

A Summer Of Science

VHS Seniors Finish USD Chemistry Internship

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For most soon to be high school seniors, the summer before their final year of summer is all about fun, yet for Erika Moen and Liz Butler, their summer was all about science.

Moen and Butler took part in a new program at the University of South Dakota (USD) Chemistry Department allowing high school students to earn internships and work in research lab for the summer.

The two Vermillion High School students said they heard about the project from high school Chemistry teacher.

"This is the first year we have been able to offer this program to high school students," said Dr. Haoran Sun, assistant Professor in the Department of Chemistry. "With the National Science Foundation's push to get more STEM (Science, Technology, Engineering and Mathematics) involved in schools, they provided funding for this project."

While Sun said he had not known what to expect, he was blown away by what the duo was able to accomplish.

"They were fantastic," he said. "We want to keep them, but I suppose they need to finish high school so they can go to college," he joked.

The project the pair were asked to work on was to measure contact angles – or in laymen's terms the amount of surface area a drop of a substance will have on a substance.

For example he said one application of the results would be to see how water beads on different types of paint in order to provide a better surface to protect the wood underneath.

Sun said the two had to set up the equipment, run tests to verify the data recovered was accurate, and then test and photograph several different liquids. In all, he said they ran hundreds of tests throughout the summer.

"I didn't know what to expect coming into the internship," Moen said. "I kind of expected we would be cleaning beakers and lab equipment all summer. But on day one, Dr. Sun gave us our project. He gave us several research papers



SHAUNA MARLETTE/FOR THE PLAIN TALK
Erika Moen, Liz Butler and Dr. Haoran Sun, assistant Professor in the Department of Chemistry at the University of South Dakota are pictured with the equipment the two high school seniors used to measure contact angles this summer. A part of a new program offering high school students internships in science research at the school, the two worked all summer in the Chemistry Department and presented their findings last week.

and document to read so we had background information, and then he told us what we would be doing measuring the contact angles."

Butler said that they were very nervous walking into the department in early June, but when they found out what they would be working on they were very excited.

"The more he showed us what we would be working on, the more we knew we would enjoy it," she said. "I like working with STEM and it was cool to apply what we have learned in high school and see the application of it in a real world setting. This wasn't just chemistry; it had a lot of physics and trigonometry, as well."

Sun said the work the pair did was far beyond what he had expected.

"They work they did was more precise than what has been reported before," he said. "They were very careful and controlled their work environment."

Because the work Butler and Moen completed was done so well, Sun even said he had them show a graduate assistant in the department how to utilize the equipment setup they had developed for future work with his college students.

"We are going to benefit from the work they did this summer," he said. "They got



COURTESY PHOTO
The above droplet is one photographed and the contact angles measured this summer during Erika Moen and Liz Butler's internship at USD.

to complete the internship and we got the process for the entire department."

Moen said while the summer internship was a lot of hours, six hours a day, five days a week, she was excited to be a part of it.

"It was just a fantastic experience," she said. "I have never had an opportunity like this before. AP Chemistry and our labs in high school just don't capture the research experience we were able to learn about this summer."

As for how the girls plan to apply what they learned this summer, both say the experience has opened their eyes to the possibility of using STEM in their future careers and when

considering colleges for their future will definitely be looking to see what programs are offered in the area.

"We are just so grateful for this experience," Butler said. "From the setup to the research and presenting to the department, it was all something I would have never been able to do at this point in my life without Dr. Sun, the USD Chemistry Department and the National Science Institute. I am also very grateful for the education we are getting at Vermillion High School. Without the knowledge Ms. Olson has given us, we would not have been qualified to do this."

Michael Wingen Wins Summer Reading Award

PIERRE – Michael Wingen of Vermillion was a winner in age division 12 to 16 of the South Dakota Braille and Talking Book Library Summer Reading Program. Michael was awarded a \$50 Amazon gift card.

Michael was one of 42 youth who kept their reading skills sharp by participating in the South Dakota Braille and Talking Book Summer Reading Program. He was one of 10 braille and 32 audio readers who pledged to read a minimum of 20 minutes each day from June 8 through July 17. All reading charts were returned and entered into a drawing for a gift certificate in each of four age divisions.

