

The College of Pharmacy

Winter 2013



Where are the college's first 12 Ph.D. grads — Page 9

Hi-tech dummy challenges students — Page 12

Alumnus of the Year Marion Ehrich honored — Page 17



South Dakota State University



DEAR FRIENDS

Goals in place for 'Impact 2018' strategic vision

Following a year-long effort that included dialogue and listening sessions with numerous stakeholders, South Dakota State University unveiled its next strategic plan in late November 2012.

Titled "Impact 2018: A Strategic Vision for South Dakota State University," SDSU's next strategic plan provides a framework for the university's colleges and departments to conduct their work during the next five years. Through the strategic planning process, the university revised its mission and vision statements, and outlined four overarching strategic goals.

Those four goals:

1. Promote academic excellence through quality programs, engaged learners, and an innovative teaching and learning environment.
2. Generate new knowledge, encourage innovations, and promote artistic and creative works that contribute to the public good and result in social, cultural, or economic development for South Dakota, the region, nation, and world.
3. Extend the reach and depth of the university by developing strategic programs and collaborations.
4. Secure human and fiscal resources to ensure high performance through enhanced financial, management, and governance systems.

With the above goals serving as a guide, the College of Pharmacy is developing its own strategic plan, which will be implemented this summer. Once the strategic initiatives and associated action steps are identified, I look forward to sharing them with you.

Dr. Dwivedi to retire

In closing, I would like to direct your attention to the feature story in this publication on Chandradhar Dwivedi. Dr. Dwivedi has announced his intent to enter retirement this summer following a remarkable career at South Dakota State University.

Since joining SDSU as a member of the faculty in 1987, Dr. Dwivedi has distinguished himself as an excellent academician, strong researcher, and thoughtful leader. I am sure you will enjoy reading about his numerous accomplishments during his time at State.

Warm regards,

*Dennis D. Hedge, Pharm.D.
Dean of Pharmacy*

About the cover



Chandradhar Dwivedi is called “the single individual most responsible for making the (college research) program what it is today.” His boss says Dwivedi “has the respect of those he supervises as well as students and colleagues across the country.” The distinguished professor leaves a legacy in research, teaching, leadership and character as he prepares for retirement.

See story Page 2.

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The College of Pharmacy

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Save the Date • 5 p.m. Saturday, June 22

*Join us in honoring
Dr. Chandradhar Dwivedi
at his retirement reception.*

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Dr. Dwivedi retires



‘Leaving a legacy of great accomplishment’

In 26 years, Chandradhar Dwivedi has built a formidable pharmaceutical sciences department at what in 1987 was a teaching college with virtually no research.

Today the department has:

- A Ph.D. program with 12 graduates and more in the pipeline;
- Twenty students enrolled in the research heavy Ph.D. program;
- Three postdoctoral students assisting faculty in research and teaching labs;
- A modern research facility with 12 labs dedicated specifically to faculty and graduate student research;
- A record of receiving nationally competitive grants.

So as he ends a career of more than a quarter century of teaching, research and administration, it’s appropriate to ask what made this transplant to the Northern Plains so successful and respected.

The answer can’t be summarized to one statement, but perhaps it can best be captured in this observation of his first Ph.D. student — Ajay Bommareddy: “He (Dwivedi) understands people really well. He tries to give them the best possible advice so they will have a better life ahead of them.”

Whether you’re talking to his son or his supervisor, that message comes through. Dwivedi simply wants others to reach their potential.

A teacher’s heart

That philosophy has benefited the university, his colleagues and his students — and through the years there have been hundreds of them. Even though he has been a department head since 2003 and maintains an active research load while mentoring two to three graduate students per semester, he still teaches part of three undergraduate classes as well as teaching three graduate courses per year.

Joel Houghlum, a retired assistant dean, observed, “He wanted the students to learn. He wasn’t there just to teach the course and go back to the lab.”

Gary Chappell, a colleague from the pharmaceutical sciences, understands why teaching is so important to Dwivedi. “He felt being a teacher was the highest calling from his Indian tradition. He was very concerned about being an educator,” Chappell says.

His father's influence

Dwivedi notes, "My father was a great spiritual leader and philosopher ... I always hope I am making my father so proud. He was a great soul."

His father, Pundit (a title equivalent to reverend) Abhaya Narayan Dwivedi died in 1957, when his son was just a 9-year-old in their northern Indian village of Uttar Pradesh. But the man had already made a lifetime of influence on Chandradhar.

Dwivedi's oldest son, Sudhanshu, says, "He was very determined and hard working. The family background that he came from really pushed wisdom and education. That pushed him to do what he did. He did a lot of things at an early age."

Success at a young age

Among those early achievements were graduating from high school at age 12.

Sudhanshu adds, "He was really determined. He was beating to his own drum, but able to incorporate a very positive element of his background."

Just going to high school exhibited determination. It was a five-mile walk to high school because there was no high school in his village of a thousand people. In his early grades in his village, school was taught in a hut or under a tree. There was no running water, and farming was done by hand and ox.

When Dwivedi went to college 20 miles from home, he was only the second one from his village to go. The first was his uncle, several years earlier.

Dwivedi was just 16 when he earned his bachelor's degree from Gorakhpur University. Two years later he had his master's degree in chemistry from the same school. Dwivedi earned his doctorate in pharmacology in 1972, at age 24, from Lucknow University, about 170 miles from Gorakhpur.

Moving to America

Then came the big move. Dwivedi and his wife, Prabha, moved to the United States in 1973.

Dwivedi entered postdoctoral training at Vanderbilt University in Nashville, Tenn. After almost three years at Vanderbilt, Dwivedi joined the faculty in the pediatrics department at Meharry Medical College in Nashville, where he would teach until December 1985.

The Dwivedis' first 12 years in the States were spent in Nashville, and all three of their children were born there.

Next stop was Columbus, Ohio, where Dwivedi worked eight months as an associate editor for Chemical Abstracts Service and then taught the 1986-87 school year at Ohio State, one of the largest universities in the nation.

"At Ohio State, I was a small fish in the pond," Dwivedi recalls, and the congested, urban setting wasn't a good fit.

Finding a home at SDSU

"I was looking for a place where I fit nicely. Having a rural background back in India, I was looking for a smaller town. I could contribute to SDSU and raise my family. I don't look back on that decision. I think it's the best decision I made," he declares.

Chappell, a member of the committee that hired Dwivedi, says, "I think our judgment has proved to be very good."

Dozens of examples can be cited to back that statement, but one of the best is Dwivedi's selection in 2000 as a distinguished professor. Chappell recalls, "He was extremely well qualified. I don't think there was any question in his case."

Distinguished professor designation is bestowed by the South Dakota Board of Regents, but it is based on the recommendation of a campus committee.

Chappell, who retired in 2000, advocated for Dwivedi before the committee. He recalls one member saying, "'You make it seem like he walks on water.' Well, he wasn't quite that good, but it was a slam dunk. No one on the committee opposed it."

Among the many honors bestowed to Dwivedi, he lists the top three as

the distinguished professorship, the 1990 F.O. Butler Award for Excellence in Research and the 2012 inaugural Harold and Barbara Bailey Excellence in Departmental Leadership Award.

He remains the only College of Pharmacy faculty member to have the title of distinguished professor.

Humble character remains intact

The gratitude Dwivedi has for his recognitions is evident from the displays in his office, but those didn't motivate his career. He and Prabha still live in the house they had built when they moved to town 26 years ago. Their one car is a 2010 Impala.

"I'm a simple man," the devout Hindu says from his second-floor office in the Avera Health and Science Center.

The corner office in the 3-year-old, \$51-million teaching and research edifice has a location that spells success and features a great view of the landmark Campanile. However, Dwivedi has no qualms about giving up the spot after toiling most of his career in an office within a lab in the Gross Pharmacy Addition.

The trappings of success aren't what Dwivedi considers success.

In fact, during planning for Avera Center, colleague Omathanu Perumal recalls that Dwivedi's office was to be on the first floor with other administrative offices. But Dwivedi declined. Perumal recalls him saying, "It's more important that I be upstairs with the faculty."

Dwivedi considers his academic colleagues as part of his family. "My wife

Opposite page: Chandradhar Dwivedi poses by a nanospray drier in his research lab in the Avera Health and Science Center. The drier is state-of-the-art equipment prepares drug formulations with nanoparticles, which are 500 times smaller than the diameter of a strand of human hair. The nanoparticles are used by Dwivedi in his cancer research.
Below: Dwivedi, left, works with postdoctoral fellow Sreevidya Santha, center, and visiting scholar Haytham Al Gad in preparing Western blots for the analysis of proteins in cancer cells.



is sometimes envious,” he says with a smile.

Future: Travel, continued research

Like leaving the village of Uttar Pradesh in 1973, leaving family isn't easy. So Dwivedi takes life day to day as his retirement date of June 21 approaches. In retirement, he hopes to continue research

with Perumal, Xiangming Guan and colleagues at Sanford Health.

There will be travel, particularly to visit children, who live in San Francisco, New Jersey and India.

Dwivedi also wants to meet his successor and “share how I have done things.” Dean Dennis Hedge hopes to have a successor on board by midsummer.

The search committee, headed by Matt Vukovich, began candidate evaluations in January.

Hedge observes, “The person that will come in here will have major shoes to fill. Dr. Dwivedi is leaving a legacy of great accomplishment.”

Dave Graves

Ample evidence of Dwivedi research productivity

Chandradhar Dwivedi is considered the father of modern research in the SDSU College of Pharmacy.

“When I came in there was absolutely no research in the department and the college. Dean (Bernie) Hietbrink said he would support me in establishing a research program,” says Dwivedi, who had already done research earlier in his career.

Hietbrink recalls, “He came out of Nashville and had done some pretty good work there” at Meharry Medical School.

He adds, “It wasn't too long after he arrived that they reduced the number of labs that students were required to perform. The reduction in the number of wet labs contributed to his ability to have his own lab” because students needed less space.

So Dwivedi got his own lab in the Gross Pharmacy Addition next door to the animal (mice) room.

His office was also adjacent to the room, so that meant when a student would forget to secure the mice, they wandered into Dwivedi's office. But he appreciated the room's convenience and became recognized as the campus expert when testing with mice.

Colleague Xiangming Guan says, “Whenever my students need training in how to use animals, he is always the one.”

Patents sought on cancer compounds

Guan and Dwivedi have worked together on a number of research projects. Currently, Dwivedi is testing the effectiveness of a prodrug on animals. They have applied for a provisional patent on the compound they developed in 2010 to treat head and neck cancer.

Dwivedi also pioneers the research of alpha-santalol, a derivative of sea coral used to treat and prevent skin cancer.

“He has a passion for research. He does research not because he's asked to do it

Dwivedi, right, works with graduate student Ruth Guillermo in his lab May 31, 2011. Guillermo is the most recent among 12 graduates from the Ph.D. Program, which was begun in 2007 under Dwivedi's leadership. He is known for being a mentor as well as a researcher, being willing to go into the lab to help his students and those of his colleagues.

or because he has to do it, but because he has a passion for it,” Guan says. “He is probably one of the few department heads (at any college) still involved in research.”

Grants testimony to commitment

That passion has helped Dwivedi garner \$5 million in grants and international recognition in cancer research.

Colleague Omathanu Perumal credits Dwivedi for SDSU's successful application to the South Dakota Board of Regents for a 2010 Center of Excellence. The university received \$2.3 million to create and fund the Translational Cancer Research Center from 2009 to 2014.

It provides the network for SDSU faculty to collaborate with Sanford Health researchers in cutting-edge work.

Perumal recalls that shortly before the Regents were to consider the SDSU proposal, Dwivedi fell and broke his leg. Perumal was prepared to fill in for his injured supervisor. But Dwivedi felt an obligation to the effort, so he convinced Perumal to drive him to Pierre.

Perumal says, “That showed his extraordinary commitment to the center,” which Dwivedi continues to direct.



Dwivedi: 'I believe in team'

The retiring distinguished professor says, “We have two or three projects in that center that are ready to be commercialized.” The work to improve the prevention of or treatment for skin and breast cancer is done in collaboration with Guan, Perumal and a couple Sanford researchers.

