



PROJECT UPDATES | PICTURED ABOVE: SURP 2018 CNSE LAB TOUR

NDSU INBRE Monthly Update

IN THIS ISSUE

- Student Spotlight
- SURP 2018 Cohort
- Public Health Course Approved at NHSC
- Project Manager Presents at Cultural Responsiveness Conference at Alma Mater

Student Spotlight

SURP 2018 Scholars



L to R: Haimanot Berhane, Kara Charette, Lizette Alvarez, Pearl Walker-Swaney

Kara Charette (*Turtle Mt*), a recent graduate of TMCC with an A.A. in Accounting, was a SURP 2018 participant. Kara will be starting her bachelor's program at Minot State University this fall in Accounting. Each of the students were required to give a final presentation on a research topic of their choice and were paired with a faculty-mentor for who assisted them in the developing it. Kara was paired with Dr. Huseth-Zosel in the Department of Public Health who specializes in Social and Behavioral Sciences.

How did Kara choose her topic?

Kara's final presentation was her first experience diving into research. She worked closely with Dr. Huseth-Zosel to find literature and solutions to the increase in social media use among adolescents and its impact on mental health. Her presentation was titled, "The Effect of Social Media on Adolescent Mental Health". She chose this topic with her personal interest as a parent in how social media affects her teen children and other teens.

What were Kara's favorite parts of the program?

Some of the program highlights for Kara were the lab tours. The first week of the program included a variety of lab tours including: the Center for Nanoscale Science and Engineering (CNSE), USDA Cryobiology lab, Fargo VA, Plant and Food Sciences department, and Equine Department. At the CNSE lab tour, Kara took part in the process of developing a microchip prototype. During the USDA Cryobiology lab tour, she viewed the difference between species of bees and their significance to various species. The Fargo VA showed the resources and services available to Veterans as well as tests that the lab conducts. During Plant and Food Sciences, Kara learned

What challenges, if any, did Kara have to overcome during her SURP experience?

Through the two-week experience, Kara had the opportunity to work on her public speaking skills. For Kara, it has been a challenge for her to confidently speak in public when sharing a presentation or information. However, the comments on her final presentation from judges gave her high regards for her presentation. Kara's SURP experience has led her to believe that research can be for everyone and it is important to improve health.

What advice does Kara have for other students not sure if research is for them? To take part in SURP or a related summer research program to gain better insight on research.

Lizette Alvarez, a student at NHSC in Environmental Science, and an undergraduate student researcher for the INBRE Tribal Air Quality Pilot project, was a SURP 2018 participant. Another research project Lizette has participated in is the development of sustainable materials derived from agricultural materials. Lizette will finish her Environmental Science degree at NHSC and has plans to pursue graduate school. She was paired with Ph.D. candidate Jacob Walker-Swaney in the Plant and Food Sciences Department who specializes in phytochemical and bioassay analysis of indigenous food systems.

How did Lizette choose her topic?

Lizette's final presentation was on the use of hemp compared to oil production in the MHA nation. This was her first time working on an intensive literature review within a short time frame. Jacob advised her to focus on the benefits of hemp production for the community compared to oil regarding the environment, sustainability, and economy. Her involvement in the air quality project and personal interest in ethnobotany steered her towards investigating this topic for her final presentation for SURP.

What were Lizette's favorite parts of the program?

Lizette commented that she didn't have a favorite part of the program, rather, each part of the program was enlightening in its own unique way. During the two weeks, Lizette was given the book *Research is Ceremony* by Shawn Wilson for reading assignments. This book was the framework for Indigenous Research Methods where indigenous research paradigms, history, and terminology was introduced. Indigenous evaluation was also a part of these sessions to showcase the significance of conducting evaluation with an indigenous framework. Research 101 sessions covered a variety of topics from conducting literature reviews, qualitative versus quantitative research, research ethics, and evaluation. Writing workshops covered writing personal statements, cover letters and resumes, call for proposals, and writing scientific papers. Professional development sessions included leadership development activities such as the Marshmallow Challenge and identifying characteristics of leaders, as well as developing a LinkedIn profile. Other activities included learning about human protections and Institutional Review Boards (IRBs) through case studies and watching the film "The Immortal Life of Henrietta Lacks" as well as learning about polymerase chain reaction with a genetics demonstration with Dr. Lyle Best.

