

YES! Newsletter

Youth Enjoy Science

January 2022 Newsletter Volume 7

University of Nebraska Medical Center, Munroe-Meyer Institute, Eppley Institute and College of Public Health
University of Arizona Cancer Center

Cancer Awareness

Native people are disproportionately affected by chronic diseases and cancers, especially those that compromise the immune system. This puts them at a much higher risk of contracting COVID-19 or having more severe outcomes. It's important that we all continue to do our part to slow the spread of the virus for our vulnerable cancer survivors. We urge our communities to follow public health guidelines and recommendations to help keep our relatives safe and healthy.

Source: American Indian Cancer Foundation

Newsletter Committee:

Regina Idoate
Joyce Solheim
Misty Pocwierz-Gaines
Aislinn Rookwood
Liliana Bronner
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Cancer and COVID-19

CANCER and COVID-19



CONGRATULATIONS!

By receiving the COVID-19 vaccine, you've taken a big step in protecting yourself, your family, and your relatives from the virus. Cancer screenings are a great way to continue prioritizing your health! Cancer is the second leading cause of death among Native people. Screening recommendations may begin earlier or more frequently for Native people to help detect cancer at earlier stages, when it is easier to treat.

CANCER SCREENING

CERVICAL CANCER SCREENING

- ✓ 21-29 year olds should be screened every 3 years
- ✓ 30-65 year olds should be screened
 - Every 3 years with pap test alone
 - Every 5 years with HPV testing alone OR
 - Every 5 years with HPV and pap testing together (cotesting)

COLORECTAL CANCER SCREENING

- ✓ Screening should begin at 45 and continue through the age of 75. Talk to your health care provider about what screening option is right for you. Your individual screening regimen will depend on your discussion with your health care provider.

ORAL CANCER SCREENING

- ✓ Currently there is no oral cancer screening recommendation, but it's important to discuss any risk factors with your dental provider. Risk factors include tobacco and alcohol use, and the human papillomavirus (HPV).

BREAST CANCER SCREENING

- ✓ 40-49 year olds should discuss screening options with their health care provider
- ✓ 50-74 year olds should be screened every 2 years

LUNG CANCER SCREENING

- ✓ People 50 years and older who have a 20 pack-per-year history and currently smoke or have quit within the past 15 years should be screened.

SKIN CANCER SCREENING

- ✓ Currently there is no skin cancer screening recommendation, but it's important to discuss any risk factors with your health care provider. Some risk factors include fair complexion, tanning bed exposure, history of sunburns or previous skin cancer.

CANCER PREVENTION

HEPATITIS B VACCINATION

- ✓ 18 years of age or younger are recommended to receive a 3 dose series
- ✓ 18 years of age or older talk to your health care provider about this vaccination and if it's right for you

HPV VACCINATION

- ✓ 9-15 year olds are recommended to receive a 2 dose series
- ✓ 15-26 year olds are recommended to receive a 3 dose series

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FOR MORE INFORMATION, VISIT: WWW.AICAF.ORG



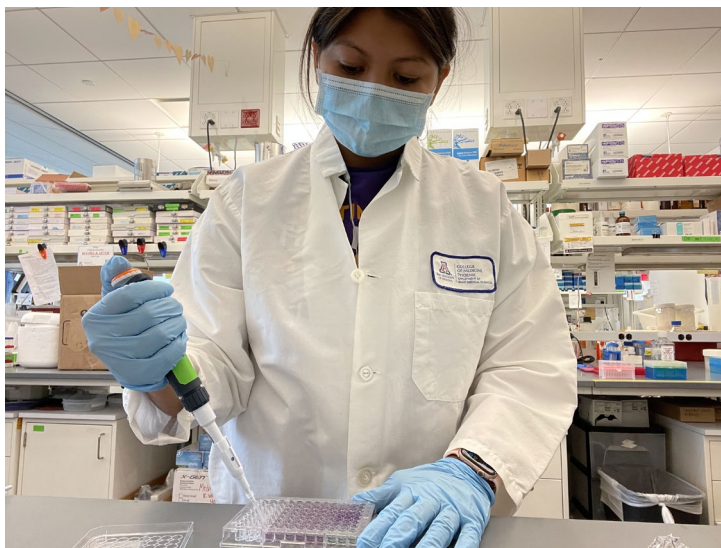
University of Arizona Cancer Center

Kristiann Ferreira

This summer **Kristiann Ferreira** presented at the Cancer Research: Present & Future Virtual: *Impact of Doxorubicin and Metformin on Cardiac Mitochondrial Electron Transport Chain Proteins*. Ferreira was awarded first place in the undergraduate division in the Poster Presentation competition. "This event was a beneficial experience that continued my drive to pursue a career in the healthcare field," said Ferreira.

