Summer 2017

College of Pharmacy AND ALLIED HEALTH PROFESSIONS



SOUTH DAKOTA STATE UNIVERSITY college of Pharmacy and Allied Health Professions



OUTSTANDING QUALITY

I think you will agree with me, the College of Pharmacy and Allied Health Professions is rich in people doing amazing things.

As you read through the magazine, you will be struck by the remarkable achievements of our students such as Rakesh Dachineni, who was chosen as the graduate student of the year, and Mackenzie Klinkhammer, who was recognized as our distinguished Pharm.D. graduate. Our students' success is fostered by the dedicated work of our outstanding faculty and preceptors. This includes mentors like Jay Gunaje, teacher of the year; Dave Helgeland who provided the White Coat speech this spring to the P1 students; students who have become teachers like MLS graduate Abbey Langstraat and Pharm.D. graduates Emily Van Klompenburg, Joe Berendse and Nicole Hepper; our endowed faculty members and pharmaceutical science researchers who bring exciting new ideas to our students and campus; and our pharmacy practice faculty leading innovative practices across the state.

In addition, the insight provided by experts visiting campus helps stimulate our innovative thoughts and energize our work long after they have returned home. For example, this spring we heard from Thomas Gajewski, who described exciting innovations in cancer treatment, and Joe Moose, who shared his creative new approaches to community pharmacy practice.

We also recognize the retirement of three outstanding faculty and staff members—Deb Farver, Dave Helgeland and Teresa Delfinis. Together these members have nearly 100 years of teaching and advising experience. Their expertise has produced so many outstanding outcomes, I can't begin to enumerate them. Their leadership will be truly missed. However, we proceed with great energy as we seek to optimize our steps forward and continue their outstanding work. To that end, we are searching for their replacements with the Hoch Family Professorship in Community Pharmacy Practice, a new

pharmacogenomics position and recently hired professional academic advisors.

I also want to take this opportunity to thank Dennis Hedge for his years of service to the college as an excellent teacher, a dedicated department head and an outstanding dean. His many achievements include facilitating the initiation of three endowed positions, construction of the Avera Health and Science Building and many outstanding student achievements. While he will be missed within the college, his leadership will be a great asset to the university as a whole.

In closing, we are committed to the excellence demonstrated by our history and illustrated throughout this magazine. Thank you for your interest and support of the College of Pharmacy and Allied Health Professions.

Warm regards,

Jane Mort, Pharm.D. Interim Dean and Professor SDSU College of Pharmacy and Allied Health Professions

About the cover



A late summer sunset illuminates Dennis Hedge while posing atop the Dana J. Dykhouse Stadium in 2016. The head of the College of Pharmacy and Allied Health Professions has climbed even higher on the academic ladder as he is now State's provost and vice president for academic affairs. See story on page 22.

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South Dakota State University®

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COLLEGE FRANCIS MILLER LECTURE



"It took decades to understand how the immune system could be used in the therapeutic targeting of cancer cells."

Thomas Gajewski, professor in the Department of Pathology at the Ben May Cancer Institute, and the Department of Medicine at the University of Chicago, and director of the immunology and cancer program at the University of Chicago Medicine

Thomas Gajewski Immunology researcher shares treatment's progress

f the first use of immunotherapy was nearly 125 years ago, how could this procedure be considered the cuttingedge method of fighting cancer?

The answer is a bit like explaining why Vincent van Gogh wasn't a popular artist in his time. The work of William Coley in 1893 is credited as the first use of immunotherapy to fight cancer. The use of bacterial toxins by the Memorial Sloan Kettering surgeon in New York City to stimulate the body's immune system wouldn't be fully appreciated until decades after his death.

Coley died in 1936 and during his years of practice, little was known about how the immune system functioned and few carried on his work.

"It took decades to understand how the immune system could be used in the therapeutic targeting of cancer cells," according to Thomas Gajewski, who is continuing that work now as a professor in the Department of Pathology at the Ben May Cancer Institute and the Department of Medicine at the University of Chicago, and as the director of the immunology and cancer program at the University of Chicago Medicine.

Gajewski delivered the fifth-annual Francis Miller Lecture for the College of Pharmacy and Allied Health Professions at the South Dakota Art Museum April 24.

Other advances open way for immunology therapy

Immunotherapy has become a fastrising hope as science advanced through sequencing of DNA, understanding how to turn gene expression off and on, and the development of computers and software capable of calculating vast amounts of data. Science magazine called cancer immunotherapy the breakthrough of the year for 2013.

In simplest terms, immunotherapy means activating the body's own defense to fight cancer, just as it does for a sinus infection or a cold virus.

But if it was that simple, the immunology and cancer research team at the University of Chicago wouldn't need a team of 22 investigators. Part of the reason that immunotherapy isn't simple is because the immune system is created to attack cells foreign to the body. Cancer cells are not foreign, but naturally occurring cells in mutated form.

Vaccinate against cancer?

"In the beginning, the thinking was we could vaccinate against cancer.... Use a small amount of the tumor to cause the immune system to attack the cancer," Gajewski said.

While that worked well in the petri dish, it didn't transfer to the patient. When immunology was used on people with melanoma, the success rate was only 10 to 15 percent. It had been near 100 percent with rapid cell death in laboratory models.

"Researchers tried to figure out why some had success, but most didn't. What else has to happen when you vaccinate someone? Is it enough to have T cells swimming in the blood or does something have to happen downstream?" Gajewski shared while addressing a mix of faculty members, pharmacy students and the general public. "For melanoma patients, immunotherapy now has become first-line treatment, replacing chemotherapy."

Thomas Gajewski

Red light-green light and what changes the light

It was found that the answer was trafficking signals for those cancer-fighting T cells, which "have to know where to go," said Gajewski, who has been working in the field for 20 years.

Citing fundamental, building-block developments, Gajewski said scientists have now discovered that one-third of study populations were unknowingly already seeing their immune system gain victory against cancer cells. For another third, the T cells were attacking, but not winning. The other third aimlessly traveled the body's highways, moving about but not knowing where to turn.

"The T cells couldn't traffic; they couldn't find their way to the tumor site," said Gajewski, who has both a doctor of medicine degree and a Ph.D. in immunology.

The discoveries caused scientists to ask why some T cells could defeat cancer cells and others couldn't. "We found that tumor cells were blocking the function of the T cells," he said. In the search for answers, scientists turned to gene expression profiling. "It allows one to find out if immune genes are turned on or not. One sample can produce 20,000 gene expressions," Gajewski said.

When scientists learned how to regulate gene expression, success rates rose quickly.

One-third had tumor shrinkage and 50 percent had the tumor contained, while there was no success in the remaining 15 to 20 percent, he said. Nonetheless, the procedure was an exact flip of success rates from 20 years earlier and the Food and



Drug Administration gave its blessing in 2014.

"For melanoma patients, immunotherapy now has become first-line treatment, replacing chemotherapy," Gajewski said.

Immunotherapy: Results hinged on type of cancer

What about other cancers?

"Through cancer genome cataloguing, data have been analyzed and stored at the University of Chicago for public access for registered scientists. Ten thousand tumors from 30 different types of cancers have been analyzed. The biologic principles are constant. And we continue to ask why do some patients never let T cells in? Why do some patients let T cells in but aren't able to defeat the cancer?" Gajewski shared.

Some types of cancer are more susceptible to immunotherapy than others. Immunological drugs are now the firstline treatment for lung and bladder cancer as well, he said.

Part of the reason the answer to the scientists' questions is so elusive is that inasmuch as we're all alike, we're also so different.

"Why is one patient different from another? No two tumors are alike. Genetic predisposition is part of the answer. There are environmental differences. There are somatic differences at the level of the tumor cells—the mutational landscape and antigenic repertoire are different. Distinct oncogene pathways are activated in different patients," Gajewski said.

Cheaper therapies a future goal

Finding the answers requires collaboration with a lot of scientists and mathematicians to process the big data and look for patterns, he said.

Now every patient who enters trials at the University of Chicago hospital, before beginning treatment, has a sample drawn for genome sequencing and to look for patterns, Gajewski said. Researchers also are sequencing gut bacteria. "We're using machine-learning algorithms to learn patterns. Tumor- and germ-line sequencing also is in the future," he said.

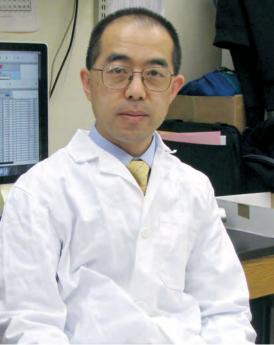
One hurdle still needed to overcome is cost.

"Antibody-based therapies are hugely expensive—\$30,000 per dose," Gajewski said. "What if there is a cheap probiotic that could be developed, or other cheaper drug molecules? The governmentacademic-industry partnership is critical. Cancer immunotherapy is a rising field because all three arms are working together on this issue.

"I don't know of another point in biomedicine where all three fields have been so well aligned together."

Pharmacy science faculty members pose with Thomas Gajewski, who delivered the fifth-annual Francis Miller Lecture April 24 in the auditorium of the South Dakota Art Museum. Pictured, front row, from left, are Gajewski, with the University of Chicago; Distinguished Professor Emeritus Chandradhar Dwivedi, Assistant Dean for Research Xiangming Guan and Teresa Seefeldt. Back row, Surachat Ngorsuraches, Joshua Reineke, Department Head Omathanu Perumal and Interim Dean Jane Mort.

COLLEGE





Endowed Positions

raise tide of college, 'whole university'

Benefactors Barry and Sharon Markl, left, pose with Wenfeng An and his wife, Pine Ye, at An's investiture as the Markl Faculty Scholar in Cancer Research Oct. 23, 2015. An, also pictured in his lab coat, is the college's first endowed professor, but two more are in the works. **G** reat faculty are the heart of the university. They fuel the learning and research that take place daily at South Dakota State University.

An excellent way to attract and retain top-notch faculty is through endowed professorships, according to Jane Mort, interim dean for the College of Pharmacy and Allied Health Professions. The college has been blessed with three alumni who have made the financial commitment to that principle. One endowed professorship is already in place. Two more soon will be.

To put that in perspective, at the end of 2016, the entire university had six endowed faculty positions.

The Markl Faculty Scholar in Cancer Research was filled when Wenfeng An joined the Department of Pharmaceutical Sciences Nov. 3, 2014. He was officially recognized at an investiture Oct. 23, 2015, in a ceremony that included benefactors Barry and Sharon Markl, 1968 graduates whose mothers survived cancer.

The next endowed position to be filled will be the Haarberg Chair of Oncology. Recruiting is well underway, and a new hire is expected yet this summer.

The other endowed professorship is the Hoch Professorship in Community Pharmacy, for which recruitment is underway.

Endowments spring from respect for State

"It's special that funding for these endowed positions comes from alumni who have deep roots with SDSU. They've kept SDSU in their philanthropic interests and have created these large gifts," said Mike Birgen, development director for the college within the SDSU Foundation.

An endowed professorship requires a \$1 million gift. An endowed chair requires a \$2 million gift. The foundation projects a 4-percent return, which creates an annual income of \$40,000 and \$80,000, respectively.

Earnings from the endowment may fund a stipend to the faculty member's salary or pay for graduate assistants, lab equipment and expenses, costs to attend conferences and other discretionary expenses associated with the research.

An said, "The generosity of the Markls makes it possible for my lab to hire the right personnel and test new and potentially revolutionary ideas in cancer research. It allows us to acquire critical proof-of-principle data in order to compete for external funding and further develop these projects."

Markls move up giving timeframe

The Markls made a decision in 2009 to create an endowed professorship to benefit oncology research. The Phoenix Valley, Arizona, couple planned to use a charitable remainder trust, but realized they would be "pushing up daisies" before their gift went to work. So in 2013, they began making annual contributions to match the anticipated endowment earnings. Barry Markl began his career as a retail pharmacist with Walgreens and was vice president of store operations when he retired in March 2007.

Understanding the college's financial needs spurred him to co-chair the College of Pharmacy Committee as part of the universitywide "The Future is Now" fundraising campaign in 2002-04 and serve on the SDSU Foundation's Phoenix Regional Campaign Committee for the "It Starts with STATE" campaign that raised \$255.7 million from Jan. 1, 2007, to April 24, 2013.

Birgen said, "These relationships (with the college) started a long time ago. They're all based on trust and commitment to the university."

Haarberg Chair builds on past gifts

For the Haarbergs, Kevin was a 1979 pharmacy graduate who went into pharmaceutical sales for a couple of years after graduation and then decided to become an investment adviser. He has been with Edward Jones in Woodland, California, for 33 years and found great success. But he continues to remember his college of origin.

His gift toward the Avera Health and Science Center project in 2010 resulted in the naming of the cancer research radio isotope lab, cell culture room and an imaging lab there.

The Haarbergs also sponsor an endowed scholarship in the college.