Dwivedi adds, “I believe in a team. I'm very fortunate to have an excellent team.”

His colleagues praise their mentor.

Dean Dennis Hedge observes, “He's garnered that respect through a record of quality production in publications and the laboratory. He's taken that aspect of his work very seriously and his reputation for doing high quality work means a lot to him.”

Dave Graves



Chandradhar and Prabha Dwivedi pose with their children and grandchildren in June 2011 in observance of their 50th anniversary. Pictured are, front row, from left, Shravan, Chandradhar, Prabha, Sonia and Shalin. Back row, Sangeeta, Shreya, Sudhanshu, Neeraja, Himanshu and Kusum.

Dwivedi — *the family man*

To Chandradhar Dwivedi, fellow College of Pharmacy faculty members are his academic family.

And the students, particularly graduate students, also are considered family.

Colleague Xiangming Guan says, “He really treats students like family. I like how he says they are our academic kids. That’s how, in the department, we are treating our kids. He sets the model. We have high expectations for our students and we care about our students.”

But Dwivedi, who has been married nearly 52 years and has three children, holds his personal family in yet another category.

He married Prabha in 1961 according to traditional Indian customs.

“I would not have been able to do the things I have without her support. She let me do what I wanted to do. She’s a tiny woman, but a very strong woman. She’s my strength. She supports me unquestionably,” Dwivedi says in a farewell interview.

Three children, four grandchildren

Retirement will mean more time to visit their children — Sudhanshu “Sid,” a 41-year-old information technology manager with Jet Blue Airlines in New York; Neeraja, a 37-year-old classic Indian dance instructor in Bangalore, India; and Himanshu, the 36-year-old who founded and was president of iSEC Partners, an information security company in San Francisco, and now is the founder and chief executive officer of two new technology startup firms in San Francisco.

The Dwivedis have four grandchildren. Prabha and Chandradhar both have a number of relatives in India.

Himanshu, their youngest son, says, “His background, his heritage, is a big part of who he is today. He actively remembers where his cousins are and where his brothers and sisters are in India. He still feels an obligation to everyone else.

“He grew up in a very small village in India. To do so well in one generation, that’s the epitome of who he is today.

“He came from such a humble background and now to be head of a department, that models who he is.”

The surrogate grandfather

The Dwivedis have lived in the United States for 40 years, but they have maintained the Indian culture of hospitality.

Himanshu, who was 11 when the family moved here, notes, “He and mom, I think they take in every Indian student in Brookings. They treat everyone the way they wanted to be treated when they came. It’s part of their personality. They’re a very welcoming family.”

As retired colleague Gary Chappell notes, “He was somewhat the father or grandfather for anyone coming to campus from India.”

Dave Graves

What others say *about Dr. Dwivedi*

Deans

Dennis Hedge, 2008-present

"He is the consummate professional. Very soon after joining SDSU, I discovered that all of the faculty members and students had great respect for him. After a short time working with him, I knew why."

Brian Kaatz, 2003-08

"Dr. Dwivedi has been a talented scientist and teacher for many years with many contributions in both areas. That could stand alone as a powerful legacy, but even more importantly, he has always been a gentleman and very honorable man."

"He is among the most dignified, honest and sincere people I have ever met. That will be remembered by many for a very long time."

Danny Lattin, 1995-2002

"I have many fond memories of working with Chandradhar, but one that I have never forgotten occurred during my first couple of months at the College of Pharmacy when I was conducting individual meetings with each faculty member in their office."

"During the course of our conversation, I asked Chandradhar why everyone called him 'CD.' In his typical gentle way, he told me that people called him 'CD' because they had trouble pronouncing his name, even though he preferred his given name."

"He was too kind to correct them because he didn't want them to feel badly about the error. I asked him to teach me then and there to pronounce his full name correctly, and he did so. Since that day, I have always used his full name."

"I think he appreciated that. Indeed almost everyone else soon began using Chandradhar's name rather than the initials."

Bernie Hietbrink, 1987-94

"I think he was somewhat demanding, as all teachers should be. I think he was fair. I recall a student that didn't do too well because he had his own idea of what should be taught and what shouldn't be. He had to do some repeat work."

"He (Dwivedi) was fair with the student. The student had to take the one semester over and-

after it was all over, I think the student even apologized and saw the light a bit and never had a grudge against the college. He did quite well in his career."

Colleagues

Omathanu Perumal, 2005-present

As a new faculty member, Perumal was looking for grant funding. Dwivedi suggested he apply for funds from the South Dakota Corn Utilization Council. Perumal did so and was awarded \$74,000 in 2006.

That led him to work with zein nanoparticles, a corn protein. His research using zein has led to the filing of three patent applications and the start of a firm to commercialize the development of novel carriers for drug delivery.

"I would consider him one of the best mentors I've ever had. He's very inspiring for a new faculty member."

Xiangming Guan, 1995-present

"By looking at appearances, the initial impression is a very serious person. He always keeps the face straight. But after more interaction, he is easy to access, not like what he appears."

Joel Houglum, 1979-2007

"I remember it didn't take long to gain confidence in his ability. You could tell right from the start he was going to be a very good addition to our faculty. He was writing grants, optimistic, and the hard work that he showed right away progressed through the years."

Gary Chappell, 1973-2000

"He was always in the lab with the students, helping them, participating with them in the research. I think that's why undergraduates liked to work with him because he was right there with them. He was a leader by example."

Students

Ajay Bommareddy, 2007 Ph.D. grad, faculty member at Wilkes University, Wilkes-Barre, Pa.

"I wouldn't have been in the position I'm right now without Dr. Dwivedi's guidance and support. My continuing interactions with Dr.

Dwivedi helps me a lot in advising my current students not only in class but also with their research interests."

"Finally, I want to say that my professional career is letting me lead my life the way I expected during my graduate studies at SDSU."

Ruth Guillermo, 2012, postdoctoral fellow, University of Colorado School of Pharmacy, Aurora

"He wants you to get exposed to the scientific crowd. He encourages the presentation of the scientific work in big conferences. He wants you to interact with other scientists and to know what other people are doing because in this way you create a network on your own and you get new ideas for your current and future work."

Ashley Potter, Pharm.D. candidate, Class of 2015

"I was given the opportunity to design programming for the College of Pharmacy's Spring Convocation in 2012. The topic that I chose was international health care, and I was responsible for finding a speaker and arranging a panel for an audience of over 300 students and faculty."

"I went to Dr. Dwivedi with the topic idea, and he was able to use his networking skills to find Drs. Kenneth Walker and Archil Undilashvili, physicians who work with the United States Agency for International Development and the nation of Georgia to modernize the country's health care system."

"The event was beyond my expectations, and it would not have been possible without Dr. Dwivedi."

Family

Sudhanshu Dwivedi, 41, oldest son

"My father, while being dedicated to make sure we were properly educated, he gave us a good all-around experience that we value each other. He taught commitment to each other and to value each other."

Neeraja Dwivedi, 37, only daughter

"My father is a very noble man with great human values, I feel blessed that I am his daughter. We all grew up with good human values and high morals."

Himanshu Dwivedi, 36, youngest son

"My dad was a person that I personally looked up to. He spoke loudly with his actions. All my current success I owe to watching his actions. I don't remember that many verbal lessons. He was always someone that used logic and patience with the kids."

Interprofessional education

“Once students understand how to work interprofessionally, they are ready to enter the workplace as a member of the collaborative practice team.”

— Deb Farver, professor of pharmacy practice



Pharmacy, nursing students join forces to improve health outcomes

The lines of communications for those in the health-care workforce are being enhanced thanks to an initiative that's taking place in schools of pharmacy and nursing across the country.

It's called interprofessional education. The World Health Organization defines it as when students from two or more professions learn about, from and with each other to enable effective collaboration to improve health outcomes.

The push for interprofessional education comes from the Accreditation Council for Pharmacy Education and Interprofessional Education Collaborative.

The collaborators include the American Association of Colleges of Pharmacy, American Association of Colleges of Nursing, American Association of Medical Colleges, American Association of Colleges of Osteopathic Medicine, American Dental Education Association and the Association of Schools of Public Health.

Interprofessional education, which consists of classroom and laboratory activities, will become part of the curriculums of all health professional schools, according to professor of pharmacy practice Debra Farver.

“The College of Pharmacy is advancing the role of interprofessional education in the curriculum,” she says. “Once students understand how to work interprofessionally, they are ready to enter the workplace as a member of the collaborative practice team. This is a key step in moving our health systems into a position of strength.”

Farver is on a task force team charged with organizing, developing, implementing and assessing interprofessional education in the college. Other task force faculty members are Jodi Heins, Brittney Meyer and Teresa Seefeldt.

Students are engaged

College of Nursing students join the pharmacy students in the pharmacy practice lab for activities involving SimMan, which is

a simulation mannequin that can mimic responses such as allergic reactions to medications.

The respective colleges are developing one interprofessional activity for each class of students with more scheduled in the future, Farver says.

“We have started with one activity per class because it needs to be developed, implemented and assessed. There is a tremendous number of hours in the development phase, plus when the activity is done, at least six to eight faculty from pharmacy and nursing are needed to present and administer the activity.”

In September 2012 pharmacy and nursing students teamed up twice in Wagner Hall for an adult patient and chronic obstructive pulmonary disease simulation on SimMan.

“He talked to them through a faculty voice with a hidden microphone while there were demonstrated changes taking place during a physical examination,” relates Farver.

In the pharmacy practice laboratory in October, pharmacy and nursing students reviewed material to improve their medication knowledge regarding an elderly diabetic patient (role-played by a faculty member) with retinopathy, which is one of the leading causes of blindness.

The students interviewed the patient together and then determined if tools like talking glucometers, talking prescription labels and insulin pens could help.

A talking glucometer is programmed to assist those with impaired vision in the task of measuring blood glucose levels to manage their diabetes.

Instead of reading a prescription label, a person can record into a small device the name of the medication and how many times a day to take it. Once attached to the prescription vial, a person simply pushes a button to hear the instructions.

“Pharmacy and nursing faculty were very pleased with the students' preparation for the activity and their participation,” observes Farver.

“The students were very engaged in helping an elderly patient with a visual impairment. They learned about numerous

devices and methods to make it easier for patients to take their insulin.”

Activities help in long run

Interprofessional activities are done with pharmacy students in their first, second and third year of the professional program. Doing so will help them when they are completing their advanced pharmacy practice experiences in their fourth year, according to Farver.

“Every five weeks a student starts a new advanced practice experience that can place them in settings to interact with numerous other health-care professionals,” she says. “Students in their final year can demonstrate communication and teamwork skills due to interprofessional activities learned from the previous years.”

