

NEWSLETTER



Dean's Message

DR. CHARLENE WOLF-HALL

Happy holidays! Students are finishing their final exams. Faculty are grading and meeting multitudes of deadlines. We all look forward to the holidays to celebrate with family and friends and rejuvenate.

Highlighted this month are several recognitions of the important and exciting science happening in our college. **Our people** are doing great things. We have amazing, award winning, student organizations. **Our places** and equipment continue to advance and be upgraded.

Our traditions such as our “Science as Art” competition are forming for this still fairly new college. In addition, **our innovations** are getting attention.

This issue of our newsletter marks the end of a very busy fall semester. We will have a special end of year newsletter out in early January with major college highlights from 2021, so watch for that.

Thanks for stepping up again to the challenges of an unusual year. You all are what makes this college great. Enjoy the break, the holidays, and the joy of the season.

*Celebrating Work
Anniversaries*

December 2021

Fathi Halaweish - 26 years

Jess Mediger - 15 years

Awards & Recognition

Congratulations to biochemistry major **Aubrie Franken** who was awarded the 2022 Student Leadership Award from the American Chemical Society (ACS)! Aubrie is president of SDSU's ACS Chapter, and will travel to Atlanta, Georgia to attend the ACS Leadership Institute in January.



The National Society of Physics Students (SPS) Council has reviewed all chapter reports and has awarded the **South Dakota State University SPS Chapter as a 2021 Outstanding Chapter.**

This designation is given to fewer than 10 percent of all 800+ SPS chapters at colleges and universities in the United States and internationally.



Chapter Leaders

- **Zachary Lehmann**, President
- **Jax Wysong**, Vice President
- **Gavin Baker**, Secretary & Treasurer
- **Dr. Robert McTaggart**, faculty advisor

Media Coverage of CNS



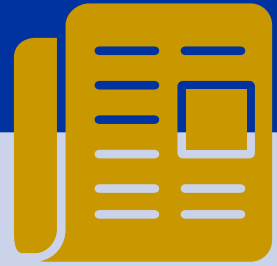
From the Argus Leader: **SDSU's pre-professional programs prepare regional health care workers**

"For nearly 20 years, we had two cadavers, 24 students, packed into a 1,000-square-foot room,' said Scott Pedersen, a professor in the Department of Biology and Microbiology who teaches the course. **'SDSU's new anatomy labs have doubled our square footage and we now enjoy two remarkable teaching**

spaces – one dedicated to cadaver dissection and the other to the teaching and study of anatomical models and charts. As of this fall, we now have state-of-the-art projection systems, lighting and markable surfaces on every wall that provide a unique active learning environment.'

The Aamlid Family Human Anatomy Lab experience is one of the reasons that students choose to attend South Dakota State University. 'There are 4,000 colleges and universities in the United States, and South Dakota State University is the right size — small enough to get hands-on experience but large enough to get diverse, rich, world-class experiences,' said Greg Heiberger, associate dean for academics and student success in the College of Natural Sciences. 'Of those thousands of colleges in the U.S., only a few hundred have cadavers and even less have cadavers where undergrads dissect. **The experience is quantifiably different than what students can receive in most pre-health professional programs across the United States.**'"

Media Coverage cont.



Vincent Peta, recent graduate from the Biology & Microbiology Department, was covered in the Mitchell Republic Newspaper for receiving a highly competitive two-year fellowship!

"Can a computer really predict how a bug's immune system might fight off an unknown pathogen? That's the question Vincent Peta will spend the next two years trying to answer. Peta, who graduated from Mitchell High School in 2010, was recently named a Computing Innovation Fellow — **the first South Dakotan to ever earn the prestigious fellowship.**

'I thought (the acceptance) was a joke at first. I still don't believe it's real,' Peta said. 'I think **it's an awesome opportunity because now I can get into more of a computational aspect of biology.**'"

Research helps SDSU senior refine career path: "When Sioux Falls native Zachary Lehmann came to South Dakota State University, he set his sights on becoming a medical physicist.

