the more people you meet, the better it will be for your career."

Pannell explains it this way: "You succeed because people know who you are and people know who you are because you participate in the community."

Pannell, who retired Dec. 18, 2013, after teaching 10 ½ years in the construction management program, said he tried to teach his students "there's more to life than sitting there watching TV. You teach people to participate and be a part of something.

When they get out, they'll still participate and have a richer, happier life."

#### Reaching out to industry

Pannell, 66, set the groundwork for that by encouraging students to participate in both the community and the industry.

Oftentimes that overlapped, such as working on Habitat for Humanity homes, which already were being supported by contractors. Construction management students worked with Habitat personnel for six-straight years building a home in Brookings.

His students also attended contests and conferences sponsored by the National Association of Home Builders, and Construction Awareness Days, an effort by the Association of General Contractors to go to high schools and do presentations on jobs in the industry.

"When I first came here, I went to Pierre and tried to talk to students," Pannell said. "When you're a teen, the last thing you want to do is listen to an old fogey. So I got students involved. As a group, they've been very participatory.

"Each year we did one or two presentations at high school career fairs and spoke at a Brookings elementary school."



## Hunting pheasants, building floats

Durst recalls that it was his class that initiated the construction management pheasant hunt with contractors. That annual event in the Brookings area served as a bridge between future employers and students as well as providing a revenue source for the club.

It raised about \$7,500, which provided funds for students to attend industry competitions, Durst said.

The two-day hunt "was a chance for contractors to get to know the kids and for the kids to know the contractors. We put them up at a motel in Brookings and hunted on tracts of private land near Brookings with three groups of 10 hunters each. It was a great time," Durst said.

In recent years, construction management also has established itself as a force in homecoming float building. "We tried to get it started for two or three years. Finally, we just hit on the right group of students who wanted to do that. It's all in the students. The faculty can't do anything except motivate students. That first year

(2010) that we won it, those students were inspired.

"We won it again this year (2013) and had a good amount of enthusiasm. Now we got it rolling," Pannell said.

## Honored for his work

He expects the program to keep rolling. The job "was a chance to do something really fun with a program that was just starting. We got to build it and get it up and running. The program had been around about 10 years before I got there, but it had never really gotten off the ground."

There were 65 students enrolled when Pannell arrived and it grew to 240 before dipping to 153 during the recession but now is back to 167, he said.

"I had a great time with it. It was a lot of fun. Something I would have probably never have had the opportunity to do someplace else," he said. "I left a happy man."

Pannell's work was recognized in 2008, when he was named Outstanding Educator of the Year by the National

Association of Home Builders. Teresa Hall, Pannell's department head, said at the time, "When I heard about this award for outstanding educator, it seemed a great opportunity to recognize the work Pat has done for the construction management program over the past five years."

## What does the future hold?

Pannell isn't sure what he will be doing the next five years.

He said he has no specific plan, but may do some private consulting and teach a course at a community college. Before coming to SDSU, Pannell taught two years at Colorado State University in Fort Collins, where his wife, Carolyn, continued to live while Pannell taught here.

The couple has a son, who also lives in Fort Collins, and four grandchildren.

*Dave Graves*

## FACULTY NEWS



Kurt Cogswell

**Kurt Cogswell, Qi Hua Fan and Qiquan Qiao** were honored at the university's Celebration of Excellence event Feb. 18.

Cogswell, head of the mathematics and statistics department, received the Harold and Barbara Bailey Award for Excellence in Academic Department Leadership. This is the fourth year for the award named for the former vice president of academic affairs. Only one award is given annually campuswide.

Cogswell has directed mathematics and statistics department affairs since being appointed acting department head July 1, 2004. Cogswell, who arrived at SDSU in 1997, became the permanent head in 2005 and has experienced major growth in the department, particularly in statistics.

An MIT graduate, Cogswell has led the department's expansion of its graduate program to two master's programs and a doctoral program, with a third master's program planned to start in 2014.

Associate professor Qiquan Qiao of electrical engineering, who received the F. O. Butler Award for Excellence in Research, has been working on new materials and devices for cost effective solar cells and their intrinsic integration with batteries.

Qiao has published about 50 papers in leading journals and gave numerous talks including keynote speeches on international conferences. He has received the National Science Foundation Early Career Development Award, the 3M Faculty Award, the Bergmann Memorial Award and the Jerome J. Lohr College of Engineering Young Investigator award.