Birgen notes that the SDSU Foundation, as a fundraising partner with the university, seeks to "build relationships and gain for our organization to benefit the greater good—students, research, the university as a whole. Our role includes the whole cycle of philanthropy—introduction, solicitation and stewardship of that gift.

"We like to recognize these donors bring them to campus for donor celebrations and go out and see them. We continue to foster that relationship over time."

The Haarbergs are a good case in point. Birgen and Dennis Hedge, pharmacy dean at the time, met the Haarbergs in their Woodland home in July 2014 and put together a giving proposal. In April 2016, almost two years later, the Haarbergs called to say they were on board with creating the Haarberg Chair of Oncology.

Haarberg said, "Lorie and I have been involved in the health-care industry locally

for a number of years with Lorie serving as the president of the Woodland Healthcare Auxiliary and myself as chair of the Woodland Healthcare Foundation.

"It was an easy transition to start focusing on what we could do with respect to giving back to the SDSU College of Pharmacy, especially with Lorie losing her parents to cancer while only in their 50s. The chair in cancer research will provide a strong foundation for SDSU being in the forefront of finding a cure for this terrible disease."

Gift keeps Hoch name alive at State

The Hoch Professorship is being funded by the estate of longtime Tyndall pharmacist Bill Hoch. Hoch Drug dated to 1914, when 1908 State graduate Joseph Hoch, Bill's father, purchased the Tyndall pharmacy. Bill Hoch joined the firm after graduating from State in 1947.

Greg Hoch, the son of Vera and William Hoch, graduated magna cum laude from State in 1970, and also returned to the family business.

The pair worked together full time until 1986, when Bill Hoch retired and reduced his hours at the pharmacy. Greg Hoch endured a five-year battle with melanoma, which ultimately manifested itself in a brain tumor. As the illness progressed, Bill Hoch went back to work full time. Greg died Jan. 10, 2005, just 28 days short of his 58th birthday.

Bill Hoch continued to work full time until 2010, when the 89-year-old chose to auction merchandise, inventory and fixtures and turned the prescription business over to Avera-owned Tyndall Clinic. Hoch died May 4, 2015, two months before his 94th birthday.

His surviving child, Jeanne Hoch, debated about how to honor the family through the college.

In response, Mort designed multiple funding opportunities, including scholarships, academic programs and an endowed position focused on community pharmacy practice and research. She said, "It is extremely important to offer a variety of tailored options to find the exact fit for such a major investment."

Hoch, whose career has been in academia (the German professor is coordinator of foreign languages at Berea College in Kentucky), said she understands the value of endowed professorships. "Creating a professorship in community pharmacy seemed to be a most befitting way to honor my grandfather, father and brother who all graduated from the SDSU pharmacy school and who together served the community of Tyndall with great dedication for almost 100 years," Hoch said.

Endowments attract 'best of the best'

At the An investiture, Hedge called the creation of the college's first endowed scholar a "transformational" move for the college.

"Endowed faculty positions are very important to the success of academic programs at South Dakota State University and all of academia. They are important because they allow us to do things that we otherwise would not be able to do in our quest for academic and research excellence.

"They are also important symbolically because they attest to the stature of the university and the quality of its faculty," Hedge said.

Mort said applicants for these positions "are candidates who we would not have been able to attract without having these endowed positions. We will see the benefit, not only through the work of the endowed faculty themselves, but they will also positively impact other faculty members through collaboration, mentorship and national recognition."

She also noted the importance of teamwork between the college and the SDSU Foundation.

"Mike Birgen and the folks at the foundation provide a tremendous level of service in this process. It really doesn't happen without their outstanding work supporting the process."

Birgen simply noted, "We aspire to be a foundation of best practices. I would think people would want to look at this college as a college of best practices from leadership to endowed faculty positions.

"The College of Pharmacy and Allied Health Professions is nationally known. It's been around for 127 years. It ranks No. 1 nationally in NAPLEX scores based on first-time pass rates over the last three years. These endowed professorships continue to raise the tide of the entire college."

WHITE coat

o Jane Mort, interim dean of the College of Pharmacy and Allied Health Professions, the annual White Coat Ceremony isn't just about putting on a garment; it's about committing to excellence. The 79 students who received the white coats this year experienced this firsthand.

"It really emphasizes your commitment to professionalism," Mort said. "It's about committing to shouldering responsibility of care."

Professor of Pharmacy Practice Dave Helgeland gave the keynote address, speaking about not just pharmacy but also personal values to a packed Volstorff Ballroom in the University Student Union. Helgeland, who retired from SDSU following the academic year, gave advice he learned since graduating from pharmacy school 43 years ago.

"Make sure that your definition of success is one of substance and not sizzle ... this is a way to live out our personal and professional lives to the fullest," Helgeland said.

The P1 students who were taught by Helgeland listened to his perspective on the pharmacy field, and what the white coat means. To him, it is a symbol of health care and excellence.

"When you put on a white coat, it doesn't make you a pharmacist. It doesn't make you a good pharmacist. It doesn't make you a professional. But there will be expectations of you," he said.

Helgeland made points of the everchanging industry and how being an accurate pharmacist is essential.

"As pharmacists, you're going to have to chase perfection. What error rate will you be willing to settle for as a pharmacist? If a quarterback completed 99 percent of his passes, or a kicker was successful in 99 percent of his field-goal attempts, it would be amazing. They would be very, very well paid," he said. "Ninety-nine percent isn't good enough for us. Whether it be an inappropriate drug or dosing recommendation, a calculations error, a measuring error or a dispensing error, a 99-percent completion rate is just not good enough."

Among those students who received a white coat was Holly Polak, who is majoring in pharmacy and history. Through her work for Lewis Drug in Sioux Falls as a pharmacy technician, the Sioux Falls native has begun to realize the importance of the white coat.

"The white coat is such a recognizable sign of the pharmacy profession. When I received one, it proved that I am ready and able to begin fulfilling the role of a pharmacist within the community," she said.

During the last academic year as a P1, Polak had to complete experiential learning requirements. The completion of patient hours, medication histories, drug card exams and other tasks helped Polak earn her white coat. She said time management is a necessity for pharmacy students.

"Make sure to focus on time management and create a good balance between coursework, organizations and work," she said. "Make connections with your classmates and you will all support each other, and that is key in helping you become a true professional who is worthy of their white coat."

Mort said while other universities with pharmacy programs give out white coats at different times, SDSU awards the coats in the spring.

"I don't think we have any other ceremony that's like it," said Mort, noting the Volstorff Ballroom is traditionally filled with friends and family. "I think that the white coat is really a commitment to behaving professionally ... Going the extra mile is key."

Heidi Kronaizl





"Make sure that your definition of success is one of substance and not sizzle ... this is a way to live out our personal and professional lives to the fullest."

Professor of Pharmacy Practice Dave Helgeland





COLLEGE

"Being in retail pharmacy, you are one of the most accessible medical professions in the community. People are starting to realize we aren't just counting pills back there ... Pharmacists really affect patients' health."

SPRING CONVOCATION JOE MOOSE

helps cut health-care costs and improve care for patients onathan Feist, a 2018 Pharm.D. candidate, looks to lessen costs and enhance values to patients who walk through the doors of Lewis Drug.

Thanks to a speech and workshop by Joe Moose, Feist's perspectives on a pharmacist's role with patient care and cost have changed.

Moose, the keynote speaker for Spring Convocation, didn't just present to pharmacy students about retail pharmacy, but also conducted exercises with them to demonstrate how they could help cut health-care costs and improve care for patients.

Moose is co-owner of six Moose Pharmacy locations in North Carolina. He also is a preceptor with the University of North Carolina Eshelman School of Pharmacy Community Residency Program. In 2015, he was named the National Community Pharmacists Association Willard B. Simmons Independent Pharmacist of the Year. He came to South Dakota State thanks to a gift from Cardinal Health. "We used those funds to bring Dr. Moose to campus to talk about his innovative practices," said Jane Mort, interim dean for the College of Pharmacy and Allied Health Professions.

In his presentation, Moose overviewed the payment model for health care. He pointed out that pharmacy services (prescriptions, pharmacists, facilities, costs, etc.) account for approximately 10 percent of health-care costs. He spoke about how retail pharmacies can work to help impact the other 90 percent of health-care costs. In this area lies the opportunity to dramatically impact health-care costs through improved patient outcomes.

"That approach focuses on a different funding model than what community pharmacists have had in the past where payment is based on reimbursement for drug costs plus a dispensing fee," Mort said.

Students in years P1 through P3 attended Spring Convocation to listen to Moose. After the



Spring convocation speaker Joe Moose, the 2015 Independent Pharmacist of the Year, poses with Interim Dean Jane Mort and Madicen Fanslau, student coordinator for the April 19 event.

presentation, a group of these students and P4 students traveled to Sioux Falls for a workshop focused on how to create innovative services. About 44 students interested in retail pharmacy took part. Preceptors, who work with pharmacy students throughout the state, were also in attendance and served as leaders in the team activities.

"He took them through innovative practices, such as how the practice model of creating services would impact payment," Mort said. "The pharmacy would then negotiate with the payers to offer this service package, and the pharmacy would be accountable to the payer for impacting the outcomes from that service."

Teams brainstormed ideas for services they as pharmacists could provide to impact the other 90 percent of the cost. The teams then picked the best ideas to work on with their preceptors this summer.

Moose collaborates with physicians' offices to include more community pharmacists in their work. Through his pharmacies, he helped create diabetes and disease management programs to enhance clinical services, giving more value to the patient. As North Carolina's lead community pharmacy coordinator for community care, he created a network of more than 200 pharmacies that strive to improve patient outcomes and demonstrate the value of these services to payers.

Feist enjoyed working with Moose, students and preceptors from Rapid City, Sioux Falls and Madison. What resonated most with Feist from Moose's workshop was the approach that needs to be taken in order to develop a successful service model. The process and approach is not the approach the profession has historically thought about or taken to develop pharmacy services.

"You have to think as a pharmacist what your patients are looking for to benefit them and their care," Feist said. He enjoys working as a retail pharmacy intern.

"I've always had a mindset of retail," Feist said. After speaking with Moose, he said pharmacists can really make their store unique compared to their competitors.

Feist hopes to continue working for the Lewis Drug system and to implement some of the practices Moose presented. One of the practices Feist felt is helpful to customers and what drew him to the pharmacy field is being easily accessible to patients and directly dealing with patients. He said customers can benefit from the changing field of pharmacy.

"Pharmacy is changing a lot ... it's providing disease management to the patients in your community," he said.

Feist feels by being a community pharmacist, patients see you on a much more frequent basis. In the end, that builds trust with the patients.

"Being in retail pharmacy, you are one of the most accessible medical professions in the community," Moose said. "People are starting to realize we aren't just counting pills back there ... pharmacists really affect patients' health."

Heidi Kronaizl

COLLEGE

MIS

Students treated like entry-level employees hile South Dakota State University's medical laboratory science program seems to be one of its hidden gems, the program provides approximately 20 graduates each year to the region's workforce.

It took a fellow student to get Abbey Langstraat '16 interested in MLS. That talk, along with her interest in the medical field, brought her to strike up a conversation with one of the program's instructors.

"My time at SDSU can definitely be split into two periods—before the MLS program and after I entered the MLS program," said Langstraat, who now works at Avera in its medical science laboratory. "My experiences at State before the MLS program fed my love for the medical field. I thought anatomy and human physiology were fascinating and very difficult ... at least I thought they were difficult at the time.

"After two years in the MLS program , I realize those courses were light," she continued. "The MLS program will challenge pretty much any student, but it is all so interesting you really want to learn it. The MLS program prepared me well for my work in a hospital laboratory, and I think my time at SDSU was invaluable."

That same feeling came to Shelby Nelson and Brittany Rustad, who spent 12 weeks at Avera this spring and will graduated this summer.

Dealing with challenges

Langstraat is one of Avera's medical laboratory scientists who works with the MLS program's seniors during their clinical rotation assignments.

"I really like working with the students because I was just like them a year ago," Langstraat said. "I know what concepts can be challenging to grasp, and I try to explain these concepts to them in ways that are easy to understand and remember. I try to be a resource for them that they can be comfortable using. It's reminded me of how much I learned in my clinicals as well as in my first year of working."

Rustad will enter her first year of working in the field after graduating and passing the certification exam. She started at State in 2002 and then returned to campus to work on a degree in MLS.

"I knew I wanted to be in health care but didn't know where would be a good fit," Rustad said. "Fast forward a little over 10 years and I have a husband, two kids, a business management degree, and a small business ... but wasn't feeling fulfilled in my career. I knew that the time was right to figure it out, so I did some research and more self-reflection—and concluded that MLS is a great fit for me and my career goals.

"My clinical experience has been filled with applying and testing my knowledge, which is both gratifying and terrifying at the same time," she continued. "I like associating with people who have the same interests and have been where I've been. I also enjoy the challenge and encountering something new almost every day. I have learned that the lab has a lot of great minds and hard workers, and it takes everyone working together for the patient to achieve success."