'In AP physics class (at Washington High School), I was exposed to the field of medical and health physics, such as radiation therapies for cancer. That piqued my interest (in medical physics),' Lehmann said. 'SDSU offers a health physics emphasis and biochemistry fit in with that.'

However, it has been Lehmann's experiences with research at SDSU and the Mayo Clinic that helped refine his career path. During his second semester at State, associate physics professor Parashu Kharel offered Lehmann an opportunity to do research on semiconductor materials. That experience helped him get a Summer Undergraduate Research Fellowship in molecular pharmacology at Mayo Clinic. As a member of the Van D. and

Barbara B. Fishback Honors College, Lehmann is doing his senior research project on wound recovery and the lymphatic system under the tutelage of Dr. Darci Fink in the chemistry and biochemistry department.

Through these experiences, Lehmann, who graduates in May, has decided to pursue a doctorate in biophysics and structural biology. He has applied to well-known research institutions, such as Harvard, Princeton, Duke and Vanderbilt, and will find out this spring which university he will attend."

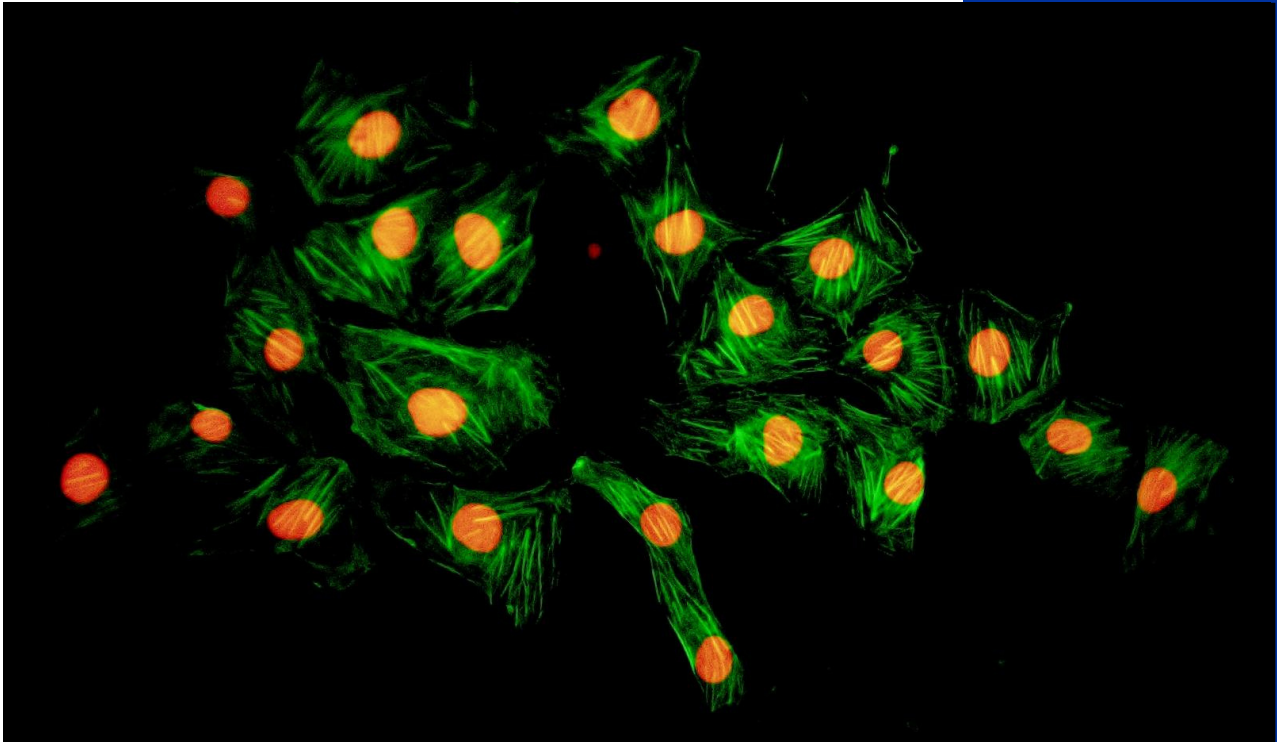


New instrument to help scientists examine molecular interactions: "Scientists unraveling biological systems have a new state-of-the-art instrument in South Dakota State University's Functional Genomics Core Facility to analyze molecular interaction, thanks to a three-year, \$243,000 National Science Foundation Major Research Instrumentation grant and approximately \$100,000 in university matching funds.