Associate professor Qi Hua Fan of electrical engineering, who was named Researcher of the Year for the Jerome J. Lohr College of Engineering, has forged research partnerships with several companies, including Xunlight of Toledo, Ohio, and Wintek of Ann Arbor, Mich.

Xunlight is interested in using a material developed at

the Center for Advanced Photovoltaics to make longer-lasting back reflectors for its solar cells.

Fan is developing more efficient plasma processing techniques that will result in better performing flat panel displays for Wintek. Applied Nanofilms, an SDSU spinoff company, has licensed a patent-pending coating technology for depositing nanoparticles that Fan and his research team developed.



The family of **Clayton Knofczynski**, a retired mechanical engineering professor, was honored as SDSU Family of the Year by the SDSU Alumni Association and Staters for State, the student alumni association.

They were honored at a Jan. 11, 2014, women's basketball game.

Knofczynski graduated from State in 1958, started teaching here in 1963 and continued on the faculty until 1989.

Each of the Knofczynski's six children, and three of their sons- and daughters-in-law, earned their college degrees from SDSU. The youngest generation has made its mark as well. Of the 25 grandchildren, seven are of the age to be attending college—one has graduated from SDSU, one is currently attending, one plans to attend next year and one has applied and been accepted.

The Knofczynski children:

- Beth Determan '85, electrical engineering;
- John '87, electrical engineering;
- Paul '89, civil engineering;
- Charles (Chuck) '90, electrical engineering;
- Greg '91/'93, math;
- Mary Bowne '99/'01, early childhood education.



**Chuck Tiltrum** '72/'74, a retired associate professor in civil engineering, was honored with Prairie Striders' Friend of Running Award Feb. 1. Tiltrum, of Aurora, began running in 1986 at age 40. He ran 17 marathons, directed several races for Prairie Striders, certified race course distances, and currently directs the

Gala Days 5K in Aurora.



**J. William "Bill" Ulmer** '43/'59 died March 17, 2014, at Sanford Hospice Cottage in Sioux Falls following a short stay.

After earning his bachelor's degree in mechanical engineering, he spent two years in the U.S. Navy and was discharged in 1946, when he returned to State and completed his master's

degree. He then taught in the College of Engineering until 1968.

Ulmer then owned and operated Bill's Sport Shop in Brookings until he retired in 1983.

Ulmer, 91, was a resident of Sioux Falls when he died, but he also had a home at Lake Poinsett. He and his wife, Joyce Larimore Roth, spent their winters in Pharr, Texas, up until this month. They were married in 1968 and enjoyed traveling and motorhomeing.

Survivors include his wife, five children, two stepchildren and 15 grandchildren. He was preceded in death by a brother, a stepson and his first wife, Jeanne Keenan.



**David Wahlstrom**, a retired associate professor in engineering technology and management, died Nov. 8, 2013, near Norton, Kan.

Wahlstrom, 71, of Brookings, retired in May 2010. He earned bachelor's and master's degrees from State in civil engineering in 1964 and 1970, respectively, and also earned a law

degree from Indiana University, but never practiced law.

Most of his career was spent at the University of Houston teaching engineering technology. He received emeritus status when he left Houston in 2004 and came to SDSU. He also taught surveying and soil mechanics at SDSU from spring 1966 to spring 1968.

Survivors include a daughter, Amy Wahlstrom, of Brookings; and a sister, Nancy VanderHeiden, of Denver.

# Reece Kurtenbach

Daktronics president, CEO connected to State



“I was exposed to a lot of contracting projects in Colorado, and I felt like I had just as much to bring to the table as other engineers who graduated from bigger universities. I was actually in a better place than some co-workers because of the new technology principles I learned at State.”

—Reece Kurtenbach,  
President and CEO,  
Daktronics

The web weaved between SDSU, the Kurtenbach family and Daktronics is complex.

And the initial thread began with Aelred Kurtenbach—Daktronics’ co-founder.

Al’s relationship with SDSU began in 1962 when he became a professor in the electrical engineering department. Alongside Duane Sander, another electrical engineering professor, he built Daktronics from the bottom up beginning in 1968.

The two professors solicited the help of Jim Morgan, ’69/’70, one of their electrical engineering graduate students. Morgan worked at Daktronics from its humble beginnings—operating out of a downtown Brookings building that is now the Lantern Lounge.

Morgan took on the role of president and CEO of Daktronics in 2001, and in 2013, retired and passed the torch to Al’s son Reece.