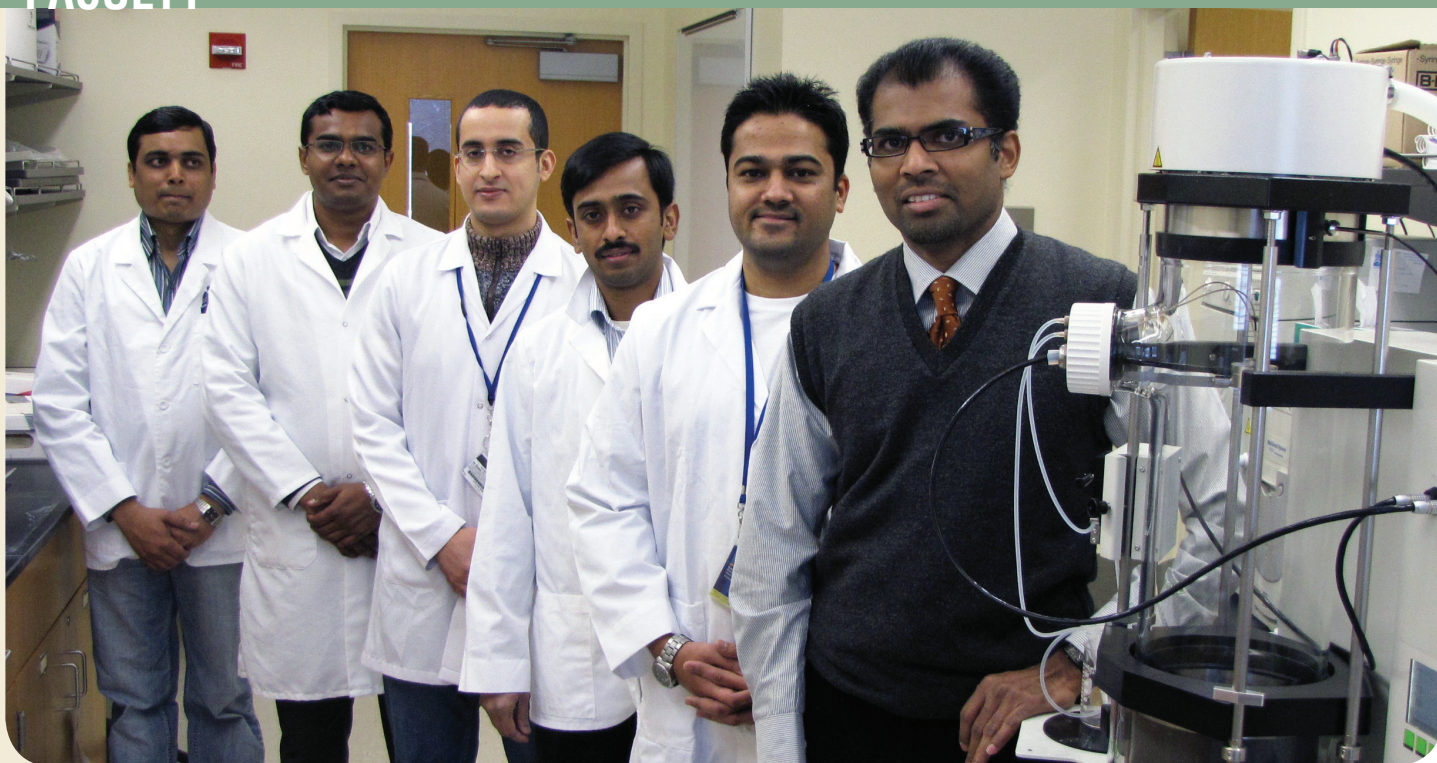
Physicians, nurses, pharmacists and other health professionals do work together to improve patient care, but the degree varies from practice site to practice site, according to Farver, who has a good perspective on interprofessional education as a clinical pharmacist for the South Dakota Human Services Center in Yankton in addition to her teaching assignment with the college.

“When I first read about it, I thought, well, this is what I do in my day-to-day pharmacy practice,” she says. “I discuss medication use with physicians and nurses, but I learned how to interact and communicate professionally on my own.”

“By demonstrating and mentoring all health professional students through the curriculum they should be effective members of a team once they graduate — basically not having to learn by trial and error on their own.”

“Students will also have a good understanding of what each discipline is about and what they bring to the table to improve patient care.”

Kyle Johnson



Associate professor Om Perumal is the first College of Pharmacy faculty member to receive the faculty scholar designation. Perumal cites his success through teamwork. Part of his research team includes, from the left, Umesh Gupta, Sumon Roy, Mohammed Alqahtani, Ranjith Averineni, Kaushal Dave and Perumal. They are shown with a nano spray dryer used to collect zein, a corn protein that plays an important role in his cancer research.

Faculty scholar award

Faculty scholar award helps bridge gap between lab, marketplace

The faculty scholar award, a one-year designation that brings with it \$22,500 in funding, is meant specifically to help the efforts of researchers whose work is close to bridging the gap from the laboratory to the marketplace.

“It provides funding to support the research team’s effort. The additional resources are to be used to prove concepts, network with industry and make corporate connections,” says Dean Dennis Hedge. “These things are central to our strategic vision.”

Impact 2018, SDSU’s newest strategic vision, lists as its second strategic goal the generation of new knowledge and the encouragement of innovation.

Perumal’s work at critical juncture

In the College of Pharmacy, the award is offered with an eye toward economic development and commercialization. The first researcher determined to be the furthest along in the development of intellectual property was associate professor Om Perumal, who is working on drug delivery systems for patients with

breast, prostate and skin cancer as well as other diseases.

“He’s at a critical juncture of intellectual property development,” Hedge says.

According to Perumal, the funds associated with the award will be used to pay for product development, supplies and travel to visit potential industry partners.

While the award went to Perumal, he’s quick to share the acclaim.

“I’m honored, but there are a lot of other faculty who will benefit from this award down the road,” Perumal says. “It’s not recognition just for me; it’s teamwork.”

He notes that his research projects have benefited from the efforts of faculty collaborators, post docs, graduate students and undergraduate students.

“I can’t take the credit for everything going on in my lab,” Perumal says. “It’s an award for the team effort. One person can’t do everything.”

Positions open for endowment sponsors

The funds to support the college’s faculty scholar award came from pooled

dollars through fundraising. It’s the kind of award, like an endowed professorship or an endowed faculty chair, which could be fully sponsored by a donor.

“The scholar designation is along those same lines,” Hedge says. “Having it fully sponsored by an individual is our goal.”

It’s a concept the college has already been working on thanks to the generosity of 1968 graduates Barry and Sharon Markl. They have made a commitment to establish the college’s first endowed chair in oncology research.

Hedge sees efforts like this—from endowed positions to the faculty scholar award—as important factors for attracting the best faculty and researchers.

“These are attractive opportunities for faculty because of the additional resources to support their efforts,” Hedge says. “It’s very important that we continue to make progress in this area because it enhances our ability to recruit and retain faculty talent.”

Dana Hess

Where are they *now*?

Ph.D. Grads

In U.S., China, India
teaching, doing research



They're teaching and conducting research at universities, medical systems and institutes around the world, making their mark, advancing the knowledge.

One can be found on the Brookings campus. One is employed in Sioux Falls. Two work in Michigan and there's one each in Arizona, California, Colorado, Pennsylvania and Texas. Two, husband and wife, are in China. One is in India.

They are the first 12 graduates of the Ph.D. in pharmaceutical sciences program.

When the college first offered the degree in fall 2007, "Bigger pharmacy schools had the Ph.D. program, but in our size school, we were ahead of the curve," says Chandradhar Dwivedi, head of pharmaceutical sciences.

"This takes us to a different league.

"It's going very well. I couldn't be happier. We have excellent retention, graduation and placement."

Its focus is the difference between the Ph.D. and the Pharm.D., Dwivedi says.

"The Pharm.D. is practice-based. Graduates get licensed and work as pharmacists. The Ph.D. is an academic program. People graduate and get careers in academics, as scientists, as teachers. It's the same background, but a different focus. The Pharm.D. focus is health care. The Ph.D. advances the knowledge."

Twenty students are currently in the Ph.D. program.

"We are at capacity," Dwivedi says. "We could stretch one or two more, but 20 is comfortable."

"For the first time this year we have two students supported by the Fulbright," wherein their education is paid for by the U.S. government. "It is an honor."

The college has a good reputation for its training and productivity, Dwivedi says, proven in the placement of its graduates.

"We are still building name recognition," he says, "but people know us."

The 12 graduates of the Ph.D. in pharmaceutical sciences program are:



Ajay Bommarreddy, 2007

Hometown: Nunna, Vijayawada rural, Andhra Pradesh, India

Position: Assistant professor in pharmacology, Nesbitt School of Pharmacy, Wilkes University,

Wilkes-Barre, Pa.

Ph.D. adviser: Chandradhar Dwivedi

Research: Naturally occurring phytochemicals and their potential in combating the development and progression of various malignancies, including cancer.

Benefits of the Ph.D.: "My Ph.D. has provided me with the knowledge and confidence essential to live in this ever-changing, competitive world," Bommarreddy says. "I was very fortunate to have a good mentor [Dwivedi]. His guidance was instrumental in navigating through my

postdoctoral research studies working alongside nationally recognized scientists. At my current position, I continue to implement the good practices that I garnered during my graduate studies both in the classes that I teach and also in training undergraduate students with research techniques. My experience at SDSU working as a teaching assistant served me as the base in developing my lectures and also enhanced my teaching abilities at Wilkes University.

Why SDSU? "I was motivated by the research work on chemoprevention. SDSU College of Pharmacy's reputation was also a factor that instilled confidence."



Teresa Seefeldt, 2007

Hometown: Clark

Position: Associate professor of pharmaceutical sciences, SDSU

Ph.D. adviser: Xiangming Guan

Research: Oxidative stress in cardiovascular disease with a focus on thiol regulation in oxidative stress

Benefits of the Ph.D.: "For the career path I wanted to take, to teach in pharmaceutical sciences and do research, the Ph.D. was required," Seefeldt says. In teaching, she

"My Ph.D. has provided me with the knowledge and confidence essential to live in this ever-changing, competitive world."

Ajay Bommarreddy, 2007

Above: Thanks to her doctorate in pharmaceutical sciences, Teresa Seefeldt was able to tailor a career that allows her to work in the research labs at Avera Health and Science Center while also teaching future pharmacists at her alma mater.

enjoys the interaction with students, in the classroom and out as adviser to the Academy of Student Pharmacists, Kappa Epsilon and the American Association of Pharmaceutical Scientists.

"What I enjoy about research is the knowledge that you are working on a question that isn't answered yet. It's a continuous quest for new knowledge, for the moment an experiment you've been working on comes together."

Why SDSU? "I initially received my Pharm.D. from SDSU, so familiarity with the program was a major reason why I decided to stay at SDSU. I knew the quality of the faculty and the educational experience offered by the College of Pharmacy and felt confident that I would have a good experience with the graduate program."



Yong Zhong, 2008

Hometown: Tengzhou City, Shandong Province, China

Position: Research associate, Department of Physiology, Michigan State University, East Lansing

Ph.D. adviser: Xiangming Guan

Research: Environmental factors (perfluorooctanoic acid, high fat diet, hormones) and breast cancer. As a research assistant during his doctoral studies at State, he researched enhanced cancer cells sensitivity to radiotherapy (X-ray radiation) by an increase in oxidative stress via glutathione modulation.

Benefits of Ph.D.: "Ph.D. study gave me the opportunity to fulfill my dream to be a professor."

Why State? "SDSU is a very good place to study and to obtain the Ph.D. degree because there are wonderful professors and a very nice environment to stay calm for study."



Xiaoying Zhang, 2008

Hometown: Hangzhou, Zhejiang Province, China

Position: Senior manager, Pharmacology Department, ACEA Bio Co., China

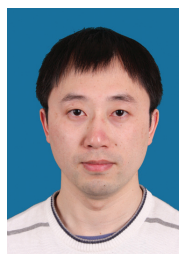
Ph.D. adviser: Chandradhar Dwivedi

Research: Pharmacological sciences.

In her current position, she establishes animal models for anti-cancer compound screenings and tests the in vivo efficacy of anti-cancer compounds.

Benefits of Ph.D.: "The academic knowledge learned from Ph.D. studies supports the technological part of my career," Zhang says. "But the most important thing is the Ph.D. experience at SDSU and in a different country let me learn how to think and face and solve different issues, which makes my career successful."

Why SDSU?: "Quality education and a complete welcoming environment for international students."



Wei Chen, 2010

Hometown: Longquan, Zhejiang Province, China

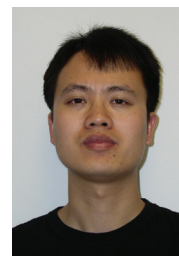
Position: Research associate scientist, Zhejiang Cancer Research Institute, Zhejiang Cancer Hospital, Hangzhou, China

Ph.D. adviser: Xiangming Guan

Research: Pharmaceutical research specific in medicinal chemistry

Benefits of Ph.D.: "The Ph.D. not only makes my academic career possible, but also it is a very important experience in my life," Chen says. "It is not a single way, but gives me keys to the doors that I'd like to open on the road to success."

Why State?: "SDSU provides the professional education that I am interested in. Before I came to SDSU, I believed that the overseas experience would be the treasure of my life and it really was."