Other \$50 gift certificate winners in their age division include: Jeren Scheff of Montrose, in age division 0 to 6; Sarah Huston of Midland, in age division 7 to 11; and Lynae Wollman of Westport, in age division 17 to 21.

The South Dakota Braille and Talking Book Library is a program within the South Dakota State Library and is an affiliate of the National Library Service. The NLS is a free braille and talking book library service for people with temporary or permanent low vision, blindness, or a physical disability that prevents them from reading or holding the printed page.

For more information call the South Dakota State Library at 1-800-423-6665.

Student Organizations Preparing For New Students On Campus

With move in day just a little over three weeks away The University of South Dakota is eager to welcome the class of 2019. As the administration gets ready to educate the students there is also a few student organization getting ready to receive the class of 2019. The Sorority and Fraternity life community has been hard at work to get fall recruitment under way for the freshman class.

Sorority recruitment will begin the 18th of August, roughly four days before move in day. The women who have pre-registered for recruitment will get the amazing opportunity to move in early, a once in a lifetime opportunity to be affiliated with the Greek community, and get used to the beautiful campus that USD has to offer. By the end of the week women will have been selected to join chapters, and will already be filled with USD and Sorority/Fraternity Life spirit.

The first official week of classes is when the men have their recruitment. Saturday is the official Fraternity kick off where all of the men going through recruitment have the opportunity to meet a large portion of the fraternity community. The goal for the Interfraternity recruitment chairs is to promote Greek unity and the community, before the men start looking at chapters. Sunday the men will get tours of all the houses on campus, and the following Monday they will be free to visit the chapters they choose. As with the women the men will be selected to join a chapter and will be members of the community before the end of the week.

The Sorority/Fraternity community is eager to bring in new brothers and sisters to their individual chapters, friends in the community, and life-long Coyotes.

Board of Regents Awards USD \$200,000 For Supercomputer

The University of South Dakota has been awarded a \$200,000 Research and Development Innovation grant from the South Dakota Board of Regents. The award, along with institutional and federal funds, will support the acquisition of a new campus supercomputer for scientific research.

The National Science Foundation has recently identified supercomputing systems as necessary research instruments, alongside equipment like DNA sequencers and electron microscopes.

USD's previous supercomputer was acquired in 2006 through an award from the National Institutes of Health and has supported over 100 students and faculty, contributing to scientific publications and courses.

Deputy CIO and Director of Information Technology Services Cheryl Tiaht and Research Computing Manager Doug Jennewein developed the proposal after consulting with USD scientists and computer architects from industry. The new system will provide thousands of processing units, specially optimized software and more than 1,000 times the memory of a traditional laptop.

The \$200,000 was among \$700,000 the Regents approved for four of the state's public universities.

Legal

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circulation numbers.

Munger said the council needs to compare apples to apples when comparing rates.

Wood commented that the *Plain Talk* has been serving the Vermillion community for more than 131 years.

"While there have been multiple papers that have come and gone over those years, we are the one paper that has continued to provide the community news to this community of Vermillion," he said. "If you look at our paper, as you look for local news and sports information, from cover to cover, every story is local. We don't have any regional AP coverage involved in our coverage. We don't provide national news coverage in our paper; we provide local information from cover to cover 100 percent. I think that is what is important to this community."

He also took exception to the comments Munger made about caring more.

"We have been providing local support for this community, regardless of ownership," Wood said. "We have provided \$30,000 of support for the Vermillion Now! Campaign, \$6,000 of that in cash \$24,000 of it in-kind. ... We just provided a check to the Vermillion Fire Department and EMS and we do that in support of many organizations in the community and have done so for many, many years."

Wood said the *Plain Talk* offers more access to the community – both in print and online – and provided the notarized circulation numbers of the *Plain Talk*. "We have 689 (mailed

in-county subscribers, which we substantiate with a (Statement of) Ownership number every year, which is notarized and provided to the Secretary of the State," he said. "In single copy sales, we have in excess of 660 single-copy sales. All of our single-copy locations are in Vermillion. ... We have NIE (Newspapers in Education) copies we provide to the school – 150 papers we provide to the schools on a weekly basis during the school year. We also have 50 paid subscribers on the USD campus."

