

JACKRABBITS SCRIPT & SCOPE

WINTER
2018



**SOUTH DAKOTA
STATE UNIVERSITY**

*College of Pharmacy &
Allied Health Professions*

DEAR FRIENDS



THE FUTURE IS BRIGHT FOR THE COLLEGE

As you read this magazine, you will see an incredible number of achievements by the College of Pharmacy and Allied Health Professions' students, student organizations, alumni and faculty. I am both honored and amazed to have the opportunity to work with such a committed and talented group.

Students and their organizations deserve a special acknowledgement. From the students who provide services directly to patients at the Brookings Health System cardiac rehab program to the APhA-ASP students who carried out 624 health screenings in one day at the South Dakota State Fair, these students impact lives. In addition, our student organizations of Kappa Psi and Kappa Epsilon earned top national awards demonstrating their commitment to service.

You'll enjoy reading about the amazing accomplishments of our alumni. Specifically, take note of the vibrant careers of Gary Karel, our distinguished alumnus (B.S. Pharm 1973), Rachelle Odenbrett (MLS 1995 grad), Gladys Bahnson (MLT 1967), and Carnie Alex (Pharm.D. 1999). Each provides inspiration to all of us. Also during the fall we were faced with the loss of important leaders in our college's history, including Harold Bailey and Keo Glidden Smith. The accomplishments we achieve today are only made possible by their foundational leadership.

Faculty and their students continue to achieve great discoveries through their research. I encourage you to read about Xiangming Guan's work on preventing cancer metastasis, and Siddharth Kesharwani (graduate student) and Hemachand Tummala's national award for their ground breaking work on a unique formulation.

There remains much more to learn about the college in this issue, and I encourage you to check out the Highlights Section outlining select accomplishments from the past year as well as what our college leaders are doing to advance our mission.

You can be very proud of the quality of work and outstanding commitment to caring that is alive and well in the college. Thank you for your continued support!

Jane Mort, Pharm.D.

Interim Dean and Professor
College of Pharmacy and Allied Health Professions

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Students from the American Pharmacists Association Academy of Student Pharmacists conducted 624 health screenings at the 2017 South Dakota State Fair.

CONTENT

4 | AN EXPERT'S EAR

6 | HITTING THE ROAD

8 | PILOT PROGRAM

10 | GREATEST JOB IN THE WORLD?

11 | KEO GLIDDEN SMITH

12 | MLS WHITE COAT CEREMONY

14 | HONORARY WHITE COAT

16 | SCHOLARSHIPS

18 | RURAL EXPERIENCES FOR HEALTH PROFESSIONS STUDENTS

20 | SUMMER STUDENT EXPERIENCES

24 | DISTINGUISHED ALUMNUS

26 | HAROLD BAILEY

28 | CARNIE ALLEX

30 | TREATING METASTATIC CANCER

32 | ACADEMIC ASSESSMENT-CURRICULUM REPORT

33 | DEPARTMENT OF PHARMACY PRACTICE

34 | DEPARTMENT OF PHARMACEUTICAL SCIENCES

35 | 2017 HIGHLIGHTS

39 | AVERA HEALTH SCHOLARSHIPS

42 | DEVELOPMENT DIRECTORS' REPORT

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**SOUTH DAKOTA
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Gwen Pickett, of Brookings, who participates in the cardiac rehab program at Brookings Health System, talks with Alex Middendorf, an assistant professor in pharmacy practice at SDSU, and pharmacy students Abby Ferdinand and Taylor Thooft at the SDSU Wellness Center Sept. 29. The students are there twice a month to answer patient concerns about medications.

PHARMACY STUDENTS OFFER AN EXPERT EAR

Bringing another member into the health-care team actually can make health care less expensive while also improving the quality of that care, according to data compiled by the American Pharmacists Association.

Patients are three times more likely to stay out of the hospital when pharmacists provide clinical services after discharge and, on average, \$1,000 per patient per year is saved with pharmacist interventions for patients with chronic conditions, the association reports.

That thinking is what caused the cardiac rehab department at Brookings Health System and the South Dakota State University College of Pharmacy and Allied Health Professions to offer medication reviews and education for those in the hospital's program. This is the second year that P3 students are helping out at the SDSU Wellness Center, where the discharged patients engage in prescribed exercise.

"We're medication experts. We're able to serve as a resource for those patients," said Dr. Alex Middendorf, an assistant professor of pharmacy practice.

The students who meet with patients are in their fifth year of a six-year program. They have already earned their Bachelor of Science degree in pharmaceutical sciences and now are taking courses at University Center North in Sioux Falls and doing more hands-on work with health-care facilities there. Their P4 year is spent entirely doing rotations and providing direct patient care, hands-on under the direction of pharmacist preceptors.

Middendorf, who teaches community pharmacy and practices as a community pharmacist himself, said students are anxious to work in settings like the medication review program. "It's real patients with real problems and real medications," he said.

NO MED QUESTION OFF LIMITS

The program operates on Fridays twice a month during the school year with the first counseling session this year held Sept. 29. It's truly the patient's call as far as how long the sessions last and what is discussed. "It is very patient directed as far as how the conversation goes," said Middendorf, who added that free blood sugar checks also are offered.

Taylor Thooft, of Tyler, Minnesota, was among the four students who worked the initial session. "We were expecting cardiac questions, but we got a little bit of everything," he said.

Topics ranged from adverse reactions and side effects to the long-term impacts of taking a cancer-fighting drug more than 20 years ago.

Middendorf precepted the students, but they held their own. One patient couldn't understand why her doctor ordered her to stop taking Aleve, which she had taken for years, now that she was on heart medication. The answer is that nonsteroidal anti-inflammatory drugs like Aleve and Advil run the risk of thinning the blood too much as well as being hard on the heart and kidneys, Thooft said.



CALENDAR OF EVENTS

MARCH 16-19 | American Pharmacists Association/Academy of Student Pharmacists Annual Meeting – Nashville, Tennessee

MARCH 23-24 | South Dakota Society of Health-System Pharmacists Annual Meeting – Sioux Falls

APRIL 6-8 | Kappa Psi Conclave – Duluth, Minnesota

APRIL 13 | Pharmacy White Coat Ceremony – University Student Union, Brookings

APRIL 18 | College Achievement and Recognition Program – University Student Union, Brookings

APRIL 18 | Spring Convocation – University Student Union, Brookings

MAY 4 | Pharm.D. Hooding Ceremony – Performing Arts Center, Brookings

MAY 5 | Graduation



The answer was to switch to Tylenol or some other form of acetaminophen, which does not have these side effects.

DRUG INTERACTIONS A KEY ISSUE

The consultations are free and voluntary, but often are recommended by Jesse Walsh, director of cardiac rehab at Brookings Health System. “They’re valuable for these patients, who are no longer receiving hospital outpatient therapy, but may have noticed side effects as a result of their new medication or just have some concerns.”

Middendorf said they recommend patients always keep with them a complete list of prescription medications, over-the-counter medications and any vitamins and supplements they’re taking. Their pharmacist or doctor can assist on this, he said.

By knowing the potential drug interactions that multiple medications can produce, the pharmacist can often pinpoint the reason for a side effect and prevent rehospitalizations, Middendorf said. Sometimes the interaction can be the result of an over-the-counter medication, vitamins and supplements or even grapefruit, he said.

The consults can last 20 to 60 minutes. “Patients are happy to have someone there to talk with them,” Middendorf said.

NO APPOINTMENT NEEDED

“For community pharmacists, it is usually the highlight of their day to be able to answer a question using their knowledge base,” he said. But the advantage of this program with the students is “we meet patients where they are.”

In addition to these reviews, students are in the community doing flu shot clinics and screenings as part of their educational requirement to log hours of direct patient contact.

“We aren’t always behind a counter. We’re accessible and will make the time to talk to patients,” said Rebecca Matzek, of Ellsworth, Wisconsin. “We are the most accessible members of the health-care team. You don’t need an appointment to see us.”

Citing a national survey, Middendorf said, “On average, patients see their community pharmacist more than 30 times per year versus four times per year for their primary care doctor.”

Dave Graves

Open for business! P3 students Nicole Rasmussen, left, and Analisa Buysse point to the health screenings sign outside their tent at the 2017 South Dakota State Fair. There were 624 screenings given by the APhA-Academy of Student Pharmacists chapter at the first-time event.



Free Health Screenings

Blood Pressure
Blood Sugar
Cholesterol

APhA-ASP
AMERICAN PHARMACEUTICAL ASSOCIATION
ACADEMY OF STUDENT PHARMACISTS

APhA

MORE THAN
A COUNT

South Dakota
Pharmacists
Association

APhA-ASP CONNECTS WITH PATIENTS IN COMMUNITY

State fairs are synonymous with fried doughnuts, cotton candy and foot-long hot dogs.

Those fair favorites can spike blood sugar and blood pressure as well as clog arteries, if taken to excess. So when the SDSU chapter of the American Pharmacists Association Academy of Student Pharmacists set up camp at the South Dakota State Fair in Huron Sept. 1, it was doing business in the enemy's camp, so to speak.

"We came up with the idea at our summer executive board retreat to give ourselves the opportunity to talk to patients and record videos for our More Than A Count campaign," said Analisa Buysse, chapter president and a P3 student from Taunton, Minnesota.

She contacted State Fair organizers and the chapter was given a day sponsor tent near one of the main stages.

From 9 a.m. to 6 p.m., 25 students and a couple faculty members did free screenings for blood sugar, blood pressure and cholesterol. The public's response was impressive—624 screenings were given (blood sugar 248, blood pressure 276 and cholesterol 100).

"Our chapter's goal for the year was to complete 800 screenings but since we completed 624 in one screening session, we set a new goal to beat our previous record of 1,300," Buysse

said. By mid-November, the count stood at 1,131 (including 240 immunizations). "We do screenings throughout the school year. Pharmacy students are required to log patient-care hours," Buysse said.

The students are trained in their first year of pharmacy school to do screenings. Making themselves available for patient questions is another big focus.

"There was a lot of good discussion between patients and the students about medications, asking if they were on medications for diabetes or high blood pressure, and how to best use their medications," Buysse said.

That dovetails well with the joint campaign between the APhA-ASP and South Dakota Pharmacists Association's More Than A Count campaign, which seeks to erase perceptions that pharmacists just count pills and put them in a bottle.

"What many members of the public do not realize is that pharmacists, the most accessible member of the health-care team, are required to complete six years of schooling prior to being able to practice pharmacy. Our patients underestimate the services that pharmacists are trained to offer, and this can hinder our ability to practice at the top of our license.

"THE MAJOR
FOCUS OF THE MORE
THAN A COUNT CAMPAIGN
IS TO EDUCATE OUR
PATIENTS ABOUT HOW
PHARMACISTS CAN HELP
THEM MANAGE THEIR
HEALTH AND OPTIMIZE
THEIR MEDICATIONS."

- Analisa Buysse



STAY CURRENT ON THE MORE THAN A COUNT CAMPAIGN

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Bailie Carlson draws a blood sample for a screening at the 2017 South Dakota State Fair while fellow P3 student Josh Collett looks on.

“The major focus of the More Than A Count campaign is to educate our patients about how pharmacists can help them manage their health and optimize their medications,” Buysse said.

Other screening outreaches by APhA-ASP have been at Hy-Vee and Walmart stores in Brookings, community meals served at the Banquet (Sioux Falls) and the Harvest Table (Brookings), the American Legion Pancake Feed in Brookings, the Ambulance Health Fair in White, and the Check Your Meds Day in Brookings.

HONORED WITH OPERATION IMMUNIZATION AWARD

APhA-ASP also is involved in immunization outreach. In fact, the chapter received the 2016-2017 Region V Operation Immunization Award at the APhA-ASP Midyear Regional Meeting in Des Moines, Iowa, Oct. 28.

In the 2016-17 school year, the chapter administered 450 influenza immunizations, smashing its goal of 375, according to Jade Kutzke, a P4 student from Lake Lillian, Minnesota, who co-chaired the Operation Immunization Committee with P2 student Bailey Buenger, of Sheldon, Iowa.

The largest forum was five flu shot clinics in October and November for employees of the Brookings Health System and their families. The program’s third-year students gave 347 vaccinations at the Brookings Hospital in the annual project. In addition, two Sioux Falls Hy-Vee locations held three clinics where 79 shots were given.

The chapter also participated in a social media blitz during National Influenza Vaccination Week in December that had 105 supporters reaching 128,336 people, Kutzke said.


For the 2017-18 school year, the chapter plans to incorporate events for K-12 students and surpass the 450 immunizations given in 2016-17.

Kutzke said, “On top of providing immunizations to community members, this year’s co-chairs have set the goals of educating 800 community members on vaccines and advocating for pharmacists and their ability to vaccinate. So far, student pharmacists in our chapter have provided 240 influenza vaccines this fall.

“As future pharmacists, it is our duty to improve the public’s knowledge of immunizations while increasing the number of adults receiving immunizations.

“At our events, many patients are shocked to learn that pharmacists can provide immunizations. I believe that our outreach programs show the community that their local pharmacists whom they know and trust are available to provide health services on top of their prescription-dispensing role.”

Dave Graves



Jessica Strobl, left, consults with Mary Martel about her blood glucose monitor during a trip to Lewis Drug in Milbank, which is participating in a Medicare pilot program to curb health spending. It gives pharmacists flexibility and financial incentives to educate patients on their medications.

MILBANK PHARMACY PILOTING MEDICARE COST-CONTROL PROGRAM

Medication spending in the United States in 2016 was a staggering \$323 billion, which is the highest in the world at \$1,100 per capita. Ranking second, third and fourth for per capita spending were Canada (\$787), Japan (\$783) and Germany (\$741), according to Statista, an internet-based statistics company.

In the clamor that has erupted to tame these costs, a culprit seeing few headlines is medication nonadherence, or not taking medications as prescribed. A 2013 study by QuintilesIMS found that nonadherence resulted in more than \$200 billion in avoidable health-care costs, which include avoidable hospital admissions, outpatient treatments, emergency room visits and prescriptions.

A review in the *Annals of Internal Medicine* estimates that a lack of adherence causes nearly 125,000 deaths annually and 10 percent of hospitalizations. It also said 20 to 30 percent of medication prescriptions are never filled and 50 percent of medications for chronic disease are not taken as prescribed.

“Our country spends billions on medications but very little is spent on how to use them properly,” Jessica Strobl, a pharmacist at Lewis Drug in Milbank, said.

In January 2017, the Centers for Medicare and Medicaid Services Innovation Center began a five-year test of a model called Enhanced Medication Therapy Management. The aim is to bring down Medicare spending on medications and other health care as well as optimize medication use through improvements in coordination of care.

South Dakota is one of 11 states where this model is being tested and there are still relatively few locations in the state taking full advantage of the program.

The program is “enhanced” because it expands the existing Medication Therapy Management program that allows eligible patients to have a no-cost annual consultation with their community pharmacist.

The existing program is for Medicare patients taking eight or more prescription medications, with three or more chronic health conditions, who spend at least \$4,000 per year on medications, according to Alex Middendorf, an assistant professor of pharmacy practice at South Dakota State University.

A PROACTIVE APPROACH

Enhanced Medication Therapy Management allows the pharmacist to identify patients who would benefit from additional pharmacist-provided care and work with insurance companies who offer Medicare plans and their partners to be reimbursed for providing these services.

“By spending a little more on how to use medications properly, we can save money in the long run,” said Strobl, a 2004 SDSU alumna who right after graduation went to work in Milbank at what was then Liebe Drug. “Now, the pharmacist can be proactive—identify the patient, go in and initiate the service and document what they did.”

Citing a recent example of pharmacist intervention, Strobl noted a doctor called in a prescription to which the pharmacist noticed the patient was allergic to the medication.

"So we called the doctor and they substituted a different medication for the original prescription. We can now go in and document to be paid for the action of helping that patient. I think it's just a matter of Medicare realizing how much can be saved by having pharmacy at the table with other health-care providers ... We can save money on the back end by preventing unnecessary future hospitalizations," Strobl said.