Today, Daktronics is the world’s largest supplier of computer-programmable displays, large screen video displays, digital billboards, electronic scoreboards and control systems.

Over the years, Daktronics has employed 7,000 SDSU student employees and 1,000 interns. The company currently employs 250 students and interns and 600 SDSU graduates in full-time positions. The company also sponsors scholarships, traineeships, and has internship programs for students who earn university credit while they work.

## Family connection to SDSU

Al and his wife, Irene, have five children, including Reece, all of whom graduated from SDSU.

Al stayed involved with State over the years, serving on the Foundation Board of Trustees and as interim co-dean for the College of Engineering, and Irene worked at the University Bookstore.

Carla graduated with a bachelor’s degree in electrical engineering in 1984. As an

undergraduate, she was involved in student government. Carla and her husband, Brian Gatzke, ’85, and their two children live in Brookings, where Carla is vice president of human resources at Daktronics.

Paula graduated in 1985 with a bachelor’s degree in electrical engineering and earned a second degree in math education in 1994. She lives in Brookings, and is a lecturer for the department of electrical engineering and computer sciences.

Reece graduated in 1987 with a bachelor’s degree in electrical engineering and minors in math and computer science. He is married to Kami, a 1986 graduate, who earned her master’s degree in counseling and human development in 1987. Kami is a lecturer for University College.

Lisa graduated in 1990 with a bachelor’s degree in math education and in 1992 received her master’s degree in athletic administration. As an undergraduate, she played basketball on a scholarship. Lisa and her husband, Todd Glanzer, ’89, have two children and live in Schertz, Texas, where she is an instructor at the University of the Incarnate Word.

Matt graduated in 1991 in electrical engineering, then with a master’s degree in industrial management in 2000. As an undergraduate, he played football on scholarship. Matt is vice president of manufacturing at Daktronics, and lives in Brookings with his wife, Melissa, and their three children.

## State memories

SDSU was always on Reece’s radar when he thought of post-high school education.

“My dad went to South Dakota School of Mines and Technology, so I toured out there and at SDSU,” said Kurtenbach, who grew up in Brookings. He chose to attend SDSU because of its engineering offerings and proximity to home. “I enjoyed SDSU,” he said. “I lived in Binnewies my first two years, then off campus the following two years with friends.”



“Many of my college friends are those from the dorms,” said Kurtenbach. “That was a great experience for me.”

Kurtenbach remembers taking dreaded 7 a.m. exams as a freshman. “There was a time I stayed up late studying, and the next morning I overslept and was running late. I had to rush through the whole test. I approached those tests differently in the future.”

Kurtenbach said he learned more at SDSU than math and science. “The things I learned went beyond tests and homework,” he said. “It was the study habits, culture of living with different people, and the work ethic that I picked up as well.”

“A few different professors stood out to me,” Kurtenbach said of his college years. “I had Alfred and Madeline Andrawis who taught a lot of the electrical engineering classes. I’ve seen them often throughout the years, until they retired a few years ago.”

### **Working through college**

Kurtenbach worked throughout his college education, whether it was on local farms or the night shift at Daktronics.

While Kurtenbach’s dad was an electrical engineer, Reece was more interested in the computer and technology aspect. “To me, computers were more exciting, and I felt very comfortable in engineering from the beginning.”

“I’ve always had an interest in understanding how things work,” said Kurtenbach. “I like math and science, and those two subjects align with engineering.”

As a college student, Kurtenbach worked at Daktronics in the factory, then moved to customer service.

“Working in customer service was a valuable experience,” he said. “I worked as a repair technician on the phone helping customers with issues. It provided me with instant feedback. Helping customers get their products up and running was

rewarding, and in the end, people were appreciative.”

While he was in college, Kurtenbach met his wife, Kami Gertner, originally from Westbrook, Minn.

### **After college**

After graduation, Kami and Reece moved to Colorado for four years. “I worked a couple different engineering jobs, one for a big company called Unisys in Pueblo, and another for a small engineering firm called RoMar in Colorado Springs,” said Kurtenbach.

“I was exposed to a lot of contracting projects in Colorado, and I felt like I had just as much to bring to the table as other engineers who graduated from bigger universities. I was actually in a better place than some co-workers because of the new technology principles I learned at State.”

After Kami and Reece had their first daughter, Kalli in 1991, they returned to Brookings to be closer to both of their families.