Treated like employees

The MLS students do clinicals at various locations, including the VA in Sioux Falls and Avera McKennan. The 12-week clinical rotation gives them experience in various areas, such as microbiology, hematology, chemistry and coagulation as well as a specialty area.

"For the most part, the students are treated as entry-level employees," said Sara Steffen, an education technical specialist at the Avera McKennan laboratory. "They are expected to show up on time and be ready at the bench when their shift starts. They are expected to read and follow all of the standard operating procedures for the laboratory. The students work alongside another MLS tech for that day. They are allowed to perform most of the testing under the supervision of the trainer who then assists the student with the reporting of results."

"I have really enjoyed my clinical experience at Avera McKennan," Shelby Nelson said. "It's confirmed my decision in becoming a medical laboratory scientist. Everyone I've encountered has been so friendly and helpful, and I couldn't be more grateful. I have learned so much since I started clinicals a few short months ago."

Like Brittany Rustad, Nelson has accepted a position as a medical laboratory scientist, provided she receives her bachelor's degree and passes the certification exam. Nelson has come a long way since first hearing about the MLS program.

"I was talking to one of my friends in a class we had together, and she was telling me how one of her friends was in the MLS program and they had three tests a week and drew blood," said Nelson, who is from Brookings. "After I heard that I thought to myself, 'Yeah right, I could never do that!' Well, a few months later I found myself looking into the program and realized that it had all of my interests—chemistry, microbiology and even a little math—so I went ahead and applied for the program. To this day, I know it was the best decision that I made. I love how hands-on everything is and how you're always trying to challenge yourself to learn more."

Matt Schmidt

Opposite: Brittany Rustad is one of several students who worked at Avera's medical science laboratory this spring. Below, left, Shelby Nelson looks at a blood sample under the watch of Avera's Sara Steffen. At right, Lisa Sittig and Avera's Cory Gunderson discuss a recent finding.





FACULTY NEWS

Jayarama Gunaje

Teacher of the year

ayarama Gunaje's outgoing and enthusiastic personality was one of the reasons cited for his selection for the 2016-17 College of Pharmacy and Allied Health Professions' Teacher of the Year Award.

"Dr. Gunaje is very outgoing and enthusiastic about his subjects," Ashraf Amadou, a P1 student from Worthington, Minnesota, said. "This drive helps him explain complicated concepts in the simplest form. It also allows him to engage the students by asking multiple questions to draw the students' attention to relevant concepts.

"He deserved this award because of his constant passion and love of teaching to make sure the student comprehends the material," Amadou continued. "It is quite invigorating to see such an amazing passion to help students."

Nomination forms state "Dr. Gunaje is an incredibly outgoing and upbeat professor who makes his commitment to his students so obvious. His passion about genetics, immunology and cancer research is infectious and he helps us make exciting connections to our careers as future pharmacists during every lecture."

That passion carries over to office hours or meetings in the hallway.

"If you met Dr. Gunaje outside the class hour, he is still the same passionate teacher who is eager to help and accommodate us," Amadou said. "Every time I meet him outside the class he always wants to make sure the material is understood. He is very accessible and friendly."

Amadou is not the only student to notice Gunaje's student-focused approach.

"The characteristic I enjoy the most about Dr. J's biomed class is how he teaches biological mechanisms and relates them to pharmacy practice in as many ways possible," said Katelyn Norton, a P1 student from Cottage Grove, Minnesota. "For example, he taught about the different receptors on cancer cells and then talked about how different medications target these receptors and help treat cancer.

"I believe Dr. J was chosen as the college's Teacher of the Year because he is dedicated to the success of his students," she continued. "He puts in extra time and work to make sure his students are prepared for the exams and genuinely cares about each student's success."

Gunaje, who also won the 2012-13 award, said the honor has him thinking on how to keep getting better in the classroom.

"I am honored to have been chosen as the Teacher of the Year by the students," he said. "It is a privilege to be counted among many accomplished teachers, and it is a good feeling. This award will motivate and inspire me to live up to the high standards in teaching at SDSU.

"I go to the classroom with a sense of responsibility and a positive attitude," he continued. "I bring a lot of enthusiasm and passion to learn new things each morning. I try to get to know each student by name and engage them in the class by asking questions. I believe that personal interactions with students both inside and outside the classroom helps generate a positive learning environment."

That's just part of why Gunaje received the Teacher of the Year Award at the Spring Convocation, according to Amadou and Norton.

"I like how he passionately explains his material in the simplest term that can be understood by the students," Amadou said. "I like his eagerness to make sure students understand the concepts by relating some of the topic to the clinical aspect. It is always amazing or exhilarating to be in his class because you'll always learn something new and interesting that is applicable to life."

Matt Schmidt

A first for South Dakota

Persistence lands Ngorsuraches the first **PCORI** grant in S.D.

Surachat Ngorsuraches' determination merited him a place in grant-making history when he received an award of \$262,422 earlier this year.

It isn't the amount of the award that is particularly notable, but the agency that awarded the funds does merit note. The Patient-Centered Outcomes Research Institute (PCORI) is an independent nonprofit, nongovernmental organization located in Washington, D.C., that was authorized by Congress in 2010 as part of the Affordable Care Act.

As of December 2016, it has awarded \$1.6 billion for 570 research-related projects in 41 states.

However, not a dime has gone to a South Dakota researcher. That changed when Ngorsuraches received his two-year award (Jan. 1, 2017, to Dec. 31, 2018).

Ngorsuraches, a Thailand native who is in his third year at SDSU, said he had unsuccessfully applied several times with different projects for PCORI funds. So, what made the difference this time?

Three things, according to the associate professor.

No. 1—"MS (multiple sclerosis) is a hot area in the grant agency's eyes. There is a big research gap in MS. The current treatment cannot cure the disease."

No. 2—"Collaboration and patient engagement." Ngorsuraches is working with Chamika Hawkins-Taylor, an assistant professor whose research interests include the social determinants of health; the Upper Midwest MS Society; and a University of Wisconsin neurologist who also directs the Multiple Sclerosis Program at University Hospital, Madison.

"This project will highly engage MS patients and family members," Ngorsuraches said.

No. 3—"Another reason is because we are South Dakota, and we are South

Dakota State University." The state was among just a handful that hadn't received a previous PCORI award, he said.

Also, South Dakota and the Upper Midwest states are unique. "Patientcentered research elsewhere may not be applicable here. In addition, SDSU has a favorable research environment. It is the place where colleagues and administrators at every level fully support you and make things possible for your research projects," he said.

Collaboration the key

When a previous PCORI proposal was rejected, Ngorsuraches told the agency, "I'm not going to give up until somebody in South Dakota gets a grant from you." That somebody was Ngorsuraches, who said his approved proposal was stronger because of the degree of collaboration, particularly with the MS Society.

"He was just so diligent in getting all the collaborators in the project," Hawkins-Taylor said.

PCORI was created with a mandate "to improve the quality and relevance of evidence available to help patients, caregivers, clinicians, employers, insurers and policy makers make informed health decisions."

With a name like Patient-Center Outcomes Research Institute, it's clear that patient engagement needs to be part of its awarded project. Ngorsuraches said the simple summary of his project is "strengthening patients and family members to work with MS researchers." Hawkins-Taylor added, "It will empower them to have a better understanding of MS."

Ngorsuraches and his team will work with 30 patients in five Upper Midwest states to create a platform in which future patients and their families will feel like they're actually involved in MS research



rather than being someone's guinea pigs, Hawkins-Taylor said.

Also has MS Society grant

The first step in reaching that platform is a needs assessment with focus groups helping to reveal in what areas training is needed.

Then Ngorsuraches will work with the Wisconsin neurologist, Natasha Frost, to create workshops for patients and families that would share not only information on the disabling disease of the central nervous system but also discuss research methods, how to provide input and how to collect data. "We want them to work side-by-side researchers," he said.

The final phase would produce a "research map—goals we would like to achieve and what type of questions we need to ask to achieve those goals," Ngorsuraches said.

This is his second award for multiple sclerosis research. In October 2016, Ngorsuraches received a one-year award from the National MS Society to conduct an electronic survey to determine how much patients would be willing to pay for MS treatments. That \$117,878 award was the first from the National MS Society to go to an SDSU researcher.

He is juggling this research with a teaching load of one to two classes per semester. He also works as a principal investigator with other SDSU researchers on a big secondary data project from Sanford Data Collaborative and helps with undergraduate and pharmacy residency projects. But Ngorsuraches looks forward to the challenge.

"I have a will to win, and as an SDSU researcher, I want to make an impact," he said.

Faculty honors



Surachat Ngorsuraches, an associate professor in pharmacy practice, was named the Outstanding Scholar for the college at the university's Celebration of Faculty Excellence held in February.

In 2016, he received two grants for multiple sclerosis research. In October, he received a \$118,000 award from the National MS Society, becoming the first SDSU researcher to receive an award from the organization.

In December, he received a \$262,400 award from the Patient-Centered Outcomes Research Institute (PCORI), an independent nonprofit, nongovernmental organization located in Washington, D.C., that was authorized by Congress in 2010 as part of the Affordable Care Act. Ngorsuraches, a Thailand native who is in his third year at SDSU, became the first South Dakota researcher to receive PCORI funding.



Debra Farver, professor of pharmacy practice, received an Edward Patrick Hogan Award for Teaching Excellence award.

Colleagues and students alike note her professionalism and genuine desire to make a difference. She is known for her dedication to student engagement and interprofessional education.

The Hogan Award is named and endowed in honor of Ed Hogan, who

served many different roles during his 36-year career at SDSU including professor and head of the Department of Geography, associate dean of the College of Arts and Sciences, assistant vice president for academic affairs and chief information technology officer.



Xiangming Guan, the college's assistant dean for research, received the F.O. Butler Award for Excellence in Research.

During the last 20 years, Guan has been one of the most active researchers in the college and has received continuous funding from the National Institutes of Health since 1999.

Interim Dean Jane Mort said Guan is one of the very few faculty at SDSU with such an outstanding grant success rate.

His research has significant implications for developing new therapeutic approaches for cancer and other diseases.

During the last five years, he has received grants totaling close to \$1 million and authored or co-authored 15 manuscripts. His research focuses on developing new compounds for modulating glutathione oxidative pathway in the cells. One of the compounds developed by Guan's group is marketed by Sigma-Aldrich for studying thiol oxidative stress in cells.



Dan Hansen, assistant dean, was one of three faculty members initiated into Phi Kappa Phi Honor Society at SDSU April 20. The three were introduced by Provost Dennis Hedge, former college dean.

Earlier in the month (April 11), he was re-elected to the Brookings City Council. He was the top votegetter, claiming 1,553 votes in a four-way race for two threeyear positions.

The following individuals were presented April 7 at the South Dakota Society of Health-System Pharmacists annual meeting in Sioux Falls.



Brad Laible, a professor of pharmacy practice, was named South Dakota Society of Health-System Pharmacist of the Year.

The Marion native instructs students in their infectious disease rotations at Avera McKennan Hospital in Sioux Falls. Laible has been with SDSU since August 2004.

His primary academic interests include antimicrobial resistance and stewardship. He serves as the lead pharmacist for Avera

Health System's Antimicrobial Stewardship Program and has published on antimicrobial topics and other pharmaceutical treatments.

Debra Farver, also a professor of pharmacy practice, received the Gary W. Karel Lecture Award, a lifetime achievement award. The Karel Award is named after the longtime director of pharmacy at Sanford Health. Farver, of Yankton, is known for her passionate and engaged teaching.

Farver, who retired June 21 after 31 years at SDSU, also practiced clinical pharmacy at the South Dakota Human Services Center and Avera Sacred Heart Hospital in Yankton.

Deb Farver Connecting culture with pharmacology • Retiring professor known for engaging classroom discussion

randma Emma, "Jailhouse Rock," medical marijuana.

Those three seemingly incongruent subjects are all part of the curriculum taught by Debra Farver, professor of pharmacy practice. Farver, who retired June 21, has made creative teaching methods her trademark in 31 years on the SDSU faculty. Her areas of instruction range from interprofessional education to pharmacotherapeutics.

Emma is an 87-year-old with early stage Alzheimer's, macular degeneration and lingering effects from a stroke 10 years ago. Farver knows her well. She has portrayed Emma numerous times during interprofessional education sessions with SDSU pharmacy students and health profession students from the USD School of Health Sciences.

Emma is part of Farver's efforts to engage students in learning, making tabletalk discussions more than theoretical by role playing realistic situations.

When students "in the whole cell block" are dancing to the "Jailhouse Rock," they know a discussion on the death of Elvis Presley will follow. Farver asks, "How did he die? On Google, you can find 12 theories about how he died. Some theorize it was codeine and ultrarapid metabolism. Others theorize it was a benzodiazepine overdose. The answer is unknown, but we can postulate how pain medications could have contributed to his death.