GETTING TO KNOW THE PATIENT

Manuela "Mary" Martel, a 63-year-old Milbank resident, is another beneficiary of pharmacist-provided care.

Her conditions include diabetes, asthma, arthritis and, until recently, cataracts.

The cataracts made it difficult for her to see her medication directions so she had difficulty taking the medications correctly, including insulin injections. Her primary care physician was not comfortable signing off on her cataract surgery until her diabetes was under better control.

Martel added, "I'm one that doesn't like to take medicines at all. I like to know what they are and what they do. If I don't know what it does, I won't take it."

"After visiting with Mary, I contacted her provider and suggested some ways to simplify her medication therapies," Strobl said. Courtney Feist, the community pharmacy resident at Lewis-Milbank, and Strobl then made Martel some handouts that showed a large picture of her medication and the directions for using them in very large print.

"I hand-delivered the medications to Mary and visited with her in her home to help her come up with a plan for remembering to take her medications and use them correctly.

"I then called Mary frequently to make sure she was using the medications and not having any troubles. She has now been able to have her eye surgery and still continues to be able to take the right medications with her simplified regimen. I still call her frequently to check in on her to be sure she isn't having any trouble with her medications," Strobl said.

Martel said, "They were all real helpful to me, and they treated me with respect. They took time to listen to me. I understood they would make a diagram, and that's the way I am learning."

She said she has been a customer of Strobl since moving to Milbank about four years ago and has had a wonderful relationship with the staff at Lewis-Milbank.

"I just love them to death ... Jessica comes to the phone when I need her for something," Martel said.

READY ACCESS TO PHARMACIST

The "no appointment necessary" accessibility of community pharmacists to patients makes them unique in health care and is one more reason pharmacists are included in the patient's health-care team, Middendorf said.

Martel would already be eligible for the traditional Medication Therapy Management program, but Strobl said the pharmacy was able to use the Enhanced Medication Therapy

Management program to document and submit claims for some of the extra necessary services provided.

In addition to providing financial incentive for pharmacy involvement, Strobl said Enhanced Medication Therapy Management "can save people money as we are able to optimize their therapy. There may be two drugs that do the same thing or we change a very expensive medication to one with a lesser cost that works just as well."

She also stressed the value of patient education.

"With the internet, patients don't know what's reliable. Patients have been happy to learn how to take their medications properly to get the most benefit out of them. People sometimes are on a lot of medications and they don't even know why they're taking it.

"Another potential advantage is it opens the line of communication between the pharmacy and physician's office. The physician's office and the pharmacy may have different information in their files. Something is mistyped or information is not updated electronically. The pharmacy can help the physician's office get their files updated.

"It gives us more information back-and-forth as we work as a collaborative health-care team," Strobl said.

TARGETING DISCHARGED HOSPITAL PATIENTS

Another part of the Enhanced Medication Therapy Management program is posthospital discharge medication reconciliation provided by the community pharmacist. Medication reconciliation involves making sure that any medication changes after the hospitalization are updated in the pharmacy records so the patient continues to receive the right medications, which will help keep them out of the hospital.

"It's a proactive approach to knowing what is happening to the patient," she said.

Because Lewis-Milbank is staffed with a community pharmacy resident, a licensed pharmacist continuing their education after receiving their Pharm.D. degree, the pharmacy has more staff flexibility. Also by serving in a small community (Milbank's population is 3,200), "we know our patients" and they share news about other patients.

"Sometimes a patient will be in visiting and say 'I went to see so-and-so in the hospital.' We might not have even known they were in the hospital," Strobl said.

Upon learning, the pharmacy can schedule a post-hospital discharge medication reconciliation.

Strobl expects that as Enhanced Medication Therapy Management proves to provide long-term cost savings for Medicare, commercial policies will begin covering the services as well. That already is the case in traditional Medication Therapy Management.

"The goal is not to just reduce the drug spend, we're trying to keep patients healthy and out of the hospital to decrease the medical spend," Middendorf said.



STUDENTS LEARN SECRET TO GREATEST JOB IN WORLD

So what is the greatest job in the world?

According to William Elmquist, distinguished professor of pharmaceutics at the University of Minnesota, it's his job. "It may not be the greatest job for you, but it is definitely the greatest job for me," he told some 300 students and faculty members at the Keo Glidden Smith Fall Pharmacy Convocation in the Volstorff Ballroom Oct. 23.

What makes his position as a researcher and scholar the greatest job in the world? It allows him to pursue his dream, contribute to society and have fun, all at the same time, he said.

Elmquist's dream is to cure brain cancer. Currently, the median survival length of a primary brain tumor is 14 months. In 1960, it was 10 months, "so we're not exactly tearing it up," Elmquist admitted to the group. But the Pharm.D./Ph.D.-educated Elmquist is encouraged by his recent work concentrating on drug delivery across the blood-brain barrier.

While the barrier protects against intrusive chemicals, it can also frustrate therapeutic interventions for the treatment of brain tumors.

Elmquist is studying the influence of active efflux transporters, a detoxifying system in the blood-brain barrier that facilitates removal of harmful compounds from the brain. He studies drug transporters and how they impact the absorption, distribution, metabolism and excretion of drugs that target the central nervous system to treat diseases like Alzheimer's and Parkinson's.

He gave a scientific talk the following day on "Targeted CNS (central nervous system) Delivery to Treat Brain Tumors: Many Challenges, Many Opportunities."

However, his convocation talk, the first nonscientific lecture he had given, focused on career development applicable in any field.

Elmquist challenged students to be useful. "To be useful, ask the right questions." The right questions aren't ones that ask "What?" a query that simply produces information. Rather, ask "Why?" and "How?" he said. Those are questions that take learning beyond the next test and equip the learner with the tools to keep on learning, Elmquist said.

To illustrate his point, he recalled a scene from the movie "Rain Man," a 1988 film featuring Dustin Hoffman as an autistic savant.

Staying in a small-town motel, Hoffman's character memorizes the phone book. The next day he was going to make a phone call, but didn't know how. "He knew the what, but he didn't know the how. The most important thing for you to learn is the how and why," Elmquist said.

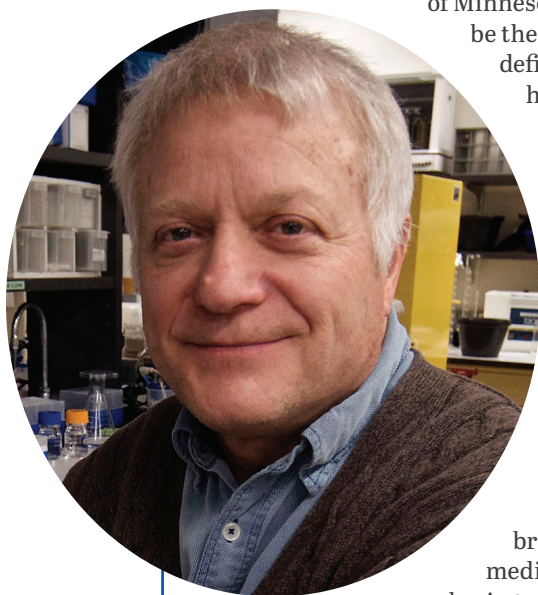
One of the values of research is that to be successful, the researcher is forced to learn the how and the why. Research also teaches patience, the value of taking chances and the concept of delayed gratification, Elmquist said.

"Things do not work out all of the time. You have to be patient. You have to persevere." Elmquist cited an Einstein quote: "If we knew what we were doing, it would not be called research, would it?"

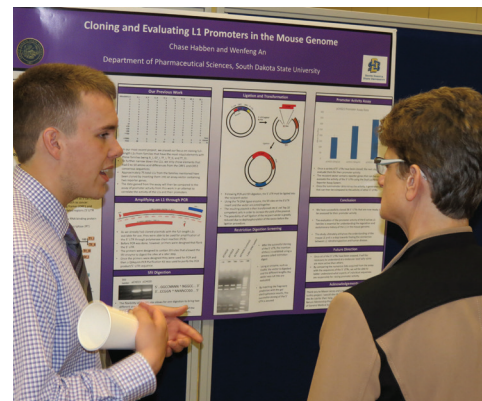
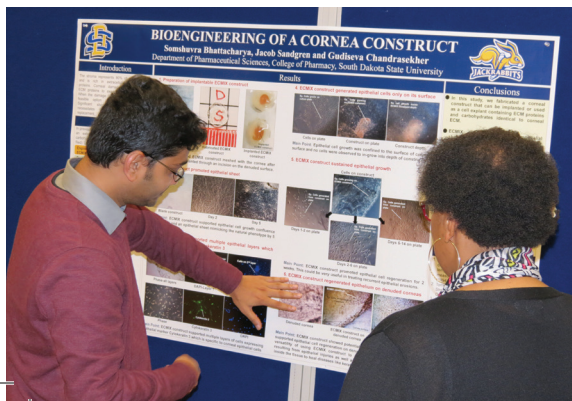
Taking a chance can be expensive, but it should be weighed against the goal, he said. Elmquist cited a quote from Mary Lasker, an advocate for the National Institutes of Health in the 1940s. "If you think research is expensive, try disease."

He also noted the work of inventor Thomas Edison, who penned the poster quote: "I have not failed. I have just found 10,000 ways that won't work." Elmquist added, "There is no better teacher than our own errors."

He added his own "dress for success" acronym at the end of his talk. The letters represent: diet, rest, exercise, social connection and spirituality. "Persevere with a positive attitude. You need to take care of yourself," Elmquist said.



William Elmquist, distinguished professor of pharmaceutics at the University of Minnesota





Pharmaceutical sciences faculty members gather with keynote speaker William Elmquist after the Keo Glidden Smith Fall Pharmacy Convocation Oct. 23, 2017. Pictured, from left, are Xiangming Guan, Jane Mort, Elmquist, Shafiqur Rahman, Wenfeng An, Omathanu Perumal and Josh Reineke.

Keo Glidden Smith, shortly after her 101st birthday, with Jane Mort, interim dean, on a June 14, 2017, visit to her residence at Westhills Village Health Center in Rapid City.

Pharmacy benefactor SUCCUMBS AT 101

Keo Lavon Glidden Smith, who was the oldest living graduate of the College of Pharmacy and Allied Health Professions, died Sept. 29, 2017, at age 101.

Smith was a member of the Class of 1937. Her endowment gift to the college in 1989 supports the pharmacy convocations.

A summer 2017 visit to Smith at her Westhills Village Health Center residence in Rapid City by Jane Mort, interim dean, and Mike Birgen, associate vice president for development, found her engaged and happy to talk about her days in pharmacy, which began in Willow Lake in Clark County, where her father operated a drugstore.

As a youngster, she recalls working at the soda fountain and selling penny candy and fireworks at her father's drugstore.

She enrolled at State as a general science major but was recruited into pharmacy by a family friend, Dean Earl Serles. She was one of two females in the 10-student class. Smith also was president of Rho Chi Honor Society, which today helps organize one of the convocations.

After graduating in 1937, Smith spent a year each in Philip and Madison, and then returned to help her ailing father at his drugstore. She married Dwight Smith, a 1934 engineering graduate from Raymond, Sept. 1, 1940, in Willow Lake. His work in mechanical and electrical engineering took them to Kansas City; Akron, Ohio; Phoenixville, Pennsylvania; New Orleans and River Forest, Illinois.

Their last and longest location was Chicago, where they lived in suburban River Forest for 18 years. During that time, Smith practiced her profession at the Research and Education Hospital, which was affiliated with the University of Illinois.

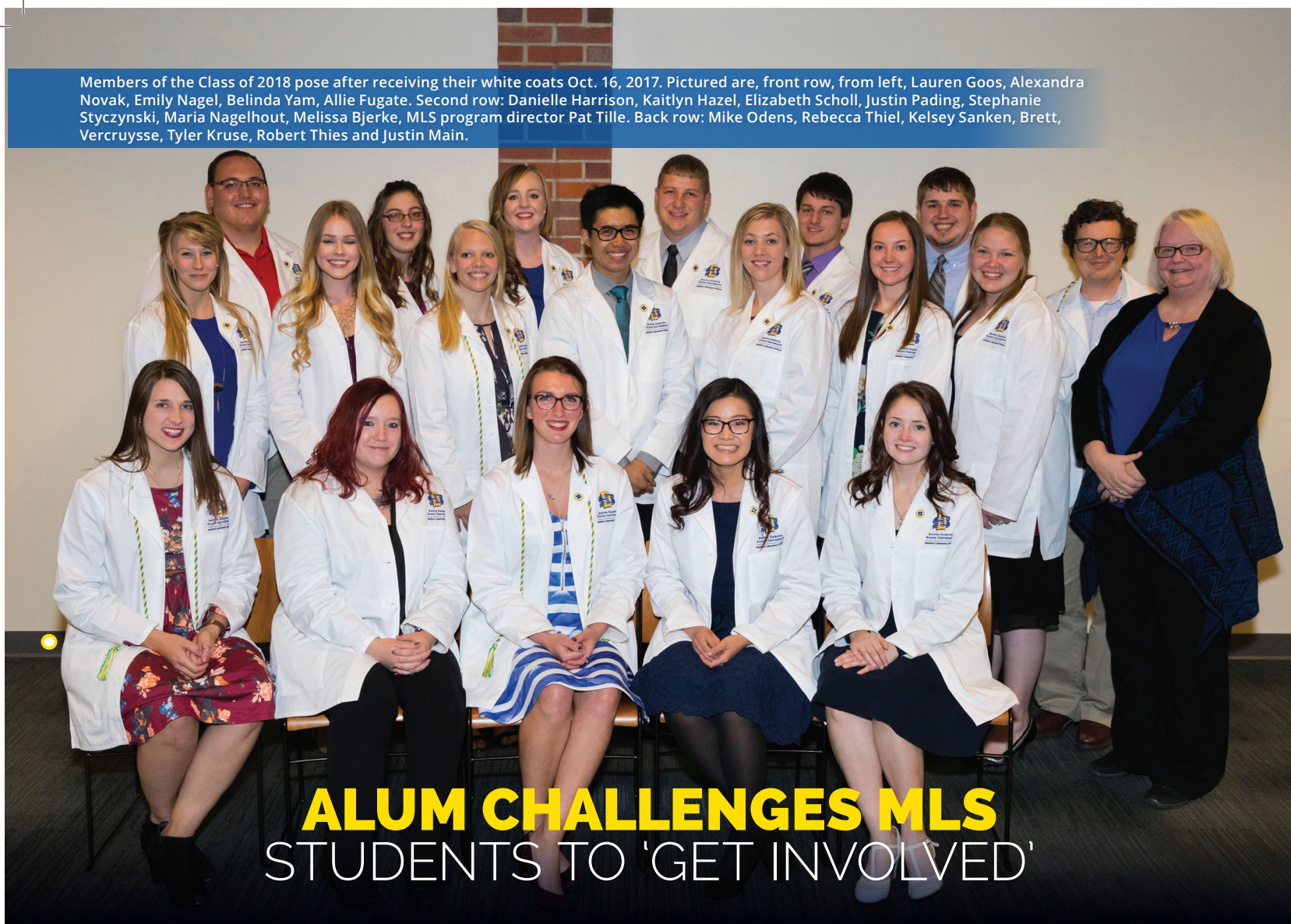
In 1964 they retired and returned to South Dakota, dividing their summers between their home in the Black Hills and their cottage at Lake Kampeska in Watertown. Winters were spent in Arizona, Texas and Florida.

In 1974, the Smiths moved to a new home west of Rapid City. Smith continued to keep her hand in her profession as a relief pharmacist in Rapid City until 1987.

Smith was preceded in death by her husband in 1989; special friend Glenn Brad Ford and a cousin, Larry Cornell, who was like a brother. She is survived by nephews Darrell and Duane Franklin and many cousins, including Marilyn Cornell, of Aurora, Colorado.