Yueshan Hu, 2010

Hometown: Hengshan, China

Position: Research scientist, Avera Institute for Human Genetics, Sioux Falls; assistant professor, Department of Psychiatry, Sanford

School of Medicine, University of South Dakota

Ph.D. adviser: Gareth Davies

Research: Treatment and prevention of metabolic disorders such as obesity, diabetes and hyperlipidemia

Benefits of Ph.D.: "Learning the philosophy of pharmaceutical sciences," Hu says.

Why SDSU?: "To obtain knowledge and skills of pharmaceutical sciences to integrate with my herbal medicine background."



Vamsi Venuganti, 2010

Hometown: Vijayawada, Andhra Pradesh, India

Position: Assistant professor, head, Department of

Pharmacy, Birla Institute of Technology and Sciences, Hyderabad, India

Ph.D. adviser: Omathanu Perumal

Research: Development of nano-carrier system for the delivery of small molecules and macromolecules including proteins and DNA based drugs; transdermal drug delivery and cell targeted delivery of nucleic acids and proteins; molecular imaging.

Benefits of Ph.D.: "The Ph.D. has provided a new insight into the way I think about everything," Venuganti says. "I have learned that hard work and perseverance would pay off at the end of the day. It taught me to be patient in expecting results. All these qualities make me a better person at my work and in running my own research laboratory."

Why State?: "It was by chance that I was at SDSU rather than a choice, however, I immensely learned and enjoyed my work and stay at Brookings, S.D."

"I learned many techniques which helped me in getting a job in the pharmaceutical industry where the research is focused on developing drugs for relieving pain in cancer patients."

Chandeshwari Chilampalli, 2011



Satheesh Podaralla, 2011
Hometown: Hyderabad, Andhrapradesh State, India
Position: Research scientist, Formulations R&D at SRI International, Menlo Park, Calif.

Ph.D. adviser: Omathanu Perumal
Research: Pharmaceuticals and drug delivery systems

Benefits of Ph.D.: Multidisciplinary training.

Why State?: "I choose SDSU because my research interests and professional goals matched with Dr. [Omathanu] Perumal's lab research projects," Podaralla says. "SDSU faculty were very helpful to students and the research environment is great with very good resource of instrument facilities."



Chandeshwari Chilampalli, 2011
Hometown: Hyderabad, India
Position: Research scientist, Research & Development team, Insys Therapeutics, Phoenix, Ariz.

Ph.D. adviser: Chandradhar Dwivedi

Research: Cancer, chemoprevention, molecular biology and formulation

Benefits of Ph.D.: "It gave me research exposure and confidence to work in the world of cancer research," Chilampalli says. "Research work done under Dr. Dwivedi, who is one of the best faculty and well recognized in the United States for his research in the field of pharmacy, gave me lot of experience in the field of cancer research. I learned many techniques which helped me in getting a job in the pharmaceutical industry where the research is focused on developing drugs for relieving pain in cancer patients. I learned three qualities in my Ph.D., which are patience, perseverance and persistence, which helped me succeed. The experience also helped me to become an editorial board member for 26 national and international journals and a reviewer for 10 journals."

Why State?: "I was mainly attracted towards the research program carried out in Pharmaceutical Sciences. The people in the state are very helpful and friendly. The knowledge and education gained in the graduate program helped me to find good opportunities in my career path."



Preety Sahdev, 2012
Hometown: Delhi, India
Position: Postdoctoral fellow, Department of Pharmaceutical Sciences, Department of Biomedical Engineering, University of Michigan, Ann Arbor

Ph.D. adviser: Omathanu Perumal

Research: Formulation development, drug delivery, vaccine delivery systems, novel vaccine adjuvant systems, nanotechnology, transcutaneous delivery

Benefits of Ph.D.: "Most of all, I learned the three most important qualities for being successful in life: patience, hard work and dedication," Sahdev says. "I learned various scientific techniques, presentation and communication skills and gained knowledge in my area of research. I feel fortunate that based on my Ph.D. research work, I got the opportunity to do my postdoc from the University of Michigan."



Ruth Guillermo, 2012
Hometown: Lima, Peru
Position: Postdoctoral fellow, University of Colorado School of Pharmacy, Aurora
Ph.D. adviser: Chandradhar Dwivedi
Research: Her area

of research in the Ph.D. program was chemoprevention of skin cancer and new therapies for melanoma. Her current research is also on chemoprevention of skin cancer but by different mechanisms of action, such as increasing the DNA repair of UVB damaged skin cells.

Benefits of Ph.D.: "Earning a Ph.D. has been a great achievement in my life and is the degree that allows me to keep working in the cancer research field," Guillermo says. "I love the science and the new things I can learn because I have the Ph.D. degree. I dream that one day I will be faculty and I will run my own lab. Now I can think much better for my future. And I will be able to help others as well when I will be faculty. Another great thing is that I can share the knowledge gained here in the U.S. with my peers in Peru."

Why SDSU?: "They were very friendly and attentive from the first time I talked to them," Guillermo says. "They guided me in every step of my application and seemed to really care about me even before they knew me. I got acceptance from another university in Europe too, but I decided for SDSU because, from the beginning, I felt they clearly wanted me to succeed."

"The Department of Pharmaceutical Sciences at SDSU had different areas of research, so it provided me with broad knowledge. Also, they listed a variety of equipment available for the research work. Learning to use modern equipment was very exciting idea for me.

"Other reasons were that South Dakota is known to allow a peaceful lifestyle without all the stress and expenses of the big cities. When I came to Brookings I noticed it was true. Very peaceful life, friendly and respectful people and short commuting times."



Ravi Kiran Sajja, 2012
Hometown: Chirala, India
Position: Postdoctoral research associate, Texas Tech University Health Sciences Center, Amarillo
Ph.D. adviser: Shafiqur Rahman

Research: His Ph.D. dissertation in Associate Professor Rahman's laboratory for neuropharmacology research was focused on understanding the role of brain nicotinic receptors in acute and chronic effects of alcohol. In his current position, his research involves studying the toxic effects of altered glycemia and tobacco smoke on blood-brain barrier structure and function using dynamic BBB models.

Benefits of Ph.D.: "Ph.D. under the supervision of Dr. Rahman, an expert in neuropharmacology with decades of experience in addiction research, has made many changes to my career at both the personal and professional level," Sajja says. "It gave me a feeling of greatest achievement and instilled in me a strong passion for neuroscience research. Importantly, it gave me a potential opportunity for a continuous learning experience and to improve my skills, such as critical thinking."

Why State?: "It was my strong belief in SDSU that, from there, I can go anywhere and I witnessed it through the employment offers from prestigious institutions in the world," Sajja says. "My sincere interests in the Department of Pharmaceutical Sciences and its rapidly growing research program with diverse and vivid scientific interests, was the other reason."

Cindy Rickeman

"The Ph.D. has provided a new insight into the way I think about everything."

Vamsi Venuganti, 2010



He's no dummy

SimMan makes students think critically

Pharmacy students, from left, Ted Osborn, Maria Christopher and April Pottebaum pose with SimMan in the Pharmacy Skills Lab Dec. 7, 2012. The computerized mannequin arrived Oct. 4, 2012. Christopher holds one of the 30 iPads recently added to the lab. The pills in the bottle held by Pottebaum were dispensed using the new tablet counter in the lab.

When the campus went on holiday break, a patient of sorts was left behind in the pharmacy building. Though abandoned in the dark and, for the moment, all but forgotten, no complaints issued forth. For it is only in the company of students and faculty that he comes to life at all.

He's SimMan, one of the new additions to the practice lab, formally known as Pharmacy Skills Lab Room 150, located on the main floor of the Avera Health and Science Center and across the hall from the office of assistant professor Brittney Meyer, who runs the lab.

"Students memorize drug information in class," Meyer says. "Sim Man creates a situation where they have to apply what they learned. It gives it a third dimension."

SimMan 3G from the Laerdal Company is a wireless, computerized, programmable mannequin that arrived Oct. 4, 2012, to do whatever he's instructed to do from a laptop computer.

He says "Ouch, that hurts!" and many other pre-recorded verbal messages. Instructors can also make him say whatever they want by speaking into a microphone from another room.

He coughs, he wheezes. His pupils dilate or constrict. He cries and drools and can have a runny nose, thankfully all products of distilled water. His chest rises and falls with each breath. He can even bleed.

A finger pulse oximeter probe measures oxygenation of his blood and a blood pressure cuff reads his blood pressure, all of which can appear on a computer monitor for the students to analyze.

Drug recognition software enables him to react to any medication as a real person would do. When a simulated medicine card is held up to his mouth or simulated medication is given through his IV catheter, he registers the amount, speed and type of drug automatically and responds accordingly.

April Pottebaum, a P2 student from Alton, Iowa, had her first opportunity to work with SimMan during an interprofessional activity with nursing students.

"The SimMan can serve as the patient in a variety of different settings, which allows students to respond to each unique situation as we deem acceptable," Pottebaum says. "Simulation encouraged me to think critically and enhanced my problem-solving skills. Following the simulation, the professors can provide feedback about our patient interactions, including tips for improvement."

"The SimMan allows me to experience each situation in a safe environment. I have the opportunity to apply my knowledge and skills without the fear of harming a real patient. This allows me to gain confidence and learn from my mistakes."

The entire lab is wired for video monitoring equipment, so an instructor can be in another room, out of sight but available to provide instant feedback.

Lab equipment includes iPads, electronic records

Another recent addition to the practice lab is 30 iPads and the Neehr Perfect

electronic medical records system. Neehr, which stands for Networked Educational Electronic Health Record, simulates a system used by hospitals and is in keeping with the national move from paper charting to electronic charting.

Pottebaum knows that the iPads and the new medical records system will better prepare her for her future as a pharmacist.

"They will expose me to this technology prior to internship experiences in a clinical setting and enhance my familiarity with these systems," she says. "The iPads also provide access to a variety of valuable resources for pharmacy students."

The iPads will be used to work within the electronic record, but can also be used to access drug information, Meyer says.

"They're so mobile. Students aren't stuck to a desktop computer or even a laptop. More and more patients are accessing health information using different apps available on the iPad, which is important to consider as well."

Technology also can take the more monotonous tasks out of human hands. Such is the case for the new tablet counters.

"This technology is already out there and we're exposing students to it," Meyer says, experiencing a temporary jam while demonstrating the machine.

"It's great to have technology," she says with a sigh, "but along with that comes maintenance and troubleshooting. Students learn how to deal with these issues as well, providing further value."

Cindy Rickeman



Teaching certificate

Teaching certificate helps pharmacists in workplace, classroom

Tim Magnuson, a PGY1 pharmacy practice resident from Avera meets with a P3 class at the University Center in Sioux Falls.

Whether or not it's in their job description, the vast majority of pharmacists invest a considerable amount of time teaching the next class of professionals.

As students rotate through their pharmacies, they offer them direction and a model of professionalism, guided largely by the examples that were set for them by the pharmacists they observed when they were students.

Now the College of Pharmacy has embarked on a new program to teach the teachers as pharmacy residents hone their skills as preceptors or prepare for a career in academics.

In its inaugural year, the teaching certificate program has 20 residents participating from Avera McKennan and Sanford in Sioux Falls, Rapid City Regional, Liebe Drug in Milbank and Veterans Affairs facilities in Sioux Falls, Fort Meade and Hot Springs.

During the year they work with P1 and P2 students on the Brookings campus, P3 students in Sioux Falls and P4 students on Advanced Pharmacy Practice Experiences at their respective sites.

In addition to working directly with students in a pharmacy setting, residents also teach classes and conduct labs.

"It's a variety of things they've been involved with as far as teaching our students," says professor Jodi Heins who directs the teaching certificate program.

With pharmacy students in Brookings and Sioux Falls and some residents in West River facilities, the program has met some logistical challenges.

"We have faculty in all those sites," says Heins. "We can handle much of the program through distance education and personal interaction with faculty at their site."

Each resident seeking a teaching certificate is assigned a mentor at the medical facility who is also a faculty member of the college.

"They can really model after that faculty member," Heins says.

Residents in the teaching certificate program have specific objectives they have to meet while they make a portfolio of their work.

