

A Summer Of Science

VHS Seniors Finish USD Chemistry Internship

BY SHAUNA MARLETTE
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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 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



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.

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 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."



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.

River Basin Natural Resource District Oversight Advisory Task Force To Meet

PIERRE - The River Basin Natural Resource District Oversight Advisory Task Force will meet on Thursday, August 13, 2015, in Room 413 of the Capitol in Pierre. The meeting will begin at 10:00 a.m. (CST). The public is invited to attend.

This is the first meeting of the task force that was created by the passage of

Senate Bill 2 by the 2015 Legislature. Senate Bill 2 provided for the creation of the River Basins Natural Resource Districts. This task force has been tasked with the responsibility of overseeing the implementation of these districts. At this meeting the task force will be selecting a chair and a vice chair. The task force will

begin to address the tasks assigned to the task force by that legislation.

All interested parties are invited to attend to comment to the task force about the tasks assigned to the task force.

The River Basin Natural Resource District Oversight Advisory Task Force consists of eight members: Senators

Jason Frerichs (D-Wilmot) and Arthur Rusch (R-Vermillion); Representatives Steven McCleerey (D-Sisseton) and John Wiik (R-Big Stone City); and Paul Casper (Lake Preston), Karl Jensen (Whitewood), Denny Kiner (Mitchell), and Kim Vanneman (Ideal).

Mentoring Seeks Members

Youth and adult mentors are welcome to join the Clay-Union foundation's program. Youth age 5-17, and adults 18 and up. Make a difference in our community. Sign up at www.clay-unionfoundation.org. Or call John Gille (guy-lee) at 605-421-5050 for more information.

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Support HHS With Their Sales For Tails Rummage Sale! September 11th – 12th, 2015

YANKTON, S.D. (August 7, 2015) – Heartland Humane Society (HHS) is having a rummage sale Friday, September 11th 12pm – 6pm and Saturday, September 12th 8am – 2pm. HHS is asking for your support by donating quality items for the sale! The sale will be at the shelter, 3400 East Highway 50 in Yankton, SD.

"What a great way to help animals...Take a day to clean out your storage space and donate unwanted items to a good cause. Your contribution is also tax deductible. 100% of the proceeds will go towards the care of our fostered and sheltered pets," says Christa Kranig, shelter coordinator at Heartland Humane Society.

For more information on donating or details on the fundraising event, contact Heartland Humane Society at 605-664-4244 or email hhs3@midconetnetwork.com. You can also see additional details on items wanted for the sale by visiting www.heartlandhumaneociety.net/events.

About Heartland Humane Society

Heartland Humane Society is a private non-profit 501(c)3 corporation governed by a volunteer Board of Directors. It was established in 2006 from a group formerly known as the Yankton Area Humane Society. HHS primarily serves Yankton, Clay and Cedar counties, with an additional 11 county areas often receiving its services. HHS is a limited admissions facility, taking in animals by appointment and only when appropriate space and resources are available to care for them. As a non-profit, it relies 100 percent on private donations and receives no state or federal funding.

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Join First Dakota Travel on one of these exclusive tours in 2016. To learn more about these exciting trips, join us at either informative travel show:

Yankton: Thursday, August 20, 7:30PM
Fryn' Pan - 502 W 21st Street, Yankton
Pie and coffee served
Please RSVP by August 17 to Gwen at 665-4991

Sioux Falls: Saturday, August 22, 9:30AM
First Dakota National Bank - 101 N Main St, Sioux Falls
Rolls and coffee served
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2-Day Estate AUCTION

The Laura Martindale Estate

Saturday, August 15 & Sunday, August 16, 2015

Located: Skylon Ballroom - 320 S. Robinson St - Hartington, NE
AUCTION STARTS @ 10 A.M. LUNCH AVAILABLE

AUCTIONEERS NOTE: It is with great pleasure to welcome you to this unbelievable auction for the Laura Martindale Estate. Laura was a collector of many interesting antiques & collectibles over the years. The list that we have compiled is only a VERY SMALL PORTION of the fantastic items to be sold. The vast assortment of items that will be sold in this two day auction is unbelievable. The Ballroom will be FULL on both days. It will be worth the trip to attend and to spend both days. Visit our web site www.CHJAUCTIONEERS.COM for many photos for this huge Auction.