"In these controversial areas, where there are active debates, I always bring them back to evidence-based decisions."

The April 21, 2016, death of music icon Prince from a fentanyl overdose also provided Farver with a topical subject to teach on both drug toxicity and ethics. Fentanyl is a cancer-treatment opioid. "How would Prince obtain that? How much would he have to take to produce a lethal overdose?" Farver said she asked her students.

She challenged her students to think "If you as a pharmacy manager knew a movie star came to your pharmacy with the intent of abuse, what would you do?" "Where would medicinal marijuana fit in pain management" is another topic that has generated good classroom discussion, the professor said.

Jade Kutzke, who graduated in May, said, "I always looked forward to class periods when Dr. Farver was lecturing. Her tying lecture material in with current or historic events keeps our classes upbeat and engages us to apply what we are learning through open discussions that might have more than just one answer.

"Personally, learning in this way makes the material stick better since I can relate it back to the event and our discussion on the topic."

Teaching style changes through the years

Farver, who first taught at SDSU in 1983-86 and then continuously since 1989, admits that her teaching style in her early years was just like what she experienced when she was at the University of Nebraska Medical Center, from which the Pierce, Nebraska, farm girl graduated with a Pharm.D. in 1983.

"My teaching style has changed from just giving them standard information to having active learning numerous times within the 50-minute class period. The application is much, much more important. Not just the facts, but the application of those facts to make good clinical decisions," Farver said of her mid-1990s transition.

She recalls one of her first lessons in making sure students connect with the topic.

"I taught a lot of the chemotherapy for oncology. It's very complex. 'This type of chemotherapy causes toxicity to the heart, this chemotherapy causes toxicity to the kidneys.' On an old-fashioned chalkboard, I drew a picture of a person. Students later told me that this weird-looking chemotherapy man helped them connect the various types of toxicity when they took their national board exam," Farver said.

Brings out best in students

Farver said her motivation as a teacher is "to provide education to the student so

that they can be effective and involved practitioners for the future. I'm verv

passionate for the students' education so they can learn concepts and actually apply them to the practice. When they leave the Doctor of Pharmacy Program, they have the skills to be engaged and improve patient care."

The Yankton resident did her teaching of Advanced Pharmacy Practices Experiences at the S.D. Human Services Center and Avera Sacred Heart Hospital.

Farver's ability to draw out the best in all levels of students can be shown in a call she received a few years ago from then-Department Head Dennis Hedge concerning an at-risk P4 student. Hedge asked her to consider taking the student during an "off block," five weeks when she wasn't scheduled to be precepting a student.

Farver was uncertain about taking on a student during time she usually used to recharge and reorganize.

"I told my husband about my concerns, but my husband said, 'Dennis wouldn't have asked you if he didn't think you could help.' I called Dennis the next day and said yes. The student was very successful. The student had the capabilities. I was just the means to make it happen. It was most impactful for me that my department head knew I could help," Farver said.

Students become colleagues

That confidence can be heard from countless students and colleagues, including some students who are now colleagues. One of them is Joe Strain.

Strain, a 2002 grad who now is a clinical faculty member at Rapid City Regional Hospital, said, "I recall the first time I met Dr. Farver. It was during my P1 orientation at SDSU and was struck by her professionalism. She was welcoming and inspiring, and I left that encounter excited to begin my educational career as a pharmacy student.

(article continues on page 16)



FACULTY RETIREMENTS

"Two years later, Dr. Farver served as one of my therapeutics professors. Her engaging lecture style commanded the attention of the class. She explained complex concepts and facilitated student engagement by asking questions to individuals throughout the classroom.

"While it was a bit unnerving to be called on in front of your peers, Dr. Farver's nonintimidating style quickly eased everyone's anxiety and the class soon realized how this teaching method facilitated our understanding. She is truly one of my favorite professors I had throughout my educational career."

Continues to reap rewards

As Farver closes her career, she has been the recipient of several awards:

• Edward Patrick Hogan Award for Teaching Excellence, one of two given universitywide, 2017;

• Gary W. Karel Award, a lifetime achievement honor given by the South Dakota Society of Health-System Pharmacists, 2017;

• Teacher of the Year for the College of Pharmacy in spring 2015 as voted on by the students;

• Scholar of the Year for the College of Pharmacy, presented at the 2014 SDSU Faculty Celebration of Excellence;

• Anton Hyden Memorial Award from University of South Dakota medical students to the professor who has inspired them the most, 2001; and

• Individualized Teaching for the College of Pharmacy, 1991 and 1998.

Retirement plans

"I've truly enjoyed my career. I had no idea this would be my career pathway, but I wouldn't have changed it at all. SDSU and the College of Pharmacy and Allied Health Professions has been very supportive and encouraging." said Farver, who has served under seven deans.

In retirement, Farver plans to spend lots of time with her husband (Max), children (Jason and Aaron) daughter-inlaw (Amanda) and grandchildren (Katrina and Isaac).

She also plans to spend more time in her flower garden, which also should benefit from Farver's passion.

Dave Graves

Dave Helgeland

Professor steps down after 31 years



fter nearly 31 years of service to the college and 41 years to the state of South Dakota, professor Dave Helgeland retired May 21.

Helgeland, a native of Mitchell and a graduate of Yankton High School, earned a bachelor's degree in pharmacy from the SDSU College of Pharmacy in 1974. He worked as a community pharmacist for nearly 2 ½ years.

In October 1976, he returned to the college as a clinical instructor, coordinating the college's externship and continuing education programs as well as helping with some courses and labs. At that time, there were nine faculty members, including the dean.

He left the college for 10 years to be a pharmacist at the S.D. Human Services Center in Yankton. During that time, he also earned a Master of Business Administration degree from the University of South Dakota.

In 1989, Helgeland returned to college faculty, teaching courses in law, management, ethics, health-care systems, introduction to pharmacy, and drug utilization and quality assurance.

Since 1990, he also directed the South Dakota Drug Evaluation and Education

Program—South Dakota's Medicaid's drug utilization review program. In 2001, Helgeland and six others, including 1973 SDSU College of Pharmacy grad Elgene Jacobs of the University of Oklahoma College of Pharmacy, formed the American Drug Utilization Review Society. He served on its board for a number of years.

Helgeland also served as the adviser for the college's chapter of Phi Lambda Sigma, the pharmacy leadership society, since its inception in 1990.

In 2000, Helgeland received a doctorate in education in adult and higher education/educational administration from USD.

Helgeland is known for his dry, selfdeprecating humor. As an example, Helgeland lists on his SDSU webpage, under the honors category, "some."

He could have mentioned that in 2006 he received the Honorary Member Award from the South Dakota Association of Pharmacy Technicians and in 2009, he received the South Dakota Pharmacist's Association Hustead Award as Pharmacist of the Year.

In retirement, Helgeland plans to pray more, exercise more, stop lying about exercising more and see if it is possible to relax from August through May.

Teresa Delfinis

Retiring coordinator has a heart for students

eresa Delfinis called her job a perfect fit, but after 15 years with the college and nearly 35 years of employment at SDSU, she is ready to see how retirement will fit.

Delfinis, coordinator of student services in the College of Pharmacy and Allied Health Professions, stepped down June 21, following 10 years in the position. For the five years prior to that, the Elkton native was an academic development assistant in the college. She also has 12 years of experience in the Admissions Office, three in what is now University College and five years in Residential Life.

She arrived at the college during the final year of Danny Lattin's deanship and has served through the tenures of Brian Kaatz (2003-08) and Dennis Hedge (2008-16).

Interim Dean Jane Mort said, "Teresa has been a tremendous leader and ambassador for student services within the college. Her skill in working with students, knowledge of the program and commitment to outstanding service have provided a strong foundation for all of our student service activities."

As coordinator of student services, Delfinis works with an advising staff of five, including Assistant Dean for Student Services Dan Hansen.

"I make sure things run smoothly with the advising staff as we work on retention, recruitment and advising approximately 600 prepharmacy, premedical laboratory science and professional program students. I advise about half of the students and the other adviser (Asha Hertler) advises the other half," Delfinis explained.

Her replacement, Nathan Bylander, is coming from the TRiO office on campus. Hertler, a former grad assistant in the college, joined full time in February.

Trained as a counselor

Delfinis has enjoyed the opportunity to interact with students, "whether it is students already at SDSU or students looking to come to SDSU. We do a lot of hands-on activities with students at Scrubs Camps throughout the state and at other recruitment events. It's working with students across that span, from getting them interested in health care all the way through going out to practice pharmacy.

"It's been a great fit for me. My personality is really about just trying to help individuals to be the best they can be and to meet the goals they've set for themselves. My background is in counseling and human resource development, so that's been a really good fit."

Her master's degree in counseling and human resource development was earned in 2004 from State. She completed a

"It's working with students across that span, from getting them interested in health care all the way through going out to practice pharmacy."

Teresa Delfinis on her contacts with students

bachelor's in sociology with minors in psychology and human development and family studies in 1997, also from State. All of her classes were taken while she also was working full time at SDSU.

None of those were in pharmacy, but she has gained an extensive informal education in the field.

Remains in contact with students

"When I started with pharmacy, I actually went out and did some shadowing so I could speak knowledgeably about things. When we attend career fairs, we usually have some of the P4 students on academic rotation go with us. But Asha and I have done the compounding activity so many times we can wing that on our own.

"The P4 students also demonstrate blood pressure reading, product sterilization and how to make IV solutions; showing the work of pharmacists," Delfinis said.

In dealing with college students, her job is often that of a cheerleader. Her favorite memories are of students visiting her office. She recalls one in particular.

"It was a nontraditional prepharmacy major doubting if she could do it. I encouraged her and five years later the student came back after she had just graduated from the program and told me 'you're the one

who said I could do it.' It is emotional because I know in my heart that I have made a difference," Delfinis said.

Judging from the Christmas cards and notes about jobs, marriages and babies that the students send her, Delfinis' impact is heartfelt on the other side as well.

Follows footsteps of Houglum

Delfinis also had kind words for her predecessor and mentor, Assistant Dean Joel Houglum, and Hansen, who "will give you a project and let you run with it. He's not micromanaging, but he's also very willing to listen to ideas to make things better. I've had very supportive people along the way."

Houglum served as the college's coordinator of undergraduate studies for nearly 20 years before retiring in 2006.

Delfinis said, "I was one of the first professional advisers. Before, it was faculty members. It's difficult for faculty members to be teaching and doing research and have that advising load" and even more so now with advisers working with early grade alerts and using several different web programs to keep tabs on students.

Delfinis is thankful she made the time to get to know students' names and "really listen to them. Helping them achieve their dreams is very rewarding."

Her next reward is spending time with her husband, Koss, traveling, doing volunteer work and connecting with her family. Delfinis' parents live in Brookings and her daughter, Brandy, and granddaughter, Mischa, 11, are in Aurora.

The Delfinises live in the country outskirts of Brookings, where she can be found walking, photographing nature and reading.



NEW FACULTY



Emily Van Klompenburg

Emily Van Klompenburg joins the faculty Aug. 14 as an assistant professor in pharmacy practice and an ambulatory care clinical pharmacy specialist at the Sioux Falls VA Medical Center, after completing two years of postgraduate training.

She fills a position previously held by Tarryn Jansen.

Van Klompenburg earned her pharmacy degrees from SDSU in 2013 (bachelor's) and 2015 (Pharm.D.).

After pharmacy school, she completed the SDSU/Lewis Drug Community Pharmacy PGY-1 Residency in Milbank. This summer she is completing an ambulatory care residency at the Michael E. DeBakey Veterans Affairs Medical Center in Houston.

In her new position, she will be precepting fourth-year pharmacy students on their advanced pharmacy practice experiences and teaching third-year pharmacy students.

Her research interests are in chronic obstructive pulmonary disease (inhaler optimization, pharmacist-led COPD clinics), diabetes management and pharmacy education.

"I have always enjoyed working with students and am also very excited to continue working with the veteran population," said Van Klompenburg, who is anticipating cooler weather in South Dakota. "Houston is hot!" She is also looking forward to establishing her own clinic and working closely with pharmacy students while being able to reconnect with family and friends, as well as SDSU football.

The Van Klompenburgs, of Montevideo, Minnesota, are an SDSU family. Her brother and sister-in-law, D.J. and Lacey, are 2015 graduates in ag systems technology and animal science, respectively. Her sister, Mallory, will graduate in 2019 with a degree in human biology.

1st Lt. Van Klompenburg also serves as a medical service corps officer with the 196th Maneuver Enhancement Brigade with the South Dakota Army National Guard in Sioux Falls.

At home, Van Klompenburg has a 3year-old Saint Bernard named Clarabelle.