He joined Daktronics as an applications engineer focusing on large display projects. In 1994, he became manager of a design group, leading the development of Daktronics’ first full-color LED video display product.

By 1995, Kami and Reece had three more daughters—Kariah, Kirstie and Kinsey.

Kurtenbach served as an engineering manager at Daktronics until he was appointed vice president in 2004. He was named executive vice president in 2012, and became president and CEO in September 2013.

His wife and two of their children keep Kurtenbach connected with State.

Their eldest daughter Kalli graduated from the dietetics program at the University of North Dakota in 2013; Kariah is a senior civil engineering student at SDSU, Kirstie is a junior electrical

engineering student at SDSU, and Kinsey is a senior at Brookings High School.

“I’m still active at SDSU and attend many of the sporting events,” said Kurtenbach. “I just gave a talk last semester to a group of senior engineering design students. I’ve also been on a couple different advisory groups on campus.”

### **Daktronics Engineering Hall**

Aside from Reece’s personal connection with SDSU, Daktronics and its leaders contributed a large monetary gift to the college in 2012.

In honor of the company’s donations, the recently finished SDSU Electrical Engineering and Computer Science building was renamed Daktronics Engineering Hall.

Morgan, Sander and Al Kurtenbach provided nearly 40 percent of the approximately \$13 million construction costs for the 73,400-square-foot building. Daktronics corporation donated \$2.25 million.

“The university continues to grow and evolve,” said Kurtenbach. “It’s exciting to see the changes over the years. I’m impressed by the equipment the engineering students are working with, and the projects they’re working on.”

“If you contrast what SDSU is today, the facilities are so much better across the board—the engineering hall, union, dorms—they’re all so up-to-date.”

“All around, it’s a great institution.”

*Karissa Kuhle*

## Distinguished Alumni • Distinguished Engineers

College of Engineering graduate Jane McKee Smith, '83 civil, was among eight people honored by the SDSU Alumni Association at Hobo Day 2013.



### JANE MCKEE SMITH Professional Achievement

Originally of Bloomington, Minn., Smith has achieved international acclaim in the field of coastal engineering during her 30-year career

with the U.S. Army Corps of Engineers.

She is the waves group leader at the Coastal and Hydraulics Laboratory of the Engineering Research and Development Center in Vicksburg, Miss. The redesign of the New Orleans levees, based in part on a wave model she co-developed, was successful in protecting the city during Hurricane Isaac in 2012.

Smith also worked with emergency managers in Hawaii and the National Hurricane Center to implement fast and accurate forecasts for hurricane inundation in Hawaii and her expertise has been sought for reviewing design standards following Hurricane Sandy.

In an article in the Society of Women Engineers magazine, Smith states, "My role after Hurricane Katrina was determining what drove the winds, the waves and the surge during the hurricane."

She developed a computer model that simulates how wind separates storm waves and how the waves interact with other waves, currents and the ocean bottom and with levees, floodwalls and other structures.

She also devised a model known as SWIMS (surge and wave island modeling studies) to quickly forecast hurricane waves, surges and flooding on the Hawaiian Islands. The model simulates the processes in a few seconds and displays results within the geographic information system, quantifying the dangers approaching the islands.

A measure of her worldwide renown can be seen in the 428,000 Google hits for "Jane McKee Smith' coastal," according to James Houston, director emeritus of the Engineering Research and Development

Center with the Corps of Engineers and the person who hired Smith in 1983.

He calls her "a remarkable researcher" with a "worldwide fame for outstanding contributions to engineering and science in coastal hydrodynamics, three-dimensional structure of near-shore currents, wave-current interactions and shallow-water wave transformation."

At age 26, when she was just four years out of college, Smith became the youngest person to receive the Waterways Experiment Station Woman of the Year Award in 1987. In 2010, she was named Government Civil Engineer of the Year by the American Society of Civil Engineers.

Her honors at SDSU included being named outstanding civil engineering student her freshman (1980) and senior (1983) years.

The 38th class of Distinguished Engineers will add two more plaques to the Wall of Fame in Crothers Engineering Hall, bringing the total to 132 persons since Dean Junis O. Storry initiated the award in 1977. To be honored at an April 29 banquet will be Dick Sayre '56, of Sioux Falls, and Lynn Seppala '68, of Livermore, Calif.