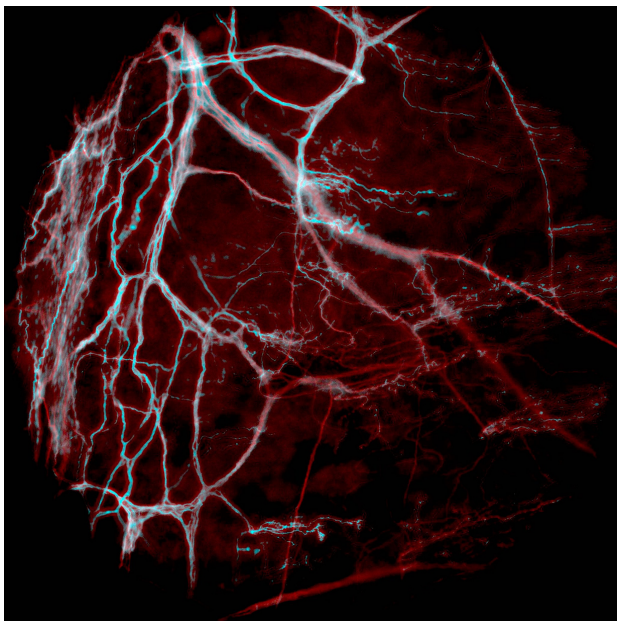
'This is the first NSF MRI award for the functional genomics core facility and will greatly boost our research capabilities,' said senior research scientist Liping Gu, who oversees the facility and is principal investigator for the NSF award."

Science as Art Competition

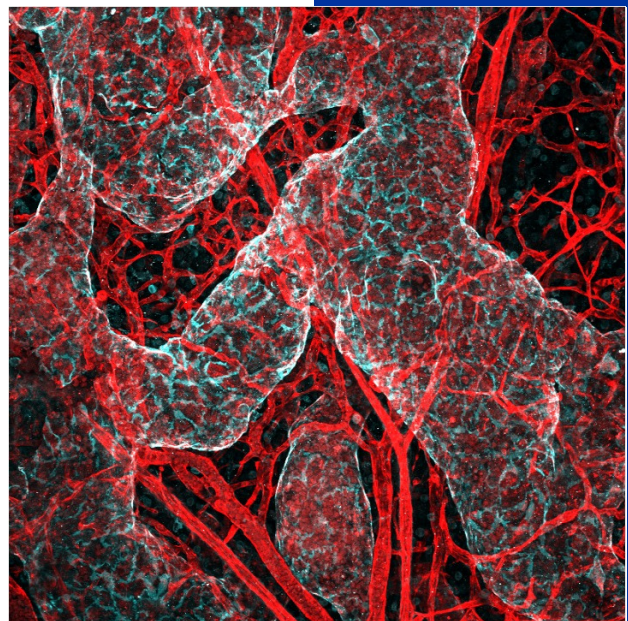
The second "Science as Art" competition in the College of Natural Sciences received three fantastic student entries! These pieces will be printed and hung in the Dean's office suite. Visitors are welcome to stop by and enjoy them.



First place, \$300: Shamiq Aftab, microbiology PhD student. Pictured: Actin (Green) and Nucleus (Red) stained in Marc-145 cells (African Green Monkey Kidney cells).



2nd place, \$200 (left): Zachary Lehmann, physics and biochemistry undergraduate student. My photograph employs epifluorescence microscopy in a mouse cornea stained for beta-III tubulin protein. The resultant image shows the nerves running through the cornea at a magnification of 20X, with two focal planes captured.



3rd place, \$100 (right): Delayna Paulson, biochemistry PhD student. Distended Lymphatics- a look at dermal lymphatic vessels (cyan) and blood vessels (red).