Members of the Class of 2018 pose after receiving their white coats Oct. 16, 2017. Pictured are, front row, from left, Lauren Goos, Alexandra Novak, Emily Nagel, Belinda Yam, Allie Fugate. Second row: Danielle Harrison, Kaitlyn Hazel, Elizabeth Scholl, Justin Pading, Stephanie Styczynski, Maria Nagelhout, Melissa Bjerke, MLS program director Pat Tille. Back row: Mike Odens, Rebecca Thiel, Kelsey Sanken, Brett, Vercruysse, Tyler Kruse, Robert Thies and Justin Main.



ALUM CHALLENGES MLS STUDENTS TO 'GET INVOLVED'

Before putting on their white coats and reciting a pledge to the profession, 19 medical laboratory science students heard a couple words of advice that they also received nearly four years ago — get involved.

“When you started your college life at SDSU, you heard the phrase, “get involved” from just about everybody—campus life, residential life, student clubs. Parents and faculty just wanted to make sure you ‘got involved,” according to keynote speaker Rochelle Odenbrett, a 1995 graduate of the MLS program at SDSU.

“I hope you took this advice and have enjoyed your time at SDSU, had a lot of fun and really embraced everything that college offered. I am here to ask you one more time to ‘get involved!’

“As you head into the next phase of your education and start your clinicals, remember to get involved.”

Odenbrett, who is the senior executive director of the Enterprise Laboratory at Sanford Health in Sioux Falls, said, “It is easy in this day and age to take your 10-minute breaks and 30-minute lunches to sit alone, check your phone and email, watch some Youtube, and just chill out. I get it. It’s important to get away from the busy and hectic laboratory environment.

“But it’s also important to make connections and begin to embrace every aspect of being a laboratory professional. And that means getting involved.

“If you have an opportunity to observe another area of the

hospital, do it. If you are asked to go draw a patient, do it. If you are asked to stay late, re-run quality control, repeat a type and crossmatch or investigate an unusual organism ... just do it.

“Get involved and embrace every aspect of laboratory medicine and hospital operations that you can, because you are needed and expected to take on roles in your upcoming careers ... faster than any other laboratory professionals have in the past. Laboratory leaders and professionals are retiring at faster rates than ever before and you will need to take their place very soon.

“Take every opportunity to talk to the laboratory technicians and leaders that you will be doing your clinics with, both inside and outside of the laboratory. Build relationships, learn from their experiences and heed their advice.

“Take time during your lunch break to talk to the people that are around you, ask them about their career path, how they got to where they are and what you can do to be an amazing laboratory professional.”

Two members of the class who have done a good job of getting involved at the college level are Kelsey Sanken, of Hutchinson, Minnesota, who was cited for outstanding volunteer work by her class, and Lauren Goos, of Revillo, who was honored for student service and leadership in her class.

Sanken has been vice president of the Medical Laboratory Science Club, helped with Be The Match drives through the club and assisted with blood drives for at-risk children in Sioux Falls.



Rochelle Odenbrett, a 1995 graduate of the SDSU medical laboratory science program, addresses the Class of 2018 at its White Coat Ceremony Oct. 16, 2017. The senior executive director of the Enterprise Laboratory at Sanford Health in Sioux Falls, urged students to get involved in their profession and their community.



WHITE COAT CEREMONY

MEDICAL LABORATORY SCIENCE STUDENT AWARDS

KELSEY SANKEN **OUTSTANDING CITIZENSHIP AWARD**

Given to the student who gives freely of their effort and time, usually the first to volunteer.

LAUREN GOOS **SERVICE AND LEADERSHIP AWARD**

Given to the student who is representative of the ethics of the laboratory professional.

EMILY NAGELHOUT **OUTSTANDING MLS2 STUDENT**

Given to the student who is exemplary in scholarship, leadership and service.

STACIE LANSINK **STUDENT FACULTY AWARD**

Given for exhibiting dedication and teaching excellence as recognized by the students.

MELISSA BJERKE **STUDENT AWARD**

Given for demonstrating dedication through service and participation in MLS activities.

Goos has been a leader in Cru, a Christian organization on campus, for three years as well as serving as the student representative for the South Dakota chapter of the American Society for Clinical Laboratory Science and being an honorary committee member for the MLS Club at SDSU.

Both also helped organize and design the club's Hobo Day float, which was overall runner-up.

Sanken said Odenbrett's message hit home with her because "it reminded me to never stop living outside my comfort zone. Being involved in the community or organized groups becomes such a joy to myself. Being able to see that same joy in others really makes volunteering fun."

Goos adds, "I have always tried to be involved in school. After the message at our White Coat Ceremony, I was reassured that I can stay involved in different ways after school and there are many different options to do so."

SDSU medical laboratory students spend two years in preparatory classes before being admitted into the program and then have three semesters of classroom and lab work on campus followed by six months of clinicals.

From this year's class of 19, one was an online student, Stephanie Styczynski, who is already working in the field.

Dave Graves



CAMPUS LIFE: WORK AND MORE WORK

The scholarship Bahnson received didn't eliminate her financial needs. She worked throughout her college years, beginning as a waitress at May's Café, which was located where the SDSU Foundation's Jerome J. Lohr Building now sits. She ate her meals there.

For a short time, she also was a nanny for the Brookings city engineer's family, who lived on the south side of town. But biking back and forth during the winter proved to be too challenging. She later worked at Campus Cleaners, which also was in the block now occupied by the SDSU Foundation and Alumni Association.

As was required, Bahnson lived in a dorm but never ate a meal on campus. "Because of my financial status, they made an exemption for me," Bahnson recalls.

She said she also was a diligent student who gained the favor of her professors. "The faculty person I most remember was my biochemistry teacher. He started on one side of the board and just kept writing formulas as he lectured. On the day of finals, I overslept. The teacher was concerned and called my residence and was looking for me in the hallway because I never missed class."

He greeted her in the hallway and allowed her to take the exam.

CAREER SPENT IN ILLINOIS, IOWA

Med-tech students then spent three years on campus followed by a 12-month, off-campus internship. Bahnson's demanding schedule didn't prevent her from meeting a mechanical engineering student who graduated two years before her. David Stubben had taken a job with John Deere in Moline, Illinois.

Bahnson followed him, doing her internship at Rockford (Ill.) Memorial Hospital. They were married July 29, 1967, at Mt. Calvary Church in Brookings, where they both worshipped. That also was the day of her graduation.

Her internship was followed by a year at Quad City Pathology Group in Moline, a year at Illini Hospital in Silvis, Ill., a year at Dyersville (Iowa) Community Hospital, two years at Dubuque

College wasn't even on Gladys deWit's radar when she was a student at West Lyon (Iowa) High School in the mid-1960s. She just knew that she hated typing.

With the secretary track out, she thought she had two other options—teaching or nursing. But after her high school guidance counselor had her take an aptitude test, she found a third option and a career as a medical laboratory technologist. She graduated from South Dakota State in 1967 and spent 15 years in the field.

On Oct. 16, 2017, Gladys Bahnson was honored by her alma mater with an honorary white coat at the medical laboratory science program's White Coat Ceremony.

"I was a bit overwhelmed by the (White Coat) program. I didn't know I was the only one who was going to get a white coat. I look back and have no regrets for the career I picked or for going to South Dakota State. I'm really excited about the program Pat Tille (program director) has developed," said Bahnson, now of Sioux Falls.

Growing up on a family farm in northwest Iowa as the second of 11 children, Bahnson knew the family didn't have the money to send her to college.

But after the aptitude test showed she would be well-suited for medical technology, Bahnson was able to receive a \$250 scholarship to head off to Brookings. "That was all the encouragement I needed that I can go," said Bahnson, who now awards the Stubben Family Medical Laboratory Science Scholarship at SDSU.

Honorary white coat

BAHNSON FOUND HER NICHE IN LABORATORY SCIENCE

(Iowa) Community Blood Bank and 10 years at Mercy Health Center, Dubuque.

"Initially, I worked for a private lab for a year. Then, Illini Hospital opened near our home. There was great camaraderie and new equipment in a new environment. I was the only lab tech who knew how to do a histology," creating tissue slides for the pathologist, a skill she had been trained to do in college.

"I worked in a blood bank just as AIDS was coming to the fore. We weren't sure if our procedures would keep blood safe. There also were concerns about handling blood. It was an apprehensive time, not only for those of us who worked in the hospital but also the population in general," Bahnson recalled.

A DRASTIC CAREER SWITCH

The Stubben children were born in 1972 and 1976, so she stayed at home during the day and worked part-time on nights and weekends.

By 1986, "automation had really come into being; things I was not familiar with. The field changed more quickly in those few years than the 20 years before that. Automation didn't appeal to me that much. I was a bench tech," Bahnson said. Rather than go back for more training, she switched careers.

"Something fell into my lap," Bahnson said. "I had been involved in the community and was a member of the women's auxiliary of Dubuque Symphony Orchestra. The conductor retired and the office person left at the same time. I got a call asking if I would take over as office manager. It was full time, but with flexible hours. It turned out to be a really great experience for me.

"I learned what makes organizations successful. For the first time in my life, I got a good feeling for the commitments businesses make to improve their community. I worked with dozens of business leaders, community leaders and college presidents.

"We hired a young conductor, and we went from five concerts per year to 22. An ArtsTrek program was started in the community in which different art groups worked with third- to fifth-graders. The symphony was for fourth-graders because they picked their instruments in the fourth grade," Bahnson said.

While the position seems like the exact opposite of working at a lab bench, Bahnson said there were skills, such as organization and triage, that crossed the fields.

"You learn to tackle what is critical. Also, we had to be very precise. I like projects, and I like to do them very well. In science we need to be exact, and that's probably something that carried over.

"To put me in an office in the symphony where there was no other staff, and going into a conductor search with tons of correspondence to be handled, that required organization.

"I did that six years. It was a great six years. What I gained from it was how the community of Dubuque worked and a host of wonderful friends."

REUNITED WITH SDSU LAB SCIENCE

Her final job was in sales and operations with Heartland Financial in Dubuque from 1996 to 2011. Her husband died from cancer in 2005 after a 32-year career with John Deere. In 2011, she married John Bahnson, a West Lyon schoolmate, and moved to Sioux Falls, where she has siblings.

In 2012, she accepted an offer from Mike Birgen, from the SDSU Foundation, to see what her school now looked like. "The tour is probably what turned me to wanting to support (the MLS program). I was really impressed with the lab and how the students are trained," Bahnson said.

She used the \$7,000 cash value of a life insurance policy that her son didn't wish to continue funding to start the Stubben Family Medical Laboratory Science Scholarship and another scholarship in athletic training because her son, Karl, is a 1998 SDSU grad in athletic training. The Stubben/Bahnson Family also sponsors a scholarship for an engineering student.

The Stubben Family MLS Scholarship is targeted toward financial need "because my financial need was so great," Bahnson said. Initially a \$500 award, she increased that to \$1,000 when it was given in 2017.

In brief remarks after receiving her honorary white coat, Bahnson told the 2018 class of MLS graduates, "We never know where the paths of life will take us. Get involved in your community in addition to your professional organization."

Dave Graves

"THE TOUR IS
PROBABLY WHAT
TURNED ME TO WANTING
TO SUPPORT (THE MEDICAL
LABORATORY SCIENCE
PROGRAM). I WAS REALLY
IMPRESSED WITH THE LAB
AND HOW THE STUDENTS
ARE TRAINED."

- Gladys Bahnson '67

SCHOLARSHIPS

Presented Sept. 16, 2017, at the scholarship luncheon in the University Student Union to 204 pharmacy and medical laboratory science students. The awards total nearly \$250,000. In the last three years, the number of scholarship awarded has grown by almost 41 percent (+58) and total dollars awarded has grown by 95 percent (+\$121,575).

Thank you alumni and supporters.

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RURAL EXPERIENCES FOR HEALTH PROFESSIONS STUDENTS

STUDENTS FIND PERSONAL RELATIONSHIPS TO THEIR LIKING DURING INTERNSHIPS

Working in towns from Sisseton to Sturgis and Britton to Winner, 30 health students from SDSU and the University of South Dakota got a four-week feel of what it is like to practice rural health care.

The competitively selected students were heavy on future pharmacists (eight). The SDSU delegation also included two family nurse practitioner students and two from the medical laboratory science program, which is a relatively recent addition to the list of invited programs. This summer will be the eighth year for the Rural Experiences for Health Professions Students program and only in the last three years have there been medical laboratory science students.

Selected for 2017 from a class of 19 MLS students were Elizabeth Scholl, who was in Winner, and Brett Vercruysse, who was in Custer.

Rural Experiences for Health Professions Students is designed to not only expose students to the world of rural health care, but it also brings two students from different disciplines together for an interprofessional experience. The pharmacy students were paired with students in the physician or physician assistant programs.

Vercruysse was paired with a future physician while Scholl was paired with Jodi Sutton, a nurse practitioner student from SDSU.

'KNEW A LOT MORE ... THAN THOUGHT'

Scholl said her May 7-31 stay at Winner Regional Healthcare Center was a “really, really good” experience. “It’s a great hospital and I was impressed with the people. There was a really good lab program and it was a really nice lab for a small hospital. The interprofessional takeaway was really important for me.”

Vercruysse said he applied for the internship “to gain more experience in working in the lab because there aren’t many internship opportunities for medical laboratory science students.”

He got what he was looking for—and more.

During the second week of his June 5-30 experience in Custer, he shadowed a chiropractor and got a free adjustment on his first visit. During the third week, he shadowed an optometrist and was taught how to use the retinal exam machine, which takes pictures of the inside of the eyes.

Throughout his stay, Vercruysse spent time in the Custer lab, which he described as “very small and very busy at the same time.”

Vercruysse, of Russell, Minnesota, discovered, “I knew a lot more about what I was doing in the lab than I thought. Once I was given the opportunity, I pretty much knew what to do. In the college lab, we do a lot more manual testing. At Custer, I learned more about machines, how to load them correctly and the maintenance required for them.”

He said he enjoyed being able to set up and process actual lab tests. Professional staff verified the results.

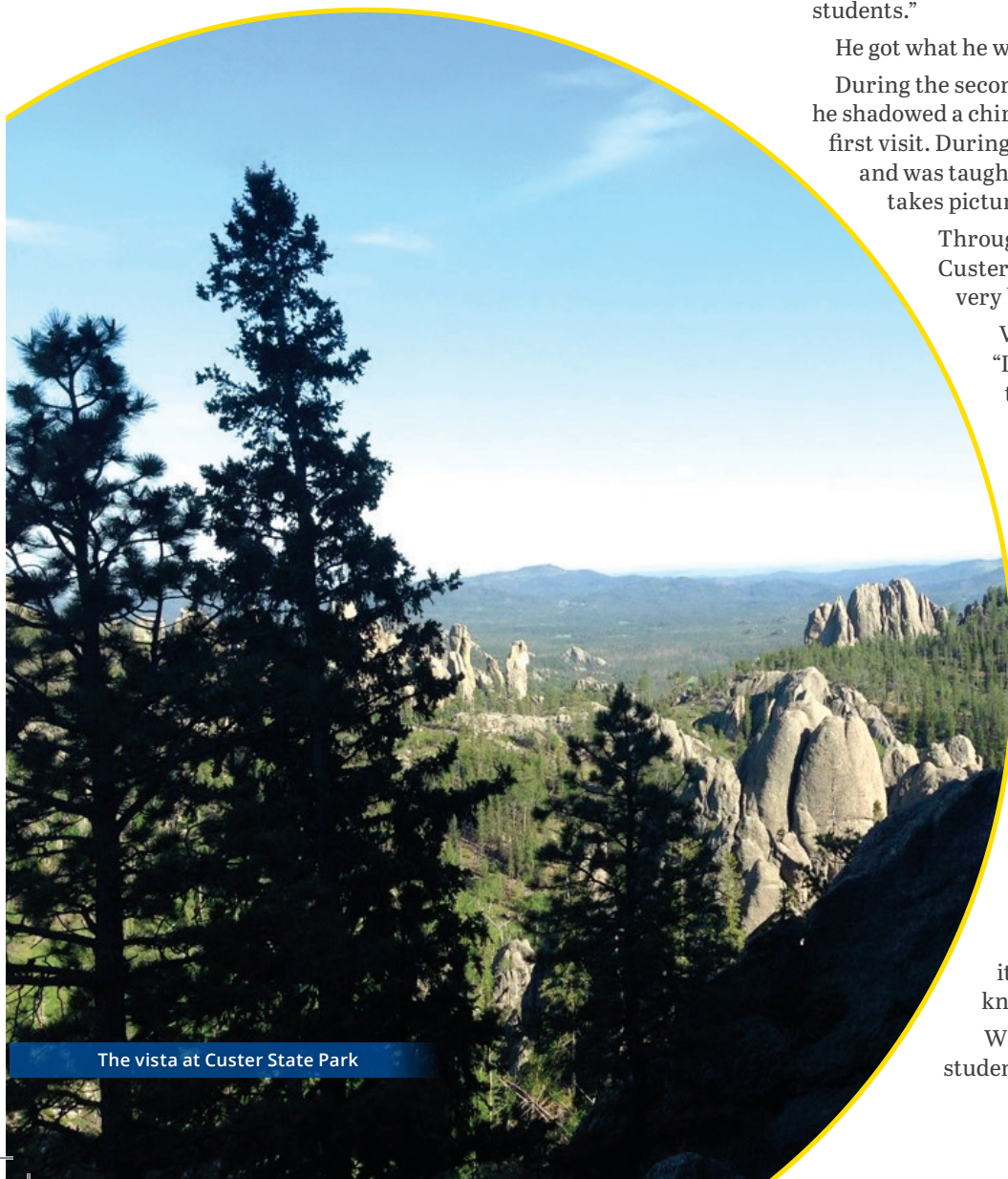
“I felt like I was part of their team.”