### DICK SAYRE

A Madison native, Sayre put his civil engineering skills to work with the South Dakota Department of Transportation as a resident engineer in Sioux Falls from 1956 to 1962. He handled

construction administration for Interstate Highways 229 and 90 as well as for various DOT municipal projects in Sioux Falls.

He spent his next four years as a field engineer in eastern South Dakota with Portland Cement Association providing assistance to cement and concrete users.

In 1966, Sayre joined the civil engineering firm Schmucker, Paul, Nohr and Associates, managing the new Sioux Falls office. In 1969 he formed his own civil engineering and land

surveying business—R.F. Sayre and Associates.

Sayre sold the business to colleagues in 1995. The business, now known as Sayre Associates, has 11 registered professional engineers, seven of whom are SDSU civil engineering graduates. Sayre continues to maintain contact with clients and mentor the firm's staff.

Appointed by Gov. Bill Janklow in 1979, Sayre served as vice chairman of the South Dakota Cement Commission. In 1980, he was named as a member of the board of the Portland Cement Association in Skokie, Ill., and served on its Research and Development Committee.

Sayre, along with six friends, created Prairie Green Inc. in Sioux Falls. This firm purchased 400 acres in southern Sioux Falls. With this land, they created a residential and office development. In addition, 175 acres were donated to the City of Sioux Falls for the city's development of the Prairie Green Golf Course.

Adjacent to Prairie Green, a residential development, Prairie Tree, was developed by Prairie Tree Partners, of which Sayre was a consulting participant. Currently, Sayre is a member of the Meadows at Lennox, which is a smaller-scale residential land development.

Sayre notes he is one of six family members to graduate from State, following the footsteps of his dad in 1921; his mom in 1923; and his brother in 1954; and preceding his niece in 1986; and a granddaughter in 2014.



### LYNN SEPPALA

A Briggs Scholar from Castlewood, Seppala earned a degree in physics and went on to receive a doctorate in optics from the University of Rochester in New York.

He has spent most of his career at the Lawrence Livermore National Laboratory.



“Dr. Seppala is considered one of the world’s top experts in optical design,” says Edward Moses, principal associate director at Livermore. “Throughout his career, Lynn has tackled the most technically challenging optical problems and produced real and effective solutions to issues of national and international importance.”

Those challenges included optical designs for a linear accelerator that will advance studies in precision physics, the first-ever, in-laboratory thermonuclear ignition that could lead to an unlimited source of energy, and the Large Synoptic Survey Telescope, which will map out dark matter and unravel dark energy’s nature.

Seppala’s achievements are all the more impressive due to his personal struggles with a stroke in 1992 at age 46 that paralyzed his right side and seriously affected his speech and cognitive abilities.

Imagine his surprise during a day in physical therapy when a man who made his living with numbers realized that he no longer knew how to add or subtract. According to his sister, Dorothy Schooley, he couldn’t find the number 5 on the telephone dial.

A former teacher, Donald Jorgenson, of Clear Lake, said, “With uncommon courage and determination, he overcame or compensated for the losses. He learned to

become left-handed, walk again and ski expert runs despite remaining handicapped.”

Regaining speech and cognitive abilities, he retained his position as chief optical designer, performing at even higher levels.

Seppala was named 2011 Distinguished Alumnus by The University of Rochester, was inducted into the South Dakota Hall of Fame in 2011, and was named 2012 Distinguished Alumnus by South Dakota State University. He has more than 40 published papers, six patents and two R & D 100 Awards from R & D Magazine.

## ALUMNI NEWS

**BRENDA (WOLF) COLEMAN '82/'02**, of Wayzata, Minn., serves as Twin Cities Affiliate Coordinator for the Pancreatic Cancer Action Network. The Madison native is a two-time survivor of pancreatic cancer and continues to receive treatment.

In June 2013, the 55 members of Team Brenda competed in various races associated with Grandma’s Marathon in Duluth, Minn., and raised more than \$25,000 for the national nonprofit network.

**GERALD G. FRICK '38**, of Fergus Falls, Minn., died Feb. 3, 2014, at his apartment.

The 97-year-old electrical engineering major from Gettysburg spent most of his career with Otter Tail Power Co., for whom he began working in May 1946, two months after his discharge from the U.S. Army. At his retirement in December 1978, he was manager of system operations.

He spent 1979-80 on the electrical engineering faculty at SDSU. Survivors include two daughters and a son.