To successfully complete the program, residents must:

- Be able to describe a pharmacy faculty member's responsibilities for teaching, service, scholarship and assigned professional service.
- Demonstrate the ability to evaluate student performance in a variety of settings.

- Act as a role model for students.
- Perform in a variety of teaching situations.

According to Heins, administrators at the medical facilities showed an interest in having the college develop a program that provided teaching experience for residents.

For their part, residents seek a teaching certificate for a couple different reasons.

"Some want to pursue faculty positions," Heins says. "They can use this to strengthen their skills for academic positions"

Others want to improve their ability to serve as preceptors.

"There are others that want to develop their skills for precepting students," Heins says. "This would enhance their credentials."

While medical facilities get pharmacists with enhanced skills as preceptors, the college will get a steady stream of pharmacists who have experienced what it's like to be at the head of the classroom.

"It helps us develop a good stream of people in academia," Heins says. "It's a win-win for everybody."

Dana Hess

Keo Glidden Smith

Fall Convocation

Scripps researcher brings discovery to fall convocation

The Scripps Research Institute is a nationally known medical research facility so when one of its leading scientists comes to SDSU it's a noteworthy arrival.

Dale Boger, an endowed professor of chemistry at the institute in La Jolla, Calif., gave the keynote address at the 22nd annual Keo Glidden Smith Fall Pharmacy Convocation Oct. 29, 2012, at the University Student Union.

"It was a great honor to have Dr. Boger visit SDSU," says Dean Dennis Hedge. "He is internationally recognized for his work in medicinal chemistry. It was a great opportunity for our students to learn from a scholar who has made numerous discoveries that have advanced medical science."

The convocation opened with graduate students, undergraduate students and post-doctoral fellows presenting posters on their pharmaceutical and biomedical research activities. Among those taking in their work was Boger.

"Their posters were very impressive, both in number and quality," he says. "The depth of their understanding of the science involved was fabulous to see."

"SDSU has a tradition of excellence in producing outstanding pharmacy graduates. The convocation is an exciting day for the students, the program, and the faculty and it was an honor to be invited to be a part of it."

Boger, a world-leading research scientist and educator in pharmaceutical research with more than 500 peer-reviewed publications to his credit, presented "Discovery and Development of a New Therapeutic Target: Fatty Acid Amide Hydrolase."

Treating pain, sleep disorders

Boger shared how his research has led to the discovery of a new approach when it comes to treating pain and sleep disorders.

"My research entails blocking the action of a protein, an enzyme called fatty acid amide hydrolase, that we discovered during the course of our work," he says. "In the body this particular protein breaks down the endogenous signaling molecules that are released in the body to control pain or can potentially promote sleep."

Although Boger's discovery has not yet reached clinical trials, he says there will be products out on the market within five to seven years to help people better cope with pain and enhance sleep.

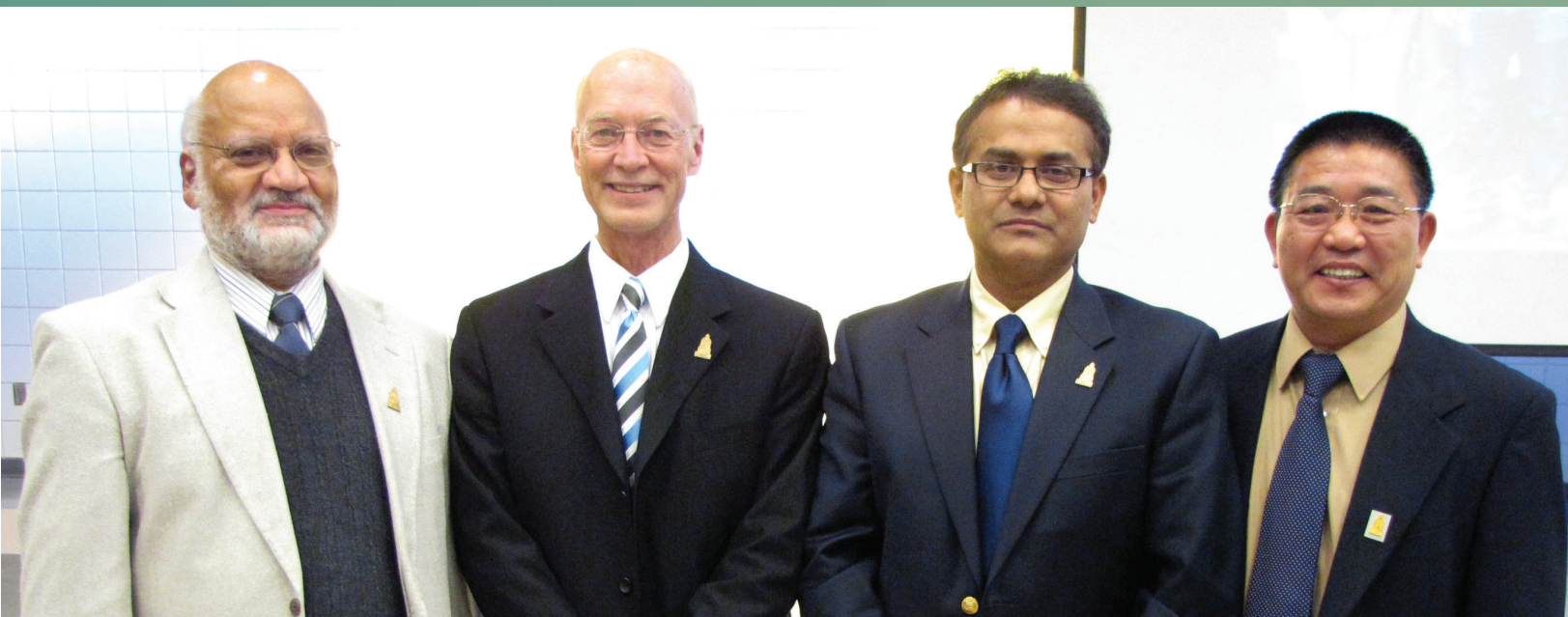
What he found was an enzyme inhibitor, which is a molecule that binds to enzymes and decreases their activity. Since blocking an enzyme's activity can kill a pathogen or correct a metabolic imbalance, many drugs can be classified as enzyme inhibitors.

"Dr. Boger's talk was definitely very interesting," says Kelsey Aker, a third-year student in the professional pharmacy program from Waubay. "For us students, it's very informative to see what new drugs will come out in the future and to follow the methods of discovery. It also expands on the research that I read online."

Depending on the dosage, the enzyme inhibitor will affect relieving pain and



Kelsey Aker, a third-year student in the professional pharmacy program, presents Dale Boger with an SDSU jacket. Boger, a nationally known medical research scientist, was the keynote speaker at the 22nd annual Keo Glidden Smith Fall Pharmacy Convocation Oct. 29, 2012, at the University Student Union.



Three high-profile pharmacy professors pose with Dale Boger, second from left, after his keynote address at the fall convocation. At Boger's left is distinguished professor Chandradhar Dwivedi, head of the department of pharmaceutical sciences. To Boger's immediate right is Shafiqur Rahman, associate professor of pharmaceutical sciences, and at far right is professor Xiangming Guan, coordinator of research/scholarship and graduate studies.

promoting sleep in different ways, according to Boger.

"This is much more sensitive for the use in pain. Using it for sleep has a much more subtle effect, and it's not clear whether that's going to be a side effect of the administration of it or not."

Boger further explains that the enzyme causes endogenous molecules to be released that can serve either as an analgesic or as a sleep aid.

"It (enzyme) will have no impact unless those signal molecules are being released," he says. "For example, if you are not hurt and put your hand on a hot stove, you will still feel the hot stove. But if you have a cut and it hurts, certain chemicals in the body have been released to control the pain."

"Your body wants you to feel the cut when it happens, but then after you've felt it, your body wants you to not feel quite so much pain, so the enzyme releases this endogenous substance to counteract the pain."

Impressed with work

John Daniel, a third-year student from Chester, looks forward to the day when Boger's drug discovery becomes available to the general public.

"There are not a lot of good medications out there for sleep disorders, so the fact that this enzyme can also help natural sleep to occur is something that can be used down the road in addition to serving as a pain inhibitor," he says.

"It's really interesting for me to see how much work goes into discovering these new drugs. It's an amazing process and we're all grateful for Dr. Boger's work in these areas."

Kyle Johnson

"It's really interesting for me to see how much work goes into discovering these new drugs. It's an amazing process and we're all grateful for Dr. Boger's work in these areas."

John Danielw, pharmacy student

Dale Boger • fall convocation keynote speaker

- Bachelor's degree in chemistry at the University of Kansas in 1975.
- Doctorate in chemistry from Harvard in 1980.
- Assistant/associate professor of medicinal chemistry at Kansas University from 1979 to 1985.
- Professor of chemistry at Purdue University, 1985-91.
- Endowed professor of chemistry at the Scripps Research Institute, La Jolla, Calif., 1991-present.

VALOR internship: *the residency before the residency*

Kelley Oehlke had heard the hype about the VALOR program, how it's a "miniresidency," "the residency before the residency" even. She didn't just automatically buy it.

But now, in the midst of her second year as director of the nationally-recognized Veterans Affairs internship program, she's a firm believer.

"By the time students leave the program, they have an incredible clinical knowledge base," Oehlke says. "It's amazing. As they go into their P3 and P4 years and reflect on the program, they feel

between serving as an associate professor at State and a clinical pharmacist whose practice site was at the VA Hospital in Sioux Falls.

In January 2011, she left the college and went full-time with the VA. She wears three hats: residency program director, clinical pharmacy specialist in ambulatory care and VALOR program director.

As she revamped the program, Oehlke invited input from the interns themselves, first and foremost Waconia, Minn., native Michelle Anderson.

"Michelle was the guinea pig," Oehlke

"They work on a lot of projects" in the areas of outpatient ambulatory care, internal medicine, mental health, long-term care, pharmacy administration, pharmacoeconomics and inpatient/outpatient dispensing, Oehlke says.

"The real intent is to give that well-rounded experience, but, ideally, we try to keep them in the VA."

That's Anderson's goal. After earning her Pharm.D. in May 2013, she's hoping to land a residency within the VA system, preferably in the Midwest.

"Over 2,000 students will apply. No one is guaranteed a position," Anderson says. "I do think it helps to have that experience within the VA, especially ambulatory care experience. That is so unique for an internship."

"In the VA pharmacy, ambulatory care involves seeing patients and prescribing or changing medications as necessary. I've never seen an internship with quite that ambulatory care experience."

Her role in the VALOR program is "absolutely" why Anderson chose to pursue a career with the VA.

"That opportunity solidified my decision," she says. "I like how the VA incorporates pharmacists in the health care team. They are respected. Their opinions are valued."

She sings Oehlke's praises as well.

"Kelley is such a wonderful program director," Anderson says. "She's always available. She values your opinion. She works hard to make the program more competitive so students get the best experience."

"She's very flexible. She met with me every week to talk about what works, what could be improved. She's so enthusiastic about the program, so involved. You don't see that in every internship. Even places outside the VA could model this program."

Kyle Johnson



VALOR interns Ryan Rasmussen and Rachel Pavelko consult with a patient at the Veterans Affairs Hospital in Sioux Falls Dec. 20, 2012.

it's helped them so much in applying what they learn in the classroom.

"They have so much more confidence than when they first come in. The growing curve is huge."

"It's been one of the most valuable experiences for me because I really get to see students grow."

Oehlke, a Ponca, Neb., native who graduated from the University of Nebraska Medical Center and did her residency there, taught at SDSU from 2002 to 2011. She had a 50/50 position, split

says with a smile. "I was new as director and she was my first student. We made it work. It is working."

VALOR, which stands for Veterans Affairs Learning Opportunities Residency, is a nationally-funded honors program for students who have completed their P2 year and who carry a 3.0 GPA in their pharmacy coursework. Since the program began in 2007, one or two students take part each year, logging 400 hours the summer before their P3 year and 400 more by September of their P4 year.