"Working in a lab has given me a deeper appreciation of the time, effort, and dedication that goes into medical research. I hope that the work that our team has done, will help to improve the lives of all who will battle and defeat cancer."

Kristiann has been examining the extent to which specific cell signaling pathways can be protective against the side effects of chemotherapy drug, doxorubicin. Her work is contributing to the identification of potential tissue-specific ways to protect muscle cells in cancer patients for whom doxorubicin treatment is necessary. With a desire to return to her Tribe and be part of the effort of Apaches Healing Apaches, Ferreira will continue her education, gain experience and look at valuable opportunities that will benefit her community.



Kristiann Ferreira, a member of the San Carlos Apache Tribe from east central Arizona, is a student at Arizona State University working as a YES Cancer Research Intern in Dr. Taben Hale's lab in the University of Arizona Cancer Center.



Rudy Smith Jr.

Rudy Smith Jr., Navajo Nation/Acoma Pueblo, is a student at Arizona State University and a cancer research intern in **Dr. Shalini Sharma's** lab at the University of Arizona Cancer Center where he works with a team to study the role of RNA splicing mutations in myeloid malignancies.

"YES is a wonderful program that has allowed me to pursue cancer research, which I have since realized is something I am very passionate about. I sincerely appreciate everything that has transpired stemming from the YES! Program."

University of Arizona YES! MENTORS

Dr. Karen Hastings, is a physician-scientist who studies antigen presentation and regulation of T cell responses to skin cancer.



Dr. Taben Hale studies cardiac physiology and toxicity of cancer drugs. She currently works with YES cancer research intern, Kristiann Ferreira.



Dr. Shalini Sharma studies the role of RNA splicing mutations in myeloid malignancies. She currently works with YES cancer research intern, Rudy Smith.



Dr. Amelia Gallitano studies EGR3, a transcription factor that has been implicated in cancer.



YES! Mentor Highlight Meet Dr. Joyce Solheim



Dr. Joyce Solheim studies cancer immunology. Her laboratory is investigating the molecular mechanisms by which cancer cells indicate to immune cells that they are abnormal, and thereby provide immune cell attack. Her group is also engaged in translational projects developing chemokine immunotherapy approaches for cancer treatment. Dr. Solheim is currently mentoring four YES interns. The high school YES interns that she previously mentored have progressed to pre-medical/health science majors in college.

“Immunology research has such broad potential for improving medical care -- for developing new therapies for cancer, infectious diseases, autoimmune syndromes, graft rejection and more.”

Describe your research in 25 words or less.

My lab studies the regulation of immune responses and develops new approaches to cancer treatment that are based on the immune system.

What are the greatest challenges in research today?

The greatest challenges for individual research investigators are to maintain the insight and flexibility to take new directions when appropriate and to educate the public about research, which will assist in their understanding and support of it.

Best advice for YES cancer researcher interns?

If you're inclined to work hard, think about your work and take responsibility, you have important ingredients for entering a research career. Becoming a scientist means evaluating your own findings and publications by others and synthesizing all those results to establish your own unique experimental plans.

Who has been your greatest teacher?

My parents taught me the things that are most important to me in science, as well as in the other aspects of my life: to see what's good and interesting in the world and to try to do the best I can.

Tell us about your family and hobbies outside the lab.

My husband is a writer (he writes children's books) and we have two children.. Some of my current hobbies are taking walks and spending time with family members.

Globally, describe the most notable research achievement ever?

There have been many notable research achievements and I think every scientist has made valuable contributions to what we know and understand. We all follow up on what someone has discovered before us.

Clarify a common misconception about research?

Many people don't comprehend how lengthy, pitfall-strewn and expensive research is. It's a difficult enterprise.

UNMC Buffett Cancer Center Internships



The YES interns in the Eppley Institute (Hayli Spellman, Mira Norman, and Promise Moore-Saufley) have been participating in weekly presentations and discussion sessions on cancer topics during the fall and winter of 2021. Hayli and Mira are high school students (at Mercy High School and Duchesne Academy, respectively) and Promise is a student at the University of Nebraska at Omaha. The presentations and discussion sessions are led by several graduate students in the UNMC Cancer Research Doctoral Program. In addition, a presentation on cancer disparities was contributed by Aislinn Rookwood (YES Program Manager).