**JON “DANNY” DANIEL JORGENSEN, 60**, of Greensboro, N.C., died unexpectedly Nov. 9, 2013.

The 1983 graduate earned degrees in physics and electrical engineering with a minor in math. He was a member of Sigma Pi Sigma, the national physics honor society.

After graduating from Hayti High School in 1971, he served in the U.S. Navy from 1971 to 1976 and enrolled at SDSU in 1979.

He spent his 30-year career designing solid-state circuits. In 2008, he co-founded RFMEDS and RFMED Solutions, which applies radio frequency technology to the medical field. During this time he was awarded 14 patents with eight patents pending.

Survivors include his wife, Janell (Skordahl), originally of Brookings, and three children and two grandchildren.

**PICEK CONSTRUCTION**, of Huron, has been selected as the 2014 Huron Area Excellence in Family Business award winner. Headed by Justin Picek (December 2010 construction management), Picek

Construction is a third-generation family business that erects metal buildings as well as doing commercial and residential Construction. Justin Picek purchased the business in January 2012.

**LT. CMDR. JAMES SULLIVAN '01** was named an Engineer of the Year for 2013 by the Naval Facilities Engineering Command Mid-Atlantic.

Sullivan, a native of Deadwood, works as the Facilities Engineering and Acquisition Division director for Public Works Department Pennsylvania.

Sullivan, a civil engineering graduate, led a 46-person team in awarding 575 design and construction contract actions valued at more than \$65 million in fiscal year 2012.

Sullivan also developed and implemented a safety review process that has resulted in no contractor mishaps the past two years and he oversaw a Utilities Energy Saving Contract that will save the government \$2.2 million a year in energy costs.

## DEAN'S CLUB

January 1, 2013 through February 15, 2014

Dean's club membership consists of alumni and friends who have contributed \$500 or more annually to the Jerome J. Lohr College of Engineering. Dean's Club members are recognized as devoted friends of the college who make significant impact on the college's future. Member names will be listed in the SDSU Honor Roll and the college newsletters. They also will receive invitations to special college and university functions, updates from the college dean, and an SDSU Dean's Club car decal.

3M - Brookings  
 3M - Matching Gifts  
 AGCO Corporation  
 Mary A. Akkerman  
 American Council of Engineering Companies of SD  
 Timothy T. Amert  
 David A. Anderson  
 James M. Anderson  
 Marilyn C. Anderson  
 Roderick B. Anderson  
 Associated Consulting Engineering Inc.  
 Associated General Contractors of SD - Building Chapter  
 ATK  
 Matthew Auch  
 Gladys Bahnsen  
 Ball Corporation  
 Banner Associates Inc.  
 Brent L. Bargmann  
 Kurt T. and Laura Barker  
 Keith A. and Glynn E. Bartels  
 Bartlett & West Engineers Inc.  
 Bartlett & West Inc.  
 Basin Electric Power Cooperative  
 Deidre Beck  
 Bel Brands USA  
 Richard R. Bell  
 Gayland J. and Carolyn Bender  
 Justin Benson  
 Lyle L. Berg  
 Gerald E. and Shirley Bergum  
 Richard and Beth Berreth  
 Kelly L. Biddle  
 Dan J. and Donna Bierschbach  
 Wayne E. and Jacqueline K. Bietz  
 Jeffrey A. and Sandy Bjorkman  
 Black Hills Utilities Holdings LLC  
 Charles N. Blackman  
 Francis M. and Beverly A. Blaze  
 Gary L. Bleeker  
 David R. and Peggy M. Blegen  
 Gary L. Bliss  
 Lori S. Bocklund

Duane D. Boice  
 Brian A. Borgstadt  
 Theresa E. Brandner-Allen  
 Barbara J. Brinker  
 Steve W. and Jean Brockmueller  
 Lewis F. and Danelle M. Brown  
 Jon R. and Wendy A. Brown  
 Curtis D. and Phyllis E. Brudos  
 Michael A. Bucher  
 Tim and Suzette Burckhard  
 Ronald J. Bymers  
 Edward and Judy Cannon  
 Capital Card Services Inc.  
 Carollo Engineers  
 Caterpillar Foundation  
 Raymond C. Chao  
 Chevron Humankind  
 Noel L. and Rita D. Christensen  
 David E. and Barbara A. Christianson  
 Richard A. and Eleanor J. Coddington  
 Kurt and Mary Cogswell  
 Concept Sales Inc.  
 Cooper Industries Foundation  
 Cooper Power Systems  
 James D. and Barbara A. Courtright  
 Leon D. Crossman  
 James W. Crothers  
 Dakota Digital Inc.  
 Daktronics Inc.  
 Larry D. De Mers  
 Glenn DeGroot  
 Tate Profilet and Mary J. DeJong  
 Arlo B. and Barbara DeKraai  
 Cheri A. DeSmet  
 Gary L. and Donna R. Dettman  
 Robert C. DeVaney  
 Jason L. and Jodi L. Devine  
 John and Michele deWit  
 DGR Engineering  
 Scott A. Dooley  
 Maxine F. Dornbush  
 Dow Coming Corporation  
 Neal D. Drefke  
 Burdette H. Dugdale