Marion Ehrich

—Alumna of the Year

Being a professor in a highly technical field requires an exceptional amount of dedication. Marion Ehrich has the type of career dedication that wins awards, develops insightful research and captures the trust of her students.

Ehrich works as a professor at Virginia-Maryland Regional College of Veterinary Medicine in Blacksburg, Va., and at Virginia Tech Carilion School of Medicine in Roanoke, Va.

Ehrich, '68, received the Alumna of the Year Award at the Sept. 29, 2012, scholarship banquet at SDSU. "The banquet was well organized and very impressive," says Ehrich. "I had a wonderful time coming back to South Dakota."

Ehrich's education

Ehrich grew up in the small town of Java, in north central South Dakota. "There were 18 in my high school graduating class, and I was the first in my family to get a college degree," says Ehrich.

After high school, Ehrich journeyed more than 200 miles from home to pursue an undergraduate pharmacy degree at SDSU. "I wanted a challenging program that would provide a paying career in medical sciences that could be obtained within the state of South Dakota," Ehrich says.

There were 49 pharmacy students in her graduating class and 40 were male. Ehrich enrolled in the five-year pharmacy program that started her freshman year, although pharmacy courses did not start until the third year.

"We had classes in the Administration Building and Shepard Hall," says Ehrich. "Organic chemistry in my second year of college was difficult, but those of us that made it through the SDSU course were better off than those who went elsewhere."

Even as a pharmacy student, Ehrich wanted more than what working in a drugstore would provide. She spent her college summers and after graduation working outside of the pharmacy curriculum to obtain the required hours for the licensing exam. "I worked at Kraft

Drug in Selby my second year of college, then Casey Drug in Madison my third year and finished the necessary hours at Vilas Drug in Pierre after graduation," says Ehrich.

Ehrich remembers helpful and encouraging instructors at State including Bernard Hietbrink, Gary Omodt, Floyd LeBlanc and Kenneth Redman.

Path to prominence

"Dr. Harris, my biochemistry teacher, provided me with information on a summer research program sponsored by the American Dental Association," says Ehrich.

She applied for the summer research program during her fourth year of college and was chosen to work in the pharmacology laboratory of Louis Gangarosa at the University of Rochester, N.Y.

After completing the summer program, Ehrich attended a final conference at the University of New Hampshire.

"I met a National Institutes of Health scientist at the event who let me know that I could get financial support for going to graduate school, which was something I didn't know was possible," says Ehrich. After the conference, Ehrich made the decision to further her education.

On her return to SDSU, professor Hietbrink helped Ehrich with applications and sponsorship, and she was admitted to the highly respected toxicology program at the University of Chicago.

"My education was interrupted as I changed from Marion Fiedler to Marion Ehrich, but, with a lot of advice and support from Dr. Hietbrink, I was able to continue work toward a Ph.D. at the University of Connecticut in Storrs," says Ehrich. "I was commuting 55 miles one-way from our home in Massachusetts for the two and a half years it took to do so."

After completing her Ph.D. in 1975, Ehrich took a postdoctoral position with a biochemist at the University of Massachusetts in 1967.

"My husband and I looked for positions in a location that would support both of

us," says Ehrich. "He obtained a faculty position in computer science at Virginia Tech and I started in a postdoctoral position doing toxicology research at the Anaerobe Laboratory."

During that time, a new college of veterinary medicine was planned and the college began to hire new faculty. Ehrich was hired in 1980 as a professor of pharmacology and toxicology, and currently holds the same position.

Enjoying her career

Ehrich's knowledge and research efforts in the pharmacology fields have led to her being a credible source of information and research internationally.

Since her start in pharmacology and toxicology, Ehrich has been awarded millions of dollars in funding for neurotoxicology research. "I have served on many national committees and have found that to be a highly rewarding aspect of being a toxicologist, and an important part of my career," says Ehrich.

Ehrich continues to represent SDSU through her career excellence, enlightening others with rich research and teaching.

"I have been at Virginia Tech for 32 years, teaching every doctor of veterinary medicine who has come out of this college," Ehrich says. "The best part of my job is seeing the light shining in the eyes of the students as they 'get it.'"

Karissa Kuhle

Marion Ehrich '68 receives her alumna of the year plaque from Dennis Hedge at the college's scholarship luncheon Sept. 29, 2012. The Java native is professor of pharmacology at Virginia Tech veterinary school, where she has been since 1980.



Scholarships

Presented to P1, 2, 3 and 4 students at the Sept. 29, 2012, scholarship luncheon

Steven M. Aamot and Robbie D. Aamot

Scholarship in Pharmacy:

Amanda Ludwig

Aberdeen District Scholarship in Pharmacy:

Jodi Fischer

Oliver G. and Nelle K. Anderson Scholarship:

Keely Hamann

James A. and Nancy E. Armbruster Scholarship in Support of the Jackrabbit Guarantee:

Leah Eckstein

Dr. Harold S. Bailey and Barbara A. Bailey

Scholarship in Support of the Jackrabbit Guarantee:

Kaitlin Bottelbergh

Jack M. Bailey Scholarship:

Sarah Johnson

Brad and Dawn Bargmann Scholarship in Support of the Jackrabbit Guarantee:

Lauren Dartois

Tom and Linda Bartholomew Scholarship in the College of Pharmacy at South Dakota State University:

Chelsy Podoll

Jean Bibby Memorial Pharmacy Scholarship:

Amanda Bursack

Joye Ann Billow Kappa Epsilon Leadership Award:

Dana Merkel

Darrel and Peggy Bjornson Scholarship in Pharmacy:

Emily Van Klompenberg

Black Hills District (SDPHA) Scholarship:

Nicholas Goodhope

Marlin R. and Linda J. Brozik Scholarship in support of the Jackrabbit Guarantee:

Maria Christopher

Class of 1957 Scholarship in Pharmacy:

Nicholas Goodhope

Crazy Horse Memorial Scholarship in Honor of Ted and Bill Hustead:

Cody Maxwell

Lloyd Daniels and Helen Daniels Bader Scholarships in Pharmacy:

Joseph Berendse

Katherine Elder

Bill R. Darrah Scholarship in Support of the Jackrabbit Guarantee:

Andrew Hemmer

College of Pharmacy Phonathon Scholarships:

Amber Burke

Evan Robb

Megan Buysse

Victoria Ruppert

Jared Crumly

Maggie Skonhovd

Victoria Fleishhacker

Brittany Sykora

Eric Grocott

Rachel Vetter

Jonathon Koskela

Kirre Wold

Adrienna Rasche

Heather Yenne

Bill R. Darrah Scholarship at the

College of Pharmacy at South Dakota State University:

Nicholas Buschette

Mary M. Pullman Dodge Scholarship in Support of the Jackrabbit Guarantee:

Mollie Sloat

Richard J. Duffner Memorial Scholarship:

Joshua Veurink

Pundit Abhaya Narayan Dwivedi Scholarship in Pharmacology:

Rachel Pavelko

E. Keith Edgerton Memorial Scholarship in Support of the Jackrabbit Guarantee:

Amber Olson

Clark T. and Alice H. Eidsmoe Scholarships:

Eric Mathiowetz

Jane Vipond

Fleeger/Lovely Scholarship in Pharmacy:

Kelsey Aker

Marvin E. Foss Scholarship:

Kelsey Muhl

Lawrence and Winnibert Bradshaw France Memorial Scholarship:

Elizabeth Koenig

Milton and Elaine Freier Scholarship:

Mallory Muntefering

Shirley and Lyle Glascock Pharmacy Scholarship:

Amanda Felten

Gross Scholarship in Pharmacy:

Ashley Valdez

Sandra Grover Memorial Scholarship:

Rachel Pavelko

Dorothy Nelson Haas Memorial Scholarship

in Support of the Jackrabbit Guarantee:

Bethany Saffert

Daniel J. Hansen and Jessica L. Hansen Scholarship in Pharmacy:

Jessica Nowak

Gerrit Heida Memorial Scholarship:

Kimberly Wurtz

Bernard E. Hietbrink Scholarship:

Stephanie Schulte

Lloyd D. Highley Scholarship:

Kylee Bitner

Nancy and Seth Hildebrand Scholarship in Support of the Jackrabbit Guarantee:

Jessica Thyen

Hoch Drug Scholarship in Pharmacy:

Rachel Byrum

Joshua Satlak

Haleigh Hunsucker

Angela Schultz

Mindy Lucklum

Mikaela Smedsrud

Jacquelyn Miles

Mindy Stewart

Landi Risseuw

Brittany Williams

Jenna Ryan

Ted and Bill Hustead Memorial Scholarship:

Joshua Veurink

Kathleen Ingalls Scholarship in Support of the Jackrabbit Guarantee:

Aaron Larson

Bruce R. Johnson Scholarship in Support of the Jackrabbit Guarantee:

Mackenzie Byron

Julie Hanlon Johnson and Matthew Johnson Scholarship in Support of the Jackrabbit Guarantee:

Hilary Schilla

Randy L. Jones Scholarship in Support of the Jackrabbit Guarantee:

Dylan Stoebner

Galen D. Jordre and Ann M. Jordre Scholarship in Support of the Jackrabbit Guarantee:

Laura Bakker

The Juhnke Pharmacy Scholarship:

Sarah Ahnrdt

**Kmart Scholarship for Excellence
in Community Pharmacy:**
Kelsey Eneboe

Duwayne and Joan Knauf Pharmacy Scholarship:
Trent Harris

**Cheri A. Kraemer Scholarship
in Support of the Jackrabbit Guarantee:**
Cassie Heisinger

Kubly Excel Through Involvement Scholarship:
Tiffany Messenbrink

Susan Lahr and Gordon Niva Scholarship in Pharmacy:
Anna Delzer
Dylan Stoebner

**Robert and Donna Landes Memorial
Scholarship in Pharmacy:**
Brittany Starks

Terry Larvie Scholarship:
Cody Maxwell

J. Bruce and Kandi Laughrey Scholarship in Pharmacy:
Kiley Hyland
Heather Nelson

Floyd LeBlanc Scholarship:
Chance Wachholtz

Harry M. Lee Scholarship:
Jeremy Jansen

Larry Leighton Memorial Scholarship:
Megan Bechen

Donald M. Lien Scholarship:
Bretton Young

Edgar and Gladys Light Scholarship in Pharmacy:
McKenzie Bruer

Brian G. and Christine A. Lounsbery Scholarship:
Jessica Harris

Robert J. Manning Scholarship in Pharmacy:
Chance Wachholtz

**Barry and Sharon Markl Scholarship
in Support of the Jackrabbit Guarantee:**
Emily Rogers

Marion John McCormack Scholarship:
Chelsea Schmidt

Medicine Shoppe (SDSU Pharmacy Alumni) Scholarship:
Brianna Bestge

**Barry Duane Mellegard Memorial
Scholarship in Pharmacy:**
Tonya Gross

Glenn C. Miiller Memorial Scholarship:
Evan Robb

Tom and Marie Mills Scholarship:
Tia Krier

**National Association of Chain Drug Stores Foundation
Pharmacy Partners Scholarship:**
Hubert Lahr

**Carney Nelson and Margaret (Maggie) Nelson Memorial
Scholarship:**
Jamie O'Hara

Robert W. and Ardith G. Olson Scholarship in Pharmacy:
Amanda Bursack

Mark Eric Petersen Scholarship:
Abbie Johnson

Alford O. and Dolores J. Peterson Endowed Scholarship:
McKenzie Bruer

Allan A. Pfeifle Scholarship in Pharmacy:
Alicia Christensen

Pharmacists Mutual Companies Award:
Kirre Wold

Pharmacists Mutual Companies Scholarship:
Brittany Loncorich

Kenneth and Elizabeth Redman Scholarship:
Kelsey Muhl

William J. Regan Scholarship:
Kirsten Johnson
Scott Kelley

**Vincent and Patricia Reilly Scholarship
in Support of the Jackrabbit Guarantee:**
Kelsey Eneboe

**Sanford Pharmacy Faculty Scholarship
in Support of the Jackrabbit Guarantee:**
Joshua Ladwig

**Stanford D. Schmiedt Memorial Scholarship in
Pharmacy:**
Tia Krier

**Craig and Carolyn Schnell Scholarship
in Support of the Jackrabbit Guarantee:**
Amber Zemlicka

Sioux Falls VA Practice Site Scholarship:
Andrea New

Jane and Norbert Sebade Scholarship:
Stevie Wessel

**Chuck and Dorie Sendelbach Scholarship
in Support of the Jackrabbit Guarantee:**
Abbie Johnson

Earl and Daphne Serles Memorial Scholarships:
Colton Bass

Shopko Scholarship:
Kristen Dierks

**Ephraim "Ep" and Hilda Sieler and Beth R. and
Justin Joachim Scholarship in Support of the
Jackrabbit Guarantee:**
Charlie Soper