And when the team is small, you get to know the players at the other positions. “It’s easier to build relationships. You see the same faces every day,” Vercruysse said.

'GET TO KNOW MORE ABOUT PATIENTS'

That was echoed by Scholl, who added in a rural setting, “You also get to know more about the patients. Oftentimes in larger labs, it’s just the lab results. You really don’t get to know much about the patient.”

While the aim of the program is to encourage students to return to a rural area after graduation,



The vista at Custer State Park

Scholl said her desired specialty will likely preclude that. After graduation in May, she wants to obtain a one-year certificate in blood banking and eventually a master's degree in transfusion medicine from Marquette University in Milwaukee.

The specialists are employed in larger hospitals where complex testing must be done in matching blood transfusions, Scholl explained.

Nonetheless, she found the Winner staff to be friendly and enjoyed the diversity of experiences.

REACHING OUT FOR NEW EXPERIENCES

What did you enjoy most about your experience in Winner?

"Everything," Scholl, a Brookings High School graduate, said. "That would be really hard to pick. I got to go to the jail one day when the physician assistant was evaluating four inmates. I got to shadow a doctor who went to the Rosebud Reservation ... One of my biggest highlights was deliveries. It was a bonus because labor and delivery wasn't anything related to my field.

"One was around 10 p.m. and I did not mind losing sleep over it because watching life enter this world is the most amazing thing ever."

That wasn't part of her planned experience. "I wouldn't have gotten to do that if I hadn't asked. But I read the blog of a student who went before and she got to see a delivery. So I asked if I could. It's really a program where it's what you make it. I was always asking, 'Can I see this? Can I do that?'" Scholl said.

Those items included witnessing a cataract surgery, restocking the Pyxis pharmaceutical distribution machine and learning how cavities are filled.

Students are free on the weekends. Scholl made the most of it by going to a country dance, checking out 200 baby pheasants at a friend's farm in Pukwana and shooting guns at another friend's ranch. Vercruysse climbed six of the eight peaks in the Custer region and went to Wild Bill Days in Deadwood when his parents visited.

"Coming into college, I wanted to work in a bigger city, but going out there really changed my mind about that. I liked the more personal relationships," he said.

Dave Graves



Jodi Sutton, left, and Elizabeth Scholl pose by their booth about sun safety for second-graders who were touring Winner Regional Hospital in May.



Brett Vercruysse poses at Poet's Table, a trail taken by locals at Custer State Park, during his month-long stay in Custer, where the medical laboratory science student was free to explore after working in the hospital lab and working with other health-care practitioners during the week.

WHAT THEY SAID:

Eight pharmacy students were in the 2017 class of Rural Experiences for Health Professions Students as well as two medical laboratory science students (see separate above story).

Asked to condense four weeks into one sentence, here is what they said was their biggest takeaway:

TYLER CHRAMOSTA, who was based in Martin: "REHPS allowed me to see a different side of patient care and learn in an environment that let my ideas be heard and respected by providers."

HADLEY CROPSEY, who was based in Sturgis: "There are many little pieces that one doesn't know about that fit together to help a rural health facility run."

ADAM GOETZ, who was based in Sisseton: "All of the hospital medical professionals worked as a team in order to ensure quality health care for each patient."

BRANT HAASE, who was based in Britton: "What struck me was how small, rural communities adapt and overcome areas of weakness like provider, technology and specialized service shortages in order to provide the best continuity of care for their patients and the community."

DANIELLE JENSEN, who was based in Hot Springs: "Real medicine is not like what I've learned in textbooks throughout my time as a student!"

SHELBY RABENBERG, who was based in Platte: "Really opened my eyes to how interprofessional disciplines interact in rural communities."

BRANDON REIFF, who was based in Miller: "It is important to utilize team-based care in rural areas in order to provide the best patient care possible. Many times during my experience providers would call the community pharmacist for medication recommendations."

BROOKE SCHWASINGER, who was based in Bowdle: "The teamwork that takes place in rural health. For example, the manager of Bowdle Healthcare Clinic also would take shifts being on call for driving the ambulance. The health-care system should always be thought of as a team effort and it was a great experience to be part of that."

GAMMA KAPPA HONOR AS TOP PERFORMING CHAPTER



Kelly Beneke is flanked by Gamma Kappa adviser Gary Van Riper and his wife, Sharon, at the Grand Council Convention in Naples, Florida, Aug. 5, 2017.

Gamma Kappa was honored as a top performing chapter at the 58th annual Kappa Psi Grand Council Convention in Naples, Florida, Aug. 1-5, 2017.

Adviser Gary Van Riper explained that chapters submit reports to a committee that evaluates them based on activities, attendance at regional and national meetings and similar criteria. A score of 85 percent makes a chapter eligible for recognition.

Eight Gamma Kappa brothers attended with Nate Sutera and Savannah Suchor serving as delegates. More than 640 collegiate brothers, graduate brothers and guests were in attendance.

Also at the gathering, Van Riper was the recipient of a 2017 Grand County Deputy Certificate of Excellence, which honors chapter advisers.

Van Riper, who has served as chapter adviser since 1973, was among eight runner-ups for the national adviser of the year

award. He claimed the Grand Council Deputy Outstanding Achievement Award in 2005, its inaugural year, and in 2015.

Kelly Beneke, a P3 student from Hamburg, Minnesota, received a \$1,000 Kappa Psi Foundation scholarship. Van Riper reports that Beneke has been “very active in our chapter and holds the office of secretary on the executive committee in the Kappa Psi Northern Plains Province.”

The most recent Gamma Kappa member to receive the award was Haley Brodersen in 2014. The chapter has had nine recipients in the past 20 years, Van Riper said.

At the Kappa Psi Northern Plains Province Assembly Nov. 3-5, 2017, at the Embassy Suites, in Des Moines, Iowa, Kaya Borg (P3) and Beneke were elected to one-year terms as vice president and historian, respectively. Gamma Kappa was represented by 17 collegiate brothers.

DRAWING ON EXPERIENCE



Practice makes perfect and when it comes to drawing blood, Alexandra Fugate has that skill mastered.

After her junior year in the medical laboratory science program, Fugate, of Rochester, Minnesota, applied for a job as a phlebotomist at Biotech Plasma Center, a relatively new business in Brookings. In summer 2017, she worked 40 hours per week drawing blood from donors.

“Due to my coursework, I already had phlebotomy experience, but this job greatly increased my accuracy and confidence with that skill. Also, due to the nature of the job, I gained quite a bit of experience working with donors. That helped develop my interpersonal skills as I worked with people from all walks of life,” Fugate said.

After doing about 15 draws per day, she really doesn’t need more experience. But the opportunity to have a good-paying, part-time job in her field has Fugate continuing to work 15 hours per week during the school year.

“I’m really thankful for not only the job, but also the experience,” she said.

Dave Graves

TWO STUDENTS COMPLETE MAYO INTERNSHIPS



Emily Nagel



Christopher Kotschevar

Two students from the College of Pharmacy and Allied Health Professions had an opportunity to complete a summer internship at the famed Mayo Clinic in Rochester, Minnesota.

Emily Nagel, a medical laboratory science student who will graduate in May, worked in the cell kinetics lab from June to August 2017. Christopher Kotschevar, a pharmacy student who will graduate in 2020, rotated through five different outpatient pharmacies in the Mayo system from May through July.

Nagel said, "The biggest takeaway from my internship was just how important the lab is to patient care. In Rochester, the labs are located in a 20-story building and each floor contains a number of specialized lab divisions. Most people have samples taken or blood drawn but don't know how they are tested or who is handling the samples.

"This summer, I realized that medical laboratory scientists touch every single part of patient care and play a pivotal role in specialized care as they provide the information needed by doctors, nurses and pharmacists to monitor and treat their patients.

"After my summer in Rochester, I knew that this role in medicine was the fit for me, and I can't wait to make an impact in patient care."

Kotschevar said, "Mayo Clinic presented me with various opportunities, but the most impactful was the opportunity to interact with patients, each with a unique story and unique reason they were at Mayo Clinic, from across the world. This interaction allowed me to build my communication skills as well as pharmacy knowledge in a way that I could not gain from the classroom.

"The internship was focused on learning. I was not filling in for a specific role or for someone who was on vacation. My learning was the primary focus. This allowed for a large amount of patient interaction as well as the completion of a number of unique projects throughout the summer. I also was able to interact with countless health professionals who were always eager to help me learn."

Both believe their time at Mayo will shape the direction of their professional career.

Dave Graves



HUMAN ANATOMY AND CADAVER LABORATORY EXPANSION

The SDSU Human Anatomy and Cadaver Laboratory Expansion will enhance undergraduate and graduate students' opportunities for critical hands-on dissection and learning in multiple pre-professional and other medical-related disciplines. The enhanced laboratory environments will foster students' abilities to develop important skillsets that will continue to make them competitive regionally and nationally for careers and for graduate and professional programs.

On average, more than **750** students annually from a wide range of undergraduate majors and programs will be impacted by the Human Anatomy and Cadaver Laboratory Expansion. The expansion will also impact current and future graduate programs. We are preparing for the future as well as improving these lab environments for our current students.

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KAPPA EPSILON HONORED HEALTH PROFESSIONS STUDENTS

From cleanup work to connecting with those in need, the Chi chapter of Kappa Epsilon at SDSU logs hundreds of hours of community service each year.

Those efforts were recognized at the national Kappa Epsilon convention in New Orleans, Aug. 3, 2017, when it received the organization's community service award based on the quantity and variety of community service activities in Brookings and Sioux Falls in 2015-17, which mirrors the time since the last convention.

Megan Schliesman, a P2 student and Chi's vice president, estimates that the club put in more than 300 hours per year of community service.

What is particularly noteworthy is the diversity of the community service.

A few examples are:

- Twice a year litter pickups along a 2-mile section of Highway 14 near Brookings;
- Participation in the spring cleanup of campus and its parking lot;
- Helping during freshman move-in day;
- Making Christmas cards for patients at Sanford Children's Hospital;
- Delivering Valentine's Day cards to the elderly; and
- Painting pumpkins with residents of Advance.

Kappa Epsilon also works with Habitat for Humanity, Brookings Humane Society and makes baskets and tie blankets for breast cancer patients at the Sioux Falls hospitals.

Community service is such a big part of Kappa Epsilon because "it offers the dual benefit of providing leadership opportunities for our members while building their confidence and interpersonal skills," said Schliesman, who served with Meghan Perry as chapter delegates to the national convention.

"As pharmacy students, our members are often looking to fulfill their passion for helping the community. We pride ourselves on our ability to offer them those opportunities."

Many of the activities are annual traditions with Kappa Epsilon, while others are the product of planning by an executive team that includes the president and the service committee. Others are opportunities that develop during the year, such as organizing patient-care hours for students, fundraising for various nonprofit organizations, participating in Relay for Life, and educating the public regarding breast and ovarian cancer, which are the fraternity's national philanthropies.

Presidents and service committee chairs, respectively, during this year's award period were Hannah Schmidt and Samantha Hoppe (2015-16) and Kara Benson and Samantha Franzoi (2016-17). Kappa Epsilon's current leadership, intent on continuing and growing the fraternity's community service activities, includes president Patrick Watchorn and service co-chairs Nicole Krebs and Amber Van Voorst.

A fairly new award for Kappa Epsilon, this is only the fourth time it has been presented and the first time it has gone to the SDSU chapter, which is advised by Teresa Seefeldt.

Dave Graves



Meghan Perry, left, and Megan Schliesman represented Chi chapter at the Kappa Epsilon biennial convention in Orlando, Florida, in August 2017 and received the community service award on behalf of the chapter. Presenting the award is Sal Bottiglieri, the national Kappa Epsilon president.



SDSU STUDENT HONORED

FOR WORK WITH POLYMERS

SDSU doctoral student Siddharth Kesharwani was honored with the 2016 Eudragit® Award for the North America region for his work on a patented product created at the campus lab.

Kesharwani, a fourth-year pharmaceutical science doctoral student from India, was honored Sept. 19, 2017, by Evonik Industries for innovative work involving Eudragit polymers.

Kesharwani and his supervisor, associate professor Hemachand Tummala, have been working on an orally bioavailable curcumin formulation. The novel curcumin formulation was developed using Eudragit polymers, which are manufactured by Evonik industries. A U.S. patent was recently issued to Tummala and his group for this novel formulation.

Evonik is one of the world's leading specialty chemicals companies based in Germany and has been making the polymers since 1954. They are available in various forms to maximize the effective release of the pharmaceutical agent.

This annual Eudragit Award is given to graduate students for their outstanding scientific work that centers on the role, functionality, application or potential of Eudragit polymers.



SDSU College of Pharmacy and Allied Health Professions graduate student Siddharth Kesharwani (center) is honored for his research work associate professor Hemachand Tummala (right). The Sept. 19 presentation was made by Firouz Asgarzadeh, director of technical services for Evonik Industries, one of the world's leading specialty chemicals companies based in Germany.



The Kappa Epsilon litter crew poses after completing their semi-annual cleanup along a two-mile stretch of U.S. 14.



Performing community service doesn't mean you can't have a little fun. Current P3 students, from left, Rebecca Matzek, Katie Ferguson and Gini Liu shower themselves in leaves.

VETERINARIAN'S ADVICE MOLDS KAREL'S CAREER



Karel and wife Linda.

As a high school student in Gregory, Gary Karel loved sports, especially wrestling, and he loved to work with animals, but a word of advice from his local veterinarian was well-heeded.

The local veterinarian (Dr. Carl Lenker) was a frequent visitor to the Louie and Ardyth Karel farm, as much for his mom's cooking as his dad's livestock. He was willing to help pay Karel's way through vet school and help get him started in practice.

But the vet shared this piece of advice: "When you get older, it's difficult to wrestle those big animals."

Karel thought about vaccinating 1,000-pound steers as a grandfather, and he thought about his grandparents' neighbor (Don Frank) in Gregory—a well-respected pharmacist.

Karel decided to go another way and use his SDSU wrestling scholarship to study pharmacy. It proved to be a good decision. The wrestling career ended with a knee injury in Karel's sophomore year. The pharmacy career continues today.