EAPC Architects Engineers  
 East River Electric Power Cooperative Inc.  
 Eastern Chapter South Dakota Engineering Society  
 Delvin D. and Athene M. Eberlein  
 Edinger Brothers Partnership  
 James O. and Evelyn J. Edwards  
 James O. and Rita M. Edwards  
 Errol P. EerNisse and Sonja Chesley  
 Leon B. and Sarah A. Elwein  
 Thomas D. Elverson  
 Benjamin J. and Kelli J. Endorf  
 Engineering Technical Services  
 Engineers Without Borders at SDSU  
 Daryl C. and Marlys Englund  
 Keith A. and Patricia L. Ewy  
 ExxonMobil Foundation  
 Falcon Plastics Inc.  
 Farmers Alliance  
 Adolph Fejfar  
 Joseph M. Fergen  
 Jack W. and Judith A. Finger  
 Bruce D. and Debra Firkins  
 First Bank and Trust  
 First Premier Bank-Sioux Falls  
 Steve J. Flanagan  
 David M. and Shelley R. Frazee  
 Gerald G. Frick  
 Friend of St. James Minnesota  
 William A. Frier  
 Donell P. and Janice M. Froehlich  
 Full Circle Ag  
 Gage Brothers Concrete  
 David W. and Patricia Galipeau  
 William L. Gamble  
 Jerome J. and Olimpia Gaspar  
 GE Fund  
 Glenn S. and Janice C. Gehring  
 General Mills Foundation  
 Geotek Engineering & Testing Services Inc.  
 Regg A. and Barbara J. Glawe  
 Mark D. Glissman

Eugene C. and JoAnn O. Goodale  
 Graco Foundation  
 Richard L. Gunderson  
 Dale A. and Barbara A. Haack  
 LaVon Hall  
 Kurt L. and Dori Hansen  
 John M. Hanson  
 Mark C. and Sharon K. Hasvold  
 HDR Engineering Inc.  
 Michael R. Heier  
 Dennis L. and Susan S. Helder  
 James A. and Sandra L. Hembd  
 Henkin Schultz Inc.  
 Henry Carlson Company  
 Brian L. Hoellein  
 Kent L. Hofer  
 Wallace J. Hoff Jr.  
 Robert G. Hoisington  
 Hormel Foods Corporation  
 Burton and Gladys Horsted  
 HR Green Inc.  
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We have experienced tremendous recent growth at the Jerome J. Lohr College of Engineering not only in its facilities but also in the number of students. Through it all, the Lohr College of Engineering continues to provide a first-class education and create the next generation of leaders in engineering.

We're grateful for the gifts from the individuals who are highlighted in this issue. Leaders like John Hanson who generously funded an endowed professorship in Structural and Construction Engineering. Ralph Lindner, Daryl Englund and Blair Metzger who lead efforts to provide classroom upgrades, and Dale Stevens, Emmett Myhre and Jim Fergen who contributed to the nearly \$1.5 million in scholarships the Lohr College of Engineering awards.

We've seen the number of applicants with an ACT score of 30 or higher increase by 160 percent in the past eight years while the number of female students in the college has nearly doubled in that same time frame. This growth is on top of what was recorded several years ago as the nation's second-fastest rate in terms of undergraduate degrees awarded.

This growth and recognition comes with a cost. To continue our success and keep attracting the best students, your help is needed with more classroom upgrades, scholarships and faculty support.

John Hanson said when announcing his gift, "An endowed professorship enhances the university in the academic community." We look to further enhance our reputation by adding three more named faculty positions in the next five years.

Continuing to attract the best students requires more scholarships. The Lohr College of Engineering would like to increase our scholarship awards by 25 percent in the next five years.