Dave Graves



Joe Berendse

Joe Berendse, a Rapid City native, returns to the Black Hills as an assistant professor in ambulatory care with the College of Pharmacy and Allied Health Professions as well as a clinical pharmacist with Black Hills VA Health Care System in Fort Meade.

He replaces Bill Hayes, who transferred to an SDSU ambulatory care position at Rapid City Regional.

Berendse, a 2015 SDSU Pharm.D. graduate, begins work with his alma mater

on July 31. Since graduation he completed two residencies at the Boise (Idaho) VA Medical Center with a specialization in ambulatory care during his second year.

In his new position, half his time will be spent giving lectures, doing committee work and conducting research for SDSU, while his work as a clinical pharmacist at the Black Hills VA will include precepting fourth-year pharmacy students on their advanced pharmacy practice experiences.

His research interests are in quality improvement as it relates to the delivery of care in an interdisciplinary primary care setting, interdisciplinary trainee learning and curriculum, and pharmacy leadership and advocacy.

"I am excited to have two new sets of colleagues through this new position: both SDSU colleagues and Black Hills VA colleagues," Berendse said. "I am looking forward to a rewarding career working together with them. I am also looking forward to meeting the students at the College of Pharmacy and Allied Health Professions and contributing to their professional training." He said he was drawn to this position because of the opportunity to reconnect with his alma mater by working with and teaching students on a daily basis in the Black Hills.

Berendse's parents, Fred and Linda, still live in Rapid City as do two of his four siblings, as well as nieces and nephews.

After graduating from Rapid City Central, Berendse earned a bachelor's degree in human services and psychology from Friends University, located in Wichita, Kansas, in 2010 and his bachelor's in pharmaceutical sciences from SDSU in 2013.

His outside interests include board games (favorite-Suburbia), playing violin (the former all-state orchestra musician has been playing since he was 9), animals (he has a 2-year old cat named Dipper), hiking (another reason to be excited to return to the Black Hills) and cooking (his favorite TV show is "Top Chef").



Nathan Bylander

Nathan Bylander, a professional academic advisor, comes to the college from the TRiO Student Support Services office on campus, where he served as a retention officer since August 2015.

He replaces Teresa Delfinis, who retired. (See separate story, page 17.)

Bylander earned a bachelor's degree in recreation administration from SDSU in

2009 and a master's in counseling and human resource development (student affairs specialization) in 2015. While completing his master's, he was a graduate assistant at Wintrode Tutoring Center (2013-15) and a program intern with New Student Orientation (2014-15).

In his new position, Bylander's duties include conducting degree audits and transcript evaluations, facilitating New Student Orientation advising sessions, overseeing Pharmacy Recruitment Days career fair, representing the college at the SDSU Health Professions Career Camp and recruiting future students through outreach initiatives.

"I'm looking forward to meeting all of the awesome students I'll get to call my advisees and welcoming back returning students after summer break.

"Even before I took on this role, I was constantly impressed by the students coming out of the various academic programs offered here. The breadth and depth of services offered to our students is really incredible. Whether it's academic or career support, the college really makes an effort to set our students up for a successful and positive experience," Bylander said.

A Thief River Falls, Minnesota, native, Bylander's father lives in Stillwater, Minnesota, and his brother is in New York. Extended family members are scattered across Minnesota as well as parts of Wisconsin and Illinois.

Outside interests include yoga, tennis, swimming, jogging, visiting Dakota Nature Park and watching movies, especially Marvel movies. He also volunteers as a coach for LeadState, a leadership development program for sophomores, and is an adviser to the Sigma Phi Epsilon, a social fraternity with an emphasis on community service.

"Any opportunity to grow student leaders at South Dakota State, I'm there," Bylander said.

Dave Graves



Asha Hertler

Asha Hertler is new to the position of professional academic advisor, but she's not new to the college.

Hertler, a native of Rush City, Minnesota, began her current position in February. For 10 months previous to that, she was a student services support specialist for the college and was a graduate teaching assistant in the college from August 2014 to May 2016. She also served as a graduate intern in University College from August 2015 to May 2016 and was a secretary/accounting assistant in human resources at SDSU from October 2013 to July 2014.

Hertler, who received a master's in counseling and human resource development (student affairs specialization) from SDSU in 2016, said, "Being a graduate assistant with the College of Pharmacy and Allied Health Professions and a graduate intern with University College opened a window of opportunity to teaching, advising, recruitment and retention.

"Throughout my pursuit in higher education, I obtained a vast amount of knowledge in many aspects of student services. From my very first advising appointment to my last lecture in Pharmacy 109, I am overjoyed to continue working where it all began."

As with Bylander, the position involves recruiting students to the college, guiding them through the door and auditing their progress as well as assisting in the admissions process. "This position not only allows me to work with energetic and hopeful scholars, but it also gives academic advisors the opportunity to make an even greater impact each year. As we approach the fall semester, I look forward to inspiring new students to strive for academic excellence. What brings meaning to my career is helping students realize their dreams," Hertler said.

Hertler's bachelor's degree was in communications – mass media from Concordia College, Moorhead, Minnesota, in 2009.

In her personal time, Hertler and her husband, Gabriel, of Brookings, like to explore the outdoors with their West Highland terrier, Baxter. Hertler also enjoys yoga, leisure reading, music, the arts and spending time with family and friends.

STUDENT NEWS



Rakesh Dachineni Grad Student of the Year

n recent times, there is an important question that is being discussed in the media—"Will an aspirin a day keep one free from cancer?"

The health benefits of aspirin were first observed since its introduction as a drug in the 1890s to relieve pain. Aspirin's benefits in preventing heart attacks was first observed 80 years later, and in the 1990s, it was found to have the ability to decrease cancers, particularly colon cancer. What makes this most common of all medications so useful?

Aspirin's blood-thinning properties have been understood for decades. How aspirin prevents colon cancer, the second-leading cause of cancer deaths, is not so wellknown.

Jayarama Gunaje started researching the pathways of cancer prevention in 2006, while employed at Texas Tech. More than a decade later that research continues now here at SDSU, most recently with the help of doctoral student Rakesh Dachineni, who was named Graduate Student of the Year for the College of Pharmacy and Allied Health Professions in 2017.

"He taught me everything I know," said Dachineni, who joined Gunaje's laboratory when he arrived at SDSU from New Jersey in 2013.

Dachineni had been working as a research and development associate with Chantilly Biopharma in Chantilly, Virginia, doing work with oral tablets. But, he had desired to do cancer research since he started his master's degree work at Fairleigh Dickinson University, Madison, New Jersey, in 2010. He earned the degree and spent 13 months at Chantilly Biopharma before learning of the opportunity with Gunaje.

Recipient praises Gunaje

In scouting the opportunity, Gunaje's then graduate student called him helpful and praised his availability in working with students, which prompted Rakesh to join Dr. Gunaje's lab.

Dachineni, a native of India, took the leap, starting here in August 2013. He said he has not been disappointed. "My first year I learned a lot of things. He (Gunaje) showed me how to design and conduct an experiment, and how to analyze the results. Gunaje works with us in the lab all the time. When we get stuck, he comes up with another idea to troubleshoot and move forward."

Gunaje praised the intellect of Dachineni and interest in learning and discovering new knowledge.

Rakesh said his academic pursuit has been motivated by his grandfather, a high school teacher in India who passed away two years ago. "He never asked me to do research, but he always motivated me to do something in life to help people. If our research can help in preventing cancer through an understanding of how aspirin, 'the wonder drug,' works, I will be happy."

In April 2016, the U.S. Preventative Services Task Force issued a recommendation of taking one baby aspirin daily (typically 81 milligrams) for people between age groups 50-59 for the prevention of heart attack as well as colorectal cancer.

This age group was cited because, aging is a big factor in both heart disease and cancer. It also noted that to observe the benefits people should take the low dose aspirin for a longer period of time, usually 5 to 10 years.

Research in Gunaje's laboratory focuses on understanding how salicylic acid, the primary metabolite aspirin, acts to prevent cancer. His research suggests that the metabolites of salicylic acid target proteins involved in cell division, preventing cancer cell growth, Gunaje explained.

For the remainder of the year, Dachineni will continue working in Gunaje's secured lab in the Avera Health and Science Center, defend his thesis in fall 2017 and receive his doctorate from SDSU. Dachineni aspires to become a researcher.

YOU

aving four college students make nearly 4,000 calls has proven to be a success for the College of Pharmacy and Allied Health Professions.

Khia Warzecha, Sioux Falls; Kaya Borg, Clarkfield, Minnesota; Analisa Buysse, Taunton, Minnesota; and Jenna Lund, St. Bonifacius, Minnesota, spent nearly 20 nights making those calls.

Despite dialing a lot of numbers for several hours each night, they admit it has been fun and they've learned a few things.

"It's been fun talking to the alumni, hearing about their stories," said Borg, who worked at an assisted living facility while in high school and became interested in medications and their impact on patients. "I really liked working with the patients and getting to know them. I do like communicating with people as well. I figured pharmacy was a good career path for me as it involved a lot of the subjects I enjoyed in school and allowed me to talk to people and work in health care."

Borg likes how the calls are scheduled. The students typically start by calling alumni who have not previously donated or there has been some time since their last donation.

"It's sometimes really hard to get them to have a conversation with you or to donate but at the end of the night you're calling people who donated last year or donated large amounts of money they're the fun conversations," Borg said. "They want to talk to you and hear about your experiences and what's all going on with the college. You start on a low, because it can be tough to get them to engage, but you end on a high."

Hearing the alumni stories was a common theme.

"I always hear their memories about student organizations," Warzecha said. "I get asked which ones I'm in. When I tell them I'm in Kappa Psi and live at the house right now, they say 'I lived at the house. Are there still bats?'

"I like being able to talk to anybody," she continued. "There are times when I need to work up the courage to just say hello as there have been times when they don't want to talk to you because they know why you're calling. It definitely puts you outside of your comfort zone. I'm hoping to better my communication skills and learn how to make small talk with people. There are times when they're not giving you much to go off of."

Buysse sometimes leads with the retirement of a professor as a way to break the ice.

"(Dave Helgeland's) retirement always gets a response," she said, adding she wanted to be a pharmacist since junior high. "I got a job at a local pharmacy at the end of my junior year in high school and really enjoyed it. I was kind of amazed at how all of the pharmacists knew what the hundreds of meds in the pharmacy can do. I'm kind of amazed and fascinated at the common disease states we have and that's what we deal with on a daily basis as pharmacists. I

HONATHO<mark>n</mark>

love

interacting with patients and helping them manage that, learning more about the medications and seeing how we can optimize their health."

Like the others, Lund's interest in health care started before arriving at State. She enjoys making the calls because it gives her experience on how to talk to individuals.

"In high school, I took a health-care investigations course where I could learn and shadow what it was like to be in different settings," she said. "I knew I didn't want to be a nurse because I didn't want to be sticking people. I started doing projects in the next class based on a job we chose. I chose pharmacy because it sounded like it was a good fit for me and here I am."

Individuals can also contribute at: https://www.sdstatefoundation.org/ give-now.

Matt Schmidt

From left, Analisa Buysse, Kaya Borg, Khia Warzecha and Jenna Lund made approximately 4,000 calls for this year's phonathon.

Provost Dennis Hedge

Former dean one of few pharmacists to serve in higher ed's top tier

ennis Hedge stepped outside the sphere of pharmacy in May 2016 to answer the university's call as interim provost and vice president for academic affairs.

He decided it was a good fit and applied to fill the position on a permanent basis. After a national search, Hedge's selection was officially announced by South Dakota State University March 1. He began with the college in 1992 as an assistant professor in clinical pharmacy and spent the last eight he said. years as dean.

The route Hedge has taken has been trod by few others.

For whatever reason, top administrative positions in higher education have rarely been filled from colleges of pharmacy. SDSU has precedence for this when Harold Bailey moved from head of pharmaceutical chemistry to become the university's first dean of academic affairs. He served as State's chief academic official for 24 years, which was longer than anyone in the nation Hedge's tenure as dean, the Department of at that time.

An SDSU pharmacy grad, Craig Schnell '65, served in that role at North Dakota State University. The current University of Kentucky provost also came from a pharmacy background.

"It's a pretty small number, however," Hedge acknowledged.

'Excited about the future'

By mid-October 2016, the former Hoxie, Kansas, farm boy knew he wanted to join that exclusive club.

"I was really enjoying the work and having fun collaborating with administrators and faculty to establish academic priorities for the university. The opportunity to work with colleges and departments across the university to advance a broad range of academic programs and support the success of SDSU students was exciting and rewarding.

In addition, I was inspired by the vision of President (Barry) Dunn and his goals for last 10 years." the university. I wanted to be a part of our university's future and serve at this level.

"I loved my job as dean. I went through a process to be sure I was ready to move on to college was located in The Barn, while the a new position."

There are common aspects when comparing the jobs. "Working to achieve academic excellence and overall program success. Working closely with department heads to foster faculty success," Hedge said.