Dwight and Keo Smith Scholarship:
Jennifer Andree

**Merlin J. Snyder Scholarship in
Support of the Jackrabbit Guarantee:**
Megan Nelson

**South Dakota Pharmacists Association
Pharmacy Legacy Scholarship:**
Cy Fixen

**South Dakota Society of Health System
Pharmacists Scholarship:**
Andrea New

**Don C. Stark Scholarship in Support
of the Jackrabbit Guarantee:**
Brittney Dandurand
Shelby Ling

**Statz Family Pharmacy Scholarship
at South Dakota State:**
Alex Van Overschelde

**Lowell T. Sterler Northwest Iowa Pharmacy
Scholarship:**
Rachel Hansen

**Julie C. Stevens, M.D. Scholarship
in Pharmacy at SDSU:**
Amanda Johnson
Laura Johnson

**Medor A. and Florence M. Thibodeau
Memorial Scholarship:**
John Daniel

Mary and David Tidwell Scholarship in Pharmacy:
Lee Cordell

Van Hove Family Scholarship:
Kylee Bitner

Visions for The Future Scholarship:
Michelle Locke

Walmart Pharmacy Scholarship Award:
Jessica Fridley
Kayla Hughes
Sara Wettergreen

Watertown District (SDPHA) Scholarship:
Kirsten Johnson

Yankton District (SDPHA) Scholarship:
Kimberly Livingston

Special Scholarships

Walgreens Diversity Scholarship:
Ashley Potter

**New Walgreens Diversity Scholarship,
awarded December 2012:**
Angela Le
Eddy Ekobena

New Faculty

Assistant professor, certified technician join pharmacy staff

This year two new teachers joined the pharmacy practice department.

Assistant professor Tarryn Jansen teaches in the pharmacotherapeutic series, pharmacy practice and patient assessment and self-care, to P3 students at the University Center in Sioux Falls. In addition, she works with P4 students on their internal medicine rotation at the Sioux Falls Veterans Affairs Health Care System.

Jansen started her position with SDSU in July after completing a residency at the veterans' hospital, where she worked in ambulatory care helping veterans optimize their medications to manage chronic diseases such as diabetes and high blood pressure.

As part of her residency, Jansen also worked with pharmacy students in the classroom and during their rotations. This inspired her to pursue teaching as a career.

Jansen received her doctorate in pharmacy in May 2011. As a student, she was an active member of the American Pharmacists Association-Academy of Student Pharmacists and Rho Chi Honor Society and participated in intramural volleyball and basketball.

"I always enjoyed working with young people," says Jansen. In both high school and college, she did mentoring and coaching.

Jansen, originally from Worthington, Minn., also worked at Sterling Drug in her hometown during the summer and every other weekend during the school year.

The other new staff member, Sandy Olson, draws on 25 years of experience as a certified pharmacy technician, and began work at SDSU in November. She assists with the pharmacy practice lab for P1 and P2 students two days a week. Olson says she seeks to give her students practical, hands-on knowledge.

Olson continues to work part-time as a pharmacy technician at the Brookings Health System, where she has been employed for 25 years. In addition, she has 19 years of experience in a retail pharmacy.

In comparing her two workplace settings, Olson says that a hospital technician gets a broader picture of the patient. She has an associate degree from Dakota State University in Madison.

Christie Delfanian



Tarryn Jansen



Sandy Olson

Nominations requested for the Distinguished Pharmacy Alumnus Award

The College of Pharmacy Advisory Council requests nominations for the Distinguished Pharmacy Alumnus Award. This award recognizes a graduate of the SDSU College of Pharmacy 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:

1. 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.
2. A brief biographical sketch (resume or curriculum vitae would be helpful).
3. An addition letter of support from a colleague or a member of the community.

Send materials to: Dan Hansen, SDSU College of Pharmacy, Box 2202C, Brookings, SD 57007-0099; or by e-mail at dan.hansen@sdstate.edu. The annual deadline for submitting nominations is March 1, 2013. The College of Pharmacy 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 Scholarship Luncheon. Nominees not selected for the award are still eligible for three years following the nomination.

Calendar of Events 2012-2013

- | | |
|--------------------|---|
| March 1-4 | American Pharmacists Association/Academy of Student Pharmacists Annual Meeting
– Los Angeles |
| April 10 | Spring Convocation
– SDSU Student Union |
| April 10 | College Achievement and Recognition Program – SDSU Student Union |
| April 12-13 | South Dakota Society of Health-System Pharmacists Annual Meeting
– Rapid City |
| April 12-14 | Kappa Psi Spring Conclave
– Des Moines, Iowa |
| April 19 | White Coat Ceremony
– SDSU Performing Arts Center |
| May 3 | Hooding Ceremony
– SDSU Performing Arts Center |
| May 4 | Graduation |

Assessment report

Evaluating our mission: dashboards, trends, and milestones

The philosophy based on the premise of “we’ll know where we are going when we get there” does not work in creating a dynamic, effective college of pharmacy.

In order to avoid ambling stagnation, colleges create mission statements. Ideally, a mission statement makes explicit areas of commitment and high expectations. Our mission statement reads:

“The College has a mission of preparing pharmacy graduates capable of providing high quality patient-centered and population-based pharmacist care to the people of South Dakota, and indeed, the world. Additionally, the college seeks to advance the profession of pharmacy and societal well-being through research, scholarship, and graduate education.”

The college seeks to achieve the mission through both quality daily activities and strategic planning. (Figure 1) The strategic goals and objectives are monitored through performance indicators and milestones, which are reported annually by the dean to the university administration.

The college is creating a new strategic plan this spring with the help of a national pharmacy leader, students, faculty, stakeholders, and state pharmacy organizations. This strategic plan will set the course for the next five years including a re-evaluation of the mission statement itself.

The Accreditation Council for Pharmacy Education Standards has placed emphasis on evaluating the achievement of the college’s mission in the revised accreditation standards (Standard 3).

The college has a robust plan to monitor the curriculum including curricular adequacy and individual student achievement. However, many other activities are included within the mission statement.

The college has formalized the monitoring of these extra-curricular aspects from student admission to research achievement in a dashboard of information. The plan includes data trends, scheduled monitoring, thresholds for identifying concerns, and tracking improvement.

Evaluating the mission in this way facilitates early identification of problem trends and enhances assessment of interventions. Changes during the last few years have included implementation of a rolling admission process, improved tutoring services, enhanced resources devoted

to faculty development, and provision of faculty grants to augment use of technology in teaching.

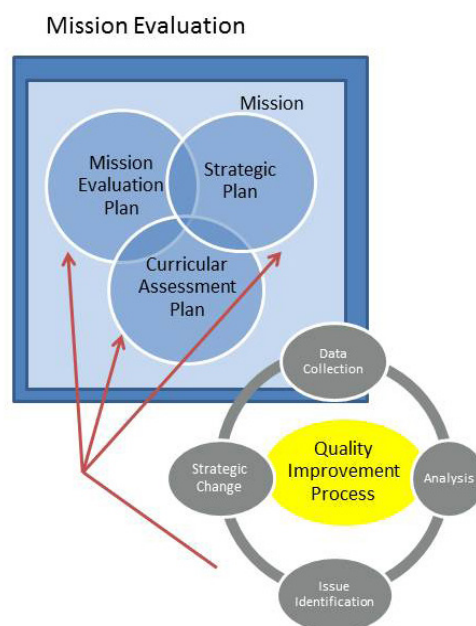
This type of data-based input increases the quality of decisions that can be made.

The College of Pharmacy is committed to optimally achieving our mission. Employing these quality improvement principles helps assure we continually move in the right direction to make this a reality.



Jane R. Mort,
Associate dean for academic programs

Figure 1.



Department of *Pharmacy Practice*



I am happy to provide you with an update on what has happened in the Department of Pharmacy Practice during the past semester. Once again, it has been a busy and productive semester.

Residency programs open to acclaim

The community pharmacy residency jointly sponsored by Liebe Drug in Milbank and SDSU College of Pharmacy has started off well. Our first resident, Erik Lambrechts, has been busy with establishing new screening programs, his residency

project, teaching in the pharmacy practice lab, and a variety of other activities. We are pleased with how the community pharmacy residency has been going and look forward to continued success with this program.

Related to residency training, the SDSU pharmacy teaching certificate program for the residency training programs in the state has been going well. Jodi Heins has taken the lead on this program and I am happy to report that every resident in the state has chosen to participate in this program. Initial feedback has been very positive and we plan to continue to offer this program in the future.

Simulation grant for practice lab

We continue to add equipment and enhance our utilization of the pharmacy practice lab. We have purchased a high fidelity simulation mannequin for use in the practice lab in Brookings and also for use in Sioux Falls. The use of simulation in pharmacy education is an area that continues to gain momentum and interest.

Of special note, several of our faculty, along with two faculty members from nursing, recently submitted a grant proposal to the Society for Simulation in Healthcare in a national competitive grant request. Of the 28 nationwide proposals, the SDSU proposal was the lone recipient. Congratulations to these faculty members on this achievement.

This past semester, we hired a certified pharmacy technician on a part-time basis to assist in the pharmacy practice skills lab. Sandy Olson started in late November with the College and has been a welcomed addition to assist in the practice lab. Sandy brings a wealth of experience from both the community and hospital pharmacy settings.

Our efforts in the area of interprofessional education continue to evolve and expand, as noted by the article in this issue of the magazine. I appreciate the efforts of all the faculty involved with helping make these interprofessional education activities a reality.

One resignation; multiple achievements

We had one faculty resignation during the fall semester. Dr. Tiffany Jastorff Gillies has taken a position with the Black Hills VA Healthcare System in Hot Springs. I appreciate all of Tiffany's contributions to the College of Pharmacy and wish her well. We continue to actively recruit for our faculty vacancies. Recruitment has gone well and we look forward to adding several new faculty members during 2013.

The faculty has continued to do great things in all areas: teaching, service, and scholarship.

We continue to see our students have great success and I greatly appreciate the role that the faculty plays in helping with students achieving these successes. Faculty members have been invited speakers for presentations at national and international meetings.

In addition, faculty have made sustained contributions to the professional literature with journal article publications, poster presentations, and contributions to a licensure exam review book.

I wish to thank you for everything you do to help our students and program be successful.

*James R. Clem, Pharm.D.
Professor and department head*

Department of *Pharmaceutical Sciences*

The Department of Pharmaceutical Sciences is pleased to report that teaching for all courses (both graduate as well as professional Pharm.D.) for spring and fall 2012 progressed well.

Exams, advancements, updates

P2 student performance in Pharmacy Curriculum Outcome Assessment (PCOA) examination was above national average.

Teresa Seefeldt was granted tenure and promotion to associate professor effective fall 2012. Heartiest congratulations to Dr. Seefeldt for achieving this important milestone in her professional career.

The department along with biology and other departments received \$150,000 from South Dakota Board of Regents Performance Funding Allocations to purchase a laser scanning confocal microscope. The college also invested more than \$300,000 to update the equipment for research laboratories.

Three earn doctorates; two newcomers arrive

Ruth Guillermo, Ravi Sajja and Preety Sahdev completed requirements for the Ph.D. degree. They have accepted postdoctoral positions at University of Colorado School of Pharmacy, Texas Tech University School of Pharmacy, and University of Michigan School of Pharmacy, respectively.