Karel, a 1973 graduate of the college, was honored Sept. 30 at the College of Pharmacy and Allied Health Professions scholarship luncheon as its Distinguished Alumnus.

It's one of many awards Karel has received in his 44-year pharmacy career.

Karel is recipient of the:

- Outstanding Hospital Pharmacist of the Year Award by the South Dakota Health System Pharmacists (1984);
- Honorary Presidents Award by the South Dakota Pharmacists Association (2003);
- President's Leadership Award at Sioux Valley Hospital (2006);
- Hustead Award (pharmacist of the year) by the South Dakota Pharmacists Association (2010); and



Karel and extended family.

- Gary W. Karel Lecture Award by the South Dakota Society of Health System Pharmacists (2012). He was the initial recipient of this award, which is a lifetime achievement honor “given to an individual of high moral character, good citizenship and high professional ideals who has made significant contributions to health-system pharmacy practice in South Dakota.”

His character and commitment to others are reflected in some of the other awards he has received.

Karel was named South Dakota Soccer Coach of the Year in 1991 and inducted into the Dakota Gold (soccer) Coaches Hall of Fame in 2002. He has served three times on the Elder Board at Central Church in Sioux Falls as well as serving on other committees and coaching youth football and wrestling.

“The Lord has put us on the Earth to serve; serve our church, serve our community and serve our profession. I’ve just been blessed to receive awards, which are not expected, for the way I serve in each of those areas,” said Karel, who, nonetheless, said he was “shocked” to be named a Distinguished Alumnus of the SDSU College of Pharmacy and Allied Health Professions.

Karel’s pharmacy career began in 1973 at Sacred Heart Hospital in Yankton, where he was a staff pharmacist.

In December 1980, he went to work at Sioux Valley Hospital (now Sanford USD Medical Center) as assistant director of pharmacy. He advanced to director in 1985 and he and his staff implemented several new initiatives and pharmacy services as Sanford grew exponentially. Karel remained in this position until July 2011. Later that year he became a pharmacy inspector with the South Dakota Board of Pharmacy, a position he still holds today.

Karel, of Sioux Falls, said he still finds satisfaction in his career.

“Pharmacy is one of those professions where every day there is something new—new treatment options, new medicines. It’s satisfying to learn things. My goal is to learn something new every day. If I don’t learn it within the pharmacy world, I force myself to read something else, but I’m linked into a lot of pharmacy organizations and journals, so it’s not hard to learn something new,” he said.

Karel has remained heavily involved with the SDSU College of Pharmacy and Allied Health Professions, precepting several P4 students, providing guest lectures and having served on the Dean’s Advisory Council.

Karel and his wife of 47 years, Linda, have three children and eight grandchildren. In his free time, he enjoys hunting and fishing.

Dave Graves

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Harold Bailey addresses the gathering at the Nov. 3, 2011, dedication of Bailey Rotunda Hall.

COMMUNITY, SDSU BID FAREWELL TO HAROLD BAILEY

Harold Bailey, whose name carried respect on the SDSU campus more than 30 years after he retired, died Nov. 8, 2017, surrounded by family at the Brookings hospital.

Bailey was a pharmacist by trade, an academic administrator by practice, and an inspiration to those who knew him personally.

"Dr. Bailey was a role model for me and many others. He was a true professional, an excellent academician and a strong academic leader," said Dennis Hedge, who served as dean of the College of Pharmacy and Allied Health Professions from 2008 to 2016 and now is vice president for academic affairs at SDSU.

Bailey arrived in Brookings in September 1951 after finishing his doctorate in pharmaceutical chemistry at Purdue University. He started as an assistant professor of pharmacology in what then was the Division of Pharmacy. He spent just 11 years in pharmacy, advancing to professor of pharmaceutical chemistry and then department head.

Hedge said, "Despite a relatively short time in the field of pharmacy, Dr. Bailey never lost his love for or interest in pharmacy. He took great pride in the academic quality and reputation of the pharmacy program and the importance of the research being conducted by the faculty."

In 1961, Hilton M. Briggs, president of South Dakota State, appointed him chief academic officer, the first person to hold that position. While the title changed, he remained in that position for 24 years, longer than any other land-grant institution contemporary. In anticipation of his final day (June 30), Gov. Bill Janklow designated June 27, 1985, as Harold S. Bailey Jr. Day.

The Board of Regents bestowed him with the rank of vice president for academic affairs emeritus and distinguished professor of pharmacy.

HONORED BY REGENTS

That was the same year Hedge graduated from high school. He wouldn't come to campus for another seven years, but he wasn't at South Dakota State long before he became familiar with Bailey.

Hedge said, "As a young faculty member new to SDSU, Dr. Bailey went out of his way to welcome me and help me understand the great history of our university. I credit him for helping me become a Jackrabbit by developing a connection to our historic past."

Bailey's good name was put into brick and mortar not long after his retirement. Gov. George S. Mickelson was on hand when Bailey Hall, a new apartment-style residential facility on the northwest edge of campus, was dedicated Oct. 22, 1994. In 2011, the building was renamed and one of SDSU's primary academic buildings, Rotunda Hall, became Bailey Rotunda Hall.

At the time, Bailey said SDSU officials told him that his "name fits more perfectly with an academic building, and I agree with it. I'm very comfortable with it."

Considering the years Bailey spent in statewide and national higher education positions, including 22 years on Board of Regents appointments, the match couldn't be better, Hedge said.

"The mark Dr. Bailey left on academics, not only at South Dakota State, but also the entire Board of Regents' system and even beyond, is monumental," Hedge said. "His fingerprints are on many things we do today. In particular, Dr. Bailey's leadership contributions to academic infrastructure were incredible."

Hedge is referring to a 1965 appointment made by the Regents in which Bailey served as project director helping the South Dakota Legislative Research Council study academic building space use in public higher education. It was used for many years by the Legislature in evaluating academic building requests.

The fact that Bailey was in a position to do the study is quite unique in itself. Even today, few pharmacy administrators make the transition to university administration. Hedge became one in May 2016, answering the university's call to be acting provost and vice president for academic affairs.

"Dr. Bailey was a true pioneer among those in the pharmacy discipline," Hedge said. "His excellent leadership contributions laid the foundation for me and others. I'm especially pleased that our annual department head award at SDSU is the Dr. Harold and Barbara Bailey Award for Excellence in Academic Department Leadership.

"Dr. Bailey clearly understood the critical importance of strong department heads and his philosophies regarding academic leadership have helped shape my own."

SERVED IN TURBULENT TIMES

Bailey served in university administration during some challenging and trying years.

In the decade from 1960 to 1970, the "cow college in Brookings" went from 3,050 students to 6,257. During the Briggs presidency, State went from being a college to a university (1964), experienced an unparalleled building boom, stepped into the first technology explosion and largely sidestepped counterculture explosions blasting campuses nationwide.

Enrollment growth slowed considerably during the years of President Sherwood Berg (1975-84), but "during the Berg era, the university was constantly besieged by money issues," former SDSU Alumni Association Executive Director V.J. Smith said. "I don't think our state leaders had the same vision for the university as Bailey, Briggs and Berg."

As a result, Bailey called 1975 to 1985 "the decade of unrest." There were efforts by the Legislature to create a single university system, a \$500,000 budget cut brought on by a struggling ag economy, and a move by the Regents to eliminate degrees and reallocate funds.

AUTHORED DETAILED HISTORY OF HIS SDSU YEARS

In fact, it created the material for a book, which Bailey wrote when challenged to do so by Smith.

During a 2011 interview, Bailey recalled with a light chuckle and a gleam in his eye the story that caused the pharmacist turned administrator into a historian.

At a 125th anniversary banquet for SDSU in 2006, alumni chief Smith caught up with Bailey. An animated speaker, Smith pointed his finger in Bailey's face and said, "Harold, you have no right to keep those secrets to yourself," Bailey recalled.

The secrets weren't scandals but rather the inner workings of South Dakota State University from 1951 to 1985, the 34 years that Bailey worked at SDSU. Smith was particularly interested in Bailey's perspective during the years he worked in campus administration.

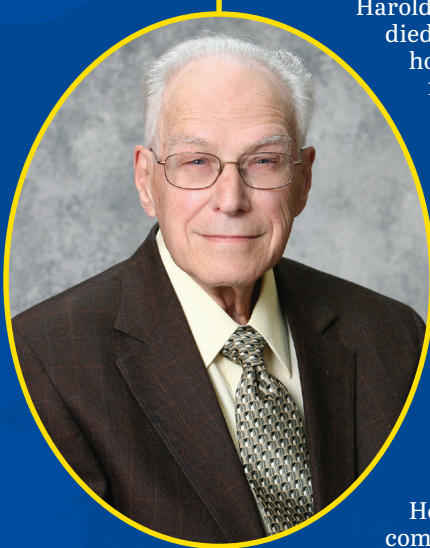
The result was "A Quest for Excellence On Creating a Major University from a Small State College"—a memoir of Bailey's time on campus, particularly from 1958 to 1984. It was five years in the writing and fills 545 pages, including index and tables.

Of the book, Smith wrote, "Dr. Harold Bailey held a unique seat in the history of South Dakota State University. His gentle hands helped mold a college into a great university. Now, he has done a great favor for all those who love and cherish South Dakota State University by offering personal memories witnessed during his long and storied career."

Of Bailey, Smith said, "He is such an intelligent, caring human being. He always had the good of another person in front of him. I never heard him speak disparagingly over another person.

"Dr. Bailey will be forever remembered for his contributions to South Dakota State University. We are so very fortunate that he was a member of the Jackrabbit Family. He was an amazing man who made SDSU a better place. He will be missed."

Dave Graves



Harold Stevens Bailey, 95, of Brookings, died Nov. 8, 2017, at the Brookings hospital. His funeral was Nov. 18 at First United Methodist Church of Brookings, where he served many roles, including being the voice of its radio broadcast, playing the organ and, occasionally, delivering the Sunday message.

Bailey spent his entire professional career at SDSU, teaching and conducting research in pharmacy from 1951 to 1961 and then overseeing academic affairs from 1961 to 1985, when he retired.

He was very active in the community as a 50-year member of

Kiwanis, president of the Brookings chapter of the American Red Cross and the Brookings Hospital/Brookview Manor board of trustees (1991-2001). He served on that board from 1989 to 2002. In 1997, he received the Liberty Bell Award from the Brookings Bar Association for his voluntary community service.

He was preceded in death by his wife of 62 years, Barbara Ann (Dewey), and a brother, Richard.

Survivors include his five children—Cynthia (Bob) Kodis, Des Moines, Iowa; Lynda Bailey, Liberty, Missouri; the Rev. Gwen (Rod) Mader, Mesa, Arizona; Pamela (David) Berg, Baldwin, Wisconsin; and Harold III (Sandra), Rapid City; a sister, 12 grandchildren and 16 great-grandchildren.

Memorial gifts can be made to the Brookings First United Methodist Church Foundation or the Harold and Barbara Bailey Endowment in support of academic leadership at SDSU.

1922-2017

Harold Bailey

ALLEX FINDS NICHE IN HOSPITAL PHARMACY

Carnita “Carnie” Alex has been a take-charge kind of gal ever since leading the H & C Corner 4-H Club as a teenager in Hamlin County.

At college, she got heavily involved in the SDSU chapter of the American Pharmacists Association Academy of Student Pharmacists and Kappa Epsilon, serving as president of the then-women’s only fraternity in 1997-98. So when she graduated in 1999, it wasn’t surprising that the youngest child of Carlos and Anita Abraham wanted to own a retail pharmacy.

The first step in that direction was working at Page Snyder Drug, an independent retailer in Olivia, a small, west-central Minnesota town.

The location was great, only 4 miles from her new hometown, Danube. She had married longtime Danube resident Gene Alex in 1999. But the job didn’t prove to be the fit she expected. Early in summer 2001, a friend mentioned an opening for a clinical pharmacy coordinator at Rice Memorial Hospital in Willmar, Minn., just 25 miles straight north of where she was working.

In summer 1997, Alex had a paid internship at Rice and enjoyed the experience.

MADE RIGHT MOVE TO RICE

While filling prescriptions at Page Snyder, Alex thought, “If I don’t get back in hospital pharmacy now, I may never have another chance.” Because the knowledge bases are so distinct, she didn’t think she would be able to make that transition deeper into a retail career. She switched to Rice in July 2001 and “I never looked back. I’m very happy in hospital pharmacy and very happy at Rice.”

Since June 2006, Alex has been director of pharmacy at Rice, a 100-bed municipally owned hospital that just became affiliated with Centra Care Health in St. Cloud, Minn. Not long after that integration, it also was announced that Alex had been selected to serve as vice president of clinical support services for the expanded operation.

In addition to the hospital, the Rice umbrella also covers a care center, a hospice unit and Willmar Regional Cancer Center. Servicing a large territory each direction of Willmar, the Rice

pharmacy employs nine pharmacists (including Alex) and 10 pharmacy technicians. There’s often also a student pharmacist doing a five-week rotation, she said.

Because Willmar is situated roughly between Brookings and Minneapolis, it draws students from SDSU and the University of Minnesota as well as being relatively close to North Dakota State University.

Alex went there when she couldn’t find a paid internship close to home. Of the nine Rice pharmacists, all but one had been at Rice in some other capacity before being hired as a pharmacist. “Because we come from that experience, we know how important student experiences are.

“So we give them all the opportunities we can and provide them a well-rounded internship and match up their duties with their interests. If students are interested, they often can spend time in other departments—go on ambulance ride-alongs, view an autopsy or spend time in the cancer center or hospice,” Alex said.

TEACHING WHAT ISN’T TAUGHT IN SCHOOL

Jade Kutzke, a P4 student from Lake Lillian, only 17 miles from Willmar, said that broad exposure is what she enjoyed about her Nov. 5-Dec. 7 rotation there.

“I’ve had an opportunity to have a taste of a lot of different things. I go on clinical rounds with the pharmacists and spend days with other departments. I’ve spent time in the cancer center and yesterday was at the hospice unit. I’ve attended patient safety committee meetings. It’s very valuable to see a lot of different pieces of the hospital,” Kutzke said.

She has attended meetings with Alex and worked directly with her in the pharmacy because the pharmacy director’s duties also include maintaining her dispensing skills.

Kutzke said Alex is “very good about sharing her knowledge. She provides a lot of background on hospital pharmacy issues we don’t get exposure to in school like working with inventory and how to work with drug shortages. For example, there is a shortage of IV bags because of the hurricanes that hit Puerto Rico. That was the location of one of the main manufacturers. She’s been very proactive about that.





Carnie Alex, director of pharmacy at Rice Memorial Hospital in Willmar, Minnesota, reviews orders for a patient being admitted to Rice's skilled nursing facility with P4 student Jade Kutzke during her advanced pharmacy practice experience there. Alex, a 1999 SDSU grad, has headed the pharmacy since 2006.

"Plus, it's always nice to have a fellow Jackrabbit to relate to. And she's very open, having her door open for questions or anything I need."

RICE KNOWN FOR HIGH MORALE

It's not just the rotating P4s that get that treatment. "Rice has a great staff with great morale. That reflects on Carnie. Usually when that happens, it starts at the top," according to Bernie Hendricks, who oversees SDSU's advanced pharmacy practice experience program and took a road trip to Willmar this fall to see the operation for himself.

Alex said, "The culture here at Rice is very positive, very supportive to employees at all levels. It does really feel like a Rice family. People get to know the staff in their department and other departments. That helps people recognize the purpose of their work. When you're all working for a common purpose, it's easier to get along and know you're working for the patient."

The "be your own boss" aspirations Alex had earlier in her career are still being fulfilled, she said.

"Being the director, while you don't own the business, you're not only involved in day-to-day operations but you're also responsible for setting goals, hiring and firing, and managing the budget." Not to mention managing personnel, which Alex said can be the most challenging and most enjoyable facet of the position.