Of course, the difference is perspective. "In the provost office, you establish priorities and allocate resources with consideration of the entire university landscape and the broader mission of the university. Efforts to recruit, retain, encourage and support an outstanding and diverse faculty involves multiple disciplines,"

College transforms under Hedge

Hedge, who turned 50 in December, had spent less than a year as associate dean when he became acting dean July 1, 2008, following Brian Kaatz's departure.

He inherited a college with a solid track record that was poised to make big advances.

Omathanu Perumal, head of pharmaceutical sciences, said, "During Dr. Pharmaceutical Sciences saw significant growth in research and graduate education. Dr. Hedge's fundraising efforts were instrumental in remodeling the pharmaceutical sciences research laboratories and enhancing the research infrastructure of the college.

"His leadership was transformational in establishing two endowed faculty positions and an endowed lecture series in cancer research. During his tenure as dean, the department received \$2.3 million in state funding to establish the Translational Cancer Research Center in collaboration with Sanford Research. The research funding grew from less than \$500,000 per year to close to \$1 million.

"The college also emerged as one of the leaders in new technology development, intellectual property and research commercialization. The Ph.D. program in pharmaceutical sciences has grown from less than 10 students to 20 students in the

Top achievements go beyond building

Hedge became acting dean when the \$51 million Avera Health and Science Center was constructed on the former site of the Guilford Gross Pharmacy Building

and Shepard Hall. That work was completed in 2010.



Naturally, that facility, which "helped take our teaching and research to a new level," is among Hedge's highlights as dean.

He also cites two successful accreditation visits for pharmacy and one for medical laboratory science as well as "the privilege of interaction with students; the growth and strength of our faculty, including addition of endowed professorships; expansion of our research program; and the continued excellence of our students on national licensure exams, as well as the numerous reports from employers regarding the high quality of our graduates.

"The college is a shining star and serving as its dean is a great job. It is a wonderful college with amazing people. That's why it was a difficult decision to move on to this next chapter in my professional life."

Search committee in place

As provost, he will be dealing with completion of the university's strategic plan, recruiting deans and, in the long term, "continuing to develop academic programs that address the workforce needs of our state and region, ensuring that SDSU academic programs are high quality, and supporting initiatives to enhance the success of our faculty and students."

The pharmacy deanship has been filled, on an interim basis, by Jane Mort. Nancy Fahrenwald, dean of the College of Nursing, is serving as dean search committee chair. The goal is to make an employment offer to a dean candidate by the end of fall semester.

Hedge, who joined the college 25 years ago, reflects on the many blessings the last quarter-century has brought.

"Life has been good, and I am grateful to so many. I'm also enthusiastic about the future and can't wait to see what the next day may bring."

COMMUNITY PHARMACY

Andrew Straw Emily Van Klompenburg Residency program inspires teaching careers



fter serving as PGY1 community pharmacist residents, Andrew Straw and Emily Van Klompenburg '15 both have found themselves drawn to preparing the next generation of pharmacy students.

The community residency program started in 2012 at Liebe Drug, which is now part of the Lewis Drug Corporation, in Milbank. The program is accredited by ASHP in conjunction with the American Pharmacist Association.

Straw, who completed a postgraduate year at State in 2014-15, is now an assistant professor of pharmacy practice at Cedarville University's School of Pharmacy in Ohio. Van Klompenburg, who followed Straw in 2015-16, has been working at the Michael E. DeBakey VA Medical Center in Houston. She will start this fall as an assistant professor at State, practicing at the Sioux Falls VA as an ambulatory care clinical pharmacy specialist and will precept fourth-year pharmacy students.

"Part of the residency year involves teaching. Most residents teach first- and second-year students in Brookings but some also come to Sioux Falls to teach with students in the third year of the professional program; most of the teaching is done on the Brookings campus.

"When Andrew went through the residency, he really found a passion for teaching," said Jodi Heins, a professor who also is the residency program director and the assistant department head for pharmacy practice. "As the year progressed, he became more and more interested in a faculty- and education-type position.

"Emily really enjoyed teaching but also enjoyed the practice base," Heins continued. "She pursued a PGY2 residency "I decided I would attend SDSU for pharmacy in eighth grade, and it honestly is a dream come true to come back as a pharmacist and a professor—even if it is a lot sooner than I ever expected."

Emily Van Klompenburg

upon completion from our program. PGY2 residencies allow for increased specialization and continued advanced training upon completion of a PGY1 residency. She ended up in a PGY2 ambulatory care residency."

Straw never considered a career in academia before serving as a community pharmacy resident.

"Most people see residency as just one year of extra training, but for me it was one year to learn, but in a place I could call home," he said. "The way we were embraced and accepted into the community made our year in Milbank an adventure that my wife (Morgan) and I will never forget.

"After completing the components of the teaching certificate, I was encouraged by my preceptors to consider this option," Straw continued. "When an interview offer was extended, I decided to pursue it based on my experience from the residency. This turned out to be the position that I took and am currently in. I now coordinate two courses in the graduate curriculum and consider researching the effect of a 'flipped classroom' to be one of my main interests. I only discovered this passion through my residency experience."

Straw said the program not only helped him improve his interpersonal skills but also gain insight on a pharmacy's "behind-the-scenes" work.

That information also appealed to Van Klompenburg.

"I was interested in the management learning experience," she said. "At the time, I did not know where I would end up, but I always saw the potential of running some sort of business on my own. With the management experience, I would be able to learn from some of the best in South Dakota."

"Since a young age, I have wanted to be a pharmacist so I could take care of people," Van Klompenburg continued. "After graduation, I realized a PGY2 would make me more marketable for the jobs that I desired. When looking at PGY2s, I sought the exact opposite of what I had experienced in Milbank to grow my skill set. Houston would provide an urban population to refine my skills to ensure I can take care of any patient that came

my way. While in Houston, I had the opportunity to work with the University of Houston College of Pharmacy. I found that I enjoyed the academic world so much, that I completed a second academic rotation to learn more about the roles of a pharmacy professor.

"I decided I would attend SDSU for pharmacy in eighth grade, and it honestly is a dream come true to come back as a pharmacist and a professor—even if it is a lot sooner than I ever expected."

Matt Schmidt

STUDENTS Seventy-three Success stories



Caitlin Aul Pharmacist Walgreens



Brittany Bailey PGY1 Pharmacy Resident Avera Marshall Regional Medical Center

Meet our 20th class of six-year Doctor of Pharmacy graduates



Dacey Beck PGY1 Pharmacy Resident VA Black Hills Health Care System



Taylor Becker Pharmacist Shopko



Natalie Beiter PGY1 Pharmacy Resident Avera McKennan Hospital and University Health Center



Elizabeth Berberich (Anderson) Pharmacist Walgreens



Chelsea Berg Pharmacist Lewis Drug



Austin Block (Oliver) Pharmacist Haisch Pharmacy



Danielle Bruscher Pharmacy Manager Shopko



Rebecca Brust PGY1 Pharmacy Resident Unity Point St. Lukes Regional Medical Center



Alyssa Claussen



Daniel Cox Pharmacist Indian Health Services



Stephanie Demers PGY1 Pharmacy Resident VA Nebraska-Western Iowa Health Care System



Courtney Donnelli Pharmacist Lewis Drug



Traci Eilers Pharmacist Midwest Family Health



Annessa Feder Pharmacist Safeway



Jace Finkbeiner Pharmacist Fry's Pharmacy



Kaylie Gabur PGY1 Pharmacy Resident Hennepin County Medical Center



Tamara Giese Pharmacist Walgreens



Margit Hansing PGY1 Pharmacy Resident VA Black Hills Health Care System



Stephanie Hanson



Levi Hattervig



Nicole Heeren PGY1 Pharmacy Resident Avera McKennan Hospital and University Health Center



Jenna Heyen (Specht) Pharmacist Osceola Community Hospital



Alyssa Hoff (Stegenga) Pharmacist Lewis Drug



Terra Hoffman (Klima)



Breanne Hojer Pharmacist Lewis Drug



Zachariah Iverson Pharmacist Lewis Drug



Brianna Jansma PGY1 Pharmacy Resident Sanford USD Medical Center



Levi Jensen Pharmacist Family Pharmacy



Zachary Jensen Pharmacist Safeway



Amanda Johnson



Tommy Jorgensen Pharmacist City Market



Mackenzie Klinkhammer Pharmacy Manager Avera Creighton Hospital



Luke Klugherz Continuing on to medical school



Kaitlyn Kuske PGY1 Pharmacy Resident University of Minnesota Ambulatory Care



Kerri Larson Pharmacist Carlson Drug



Hannah Lau (Hepper)



Michael Meier PGY1 Pharmacy Resident New Mexico VA Health Care System



Sara Menning (Bentzen) Pharmacist Lewis Drug



Courtney Neubert PGY1 Pharmacy Resident SDSU and Lewis Drug



Alex Ogren Pharmacist Norton Sound Health Corporation



Joshua Ohrtman Pharmacist Medicine Shoppe



Hannah Packer PGY1 Pharmacy Resident St. Cloud Hospital



Pooja Patel PGY1 Pharmacy Resident Mayo Clinic



Max Pierson Pharmacist Cardinal Health



Sachin Puri



Reed Reuman Pharmacist Lewis Drug



Landi Risseeuw Pharmacist Good Day Pharmacy



Katie Schelhaas Pharmacist Shopko



Hannah Schmidt PGY1 Pharmacy Resident First Light Health



Jason Schneider PGY1 Pharmacy Resident Minneapolis VA Medical Center



Grant Strain Pharmacist Lewis Drug



Taylor Swanson Pharmacy Manager Shopko



Lea Telkamp (Gnat) Pharmacist Huron Regional Medical Center



Andrew Thies PGY1 Pharmacy Resident Park Nicollet Methodist Hospital



Collin Townsend Pharmacist Walmart



Travis VanEde PGY1 Pharmacy Resident Gundersen Medical Center



Brittanie Venard PGY1 Pharmacy Resident Rapid City Regional Hospital



Ryan Verschelde Pharmacist Walgreens

STUDENTS New pharmacy graduates



Alexander Vos Captain, Medical Service Corps, U.S. Army



Anthony Wacholz Pharmacist Thrifty White



Samantha Wagner PGY1 Pharmacy Resident University of Colorado Hospital



Zachary Wagner Pharmacy Manager Thrifty White



Patrick Warman Pharmacist Lewis Drug



Shannon Wegleitner (Holler) Pharmacist Dunes Family Pharmacy



Jenna Welu (Donnelly) PGY1 Pharmacy Resident Sioux Falls VA Health Care System



Abbey Wieczorek (Honsey) Pharmacist Walmart



Hailey Will (Peterson) Pharmacist Siverson's Pharmacy



Zachary Williams Pharmacy Manager Thrifty White



Crystal Wright PGY1 Pharmacy Resident Avera McKennan Hospital and University Health Center



Kyle Yerks



Nicholas Young PGY1 Pharmacy Resident Rapid City Regional Hospital

STUDENT ORGANIZATION AWARDS PRESENTED AT THE SPRING CONVOCATION • April 19

Rho Chi Fall Research Poster Presentations: Undergraduate winner: Jacob Sandgren Junior Graduate Student winners: First place (tie): Ghallab Alotaibi and Abdulsalam Alqahtani Second place (tie): Mibin Joseph and Siddharth Kesharwani

Third place (tie): Lingqi Kong and Shenggang Wang **Senior Graduate Student winner:** Saiful Islam

American Pharmaceutical Association-Academy of Student Pharmacists

Melanie Heeren—Prepharmacy Member of the Year Janae Sampson—P1 Member of the Year Analisa Buysse—P2 Member of the Year Jade Kutzke—P3 Member of the Year Courtney Donnelli—P4 Member of the Year Liz Murray—Special Recognition as Midyear Regional Meeting Coordinator

Kappa Epsilon Kate Swanson—Member of the Year Kara Benson—Past Presidents Award

Kappa Psi Scott Dingus—P1 Brother of the Year Nicole Rasmussen—P2 Brother of the Year Nate Sutera—Active P3 Brother Award

American Association of Pharmaceutical Scientists Rakesh Dachineni—Member of the Year

Phi Lambda Sigma Cassidy Latusek—Member of the Year

GRADUATE AWARDS PRESENTED AT HOODING CEREMONY • May 5, 2017

APhA-ASP Senior Recognition Certificate and Clock:

Traci Eilers, Yankton

Avera Behavioral Health Center Award for Outstanding Achievement in Behavioral Health Pharmacy: Natalie Beiter, Coon Rapids, Minnesota

Facts and Comparisons-Award of Excellence in Clinical Communication: Luke Klugherz, Rochester, Minnesota Lilly Achievement Award: Stephanie Demers, Blair, Nebraska

Merck Award: Brittanie Venard, Tea; Jason Schneider, Andover, Minnesota

Natural Medicines Graduation Award: Reed Reuman, Presho

SDSU College of Pharmacy Patient Care Award: Jenna Welu, Elk Point Mylan Excellence in Pharmacy Award: Travis Van Ede, Brandon

Teva Pharmaceuticals USA—Outstanding Student Award: Nicole Heeren, Pine Island, Minnesota

Distinguished Graduate: Mackenzie Klinkhammer, Elk Point

Mackenzie Klinkhammer

Distinguished Graduate



octor of Pharmacy Distinguished Graduate Mackenzie Klinkhammer didn't know she wanted to become a pharmacist when she arrived at South Dakota State. In fact, she started as a premed student.