While several new buildings or renovations have been completed or are nearly done, our growth continues. The college is seeking \$250,000 a year over the next five years for facility upgrades.

I look forward to working with you in the future as the Lohr College of Engineering continues its rich history of success in providing graduates who are recognized for their scholarship, competitive spirit and exceptionally strong work ethic.

*Tim Reed  
Jerome J. Lohr College of Engineering  
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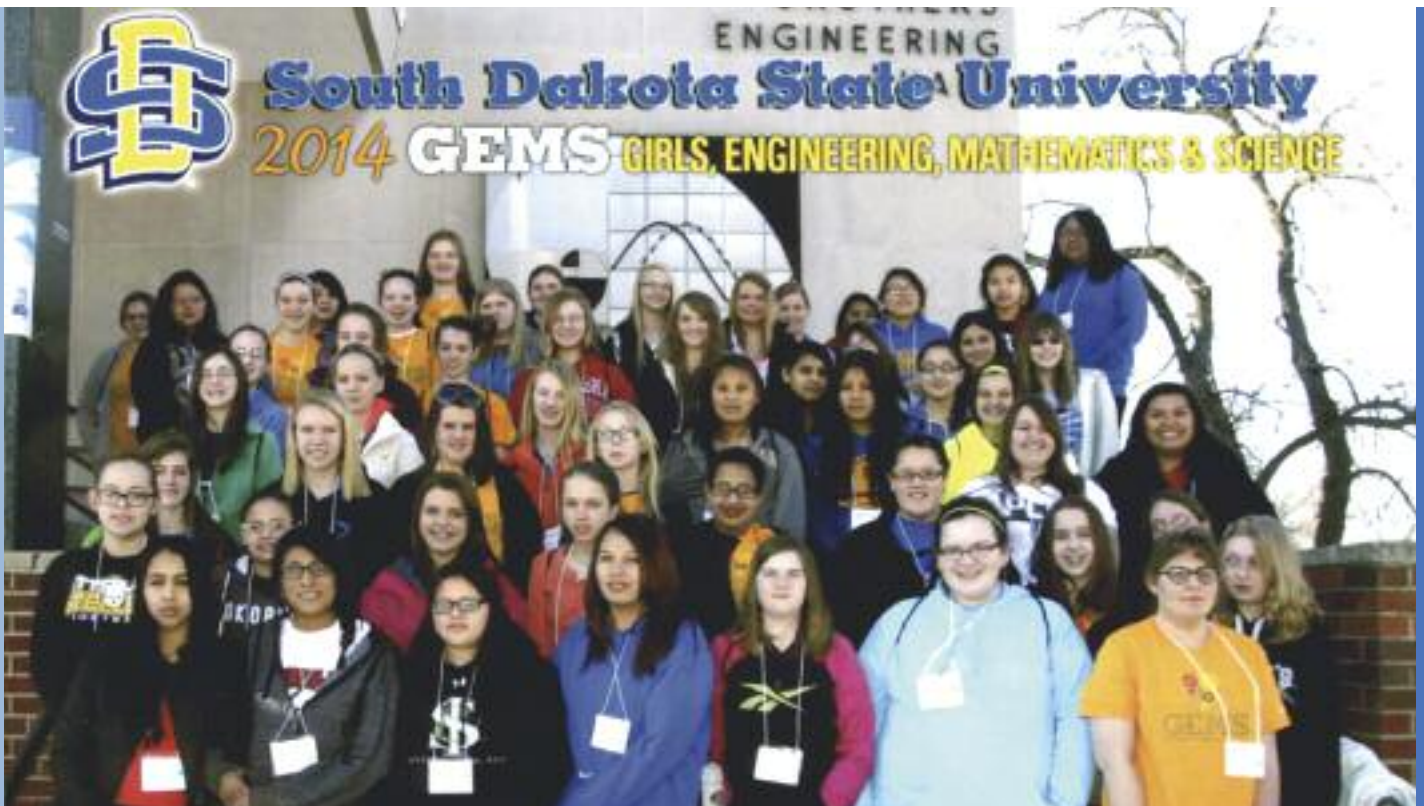


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9,500 copies of this publication were printed with financial support of alumni and friends



Nearly 60 eighth-grade students attended the 2014 Girls, Engineering, Mathematics and Science (GEMS) event held March 29 at Crothers Engineering Hall. Plans are already underway for the next year's event, which will be held March 28, 2015.