*****JOIN US FOR A PREVIEW OF SATURDAY'S AUCTION ON FRIDAY, AUGUST 14th FROM 6:00 TO 7:30 P.M.*****

ANTIQUE FURNITURE & COLLECTIBLES: Oak Grandfather Clock "Dafa", Kimball Spinnet Piano, Ornate Oak Parlor Table w/Glass ball Feet. Several Other Oak Parlor Tables - Asst. Styles & Types. Maple Dining Room Set w/Table & Chairs, Buffet, China Hutch, Oak Silvertone Phonograph. Oak Shaving Stand, Light Fixtures, Newman Bros. Oak Pump Organ. Howard Elec. Player Piano w/ Many Piano Rolls. 6 Section Stackable Bookcase. Oak Hall Seat. Oak Quarter Sawn Music Cabinet. Single Door Oak Bookcase. (2) Brass Twin Size Beds. Stick-N-Ball Easels. Yard Long Cats/Dogs Tug of War. Several Very Nice Pictures & Frames of All Types. Roseville & Weller Pottery Pieces. Several Stereo Cards. Oak Full Length Wall Mirror. Palmers Candy Jar. Redwing 3 Gallon Churn. Koo-Koo Clocks. Atwater Kent Radio. Gem Roller Organ. Sewing Rockers. Bird Cage on Stand. Several Unique Floor & Table Lamps. Vintage Toys Including: Coca Cola Toy "Coke" Dispenser w/Original Box, Walt Disney "Marx" Party Pluto Toy w/ Original Box, Emenee Toy Accordion, Frosty So-Cone Machine, Prehistoric Times Play Set, Several Hazelle's Airplane Control Marionettes & More. Pitcher & Bowl Set. Large Offering of Crystal Glassware, Stenware & Glass Bowls, Etc. Mantel Clocks. Linens. Plus Many, Many More Outstanding Items too numerous to mention. **WOMEN'S HATS & JEWELRY:** Over 50 Plus Women's Hats - Nice Selection to be offered - Including some new, Many Purchased @ Brandeis & Martin Co. Many Women's Gloves, Scarves, Purse & Accessories. Plus A Large offering Of Jewelry. **CAR:** 1998 Lexus ES 300 4 Door Sedan, 116,415 Miles - Fully Loaded.

DAY #2: SUNDAY, AUGUST 16, 2015 – 10:00 A.M.

Oak Etagere. Large Oak Curved China Hutch. Oak Quarter Sawn Library Table. (3) Piece Oak Bedroom Set w/High Back Bed, Dresser w/Mirror & Commode. Oak Drop Front Desk. (2) Oak Parlor Chairs w/Lion Heads - Extremely Ornate. Wooden Flower Box. Oak Shaving Stand. Small Drop Front Desk w/ 7 Bottom Drawers. (3) Oak Stick-N-Ball Room Divider Decorative Woodwork Pieces. Many Oak Parlor Tables - Asst. Types & Styles. Walnut Pulpit. Oak Park Bench. Ice Cream Table w/4 Chairs. Ornate Hanging Light Fixtures. Several Stereo Cards. Many Great Old Prints, Pictures & Frames. Portraits of North American Indian Life Book. Many Floor Lamps, Table Lamps & Vintage Curtain Rods. Beer Signs Including: Hamms, Schlitz, Old Crow, Budweiser, Lite Beer & Others. Series of (4) Books "Sketches of Romance Fiction & Drama". Red Flash Glass - Souvenir of Hartington, NE Pieces. Old Maps. Very Nice Slag Glass Table Lamp. Asst. Hurricane Lamps. Asst. Of Glassware & Other Misc. Collectibles. Plus Many More Great Collectibles of All Types. Assortment of 50 Plus Of Women's Hats & Purse, & Asst. of Vintage Clothes, Coats & More. Purchased from Williges & Other Fine Department Stores from Years Ago.

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