Guoqiang Ai joined the department as Ph.D. graduate student in May 2012. Umesh Gupta joined the department as a postdoctoral fellow in June 2012.

Fifteen professional, undergraduate and high school students, including two French interns, worked in the research laboratories in summer 2012. Two students were supported by Joseph Nelson Undergraduate Mentorship

Research center praised

The Translational Cancer Research Center, in collaboration with Sanford Research, has been renewed for fourth-year funding. Its progress was commended by the Governor's Office of Economic Development.

Associate Professor Omathanu Perumal was appointed associate director for the center effective August 2012. He also was named as Faculty Scholar, first such recognition in the college.

Associate professors G. Chandrasekher, Jayarama Gunaje, and assistant professors Hemachand Tummala and Hongwei Zhang received pilot grant from the Translational Cancer Research Center, and associate professor Teresa Seefeldt received funding from the SDSU/Avera Research consortium.

Visiting scholars

Xueling Hou joined the department as a visiting scholar supported by the Chinese government. Haytham Al-Gad joined the department as visiting scholar in December 2012 supported by Egyptian government.

Joining the department in fall 2012 were Muzaffar Abbas and Syed Saoud Zaidi as Fulbright Scholars and Chowdhury Abdullah, Mohammad Saiful Islam and Sumon Roy as Ph.D. graduate students. However, recruiting domestic students in the program remains challenging.

Research leads to filings

Professor Xiangming Guan, associate professor Omathanu Perumal, assistant professor Hemachand Tummala and I have filed several invention disclosures and provisional patent applications. One is being pursued in collaboration with Sanford Research.

The Fifth Annual Life Sciences Graduate Student Symposium and Department Retreat was in Rapid City in July 2012. Faculty members, postdoctoral fellows, graduate students, and summer students participated.

Faculty members, postdoctoral fellows, and graduate students in the department attended Sanford and Avera/SDSU symposiums in August and September 2012, respectively.

The 22nd Pharmacy Research Presentations and Keo Smith Fall Convocation was in October 2012. More than 30 poster presentations were made by undergraduate, professional and graduate students, and postdoctoral fellows in the department. Professor Dale Boger of the Scripps Research Institute was the keynote speaker.

Retirement beckons

I informed Dean Dennis Hedge about my plan to retire by the end of this academic year (June 21, 2013). It has been a distinct honor and privilege for me to be part of this department for 26 years as a faculty member and the last 10 years as a department head. I sincerely appreciate your acceptance, trust, support and care as a part of the department, college and SDSU.

I express my gratitude to current Dean Hedge, and former deans Bernard Hietbrink, Danny Lattin and Brian Kaatz for all their encouragements, support and care. I thank Jim Clem, fellow department head of the Pharmacy Practice Department, for his cooperation as team, all faculty members, Jolene Landmark, Vickie Prussman, Sarah Vaa and Rita Schultz for all their help in the smooth operation of the department.



*Chandradhar Dwivedi, Ph.D.
Distinguished professor and head*

Thank you

Jan. 1, 2011, to Dec. 31, 2012

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

Member names will be listed in the SDSU Honor Roll and the College newsletters. They also will receive invitations to special College and University functions, updates from the College dean, and an SDSU Dean's Club car decal.

Steven M. and Robbie D. Aamot
Academy of Student Pharmacists
Anderson Pharmacy, Inc.
Arne A. Anderson
James A. Armbruster
AstraZeneca Pharmaceuticals LP
Avera Health
Avera McKennan Hospital
Bob and Becky Baer
Harold S. Bailey, Jr.
John C. and Patricia Bartholomew
Tom and Linda J. Bartholomew
Leonard J. and Ruth A. Bassett
Owen G. Benthin
Thomas L. and Robin Beranek
Scott J. and Jessie L. Bergman
Bill P. Bernhard
Joye Ann Billow
Darrel C. Bjornson
Black Hills Dist. Pharm Assn.
Duane C. and Gladys S. Bloedow
James J. Boehm
Boeing
Jim Bregel
Perry W. and Jolene A. Brown
Marlin R. and Linda J. Brozik
Mark A. and Julie K. Burggraff
Russell W. and Janel Buseman
Eric J. Carda
Jodi L. Carlson
John A. Carson
Casey Corporation
Terry F. and Sharon Casey
Gary S. and Rosemary L. Chappell
Nicole R. Chenoweth
Chet Johnson Drugs, Inc
Yee-Lai and Carla R. Chiu
Marlyn K. and Corinne J. Christensen
Larry L. Christensen
Nancy K. Peterson and Richard H. Chun
CIGNA Foundation
James and Marilyn Clem
Kay Coffield Pearson
Complete Home Care, Inc.
Crazy Horse Memorial Foundation
Anthony J. and Jacquelynn D. Cunningham
Bill R. Darrah
Scott B. Deckert
Richard L. Deming
Amanda M. DeSchepper
Dian Graves Owen Foundation
Dennis A. and Carol L. Dingman
Chandradhar and Prabha Dwivedi
Donald K. Eddy
Eli Lilly and Company Foundation
Jason D. Ernster
Michael L. and Michele M. Evink
William J. and Lyla K. Flohrs
Steven R. Flora
Marvin E. Foss

Alan J. and Charlene A. Freiberg
Michele A. and Chad M. Fritz
Harold E. Fromm
Jerry J. and Laurie J. Garry
Lyle and Shirley Glascock
Michael T. and LeAnn K. Gruhlke
Kevin C. and Lorie L. Haarberg
Jerry Haas
Paul A. and Paula M. Hammond
Dan and Jessica Hansen
Richard C. and Norma J. Hanson
J. Rick and Peggy A. Harter
Thomas D. and Sheila Zukley Hartnett
Dennis D. and Susan J. Hedge
Laurilyn D. Helmers
Bernard E. and Elaine Hietbrink
Nancy L. Hildebrand
David C. and Julie V. Hilderbrand
Owen E. "Woody" Hillberg
Shannon R. Hoff
Joel E. and Rita S. Hougum
Vicki L. Howe
Mike T. and Cindy S. Huether
Hy-Vee, Inc.
IBM Corporation
Kathleen K. Ingalls and William Carlson
Wendy S. Jensen Bender
Justin J. and Beth R. Joachim
Johnson & Johnson
Matthew D. and Annette M. Johnson
David J. and Norma M. Johnson
Thomas J. and Jodi K. Johnson
Matthew Johnson & Julie Hanlon-Johnson
Norman D. Johnson
Susan J. Johnson
Kenneth B. and Loretta Jones
Randy L. Jones
Galen and Ann Jordre
Rollins E. and LeVuo Juhnke
Brian L. and Joyce A. Kaatz
Edward E. and Linda L. Kamolz
Jerome R. and Nina M. Kappes
Gary W. and Linda L. Karel
Margaret T. Kelly
Deborah L. Klein
David C. Kohler
Cheri A. Kraemer
Carrie A. and Terry A. Krieger
David W. and Trish Kruger
Jeffrey J. Kuper
Stacey A. Kutil
Eric C. and Shannon Kutscher
Brad R. and Emily G. Laible
Harlan J. Langstraat
Danny L. and Ferrol J. Lattin
Bruce and Kandi J. Laughrey
Gary A. and Karen Lesch
Lewis Drugs, Inc.
Liebe Drug, Inc.
Arvid R. and Janet Liebe

Daniel M. and Gail L. Lien
Milo V. and Sally J. Lines
Gene T. Locken
Christine A. and Brian G. Lounsbery
Hugh P. and Cari L. Mack
Richard D. Manthei
Barry L. and Sharon J. Markl
Marion J. Mc Cormack
Medicine Shoppe-Parkston
Medicine Shoppe-Rapid City
Merck Company Foundation
Jesse C. and Susan L. Mogen
John R. and Corliss M. Moller
NACDS Foundation
Satoshi Nagano
Carney C. Nelson
Larry E. and Gail F. Nelson
Donald W. and Betty J. Nettleton
Network for Good
Susan A. Lahr and Gordon D. Niva
Omnicare of South Dakota
Fern E. Paul-Aviles
Pharmacists Mutual Insurance Co.
Pharmacy Specialties, Inc.
Dwayne A. and Cheryl L. Plender
Ryan J. and Andrea M. Poppinga
Mary M. Pullman Dodge
Tom and Shirley A. Rahilly
Randall Pharmacy
Mark W. and Katherine K. Rau
Florence M. Regan
Vincent and Patricia Reilly
Charlene H. Reith
Daniel D. and Robin L. Remund
Curtis Rising
Steven L. and Marian L. Roberts
Sanford Health
Douglas A. and Donna Scheller
David F. and Betty J. Schmid
R. Craig and Carolyn A. Schnell
Meri K. Scott
Norbert and Jane M. Sebade
Chuck and Dorie Sendelbach
Settle Therapy Center
Stanley M. and Excellda J. Shaw
James C. Sheets
Shopko Stores, Inc.
Ephriam Sieler
Paul A. Sinclair
Lisa A. Smallbrock
Zachary P. Smith
Merlin J. Snyder
SD Pharmacists Association
Morrell A. Spencer
Gary E. Stach
Harlan C. Stai
Don C. Stark
Loren M. and Susan J. Steenson
James L. Stehley
Lowell T. and Susan Sterler
Julie C. Stevens

James L. and Pat A. Swain
Edward F. and Louise M. Swanson
Patricia A. Tabor
Alice E. Tavarez
Brian L. and Ann M. Temple
Gary A. and Emogene J. Thibodeau
Laurie A. Tidemann
Larry A. and Gayla L. Torguson
Valerie J. Tritz
Barry J. and Lori L. Uecker
John J. Van Moer
Gary C. and Sharon R. Van Riper
Louis and Desirae Van Roekel
Leon J. and Barbara Vanden Berg
Dale G. Vander Hamm
Janelle A. Varney
Walgreens Company
Walmart Stores, Inc.
Raymond D. Wilkins
Raymond A. Winsel
Nanette S. Wittenberg
Bay M. Wu
Kevin G. Wurtz
Yankton District Pharmacy Association
Yankton Medical Clinic, P. C.
Roger A. Zobel

One reason for STATE's successful campaign

In these final weeks of **It Starts with STATE: A Campaign for South Dakota State University**, I find myself looking at all the great things that have happened and ask: "How has all of this happened?"

Quite frankly, the answer is "**you.**" Alumni and supporters of the College of Pharmacy have shown up in a big way during our six-year-long campaign to raise \$200 million for SDSU. The university surpassed that goal this summer.

We ended 2012 with more than \$224 million and that number will grow as gifts and pledges are counted until our on-campus celebrations on April 25 and 26, 2013.

We are not done yet. And honestly, we won't be done in April either because the successes of this campaign have our faculty, staff and students thinking about more possibilities. A strategic plan by the university will include a new set of ideas just as bold and impactful as the ones made possible during this campaign.

It's amazing to think what you have made possible. Your gifts have provided state-of-the-art teaching and research facilities and growth in the Ph.D. program. Support through the annual phonathon has translated to continued success.

Your dollars have been used for an endowment to enhance start-up packages for outstanding faculty, scholarships for students, the start of the community pharmacy residency program and technology in our student labs.

Together, we have done so much, but opportunities remain. We hope you will continue to allow us to dream big. If you have not yet made a gift to support It Starts With STATE or see the opportunity to make an additional contribution, now is the time. An investment of any size can make an impact.

Be a proud stakeholder in this campaign and contact me at Stacey.Kutil@sdsufoundation.org or (605) 366-3618.



Stacey Kutil

*Stacey A. Kutil
College of Pharmacy
Development Director*

WE WANT TO HEAR FROM YOU!

Have you moved, accepted a new position, gotten married, given talks in your community, received an advanced degree, had an addition to your family? Everyone at the College of Pharmacy and your classmates want to know what has been happening with you.

Name _____ Year Graduated _____

Address _____

City/State/Zip _____

Telephone (____) _____ E-mail _____

Send to: Dan Hansen
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**The College of
Pharmacy**

A century of change — The College of Pharmacy marked 100 Years of Hobo Day with this entry that showed selling “Hobo Tonic” from the early years to the computerized pharmacy of the 21st century.