What advice does Lizette have for other students not sure if research is for them?

Passion and curiosity are the driving forces behind research along with the desire to acquire the knowledge and skill you seek.



Pictured above: Lizette (left) and Kara (right) work with other students on developing a stable structure made from spaghetti noodles and masking tape for the Marshmallow Challenge.

SURP 2018 Cohort

Cohort 4

SURP 2018 commenced on June 4, 2018 at NDSU with an opening blessing and welcome songs from community leaders, Willard Yellowbird, Michael Wayne Gabbard, and Timothy Cottonwood. The program also closed with smudging and songs from Michael Wayne Gabbard and Timothy Cottonwood.

This year's two-week intensive program provided students with the opportunity to receive college credit. Students were required to complete assignments, a final exam, and final presentation in order to receive a grade for the course. Assignments included reading the book *Research is Ceremony* by Shawn Wilson, completing introductory modules in the CITI (Collaborative Institutional Training Initiative) program, and an oral presentation on a research topic of their choice. Students' research topics were as follows:



SURP 2018 Opening & Welcome. Back L to R: Willard Yellowbird, Andrea Huseh-Zosel, Kara Charette, Vanessa Tibbitts, Bernhardt Saini-Eidukat. Front L to R: Jazmyne Reinke, Pearl Walker-Swaney, Elise Spears, Mya Vetter, Siobhan Wescott, Karla Checo, Al Bernardo

- "Gibeon Meteorites" by Elise Spears
- "Type 2 Diabetes: Relevant Health Benefits of Baby Food Derived From Indigenous Food Crops" by Mya Vetter
- "The Effect of Social Media on Adolescent Mental Health" by Kara Charette
- "Hemp Over Oil in MHA" by Lizette Alvarez

Students were paired with a mentor based on their ratings of research topic areas found in their SURP applications. Students were asked to rank the following research areas from 1 to 3 (1 = most interested to 3= interested):

- Plant and Food Sciences,
- Animal and Veterinary sciences,
- Social and Behavioral Sciences,
- Geoscience/GIS, and
- Public Health

Students were tasked with identifying a research topic, looking at a specific question or area within the research topic, investigating current work done, ways to improve what has been done and/or provide alternative solutions, discuss the benefits and challenges of the proposed solutions, and properly cite their sources. At the beginning of the program, SURP staff assisted students with brainstorming their topics through a mind mapping technique. This technique defines who, what, when, and where the research is being conducted. Though two-weeks is a short time to work on a research project, it provided time to put together the foundation of a larger research project while building skills.

The goal of students developing an oral presentation is to assess their understanding of the scientific method, public speaking skills, and ability to comment on their SURP experience with peers and professionals. As an incentive for all students to work towards developing excellent presentations, aside from the requirement for the course, staff held a mini-oral presentation competition. The competition was split into two brackets: high school and college, with two students in each bracket. Each runner-up and winner of the brackets received a small gift. In other words, all students were winners!

In order for this program to run smoothly, it takes several staff, faculty, and behind-the-scenes planning to coordinate SURP. Staff would like to acknowledge all of the people that made this year's cohort another success, especially the students. Thank you all!