After she took the advice from others and shadowed a few different pharmacists in emergency rooms, oncology and other hospital settings, she realized pharmacy was her calling.

"It's a lot more one-on-one, and you see your patients and their families at least once a month," said Klinkhammer, adding the flexibility of the pharmacy profession for families and a personal life is a benefit, too.

During her time with SDSU, the Elk Point native was involved with multiple organizations.

"[She] is not only a great student in the classroom, but she is also actively engaged in the campus community," said Dan Hansen, the assistant dean for student services and associate professor of pharmacy practice.

She has held roles with State-a-Thon, Lead State, the Hobo Day Committee, the Van D. and Barbara B. Fishback Honors College, Office of Admissions and others. After being on the State-a-Thon board from 2012 to 2015, she passed the role to her sister, Hannah. State-a-Thon is a dance marathon that raises funds for Children's Miracle Network.

"My time with the Children's Miracle Network sticks out to me the most," Klinkhammer said. "Seeing Hannah take that role was more fulfilling than anything."

Thanks to Klinkhammer's involvement and academic performance, she received the Doctor of Pharmacy Distinguished Graduate Award.

According to Pharmacy Practice Professor Dave Helgeland, the criteria includes leadership activities, communication skills, patient counseling skills, good student and faculty relations; campus and community service, service to the college and university, involvement in extramural professional activities and academic performance. Those awarded receive a marble mortar and pestle attached to a walnut base with their name engraved. They also receive a cash prize. To Klinkhammer, being a recipient of this award took her by surprise.

"Anyone in my class was well deserving of this," she said. "I had a couple people pegged in my mind who would get it, but I did not think I would be one of them." After receiving the award May 5 at the College of Pharmacy and Allied Health Professions Hooding Ceremony, Klinkhammer was hired as the pharmacist-in-charge at the Avera Creighton Hospital in Creighton, Nebraska.

She credits great faculty within the College of Pharmacy and Allied Health Professions for her academic success.

"The faculty truly want what's best fo r us," she said. "They put in a lot of extra time for us."

Klinkhammer said the greatest lesson she has learned through her time earning her Pharm.D., was from John Kappes, an associate professor for the college.

"It takes 10,000 hours to become truly competent in an area, which is about five years of work. You will not know everything as a student, but you can work harder and longer now to get to that 10,000 hours sooner."

Heidi Kronaizl

Mackenzie Klinkhammer, right, receives a mortar and pestle from Interim Dean Jane Mort as the 2017 Distinguished Graduate at the May 5 Hooding Ceremony.

STUDENTS



Nicole Hepper Preceptor of the Year

ight years ago, Nicole Hepper was a P4 student, heading from one rotation to the next, thinking "There was so much to know. How am I ever going to know it all?"

Today, she is coordinating the rotations of P4 students as pharmacy student coordinator at Avera McKennan Hospital & University Health Center in Sioux Falls, and the students are asking the same question Hepper did eight years ago.

"I let the students know it's OK not to know everything. Every day there is a new drug approved or a new guideline issued. It's more important to be able to find an answer than know every answer. It gives them comfort knowing they're not expected to know it all," said Hepper, who also is an internal medicine clinical pharmacist at Avera.

"I had some great mentors along the way, and I hope that I can be that for someone else," said Hepper, a 2009 graduate who is originally from Milbank.

In reading the evaluations written by those she precepted, Hepper is indeed a great mentor herself. In fact, at the college's May 5 Hooding Ceremony, Hepper was recognized as Preceptor of the Year.

'A great preceptor'

Margit Hansing, a May graduate, said, "Dr. Hepper was a great preceptor. I appreciate the amount of time she put in so I could have an organized, wellrounded experience. She was flexible and tailored the rotation to my specific interests. I admire her patience and friendliness as well as her positive and supportive behaviors as a preceptor.

"She was always willing to provide feedback and answer any questions. Her methods as a preceptor made for a high-quality learning experience at Avera McKennan."

Hepper's method encourages autonomy. "I really encourage students to ask questions but very rarely will I give students an answer to a clinical question. I challenge them to come up with the answer on their own, either by questioning them until they arrive at the answer or having them do some research."

As pharmacy student coordinator, she arranges shadowing experiences for high school and prepharmacy students, precepts the three-week introductory experience for 12 students between their P2 and P3 year, and works with another 12 students during the course of their P4 year. The latter task is the most detailed.

"We expose them to a lot of different things during the course of their five-week rotation so they are given the opportunity for real-world experience and hopefully with things they don't know much about.

"We challenge them to get involved as much as possible. For example, counseling needs to be done with a patient who is being discharged on a number of medications. We'll give the student a heads-up, and ask 'Are you comfortable giving the counseling and I will observe?' We do that because before long they are going to be the pharmacist doing the counseling, so we want them to be comfortable.

"Another example is providers will ask us a question. We'll have a student look into it if it doesn't require an immediate response," Hepper said.

Students do more than observe

Brianna Jansma, another 2017 graduate, said, "When I spent days with her on the medical floor, she was very good at balancing student autonomy and teaching me; having mini topic discussions throughout the day. I appreciated all the time that she put in making sure that the students have the best schedule possible."

Hepper said as a general rule, students say they appreciate the opportunity to get involved rather than just being an observer, and the diversity of their experience.

"Being a large health-system, they see things they might not have an opportunity to see otherwise. Not every day is necessarily spent with a pharmacist. One day might be spent with a respiratory therapist or a diabetic educator or they might go to the Avera Institute for Human Genetics. It takes a whole team to care for these patients," Hepper said.

She said she is glad to have pharmacy student coordination as a part of her duties.

"Being a preceptor forces me to be engaged and keep up with all of the changes in the profession; not just settle into a job. Precepting forces me to have a knowledge broader than what would be required for just doing my job. It forces me to stay active and engaged.

"Plus I enjoy getting to know the students, and it's a way to give back."

Clearly, P4 students are thankful for her involvement.

Dave Graves

Nicole Hepper, pharmacy student coordinator at Avera Kennan Hospital in Sioux Falls, is honored as the college's Preceptor of the Year by Interim Dean Jane Mort at the May 5 Hooding Ceremony.

Assessment report

Pharm.D. Curriculum Revision: Empowering students to have a positive impact on contemporary pharmacy practice

he Pharm.D. Curriculum Committee is charged with making recommendations to the faculty regarding the design of the curriculum, including courses, content and methods of instruction. The committee continually examines the curriculum to identify opportunities for improvement, but periodically a more comprehensive review of the curriculum is necessary to adapt to changes in pharmacy education and practice. A revision of our Pharm.D. curriculum is currently underway. This column will provide an overview of the curriculum revision process.

The current curriculum was implemented with the fall 2007 P1 class. Many changes in pharmacy education and practice have occurred since the design of that curriculum. Specific changes in pharmacy education include the 2013 release of new student learning outcomes from the Center for the Advancement of Pharmacy Education (CAPE), the 2015 implementation of a revised NAPLEX blueprint, and the 2016 introduction of revised accreditation standards from the Accreditation Council for Pharmacy Education (ACPE). The curriculum committee also identified areas that could be strengthened within the curriculum through curriculum mapping and review of program assessment data. All of this information indicated that it was time for a comprehensive review and revision of the Pharm.D. curriculum.

The process started in 2015-16 with curriculum committee discussions to identify areas for improvement in the curriculum and priorities for the revision. In summer 2016, two workshops were conducted to begin the formal process of curricular revision. In May, a faculty workshop was held to introduce the curriculum revision and begin discussions on components to include in the new curriculum. Then in August, Melissa Medina, professor and associate dean of assessment and evaluation at the University of Oklahoma College of Pharmacy, facilitated a workshop in Sioux Falls for faculty, students and pharmacists. Medina has a rich background in assessment and curriculum development. For example, she chaired the committee that developed the new CAPE outcomes. At this workshop, she guided participants to develop a vision for the new curriculum: empower students to have a positive impact on contemporary pharmacy practice.

In fall 2016, four curriculum workgroups consisting of faculty and students were established. The structure workgroup discussed options for the overall design of the curriculum including laboratories and integrated courses. The prepharmacy workgroup was charged with reviewing the courses required prior to admission to the professional program. The content workgroup is focused on credit-hour allocation and distribution of content within courses in the professional program. Finally, a pedagogy workgroup will discuss



ways to increase active

learning and student engagement. A draft of the revised curriculum was presented to the faculty in April. A vote on the new curriculum is planned for fall 2017 with implementation starting with the 2018 P1 class.

The priorities identified for the new curriculum are:

- 1. Improved content integration and alignment between the pharmaceutical and clinical sciences;
- 2. Sequencing of knowledge and skill development and reinforcement throughout the curriculum;
- 3. Full integration of affective domain elements from the CAPE outcomes;
- 4. Increased active learning; and
- 5. Examination of the number and placement of electives in the curriculum.

Focus on these priority areas will guide development of an improved curriculum to better prepare students for contemporary and future pharmacy practice.

Teresa Seefeldt, coordinator of curriculum and assessment

Department of Pharmacy Practice



Greetings from the Department of Pharmacy Practice. I am pleased to share news regarding many of our faculty's outstanding accomplishments.

Faculty members in the Department of Pharmacy Practice are required to stay on top of the most current topics and guidelines in order to provide our students with the highest quality education. This requires the faculty to stay abreast of updated treatment guidelines and innovative advancements in pharmacy practice. I would also mention that the faculty are the ones who are the innovators and are pioneering new innovative practice models and approaches.

The innovative advances that our faculty have been the driving force behind, have led to significant positive impacts on patient care and outcomes around the state. I would like to mention just a few of the things that have occurred recently within the department to give you a taste for the outstanding innovative things that the faculty have been doing. This is by no means a comprehensive listing, but simply a sample to let you know how impactful our faculty have been.

Faculty have established some of the most advanced clinical pharmacy practices. To their credit, they have been role models and provided leadership at the health-care facilities where they practice. They have developed programs that have had a tremendous impact on high-quality health care.

Outstanding faculty accomplishments

One of the most advanced and innovative ambulatory care practices has been established by Associate Professor Deidra Van Gilder in Watertown. She has a vibrant practice that involves collaborative practice agreements and the ability to bill for her clinical services. Her practice is definitely a model practice that many in pharmacy should strive for and emulate.

Another ambulatory care practice that is cutting edge is the hepatitis C clinic managed by Professor Mike Lemon at the Black Hills VA Health Care System in Fort Meade. Lemon oversees a very large budget of hepatitis C treatment medications and, most importantly, has a positive impact on the lives of our veterans.

Another faculty member having a positive impact on our veterans is Associate Professor Bill Hayes, whose practice consists of remote clinic visits through the use of telemedicine, thus making access to health care easier for our veterans.

The area of overuse or inappropriate use of antimicrobials has been a major area of advanced practice for Brad Laible, who took the lead role in establishing an incredibly impactful antimicrobial stewardship program.

An area of international recognition is Associate Professor Stacy Peters' role with helping develop the cystic fibrosis treatment guidelines by serving as a member of the committee charged with developing these guidelines. Peters is a recognized leader in the area of cystic fibrosis.

Another innovative idea was to determine the impact the presence of pharmacy students may have on patient care. Associate Professor John Kappes developed a mobile tool for students to document any clinical interventions they have completed during their experiential year. The number of interventions reported by our students has been remarkable and clearly shows that they have a positive impact on improving patient outcomes.

Faculty have also impacted community pharmacy practice by advancing practice models. Assistant Professor Alex Middendorf has been working with transitions of care projects and South Dakota Health Link to assist in getting more clinical information out to community pharmacists, allowing them to have greater impact on patient care in the community.

The faculty have also played critical roles at their practice sites with their contributions to pharmacy residency programs. These residency programs have had a dramatic impact on the facilities in which they are located.

The innovation doesn't just apply to clinical pharmacy practice. Faculty at Sanford Health have been working on new models to provide clinical pharmacy education to our students. As clinical pharmacy practice advances, so does the need to approach clinical education.

As I stated, this is not a complete list of all of the outstanding, innovative and impactful advancements that the faculty have developed and created over the years, it is just a sampling. I could go on and list many more examples. Our faculty have made noteworthy and innovative contributions to advances in pharmacy practice. They truly are making an impact.