HEAVILY INVOLVED IN COMMUNITY

She also exercises her leadership on the Renville County West School Board—she's in her fifth year, having served two years as chair and currently is vice chair. "It takes a lot of time, but also is very rewarding. In the last five years, we approved an expansion for our building and the voters approved renewal of our operating levy."

She also teaches Sunday school at Zion Lutheran Church in Olivia and is a member of its tone chime choir.

Her efforts haven't gone unnoticed. In 2015, Alex was a "Five under 40" selection by the West Central Tribune of Willmar for her leadership abilities.

On a professional basis, Alex is proud of her efforts in advancing medication safety through the adoption of technology.

"Rice has continued to stay at the forefront of medication safety, including the use of bar code scanning of medications, utilizing smart IV pumps to administer medications and switching to electronic MAR (medication administration record). Rice was able to implement that several years ago, before other hospitals our size.

"We were a leader ... particularly for our size. I'm very proud to be a part of that."

Dave Graves

MEDICINAL CHEMIST IDENTIFIES COMPOUND TO TREAT METASTATIC CANCER

More than 90 percent of cancer deaths occur due to metastatic cancer cells that detach and spread to other organs, rather than the original tumor. That's why the discovery of a compound that can interfere with that process could increase cancer survival rates, according to pharmaceutical sciences professor Xiangming Guan.

Glutathione disulfide, known as GSSG, can do that—when it is delivered into the cell.

Unlike regular cancer cells, metastatic cells can survive after they detach, Guan explained. At a cellular level, metastasis involves four steps: detachment, migration, invasion and adhesion. Guan and his team found that GSSG significantly impacts three out of four essential cancer metastasis steps in four cancer cell lines. Further tests using a mouse melanoma metastatic model also showed promising results.

“Metastatic disease is such a fatal issue,” he said. “Though I have experienced many exciting things in my research work, this is the most excited I have ever felt.”

For his work, the medicinal chemist received the 2017 F. O. Butler Award for Excellence in Research at the university's Celebration of Faculty Excellence. Guan is also the assistant dean for research in the College of Pharmacy and Allied Health Professions.

“IF BY ANY CHANCE I AM ABLE TO ADVANCE GSSG LIPOSOMES TO A THERAPEUTIC TREATMENT FOR METASTATIC PATIENTS, IT WILL BE THE CROWNING ACHIEVEMENT OF MY RESEARCH CAREER.”

- Professor Xiangming Guan

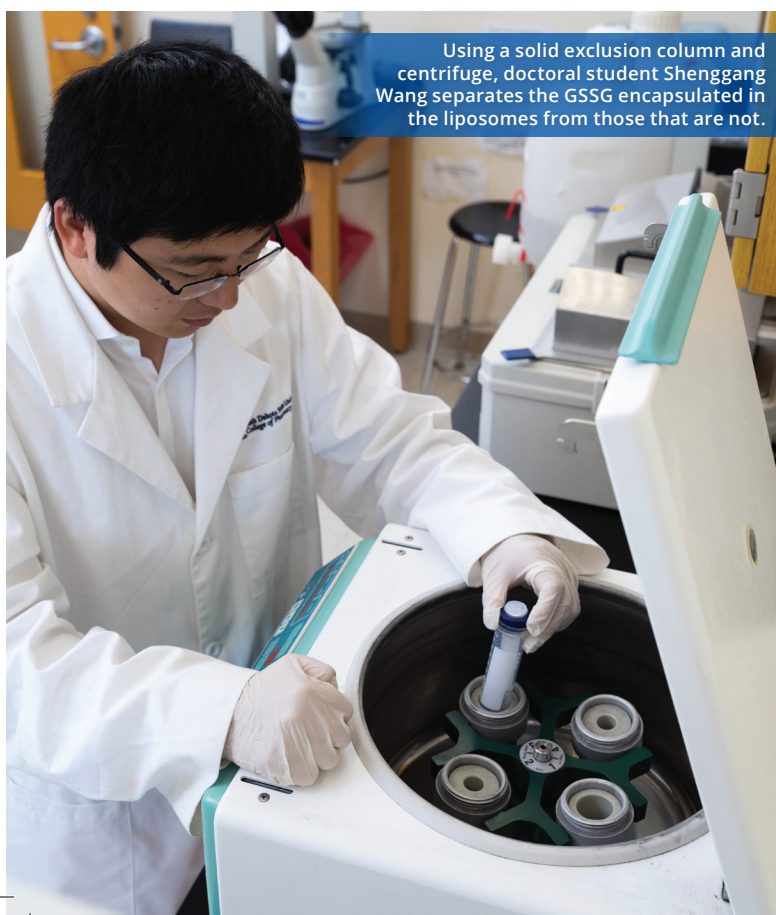
DELIVERING GSSG INTO CELL

“GSSG comes from another molecule, glutathione. Glutathione is present in our bodies in large quantities and is the most abundant antioxidant in the body,” he said. “When glutathione captures free radicals—the toxic stuff in our bodies—it is oxidized to GSSG. Enzymes then turn the GSSG back into glutathione.” Under normal circumstances, the body has a trace of GSSG that is about less than 1 percent of glutathione.

Though GSSG is commercially available, studies on its physiological function are limited because it cannot pass through the cell membrane. Guan and former doctoral student Satya Sadhu developed a delivery system using a common approach, liposomes, to get GSSG into the cells.

“We are the first ones to develop a method that is capable of delivering GSSG into cells,” he said. They have filed a patent application for their GSSG-liposome delivery system and its application for the treatment of cancer and cancer metastasis.

Initially, the researchers sought to study the function/dysfunction associated with increased GSSG levels in cancer cells. However, when Sadhu had difficulty getting the treated cells to detach from the bottom of a flask using established procedures, the focus shifted to metastasis.



Using a solid exclusion column and centrifuge, doctoral student Shenggang Wang separates the GSSG encapsulated in the liposomes from those that are not.



Doctoral student Shenggang Wang and professor Xiangming Guan create a very thin dried lipid film through the use of a rotary evaporator.



Doctoral student Yue Huang prepares cancer cell cultures that will be treated with GSSG liposomes.



Doctoral student Asim Najmi examines human lung cancer cells treated with GSSG liposomes.

EVALUATING GSSG ON METASTATIC CELL LINES

First, the researchers looked at the GSSG antidetachment phenomenon using a mouse melanoma cell line and human ovarian, prostate and small-cell lung cancer cell lines.

“Many researchers have focused on invasion and some work has been done on migration to develop antimetastatic agents, but not much work has been done on developing antimetastatic agents by blocking detachment,” Guan pointed out. Both Sadhu and doctoral student Shenggang Wang worked on this part of the research.

GSSG liposomes completely prevented the metastatic cancer cells from detaching, Guan reported. “We were very excited by the finding since detachment is the first and required step of metastasis, and few compounds have been found to interfere with this step.”

When the researchers created a road or wound in a petri dish of metastatic cancer cells, there was no significant migration, or closing of the wound gap, in any of the GSSG-treated cell lines after 24 hours. This demonstrated that GSSG liposomes completely blocked migration as well.

Furthermore, GSSG has a significant impact on invasion, with as much as 80 percent of the human lung and prostate cancer and mouse melanoma cells and 75 percent of human colon cancer cells unable to penetrate the tissue/body cell membrane. However, GSSG had no effect on cell adhesion.

TESTING GSSG IN MICE

Using a metastatic melanoma mouse model, the researchers found that only one of seven mice treated with GSSG liposomes developed a few melanoma spots in its lungs when examined 21 days after treatment. “The others were completely free of melanoma spots,” Guan said.

When the researchers compared GSSG liposomes with dacarbazine, a drug used to treat melanoma, the GSSG-liposome treatment was as effective as dacarbazine. However, dacarbazine appeared to be toxic, with one mouse death during the course of treatment.

Conversely, no signs of toxicity, such as weight loss or changes in behavior, were observed in mice treated with GSSG liposomes. Professor David Knudsen, a pathologist at the Animal Disease Research and Diagnostic Laboratory, found no signs of organ toxicity as a result of the five-day treatment.

In subsequent testing using 2.7 times the dosage and twice the treatment length with a two-day break between treatments, the pathologist examined the mice and found no signs of toxicity, according to Guan.

Then the researchers looked at the compound’s impact on cancer growth, by treating mice with a melanoma tumor growing under the skin. “GSSG liposomes not only prevented metastasis, but inhibited cancer growth as well,” he explained. “This dual effect is an advantage in treating metastatic patients.”

Researchers now recognize that hitting one target may not be effective in treating metastatic patients due to the complexity of the disease. The ability to inhibit both cancer metastasis and cancer growth will certainly make the treatment more effective, explained Guan, who has applied for funding from the National Institutes of Health to continue this work.

“GSSG liposomes are hitting multiple steps in the metastasis process while also inhibiting cancer growth. That is probably why GSSG liposomes were so effective in the tested cancer cell lines and mouse melanoma models” Guan noted. “If by any chance I am able to advance GSSG liposomes to a therapeutic treatment for metastatic patients, it will be the crowning achievement of my research career.”

Christie Delfanian



FIERSTINE ADDED AS BUDGET DIRECTOR

Sue Fierstine has returned to campus as the College of Pharmacy and Allied Health Professions budget coordinator after a 16-year absence.

For the past 16 years, she has been the operations manager with Avera Clinic in Brookings. Before that stint, she spent a year as an accountant for property management at SDSU. Her resume also includes five years at the South Dakota Soybean Plant in Volga, a year at Kinner & Co. accounting in Brookings and a year in Marshall, Minnesota, as an accountant.

“I wanted to stay in Brookings and was ready for a little change,” Fierstine said. “My one year here was a good experience and my own time at college was a good experience, so I thought I would apply for this job.”

Fierstine’s college experience was at Southwest State University in Marshall, Minnesota, where she received her bachelor’s in accounting in 1993. She is a 1976 graduate of Cottonwood (Minn.) High School, which she calls her hometown.

In her new position, which she began Oct. 2, Fierstine oversees the budget, handles vouchers and cash deposits, and analyzes financials.

She replaces Andrea Hogie, who left in July.

Fierstine and her husband, Mike, a retired electrical engineer at Daktronics, have two sons, Michael, of Elk Point, and Andrew, of Brookings; and two grandchildren. In her free time, Fierstine pursues genealogy, quilting, woodworking and splitting wood for the heating stove on their acreage 14 miles north of Brookings.



FACULTY NOTE:

Ping Ye, an investigator at Avera Cancer Institute and an adjunct associate professor in the College of Pharmacy and Allied Health Professions, was elected to a two-year term as secretary of the Society for Mathematical Biology beginning July 20, 2017. Ye was honored at the 2017 annual meeting of the Society for Mathematical Biology held at the University of Utah in Salt Lake City July 17-20.



Teresa Seefeldt

Acting Assistant Dean and
Associate Professor
Department of Pharmacy
Practice

CO-CURRICULUM FOCUSES ON LEARNING OUTSIDE THE CLASSROOM

Student learning occurs both inside and outside the classroom.

Pharmacy education has embraced this concept through experiential, laboratory and simulation experiences for students. These educational activities allow students to apply what they are learning in the classroom and develop skills in the affective domain such as communication, interprofessional collaboration and problem-solving.

Co-curricular experiences are another way that learning occurs outside the classroom.

The Pharm.D. Accreditation Standards (Standards 2016) from the Accreditation Council for Pharmacy Education define the co-curriculum as "experiences that complement, augment and/or advance what is learned in the formal didactic and experiential curriculum."¹

Co-curricular activities differ in several key aspects from the traditional concept of extracurricular activities. Specifically, participation in co-curricular experiences is expected for all students, the activities are mapped to student learning outcomes and assessment of what students learned as a result of participation in the activity is conducted.

The focus of co-curricular experiences is often on affective skill development, but knowledge and skill in other areas such as public health and patient assessment can also be included. The development of co-curricular experiences can involve a variety of entities including the college or school of pharmacy, student organizations, professional associations and community partners.

The Pharm.D. Curriculum Committee uses a learning-progression model for curricular design for affective domain student-learning outcomes that focuses on longitudinal development of knowledge and skills.

This has resulted in the development of curricular thread documents that describe learning activities and assessments and where they occur in the curriculum. The co-curriculum has been integrated into this model. Co-curricular activities are mapped to student-learning outcomes and are highlighted within the thread documents. This design allows students and faculty to clearly see the connections between the curriculum and the co-curriculum.

Examples of co-curricular activities in the Pharm.D. program include patient-care hours, a cultural competency activity and leadership development activities.

Student pharmacists are required to complete patient-care hours during the P1, P2, and P3 years. A variety of experiences are included in patient-care hours, including administration of immunizations and conducting health screenings. These experiences emphasize development of communication skills, application of patient assessment skills and understanding of public health and wellness principles.

Cultural competence is addressed through student attendance at a campus or community cultural event. The goal of this activity is to increase student understanding of various cultures and the importance of diversity.

Leadership and professionalism are addressed in the co-curriculum in two ways. First, students complete a leadership project and write a paper on their experiences leading a team. In the second activity, P4 students attend a business meeting of a pharmacy professional organization to learn more about organizational leadership and advocating for patients and the profession.

These co-curricular activities occur alongside the didactic and experiential curriculum and focus on skill development and knowledge application. The affective skills included in the co-curriculum are essential for students as they develop into professionals.

1. Accreditation Council for Pharmacy Education. Guidance for the accreditation standards and key elements for the professional program in pharmacy leading to the Doctor of Pharmacy degree. Available from <https://www.acpe-accredit.org/pharmd-program-accreditation/>.



*James Clem, Pharm.D.
Department head and
professor
Department of
Pharmacy Practice*

CREATING A (SOMEWHAT) CUSTOMIZED EDUCATION

Greetings from the Department of Pharmacy Practice. As usual, we have had a busy first half of the academic year. Before we know it, the academic year will be over and planning will begin for the next academic year. This planning is a continuous process in order to keep student education on the forefront of contemporary pharmacy practice.

We have recently put a lot of effort in the curriculum's pharmacy elective didactic courses. Currently, students are required to take a minimum of four credits of professional program electives during the third year of the professional program.

Collectively, our pharmacy program currently offers 15 elective courses between the fall and spring semesters with those courses being either one or two credits each. There is no overlap in the elective course topic content between electives. An elective course is offered either in the fall semester or spring semester, but not both semesters. As a result, students need to have their elective choices planned out well before the fall semester begins.

The purpose of the elective courses, which is an accreditation requirement, is to allow students to gain a greater depth of knowledge, understanding and experience in a particular area of pharmacy. The overall goal is to take a specific content area to the next level compared to the same topic delivered in the general curriculum.

Elective topics offered during the fall semester include institutional practice-based research I, end-of-life care, ambulatory care, professional pharmacy leadership skills, drugs of abuse, and women's and children's health.

The spring semester's elective topics include advanced clinical nutrition, neonatal and pediatric pharmacy, geriatrics, critical care, cultural perspectives in pharmacy practice, complementary and alternative medicine, institutional practice-based research II, pharmacogenomics, and health informatics. As listed above, it is quite noticeable how greatly varied these elective course topics are.

Three of the elective topics are recent additions.

The cultural perspectives elective course is designed to go into much more detail of how pharmacy practice and care are affected by cultural differences and to educate pharmacy students on how to most effectively impact patients.

Although all students get general education on pharmacogenomics and how this impacts medication therapy, the elective allows students especially interested in excelling in this area to do so. The latest elective added to the course selection is the health informatics-related course. This was first offered during this spring semester and allows students who may be interested in going into this area of pharmacy when they graduate to do so. The utilization of pharmacists in health informatics has been a significant area of expanded pharmacy involvement due to technology and the use of electronic health records.

In addition to having elective selection opportunities in the classroom settings, students are also allowed to select electives in the experiential year of the program. These can be more advanced experiences in areas where they have already had some experiential learning or it can be in a completely different area of practice. Many of these unique elective experiential opportunities are offered by our outside preceptors, for which we are very grateful.