Staff

Haimanot Berhane
 Ryan Eagle
 Vanessa Tibitts
 Gretchen Dobervich
 Karla Checo

Guest Presenters

Ramona Danielson
 Kabina Chauligan
 Al Bernardo
 Tony Albrecht
 Danielle Von Pinnick
 Lyle Best
 Seth Bendigan
 Krystal Tsosie

Mentors

Bernhardt Saini-Eidukat
 Andrea Huseh-Zosel
 Jacob Walker-Swaney
 Dipayan Sarkar
 Siobhan Wescott

Lab Tour Leaders

Kendra Greenlee
 Aaron Reinholz
 Fred Haring
 Kimberly Hammer
 Dipayan Sarkar
 Carrie Hammer

Community Members

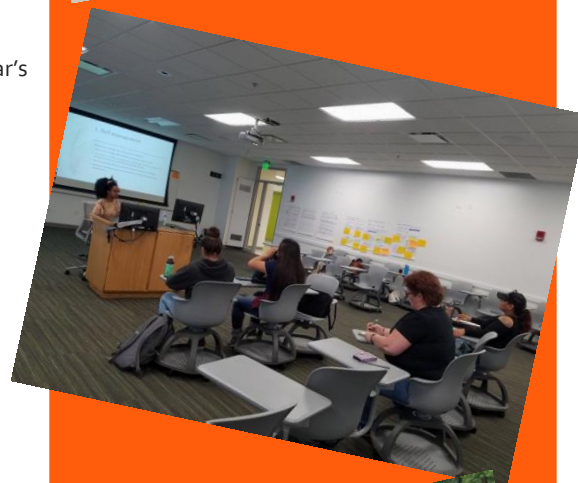
Willard Yellowbird
 Michael Wayne Gabbard
 Timothy Cottonwood
 Jaclynn Davis Walette

Conference and Event Coordination

Angela Skaff
 NDSU Catering Staff
 Residence Dining Center Staff
 Emma Marshall
 Elizabeth Torgeson
 Jackie DeMolee
 Peter Zimmerman

SURP Scholars

Elise Spears
 Mya Vetter
 Kara Charette
 Lizette Alvarez



Public Health Course Approved at NHSC

Coming in Fall 2018

NDSU INBRE has been working with Nueta Hidatsa Sahnish College (NHSC) on transitioning their research training module project into a course for the past semesters. The course would create a hybrid environment for NHSC students to learn about research careers and topics not currently offered at the college and would count for a Wellness Credit. Topics would include American Indian Public Health, Social and Behavioral Sciences, Plant and Food Sciences, and Indigenous Research Methods. The course titled, "Interdisciplinary Approaches to Public Health" is scheduled to begin in Fall 2018 on August 21st.

Project Manager Presents at Cultural Responsiveness Conference at Alma Mater

Bemidji State University



INBRE Project Manager, Pearl Walker-Swaney, was asked to speak at the Cultural Responsiveness Conference at Bemidji State University (BSU) on June 1, 2018 for Social Workers and related Health Professionals. The conference theme was "Strengthening Culturally Responsive Services with Indigenous People: Effective Skills for Providers".

Pearl was a graduate of BSU in 2011 with a Bachelor's in Indigenous and Native Nations Studies and minors in Chemistry and Ojibwe Language. Pearl has a Master's in Public Health and was asked to speak about cultural responsiveness within Community Health.

This conference is co-sponsored by BSU's Social Work Department and the American Indian Resource Center (pictured to the left). The goals for attendees of this conference were to:

1. Understand the role of cultural responsiveness with Indigenous people & communities
2. Understand professional skills for working effectively with Indigenous people & communities
3. Understand the role of tribal sovereignty in the decision-making process

Pearl led a breakout session that included a small group activity similar to World Café, termed *Rez Café*, focusing on culturally appropriate ways to engage in tribal initiatives with tribal people. She spoke about the indigenous thought process and building solid relationships are key to making work in or with tribal communities a success. She also shared the importance of data sovereignty, tribal IRBs, reciprocity, and different levels of cultural "competence" that were found among a group of Nursing researchers. These include cultural awareness, cultural knowledge, cultural sensitivity, and cultural humility. For a copy or questions about this presentation, please contact Pearl at pearl.walker@ndsu.edu.

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If you would like to nominate a student to be featured in our newsletter, have suggestions, or questions, contact us!

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