Topics include:

- Cancer Types and Stages
- Lifestyle Factors and Cancer Prevention
- Tumor Immunology
- Tumor Microenvironment
- Invasion and Metastasis
- Genomic Integrity and Development of Cancer
- Cancer Treatments
- Pediatric Cancer
- Cancer Clinical Trials
- Cancer Disparities amongst American Indians and Alaska Natives
- Hallmarks of Cancer



AISES STUDENT MEMBERSHIP IS FREE! Member Benefits Include:

CAREER DEVELOPMENT

Academic Networks
Professional Networks
Awesome Mentors

SUBSCRIPTIONS

Winds of Change Magazine
Annual College Guide
Awards

EVENTS

Leadership Summit
Virtual Science Fair
Conferences

ACCESS

Job Boards
Internships
Scholarships

AISES: <https://www.aises.org/membership>

Student Advisor, Scot Ouellette: scot.ouellette@unmc.edu

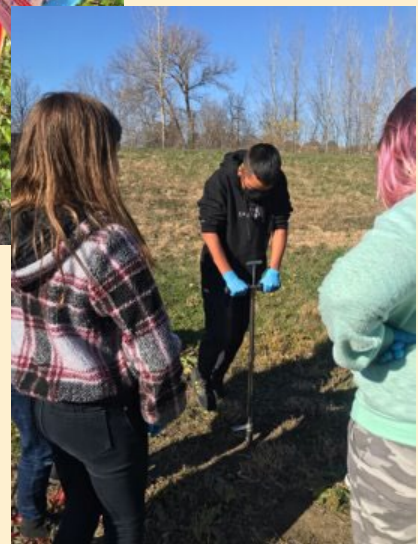
Omaha Professional Chapter President, Regina Idoate: regina.robbins@unmc.edu

Research Club: Soils and Heavy Metals

Thirty-five middle school students from the Omaha Public Schools (OPS) Native Indigenous Centered Education (NICE) program are learning how heavy metals, like Arsenic, Chromium, and Cadmium, can get into our bodies and increase risk of developing cancer and other health problems.



In September and October 2021, YES students learned about how heavy metals in soils can enter the body and impact our health through eating foods that adsorb heavy metals, contact with contaminated soils, and inhalation of contaminated dust. Mi'oux Stabler (Umonhon Nation) with the Big Garden presented the importance of healthy soils in producing healthy foods and the importance of food sovereignty and soil restoration. Steve Tamayo (Sicangu Lakota), with the NICE program and Bluebird Cultural Initiative, presented on winter counts and the science behind brain tanning. In November 2021, students collected soil core samples and prepared samples for laboratory analysis. Students will learn about how the samples will be analyzed during in-school meetings during the in January 2022. They will review and discuss results in a field trip in March 2022. This project was developed by the YES Program Manager, Aislinn Rookwood, and OPS -NICE program certified teacher Tracy Hartman-Bradley, in consultation with Midwest Laboratories and Omaha Healthy Kids Alliance. Students created a t-shirt design reflecting the project purpose in this project.



Research Club Activity Photos

YES Outstanding Research & Creative Activity Award Winner – Mariah Abney

Mariah Abney has been working with the UNMC-YES research education program for four noncontiguous years. She began participating with UNMC in high school joining before the inception of YES through the NCI Cancer Center Support Grant (CCSG) P30 CURE Supplement. Under the CURE supplement and in her early participation in the YES program, she worked with Dr. Youri Pavlov's lab investigating how specific parts of DNA polymerase zeta regulate its functions. Through this experience, she contributed to a publication titled, "A commensal strain of *Staphylococcus epidermidis* protects against skin neoplasia." Upon graduating from Central High School in the Omaha metropolitan area, she matriculated to the University of Nebraska at Omaha (UNO). As an undergraduate at UNO and Metropolitan Community College (MCC), she reconvened her participation in YES with an internship at the University of Nebraska Medical Center through the College of Public Health.

She is currently working to complete her undergraduate degree in communication and public health while planning to pursue a Master of Public Health in Health Promotion at UNMC. She has developed extensive experience in qualitative methodologies, including arts-based research. Ms. Abney is a member of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), American Indian Science and Engineering Society (AISES), and American Association for Cancer Education (AACE). Through work with her mentors, Dr. Regina Idoate and Aislinn Rookwood, she has contributed to several projects focused on better understanding how we can improve research and health professions workforce development for Indigenous students and ways we can utilize arts-based cancer research methods to communicate cancer education and research in Indigenous

communities. She has contributed to an additional four publications; one of which has been published and three that are currently in the review and revision process. In addition to publication, Ms. Abney has demonstrated her research expertise through multiple conference presentations. She has contributed three scholarly presentations in the past year alone. In addition to these presentations, she was the lead author and presenter of a poster presentation at the 2021 SACNAS conference, titled "A poetic reflection on research experience" which utilizes a prose approach to narrative inquiry into her experiences as an Indigenous student conducting cancer research. This study was designed by Ms. Abney from the initial research question to the study design and analysis.