We are fortunate to have faculty with varied areas of expertise to allow us to offer a wonderful variety of electives to our students, allowing them to customize their pharmacy education to a slight degree and better suiting them in their careers upon graduation.



Om Perumal, Ph.D.
Professor and Head
Department of
Pharmaceutical Sciences

FACULTY IMPACT IN TEACHING, RESEARCH AND SERVICE

As we begin 2018, I would like to reflect on some of the major accomplishments of our faculty this past year. Several have developed innovative teaching pedagogies. Here is a brief recap:

- Teresa Seefeldt successfully implemented an interprofessional high-fidelity simulation in pharmacology. In a paper in *Currents in Pharmacy Teaching and Learning*, Seefeldt and her colleagues demonstrated that a simulation in a pharmacology course was effective in improving understanding and application of pharmacology concepts by pharmacy and nursing students in an interprofessional-learning setting. This study provides new evidence on the significance of early and continual integration of interdisciplinary simulation in nursing and pharmacy education.
- Hemachand Tummala presented a minisession on his innovative laboratory teaching model at the annual meeting of the American Association of Colleges of Pharmacy in Nashville. Tummala uses a Patient-Oriented, Problem-Solving, Inquiry, Cooperative Learning (POPSCIL) model in the pharmaceuticals laboratory course.
- Jayarama Gunaje teaches biomedical sciences in the pharmacy curriculum. He actively engages the students through his passion and enthusiasm. Gunaje was voted Teacher of the Year in the College of Pharmacy and Allied Health Professions.

RESEARCH ACCOMPLISHMENTS

The department faculty also have made significant research and scholarly research contributions this past year:

- Tummala received a grant from the U.S. Department of Agriculture to explore the feasibility of using his novel vaccine delivery system to develop an effective vaccine for swine influenza.
- Tummala's group also recently developed a patented polymeric oral formulation for curcumin, a natural compound with multiple health benefits. This work received the best poster award for the North American region from Evonik Industries (a German-based global polymer company).
- Joshua Reineke received funding from the South Dakota Board of Regents for a project to develop an in-vitro 3-D cell culture model for pancreatic cancer. He is one of five grant recipients in this statewide competitive grant program.
- Wenfeng An recently published his major findings on the role of jumping genes during germ cell development. His work was published in the *Proceedings of National Academy of Sciences*. The significance and impact of the findings are reflected by several published commentaries on this work by other researchers.
- Shafiqur Rahman edited two books on research models and therapeutic advances for drug addiction with contributions from several leading experts in the field.

PROFESSIONAL HONORS

The faculty have also been very active in professional and scientific organizations:

- Rahman received the distinguished service award from the Division of Pharmacology Education, American Society for Pharmacology and Experimental Therapeutics. He was also elected as the secretary and treasurer for this division for 2018.
- Seefeldt participated in an accreditation site visit team for the Accreditation Council for Pharmacy Education.
- Tummala organized and moderated scientific sessions at the annual Biomaterials Conference and Global Vaccines Summit.
- Reineke was an invited speaker at the New Zealand-Australia Controlled Release Conference.

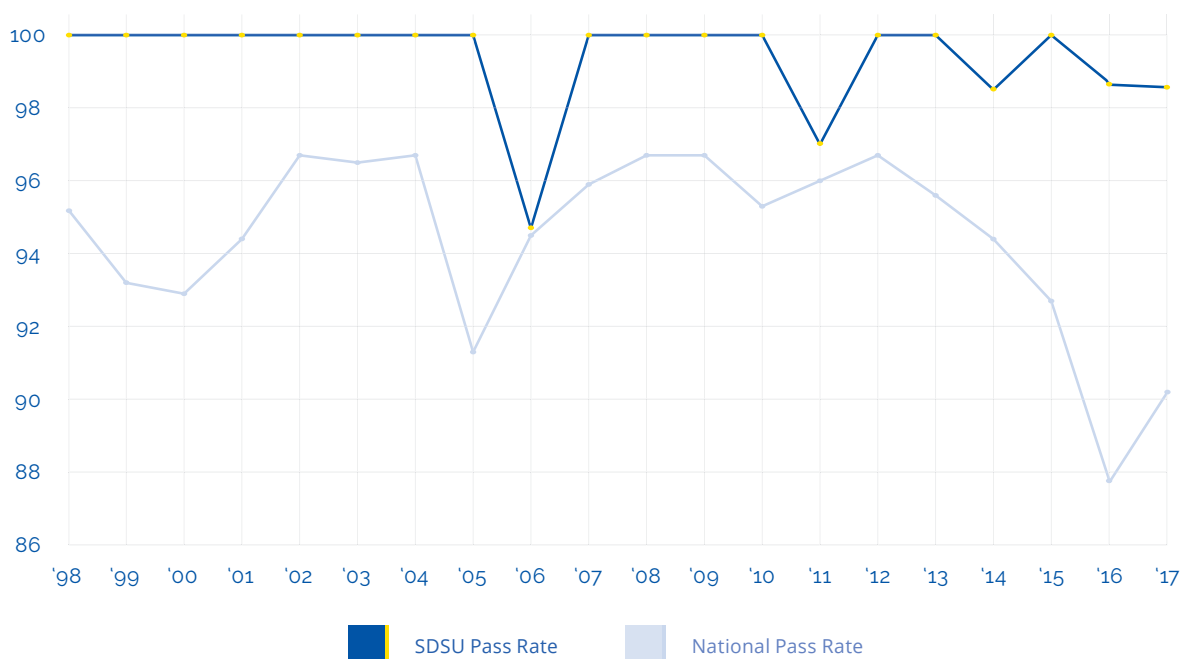
I'm thankful and honored to work with a talented group of faculty who are committed to excellence in pharmaceutical education and research.

Best wishes for a prosperous 2018!



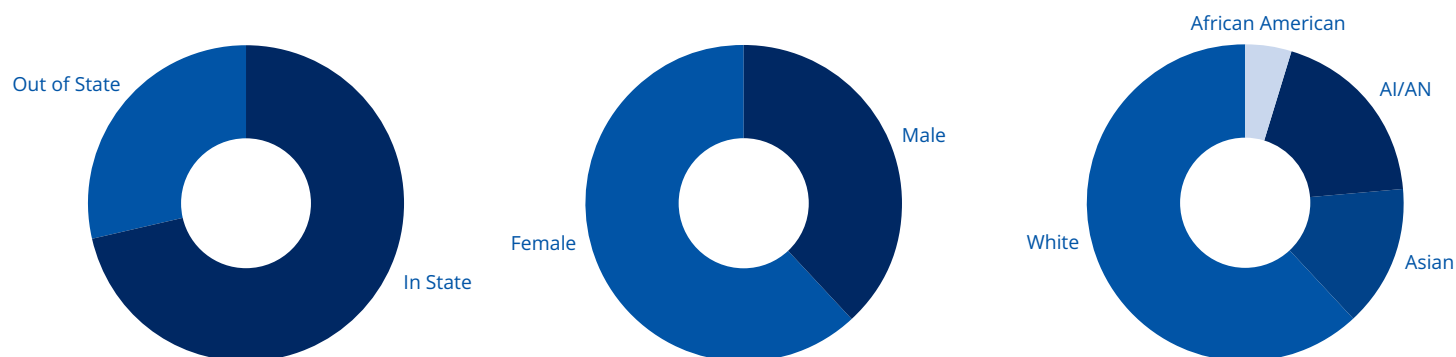
PHARM.D. STUDENTS CONTINUE STRONG PERFORMANCE ON NATIONAL EXAMS

- The 2017 Pharm.D. graduates achieved a 98.6 percent pass rate on the North American Pharmacist Licensure Examination (NAPLEX), well above the national pass rate of 90.2 percent. In addition, the average score for SDSU graduates was 7.1 points above the national average score (104.3 versus 97.2).
- On the Multistate Pharmacy Jurisprudence Examination, the SDSU class of 2017 achieved a 100 percent pass rate on the in-state exam and a 96.4 percent pass rate on the out-of-state exam.



MASTER OF PUBLIC HEALTH PROGRAM ATTRACTS DIVERSE GROUP OF STUDENTS

As of fall 2017, 21 SDSU students are enrolled in the Master of Public Health program. This online graduate program includes a diverse group of students from a variety of career backgrounds including nursing assistant, pharmacy technician, health educator, clinical research specialist, epidemiologist and child nutrition program specialist.

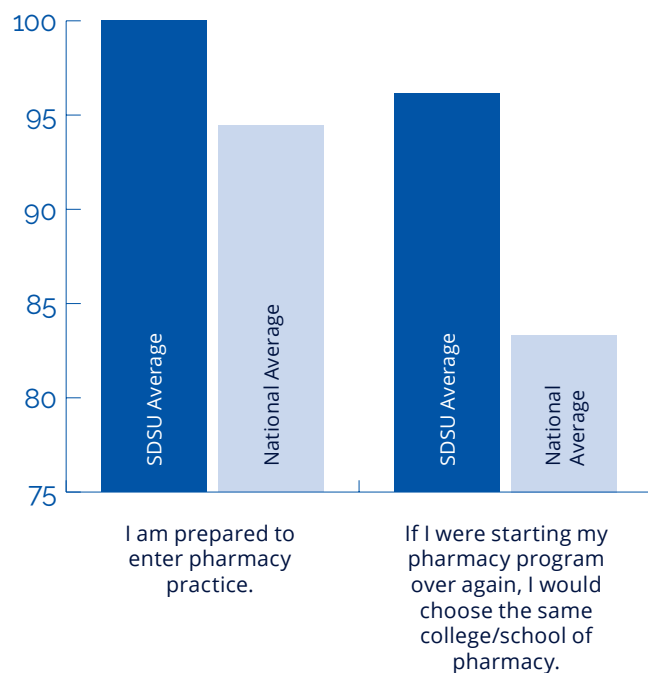


PHARM.D. STUDENTS AND ALUMNI PROVIDE INPUT ON PROGRAM THROUGH NATIONAL SURVEYS

The College of Pharmacy and Allied Health Professions regularly seeks input from stakeholders on various aspects of the college's mission. This includes an annual Pharm.D. graduating student survey and an alumni survey every other year. These surveys are developed by the American Association of Colleges of Pharmacy (AACP) and administered by schools and colleges of pharmacy nationwide. The college reviews the SDSU survey data to find trends and to evaluate how our data compares with national values in order to identify successes and opportunities for improvement.

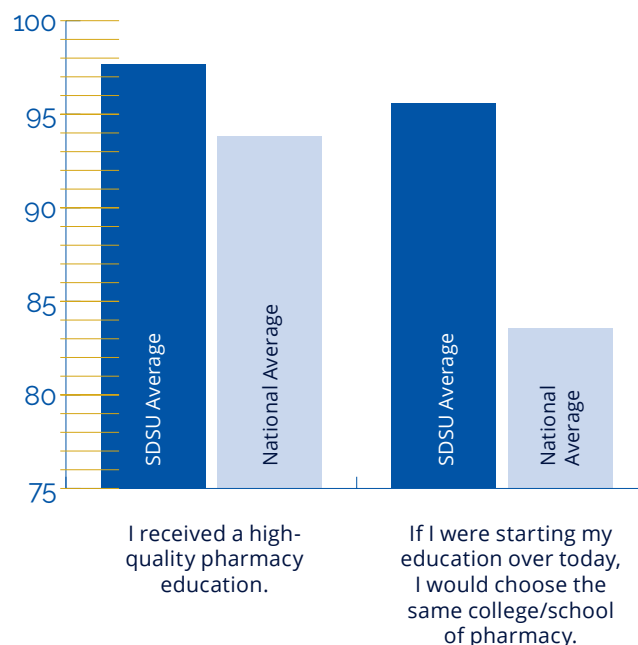
CLASS OF 2017 SURVEY

PHARM.D. GRADUATING STUDENT



ALUMNI SURVEY

PHARM.D. CLASSES OF 2015 AND 2016





SEVERAL FACULTY RECEIVE COMPETITIVE EXTERNAL RESEARCH GRANT FUNDING

The mission of the College of Pharmacy and Allied Health Professions includes advancing “societal well being and the profession of pharmacy through graduate education, research, scholarship, and service.” The college tracks this part of its mission using multiple measures including research grant funding. In the last few years, several faculty from the pharmaceutical sciences and pharmacy practice departments have been awarded competitive research grant funding through federal, state and private agencies. Grant awards exceeded \$1.2 million in 2016-2017.

RECENT COMPETITIVE EXTERNAL RESEARCH FUNDING

FACULTY NAME	PROJECT NAME	FUNDING AGENCY
Wenfeng An	Novel Transgenic Mouse Models for L1 Retrotransposons in Development and Disease	National Institutes of Health/Office of the Director
	Investigating an Etiological Role of LINE-1 Retrotransposition in Birth Defects	National Institutes of Health/Eunice Kennedy Shriver Institute of Health & Human Development
	Center for Systems Biology of Retrotransposition	National Institutes of Health/National Institute of General Medical Sciences (Subaward)
Xiangming Guan	Benzofurazan Sulfide Fluorogenic Agents for Live Cell Subcellular Thiol Imaging	National Institutes of Health/ National Institute of General Medical Sciences
Surachat Ngorsuraches	Examining the Cost-escalation and Patient Valuation of Disease-modifying Therapies (DMTs) for Multiple Sclerosis (MS)	National Multiple Sclerosis Society
	Engaging Patients and Their Family Members in Patient-Centered Multiple Sclerosis (MS) Research	Patient-Centered Outcomes Research Institute (PCORI)
	Patient Engagement in Multiple Chronic Conditions (MCC)	Sanford Health
Omathanu Perumal	Novel Polyphenol Fortified Profile Diet Formulation	Sanford Health and South Dakota Board of Regents
Joshua Reineke	Desmoplastic Pancreatic Cancer Model Development and Application to Novel Therapeutic Screening	South Dakota Board of Regents Competitive Research Grant
	Planning and Development of the South Dakota Center for Translational Nanomedicines (CTN)	South Dakota Governor's Office of Economic Development Research Team Development (RTD)
	Randomized Controlled Trial for the Treatment of Extensively Drug Resistant Gram-Negative Bacilli	National Institutes of Health/National Institute of Allergy and Infectious Diseases (Subaward)
Hemachand Tummala	Developing a New Nutritional Supplement Based Product Line for Improved Colon Health	Sanford Health and South Dakota Board of Regents
	Development of a Novel Pathogen Mimicking Vaccine Delivery System for Swine Influenza	United States Department of Agriculture/Agriculture and Food Research Initiative

MEDICAL LABORATORY SCIENCE STUDENTS

AND ALUMNI PROVIDE LEADERSHIP FOR PROFESSIONAL SOCIETY

Students and recent alumni of the medical laboratory science program have been developing their leadership, communication and problem-solving skills through state, regional and national leadership roles in the American Society for Clinical Laboratory Science (ASCLS). These leadership roles include the National New Professional Secretary/Treasurer, student and new professional representatives in Region V and South Dakota Board Members at Large. In addition, Bridget Parsons was awarded the National Student Forum Leadership Award in 2015.

2015-2016	Bridget Parsons	South Dakota Student Forum Representative
		Region V Student Forum Representative
2016-2017	Haley Erickson	Region V Student Forum Representative
	Ashley Clarke	South Dakota Student Forum Representative
	Alissa Lounsberry (Class of 2016)	South Dakota New Professional Member at Large
	Bridget Parsons (Class of 2015)	Region V New Professional Representative
	Tiffany Montalvo (Class of 2015)	ASCLS National New Professional Secretary/Treasurer
		ASCLS South Dakota Board Member at Large
2017-2018	Emily Nagel	Region V Student Forum Representative
	Lauren Goos	South Dakota Student Forum Representative
	Andrea Wittmayer (Class of 2017)	South Dakota New Professional Representative
	Bridget Parsons (Class of 2015)	Region V New Professional Representative
	Tiffany Montalvo (Class of 2015)	ASCLS South Dakota Board Member at Large

AVERA HEALTH SCHOLARSHIPS

The College of Pharmacy and Allied Health Professions has seen many changes as it has grown over the years: the Avera Health and Science Center, new degrees, new faculty and administration, and more students. As a result of that growth, a need for more scholarships and more scholarship dollars arose.