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

Department of Pharmaceutical Sciences

New technologies and intellectual property developed by pharmaceutical sciences faculty

niversity-based research is one of the major drivers of new technology development and commercialization, leading to local and regional economic development. To this end, researchers in the Department of Pharmaceutical Sciences have developed several new technologies over the last 10 years.

Since SDSU established the Office of Technology Transfer and Commercialization in 2008, department faculty have filed 35 invention disclosures and 32 patent applications. Six patents have been issued and seven technology development licenses have been executed with startup companies. Two startup companies have been formed based on the technologies developed.

One of the first startup companies from SDSU was based on a drug-delivery technology. The delivery system was developed using zein, a natural biodegradable protein from corn. Different types of core-shell nanocarriers were developed using zein as the core and other food-grade protein biopolymers, such as milk proteins, as the shell. These novel carriers can be used to encapsulate drugs in the core, while the shell can be modified for different functional attributes. This technology can be used to address delivery challenges, such as poor water solubility, poor membrane permeability and poor chemical stability of pharmaceuticals through topical, oral or injectable routes.

In addition, we are also exploring the use of this technology for the oral delivery of nutraceuticals and dietary supplements. Three patents have been granted in the U.S., Canada, Japan, China and Europe. Also, two patent applications are pending. The technology received the IDEA prize from Brookings Economic Development Council in 2012, placed third in Governor's Giant Vision Competition in 2013 and received the TechConnect National Innovation Award in 2014.

A major problem in chemotherapy is the serious side effects associated with the cytotoxic anticancer drugs. To this end, the

department faculty has developed targeted drug-delivery approaches.

Hemachand Tummala's group has developed a novel delivery system that uses nutrients (glucose and amino acids) to deliver anticancer drugs to the tumor. A patent application has been filed for this delivery technology. Currently, Tummala uses this technology to develop targeted therapies for breast and ovarian cancer.

In addition, Tummala has developed a water-soluble formulation of curcumin, a natural compound from turmeric, for prevention and treatment of colon cancer, inflammatory bowel disease and Alzheimer's disease. The poor water solubility of curcumin is a major bottleneck in realizing the therapeutic potential of this natural compound. Tummala's group used an FDA-approved polymer to develop a water-soluble formulation that is designed to release curcumin in the colon.

A U.S. patent was recently issued for this technology and another patent application is pending. Given curcumin's multiple health benefits, Tummala is also exploring the use of this formulation for developing a dietary supplement for general colon health.

My group has developed a novel topical drug-delivery approach for the prevention and treatment of early-stage breast cancer. The topical delivery of anticancer drugs directly to the breast maximizes drug concentration at the target site while minimizing the side effects. A U.S. patent was issued in 2015. This technology has been licensed to a startup company for further commercialization.

Currently, we are exploring this novel approach for the delivery of small and large molecules through the breast. To address cancer metastasis, Xiangming Guan's group has recently developed a liposomal formulation for the intracellular delivery of a novel antimetastatic agent. A patent has been filed for this technology.

There is a need for developing effective vaccine adjuvants to generate a robust immune response against infectious diseases and cancer. Tummala's group has developed a novel vaccine delivery system using inulin, a natural plant polysaccharide.



The unique aspect of this technology is that it can function both as a vaccine carrier as well as an adjuvant to mount a strong immune response against bacterial and viral infections. The vaccine delivery system has shown promise against infectious diseases such as influenza and cancers such as melanoma.

In 2013, Tummala received the Innovation in Biotechnology Award from the American Association of Pharmaceutical Scientists for this technology. A patent has been filed and the technology is licensed to a startup company for commercialization. Currently, Tummala uses this technology for developing human and animal vaccines.

Most recently, Gudiseva Chandrasekher's group has developed a novel biomaterial for tissue regeneration (patent pending). This biomaterial is a unique mixture of natural extracellular proteins and polysaccharides. The biomaterial can be used for tissue regeneration in the eye, skin or bone for treating ocular injury, skin burn and ligament repair, respectively.

SDSU is in the process of forming an industrial advisory board to advance the commercialization of these technologies. We look forward to the support of our alumni and other stakeholders to develop collaborations with the pharmaceutical and biotechnology industries.

> Om Perumal, Ph.D. Department head and professor Department of Pharmaceutical Sciences

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CALENDAR OF EVENTS 2017-2018

Aug. 21 Aug. 22	P1 Orientation – University Student Union Phi Lambda Sigma Initiation	Oct. 25-26 Oct. 27-29	Pharmacy Days 2017 – University Student Union APhA-ASP Region V Midyear Regional Meeting –
Aug. 24	Kappa Psi Picnic – Kappa Psi House	000 27 20	Des Moines, Iowa
Aug. 23	Kappa Epsilon Back to School Bash	Nov. 2	Student Organization Meetings – Sioux Falls
Aug. 29	ASP Committee Fair and Welcome Back Picnic	Nov. 3-4	Kappa Psi Fall Conclave – Des Moines, Iowa
Aug. 30	Student Organization Meetings – Brookings	Nov. 16	Student Organization Meetings – Brookings
Aug. 30	Kappa Epsilon Informational Night	Nov. 30	Student Organization Meetings – Brookings
Sept. 14	Kappa Epsilon Intent to Pledge	Dec 3-7	American Society of Health-System Pharmacists Midyear
Sept. 14	Student Organization Meetings – Brookings		Clinical Meeting – Orlando
Sept. 14-15	Kappa Psi Blood Drive – University Student Union	March 16-19	· · · · · · · · · · · · · · · · · · ·
Sept. 16	College of Pharmacy and Allied Health Professions		Pharmacists Annual Meeting – Nashville, Tennessee
	Scholarship Program – University Student Union	Mar. 23-24	South Dakota Society of Health-System Pharmacists
Sept. 22-23	South Dakota Pharmacists Association Annual		Annual Meeting – Sioux Falls
	Convention – Deadwood	April 6-8	Kappa Psi Conclave – Duluth, Minnesota
Sept. 28	Student Organization Meetings – Brookings	April 13	Pharmacy White Coat Ceremony
0ct. 5-6	Region V ASCLS Meeting – Sioux Falls		 University Student Union
0ct. 12	Student Organization Meetings – Brookings	April 18	Spring Convocation and College Recognition Program
0ct. 14	Hobo Day		 University Student Union
0ct. 16	Medical Laboratory Science White Coat Ceremony – University Student Union	May 4	Pharm.D. Hooding Ceremony – SDSU Performing Arts Center
0ct. 23	Research Day/Keo Glidden Smith Fall Convocation – University Student Union	May 5	Graduation

NOMINATIONS REQUESTED FOR THE DISTINGUISHED PHARMACY ALUMNUS AWARD

The College of Pharmacy and Allied Health Professions Advisory Council requests nominations for the Distinguished Pharmacy Alumnus Award. This award recognizes a graduate of the SDSU College of Pharmacy and Allied Health Professions who has served and advanced the profession of pharmacy and has been involved in community service.

The Advisory Council requests nominations come from a colleague in the profession and include the following:

 A brief cover letter explaining the nominee's contributions to the profession of pharmacy (past and continuing) and ways the individual has shown a commitment to the profession and the community.
 A brief biographical sketch (resume or curriculum vitae would be helpful).

3. An additional letter of support from a colleague or a member of the community.

Send materials to: Dan Hansen, SDSU College of Pharmacy and Allied Health Professions, Box 2202C, Brookings, S.D. 57007-0099; or by email at dan.hansen@sdstate.edu. The annual deadline for submitting nominations is March 1, 2018. The College of Pharmacy and Allied Health Professions Advisory Council will select an award winner from the nominees based on the above criteria.

The award will be presented at the annual College of Pharmacy and Allied Health Professions Scholarship Luncheon. Nominees not selected for the award are still eligible for three years following the nomination.

ALUMNI ENGAGEMENT

The College of Pharmacy and Allied Health Profession's **ALUMNI ENGAGEMENT** Committee would like interested alumni to follow the college's activities on Facebook and Twitter. Additionally, if you have any suggestions for stories, please send a message. New material will be added to those sites.

Various **alumni events** are being planned, including a tailgate at the Oct. 7 football game between the Jackrabbits and the Salukis of Southern Illinois.



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COLLEGE NEWS, NOTES

The online master of public health program offered by South Dakota State University and the University of South Dakota ranked fourth among the 50 Most Affordable Online MPH Programs for 2017 by AffordableColleges.com.

The AffordableColleges.com Value Score weighs criteria, such as loan default rates, graduation rates and financial aid data, to draw a distinction between the programs that appear cheap up-front and those that will pay off in the long run. When calculating the rankings, the firm used the most recent data available from the Integrated Postsecondary Education Data System (IPEDS). Run by the U.S. Department of Education, IPEDS offers reliable and accurate insight into affordability, academic pedigree and online/distance learning programs. Using IPEDS data, it developed a 1-10 rating system. The closer a school is to a 10, the more value it offers its students. The SDSU/USD program's score was 8.16.

The firm stated the program is widely recognized for its emphasis on rural public health, an increasingly in-need segment of the population. Students delve into the five core areas of public health education: biostatistics, epidemiology, social and behavioral sciences, health services administration and environmental health.

"A great thing about this program is that it directly addresses public health issues in the state of South Dakota and provides a high-quality degree," said Jane Mort, interim dean of SDSU's College of Pharmacy and Allied Health Professions. "Students benefit from the collective strengths in the health sciences on both campuses and the interprofessional learning that occurs when students with a variety of backgrounds study together."

Students in this all-online program receive instruction by the same professors who lead classes on campus. However, these online students have the added benefit of participating via webcams, discussion boards and chatrooms.

The MPH program started classes in January 2015 and recorded its first graduates in the 2016-17 academic year. Students can pursue the degree on a full-time or part-time basis, which has interested recent graduates and employed health-care professionals looking for the next level of education. To receive the degree, students must take 42 credit hours—36 coming from core courses.

In addition to South Dakota State's College of Pharmacy and Allied Health Professions, other colleges across the campus including the colleges of nursing, education and human sciences, and agriculture and biological sciences will also contribute faculty to teach classes and/or review projects. Both USD and SDSU can grant the MPH degree.

Haylee Erickson became the first SDSU medical laboratory science student to receive a National Travel Grant for the ASCLS Annual Meeting and Clinical Lab Expo, which will be held in San Diego July 31-Aug. 3.

DEAN'S CLUB

Thank you Jan 1, 2016-May 17, 2017

Dean's club membership consists of alumni and friends who have contributed \$500 or more annually to the College of Pharmacy and Allied Health Professions. Dean's Club members are recognized as devoted friends of the college who make significant

impact on the college's future. Member names will be listed in the SDSU Honor Roll and the college newsletters. They also will receive invitations to special college and university functions and updates from the college dean.

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Your commitment makes accomplishments possible

By the time you arrive at this page, we hope your heart is filled with the same sense of pride we have about the progress at the College of Pharmacy and Allied Health Professions. After all, these accomplishments would not be possible without your commitment to SDSU.

Every page in this magazine reflects a multidimensional partnership between our faculty, students and our community, working in unison to ensure quality education and experience to prepare our next generation of allied health-care professionals.

It's been that way since the college's formation under Professor James H. Shepard 129 years ago. We plan on keeping it that way for many more years to come. But just like Professor Shepard, we can't do it alone.

We are extraordinarily grateful to be in a region that understands the value of investing in the future of pharmacists and allied health professionals. It is a privilege and priority to assist our faculty and students to bring you the greatest possible return on that investment, because the quality of our graduates depends on it.

Your financial support allows the College of Pharmacy and Allied Health Professions to build a path to a bright future and help our faculty and students achieve our highest aspirations. In his inauguration remarks, SDSU President Barry Dunn said, "I sincerely believe that imagination is the most powerful tool we have to achieve not only our personal dreams, but also the collective responsibility we have to each other and to the generations that await."

We value and appreciate everyone who invests your time, talent and financial resources to cultivate the next generation. Thank you for enabling us to do what we do.



Mike Birgen

Associate vice president for development South Dakota State University Foundation mike.birgen@sdstatefoundation.org Toll-free: 888.747.SDSU

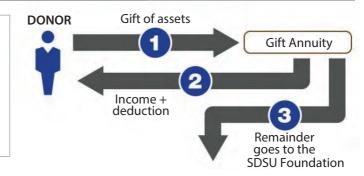
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68	4.9	\$3,664	76	6.0	\$4,501	84	7.6	\$5,438
69	5.0	\$3,778	77	6.2	\$4,588	85	7.8	\$5,582
70	5.1	\$3,901	78	6.4	\$4,685	86	8.0	\$5,729
71	5.3	\$3,917	79	6.6	\$4,792	87	8.2	\$5,878
72	5.4	\$4,060	80	6.8	\$4,908	88	8.4	\$6,028
73	5.5	\$4,209	81	7.0	\$5,302	89	8.7	\$6,133
74	5.7	\$4,263	82	7.2	\$5,162	90+	9.0	\$6,243

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