In addition to her academic contributions, Ms. Abney has been active in promoting opportunities for youth through her own personal commitment and involvement in the YES, UNMC, and greater Omaha communities. In 2020, she presented as part of the Native American Scholars program developed by the Mid-American Transportation Center (MATC) at the University of Nebraska-Lincoln (UNL). In this presentation, she provided insight into life at a university and resources for students working to matriculate from a Tribal College/University to UNL. During the YES, Weeklong Institute for Students in High school (WISH) program in the summer of 2021, she was a teacher chaperone and a participant in the YES internship talking circle sharing her experiences pursuing cancer research. She has been a facilitator through Inclusive Communities and contributed to the exhibition of "The Body and Mind of Cancer," a collection of students' creative responses developed to raise cancer awareness, at the Fort-Omaha Intertribal Pow Wow and the UNO Criss Library.

"It is my mission to bring healing in an integrated approach through my calling in research, arts, and media"





Bluebird Cultural Initiative



Partnership with Bluebird Cultural Initiative & The Union for Contemporary Art: Forming a Medical Humanities Advisory Board to Address Cancer Health Disparities

Dr. Regina Idoate (UNMC), Dr. Mark Gilbert (UNO) and Rachel Mindrup (Creighton University) are working together to investigate the effectiveness of arts-based medical humanities research in increasing American Indian/Alaska Native (AI/AN) community readiness to address cancer. They are developing an advisory board that will 1) raise awareness of the benefits of cancer prevention, treatment and research, 2) increase the perceived susceptibility of cancer and 3) increase AI/AN participation in cancer education, prevention, treatment, and research. The board will start by conducting talking circles, facilitating story-telling, and inviting creative artistic statements about cancer from the American Indian/Alaska Native community members in Nebraska.

We are calling all

- YES program participants
- AI/AN community members
- Omaha area community arts organizations
- Indigenous artists
- Health sciences program representatives
- Anyone with diverse expertise related to cancer education, Indigenous studies, and arts-based research

If you are **interested in participating in the advisory board or contributing to a talking circle, sharing a story or an artistic statement in relation to cancer**, please contact Regina Idoate at regina.robins@unmc.edu. Individuals will be compensated \$25 for participation in the study.

**YES! Education Consultant
Brittany Strong, BS MPA
Algonquin of Pikwàkanagan**



Contact Brittany at:
strongb.88@gmail.com

Welcome Brittany Strong!

Brittany Strong grew up in Las Vegas, Nevada where she attended University of Nevada, Las Vegas (UNLV) and earned her BS in Secondary Education concentrating in Social Studies. As an educator who is passionate about serving underrepresented youth Brittany has worked hard to address the inequalities faced by Native American student's in today's educational paradigm. Identifying as an Algonquin of Pikwàkanagan First Nation, Brittany feels she has a duty to serve the Indigenous community through the creation of culturally relevant curriculum, projects and partnerships. Brittany's previous work includes teaching with the Native Indigenous Centered Education (NICE) Program in Omaha Public Schools where she had the opportunity to work closely with Indigenous youth as an academic and social support. Brittany also enjoyed developing partnerships to work with local community members and higher education institutions. While working at Omaha Public Schools, Brittany earned a Master in Public Administration from Bellevue University and in 2018, Brittany was selected as a New Leaders Council - Omaha Chapter fellow where she was able to network and pursue more opportunities to serve the Omaha Indigenous youth community. Brittany has played a vital role in multiple projects with the YES program and the University of Nebraska Omaha's Service Learning Academy including an art-based research project (Buckskin Buddies), the development of The North Omaha High School Native Garden and the curation of a student-centered art exhibit (We Are Still Here). Her favorite project was Indigenist, where she and a circle of Indigenous women in the Omaha Metro Area explored the meaning of being an advocate for wellness through art of all kinds. Brittany is excited and honored to be able to continue work with YES as an educational consultant and looks forward to watching Indigenous youth explore research, healthcare, and higher educational opportunities that will allow them to represent and give back to Indigenous communities.

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Upcoming Events

YES! Middle School IResearch Club Field Trip

Hybrid: Metro Community College & Online
January 21, 2022, 9am-1pm

YES! Teacher Workshop

Theme: Indigenous Pedagogy, Promising Practices
Hybrid: University of Nebraska Medical Center & Online
TBA 2022

YES! Middle School STEAM Club

Stay tuned for announcement

Announcements

- Dr. Joyce Solheim announced Associate Director for training and education at the Fred & Pamela Buffett Cancer Center
- Brittany Strong, MPA, announced as a YES educational consultant
- Hannah Butler-Robbins, former YES cancer research intern, started a new position as a Public Health Scientist for the Arizona Department of Health and Human Services.
- Alec Ferreira, former YES cancer research intern, started a new position as a Youth Advocate Community Navigator for Nebraska Urban Indian Health Coalition