The college has responded to that growth as the number of scholarships and amount of scholarship dollars have increased dramatically the last three years. At this past fall's scholarship banquet, the college distributed nearly \$250,000 in scholarships, an increase of 95 percent when compared to the \$121,575 given in 2015. The number of scholarships has increased by 58 during that timeframe.

Those numbers grew in part as the result of Avera Health's commitment of \$60,000 in new scholarships for South Dakota State. Nearly half of that amount is going to the College of Pharmacy and Allied Health Professions.

"Avera's scholarship program is an investment in the future. We're investing in our future workforce and in the lives of young people in our state and region. Health-care careers are a wonderful opportunity when considering a college major, or equipping for a second career later in life," said Pam Hilber, Avera's director of workforce planning. "The door is wide open for good jobs and career advancement.

"Health care is a way to help others, contribute to the greater good, become part of something bigger and do more than you could do alone," she continued. "For those who are interested in this path, we want to encourage them by easing the financial burden and rewarding the hard work that students put in as they prepare for a career in health care."

According to the SDSU Foundation's Mike Birgen, industry leaders invest in scholarships at South Dakota State to tap the SDSU talent pool since many already employ Jackrabbits and recognize and value quality talent. Birgen, who is now serving as the SDSU Foundation's associate vice president for development after serving as the college's development director for three

years, believes the college's nationally renowned academic programs in pharmacy and medical laboratory science and performances on licensing examinations also help draw industry attention.

To keep that success going, individuals such as Dan Hansen, the college's assistant dean for student services, work to attract students by offering scholarships.

"Scholarships are an important part of what it takes to recruit the best and brightest students," said Hansen, an associate professor of pharmacy practice. "Also, with more and more of the financial burden being passed on to students, scholarships become an integral part of helping finance an education. Without scholarships, a student is likely to take out more student loans, creating an even bigger financial burden upon graduation. That financial burden can affect what career path they decide on, or delay the amount of time it takes before a student can start saving for their first home, retirement or starting a family."

"AVERA'S
SCHOLARSHIP PROGRAM
IS AN INVESTMENT IN THE
FUTURE. WE'RE INVESTING
IN OUR FUTURE WORKFORCE
AND IN THE LIVES OF YOUNG
PEOPLE IN OUR STATE AND
REGION. "

- Pam Hilber

*Avera's director of
workforce planning*

AVERA'S SCHOLARSHIP DONATIONS ARE THE FOLLOWING:

Committed \$60,000 in new scholarships (20 scholarships at \$3,000 each)

- 12 in nursing
- 6 in medical laboratory science
- 2 in pharmacy

Continuing \$20,000 for Jackrabbit Guarantee (20 scholarships at \$1,000 each)

- Designated for students in various health-care professions, with preferences to students from an area served by Avera facilities. Avera has done this for almost a decade now.

Committed to \$5,000 annual STEM Partnership for 2017-18

Matt Schmidt

To find out where
you can donate, contact:

LISA OTTERSON

LISA.OTTERSON@SDSTATEFOUNDATION.ORG
(605) 697-7475

Thank you Donors!

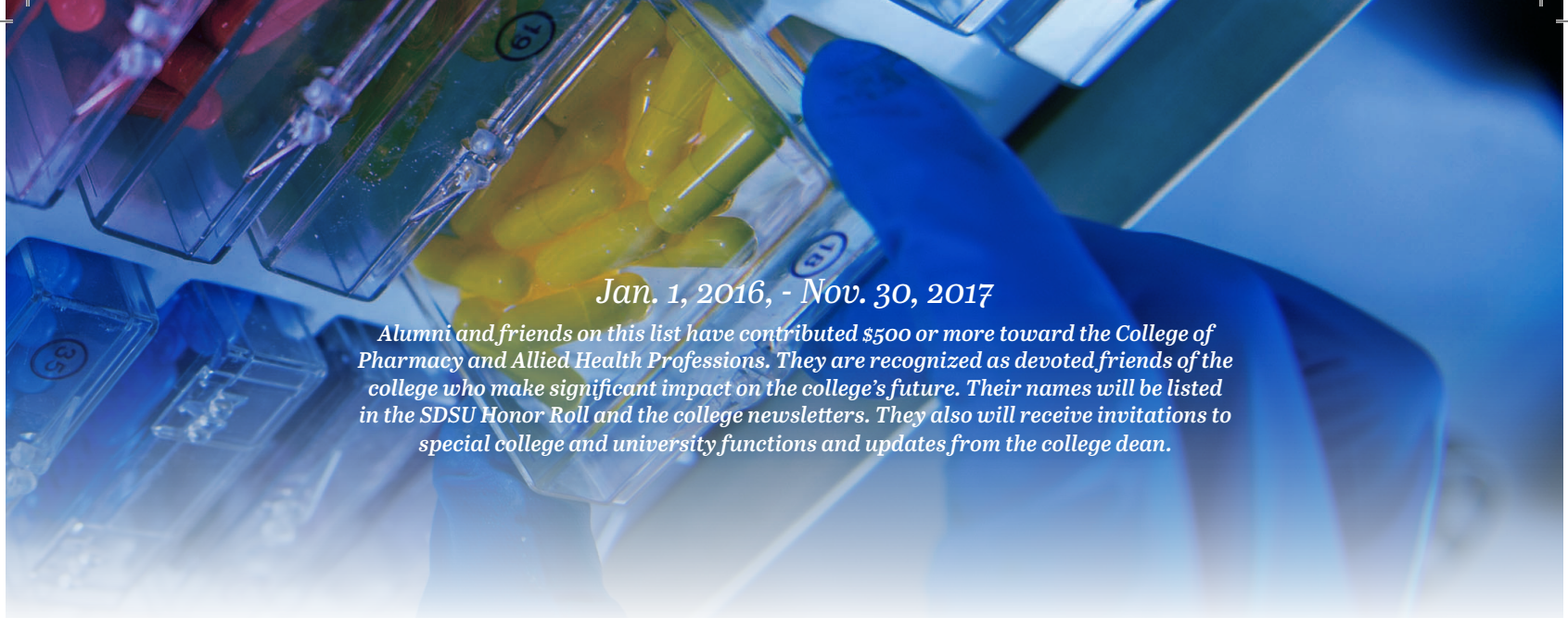
Steven M. and Robbie D. Aamot
Abbott Laboratories Fund
Aberdeen District Pharmaceutical Assn.
Kacey A. and Tyler J. Aldren
Carnie R. Allex
Wenfeng An and Ping Ye
Anderson Pharmacy Inc.
Susan K. Andrews
James A. Armbruster R.Ph.
Avera Health
Avera McKennan Blood Bank
Becky and Bob Baer
Gladys Bahnson
Janet G. Baird
Andrea J. Balko
Christopher D. Ball
John C. and Patricia Bartholomew
Ruth A. Bassett
Robert D. and Winnie C. Behrend
Scott J. and Jessie L. Bergman
Bill P. Bernhard II
Darrel C. and Peggy Bjornson
Black Hills District Pharmacist Association
Duane C. and Gladys S. Bloedow
James J. Boehm
Boeing
Bill G. and Marilyn M. Bradfeldt

James D. Bregel
Heather C. Brost
Perry W. and Jolene A. Brown
Marlin R. and Linda J. Brozik
Mary J. Buchholz Kirwan
Mark A. and Julie K. Burggraff
Jack H. Burns
Cambia Health Foundation
Colleen and Rod Campbell
Eric J. Carda
John A. Carson
Rosemary L. and Gary S. Chappell
Nicole R. Chenoweth
Chet Johnson Drugs Inc.
Yee-Lai and Carla R. Chiu
Larry L. Christensen
Marlyn K. and Corinne J. Christensen
Richard H. Chun and Nancy K. Peterson
CIGNA Foundation
CIGNA Home Delivery Pharmacy
James R. and Marilyn Clem
Kay Coffield Pearson
Complete Home Care Inc.
Julie H. Cook
Jennifer J. Cramer-Landis and Jason Landis
Jacquelynn D. and Anthony J. Cunningham
CVS Caremark Charitable Trust

Kasey C. and Steffanie M. Danley
William R. Darrah
Scott B. and Kjersti K. Deckert
Jeff D. and Tara DeRouchey
Dennis A. and Carol L. Dingman
Dennis D. and Arlene C. Dobesh
Murray A. Doeden
Kyle D. Dvoracek
Chandradhar and Prabha Dwivedi
Donald K. Eddy
Eli Lilly and Company Foundation
Richard E. and Lynette M. Erickson
Marny K. Eulberg
Michael L. and Michele M. Evink
Debra K. Farver
Lindsey L. Fast
William J. and Lyla K. Flohrs
Steven R. Flora
William J. and Kay A. Folkerts
Sharon L. Foss
Theresa B. Frederick
Alan J. and Charlene A. Freiberg
Michele A. and Chad M. Fritz
Harold E. Fromm
Andrea B. Fuhrer
Tim J. Gallagher
Gardena Center Pharmacy

Jerry J. and Laurie J. Garry
Virginia A. Gebhart
Douglas R. and Deana L. Geraets
Mary C. and Ali Ghaffari
Lori L. Giedt
Shirley and Lyle Glascock
GlaxoSmithKline Foundation
Elizabeth A. and Dheeraj Goswami
C. B. Granberg
Louis Greco
Garrett J. and Carol A. Gross
Michael T. and LeAnn K. Gruhlke
Xiangming Guan and Ping He
Kevin C. and Lorie L. Haarberg
Trace L. and Diann M. Hafner
Dan J. and Jessica L. Hansen
Suzanne M. Hansen
Richard C. and Norma J. Hanson
Mick H. Harris
J. Rick and Peggy A. Harter
Donna R. Hartfiel
Thomas D. and Sheila Z. Hartnett
Dennis D. and Susan J. Hedge
Steven J. Heirigs
Thaddaus Hellwig
Nicole M. Hepper
Bernard E. and Elaine Hietbrink
Nancy L. Hildebrand
Owen E. Hillberg

Joel E. and Rita S. Hougum
Vicki L. Howe
The Mike, Cindy and Kylie Huether Family Foundation
Adam M. and Amy L. Huntimer
Kathleen R. Hustead
IBM Corporation
Kathleen K. Ingalls and William Carlson
Iowa Pharmacy Association
James Sheets Estate
Wendy S. Jensen Bender
Lloyd K. Jensen
David J. and Norma M. Johnson
Jodi K. and Thomas J. Johnson
Kari A. Johnson
Matthew D. and Annette M. Johnson
Susan J. Johnson
Galen D. and Ann M. Jordre
Rollins E. and LeVuo Juhnke
Edward E. and Linda L. Kamolz
Douglas D. Kapoun
Gary W. and Linda L. Karel
Margaret T. Kelly
Kasey J. Kirschenmann
Deborah L. Klein
Cheri A. Kraemer
Carrie A. and Terry A. Krieger
Christopher C. Krogman
Johanna R. Krueger
David W. and Trish Kruger



Jan. 1, 2016, - Nov. 30, 2017

Alumni and friends on this list have contributed \$500 or more toward the College of Pharmacy and Allied Health Professions. They are recognized as devoted friends of the college who make significant impact on the college's future. Their names will be listed in the SDSU Honor Roll and the college newsletters. They also will receive invitations to special college and university functions and updates from the college dean.

Andrew M. and Janet J. Kubly	Jesse C. and Susan L. Mogen	Glenn P. Reecy	Lawrence P. Springsteen	Wells Fargo Bank NA
Mary Kuper	John R. and Corliss M. Moller	Florence M. Regan	Gary E. Stach	Theodore A. and Brigid A. Westley
Bill L. and Denise P. Ladwig	Anne E. Morstad	David L. and Debra K. Reinke	Harlan C. and Dian Stai	Kay Widdis
Brad R. and Emily G. Laible	Jane R. Mort	Charlene H. Reith	Stai Family Foundation	Raymond D. Wilkins
J. Bruce Laughrey	Satoshi Nagano	Philip and Shirley J. Reitz	Don C. and Sandra Stark	William R. Hoch Family Foundation Inc.
Laughrey Family Foundation	National Council for Prescription Drug Programs	Daniel D. and Robin Remund	Steve and Julie Statz	Stephen D. Willis
Laurilyn Dee Helmers Estate	Larry E. and Gail F. Nelson	Remund Group LLC	James L. Stehley	Raymond A. and Kellie Winsel
Matthew C. Lavin	Michele L. and Jason P. Nelson	Scott M. Roby	Lowell T. and Susan Sterler	Nanette S. Wittenberg
Tim D. and Patricia Leischner	Jon D. and Julie K. Ness	Jayna M. Rose	Julie C. Stevens	Richard F. and Kathleen M. Wojcik
Gary A. and Karen Lesch	Donald W. and Betty J. Nettleton	Gordon E. Rosenthal	Joe D. and Sarah M. Strain	Dennis W. and Carol J. Wollman
Veronica L. Lesselyoung	Thomas M. and L. Joan Nielsen	Sanford Health	Tak S. Sum	Bay M. Wu
Lewis Drugs Inc.	Susan A. Lahr and Gordon D. Niva	Edward J. Schlachter	James L. and Pat L. Swain	Yankton District Pharmacy Association
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"NEW LEADER, SAME FOCUS"

Historically, two of the cornerstones of the College of Pharmacy and Allied Health Professions at South Dakota State University have been quality and collaboration. For generations, students, faculty, industry partners and proud alumni have forged strong relationships that have shaped our college and the profession. This spirit of cooperation has led to high academic achievement and outstanding performance.

This team-oriented focus on excellence has made a profound impact at SDSU and around the world. Over the years, team members have changed, but the mission has not. Our campus leaders created a culture that embraces challenge and change and sees them as opportunities to grow and improve.

The SDSU Foundation is a proud partner with the College of Pharmacy and Allied Health Professions. We also embrace transition and are relentless in our pursuit to provide the best support possible for South Dakota State University.

We greatly value being a member of the College of Pharmacy and Allied Health Professions team and have great news to share. In September, Lisa Otterson began her role as the college's development director. She will lead the Foundation's development efforts on behalf of the college. By working closely with Interim Dean Jane Mort, her leadership team and all of you, she looks to provide resources necessary to fulfill the vision and mission of the College of Pharmacy and Allied Health Professions.

Lisa brings a breadth of development experience. She will bring new thoughts and ideas to our development team, while embracing our rich tradition.

This transition provides an excellent opportunity for all of us to engage at a deeper level. Thank you for your devotion and loyalty to me. Your continued commitment is greatly appreciated. Help us welcome Lisa to our team. Happy New Year!

- Mike Birgen



Lisa Otterson began work Sept. 11 as the development director for the College of Pharmacy and Allied Health Professions with the SDSU Foundation.

She succeeds Mike Birgen, who led the college's fundraising efforts for the past three years.

Otterson has served as development director for university programs at the Foundation since 2014. She made the transition from teaching at South Dakota State University and colleges and universities in Minnesota, North Dakota and Iowa.

Lisa Otterson

"Lisa has been an exceptional member of the Foundation's development team, focusing on a wide array of projects throughout the university," said Steve Erpenbach, the Foundation's president and CEO. "She has incredible passion for SDSU and for her work to help secure philanthropic gifts for the university. We have every confidence in her ability to lead the fundraising efforts for the College of Pharmacy and Allied Health Professions."

Otterson earned an M.A. in modern European intellectual and cultural history at Drew University in Madison, New Jersey, and a B.A. in history and philosophy at Southwest Minnesota State University in Marshall. Lisa and her husband, Bob, have three children: Paul, Maret and Ingrid.

Deductions assume quarterly payments. Payout rates as of Jan. 1, 2017. Subject to change. 2-life and deferred payment options also available. **Call the SDSU Foundation Office of Gift Planning (888) 747-7378 for more information.**



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