"We are providing the local coverage for the city of Vermillion to get their message out. In the spirit of openness, we provide a much broader tool for the city to be able to provide that message to the community by providing the information we do in print, online and the free format, and we have been doing that for many, many years."

Following the presentations, a question was raised by the council asking how many full-time reporters are on staff of each paper.

"I have two full-time (staff members) that cover city news, county news, as well as sports and another part-time employee that does the same," Wood said. "They have mixed duties to cover news in the community for the community, as well as sports. We also have many correspondents that we use to help with supporting that coverage. They are in the Vermillion office, dedicated to the Vermillion community."

Munger said that the *Equalizer* has 1.75 FTE employees in reporting positions, as well as some part-time sports reporters.

In both paper's RFP submissions they outlined their rate proposals for the council to consider. Only

the *Plain Talk* offered discounts based on the state mandated maximum rate.

"Based on the number of subscribers we have, the cost for the city – not only with the discount, but when you figure the cost per reader or subscriber – our costs go down even more based on the number that we provide between the in-county mailed subscriptions and the single copy sales," said Wood. "You take that whole number and do a comparison and our cost per reader is still lower than anyone."

No decision was made at the meeting, and it will be considered at a later regularly scheduled council meeting.

Following the meeting, a request was made of both papers for sample rates using their submitted proposal.

Also during the noon meeting, a presentation on historic preservation incentives was given by Jim Wilson.

During the evening meeting of the council, a public hearing was held on several issues, all approved by the council. They included:

- Special permit to exceed permissible sound levels by no more than 50% on W. Main Street between High and Prospect Streets on Friday, September 11, 2015, between 5:00 p.m. and midnight and on Saturday, September 12, 2015 between

5:00 p.m. and midnight for Ribs, Rods & Rock 'n Roll for a street dance.

- Special daily malt beverage and wine license for Ribs, Rods & Rock 'n Roll on September 11 & 12, 2015 on W. Main Street between Washington and Elm Streets, Ratingen Platz, Market Street from Main to Kidder Streets and portions of Kidder, Court and Prospect Streets.

- Special daily malt beverage and wine license for Clay County Agricultural Fair Association, Inc. on or about August 7 and 8, 2015 at the Clay County Fairgrounds open area.

- Special permit to exceed permissible sound levels by no more than 50% at Ratingen Platz on Wednesday, September 30, 2015 between 8:00 p.m. to 11:00 p.m for a Dakota Days Committee event that will include a DJ for a street dance style environment.

- Resolution Adopting a Resolution of Necessity for Sidewalk Repairs for properties in the Central Business District.

New business discussed at the meeting included approving the following:

- Request to close W. Main Street between Washington and Elm streets, Market Street from W. Main to Kidder streets and portions of Kidder, Court and Prospect streets, Ratingen Platz, and the City parking lot at Market Street and

Kidder Street for Ribs, Rods and Rock 'n Roll. (Note: The closing of streets and times of the closure take place over the course of September 11, 12 and 13, 2015)

- Request to close Main St. from the intersection of Main and S. Norbeck St. to the intersection of Main and High St. on October 3, 2015 from 6 a.m. to 12:30 p.m. for the Dakota Days Parade.

- Request to close Market St. from Main St. to S. Kidder St. September 30, 2015, from 4:30 p.m. to midnight for Verm Town Bash.

- Request to close Center St. from Main St. to National St. and west City Hall parking lot for a Fire/EMS Department photo August 19, 2015 from 5:30 p.m. to 8:00 p.m.

- Request to close High Street as it abuts the Fairgrounds immediately south of W. Cherry Street from 7:00 a.m. on Thursday, August 6, 2015, to 5:00 p.m. on Sunday, August 9, 2015

for Clay County Fair.

- Resolution to adopt the goals of the 2004 Streetscape Plan and to accept the 2004 Streetscape Plan as a conceptual plan for Downtown Vermillion.

- Engineering agreement with DGR for engineering design services for northeast substation.

- Resolution to purchase a basket truck for Light & Power from National Joint Purchasing Alliance.

- Presentation of the proposed 2016 budget.

The 2016 budget will be addressed by the council during meetings scheduled for next week.

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