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U.S. Dept. of Energy Office of Science Grant Navajo Technical University

Crownpoint, NM – On June 6, 2023, the Navajo Technical University Department of Industrial Engineering program announced \$1 million for research into Controlling Additive Manufacturing Properties of Surfaces (CAMPS).

The project, Controlling Additive Manufacturing Properties of Surfaces (CAMPS), is a collaboration between Navajo Technical University (NTU) and Lawrence Berkeley National Laboratory (LBNL). CAMPS will address critical scientific questions related to the effects of reactive gasses on the structure of metals formed through additive manufacturing, which is relevant to future nuclear energy materials.

CAMPS addresses the Department of Energy's priority in science for Transformative Manufacturing. CAMPS's research objectives are:

1. Understanding whether non-equilibrium incorporation of these species can be realized through solute trapping at the solid-melt interface and enabling routes to microalloying not realizable through conventional processing routes.
2. Understanding how the presence of these gasses trapped near the surface can alter phase microstructure and mechanical control behavior.
3. Understanding whether their incorporation leads to the formation of nanoclusters (oxides, nitrides, carbides) provides a route to produce dispersion-strengthened alloys that traditionally rely on more expensive and energy-intensive manufacturing routes.

CAMPS aim to bridge these fundamental concepts to additive manufacturing applications, including novel advanced nuclear reactor designs and the creation of tailored materials with local control of mechanical and chemical properties.

The CAMPS education initiatives are to increase enrollment of American Indians in Engineering and NTU engineering programs and to provide context and theory to American Indian students. The students will receive practical experience and aptitude in scientific theory and engineering principles required for synthesizing and characterizing materials for various technological applications.

The CAMPS educational and engineering pipeline activities include a joint research project between NTU and LBNL, collaborative journal and conference publications, summer student internships at LBNL for research and career development activities, monthly technical meetings, co-advising of undergraduate students with LBNL scientists, education and training from LBNL staff to integrate NTU students and researchers into DOE user facilities, integration of new additive manufacturing modules, modeling, and characterization into NTU engineering courses, and teaching of dual-credit Engineering Graphics at Gallup McKinley County schools (GMCS) whose students population is 90 percent American Indians.

CAMPS aims to create a lasting collaboration and connection between LBNL and NTU that will ultimately increase LBNL and DOE's relationship with American Indian students and lead to a more diverse and inclusive workforce.

The mission of the Industrial Engineering program at Navajo Technical University is to provide the best possible education, research, services, and resources to prepare students for careers in industry, research, or academia and to achieve success in life.

For more information, contact:

Monsuru Ramoni, PhD
Associate Professor, Industrial Engineering
P: 806 283 8789
E: mramoni@navajotech.edu

Monsuru Ramoni instructs his engineering class



Navajo Technical University Enrollment Day

Crownpoint, NM - On June 7, 2023, NTU Recruitment kicked off their first enrollment day for future students and the local community from surrounding areas inside the Wellness Center for the rest of June and July.

NTU staff and faculty set up their program booths to advertise what they offer to students who want to pursue higher education. Participants go from booth to booth, receiving information about each program. Some programs require an internship where students can apply practical, job-specific skills in an actual work situation in cooperation with businesses in the private and public sectors. On enrollment day, it is central to NTU's mission, planning, educational programming, and continuous improvement; students are to meet with the advisor and assigned faculty advisor to begin submitting documents and officially registering for the course with the Registrar's Office.

SAVE THE DATE

NTU Enrollment Day

Every Wednesday
Throughout June & July
Starts at 10:00 AM
NTU Wellness Center,
NTU Main Campus,
Crownpoint, NM
For more information,
contact: Brenda Yazzie
at b.yazzie@navajotech.edu or 505-488-3722

Eastern Navajo Fair Parade

Saturday, July 22, 2023
Starts at 6:30 AM - 11 AM
Crownpoint, NM

Fall 2023 New Student Orientation

Thursday, August 17, 2023
NTU Wellness Center
Crownpoint, NM

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The Student Services department has been working hard to accommodate the safety of students, staff, and faculty and your well-being. Student Services provided popcorn, snow cones, and drinks inside the Wellness Center. The First Year Experience Program develops to strengthen the retention rate, improve operational efficiencies, communication effectiveness, and long-term success of First Year students at Navajo Technical University. Information on Admissions, Financial Aid, Advisement, First Year Experience, and more are at Skyhawk Central. KCZY Radio also provided information LIVE at the Wellness Center.

“Congrats to all high school seniors. It is time to apply to NTU to transition to a higher institution for a rewarding career. Let us help you with this. NTU is ready to showcase what we have to offer to the public. Stop by as we have assistance in admission, financial aid, and advising. NTU will provide campus tours, programs to showcase, our Dual Credit for high school students, and more. At each site’s scheduled NTU Enrollment Day, we will have free popcorn and snow cones in the afternoon—Showcase NTU. Come on by!” – NTU Recruiter Brenda Yazzie

“NTU is a great place to learn, it’s a great place to start, more students need to get involved with their communities, and more people need to be involved with their communities, that’s why NTU was established just for these kinds of events. Come on out to enrollment Day, Every Wednesday.” - Cuyler Frank, KCZY Radio Station Manager.

Brenda Yazzie and NTU Recruitment provided tours, prizes, and general information.

As always, “It Begins From Within.”

#NavajoTechnicalUniversity #NTUSkyhawks #EnrollToday #EnrollmentDay

For more information, contact:

Brenda Yazzie
NTU Recruiter
E: b.yazzie@navajotech.edu
P: 505.488.3722

**NTU Recruiter, Brenda
Yazzie inside the Wellness
Center.**



I BET YOU DIDN'T KNOW...



The first oranges weren't orange.



The Windy City nickname has nothing to do with Chicago's weather.



There's only one letter that doesn't appear in any U.S. state name.

NTU Summer STEM & Skills Program 2023

Crownpoint, NM - Navajo Technical University (NTU) is excited to announce the launch of its Summer STEM & Skills program for high school students. The program is designed to provide students with a unique and engaging learning experience by offering hands-on skills in various fields, including welding, construction, culinary arts, engineering, and marketing.

The program is run by experienced instructors who provide individual attention to each student, ensuring they understand the course material comprehensively while acquiring practical skills. With the program entering its sixth year, it has proven to be a great success, and many students have benefited from the range of skills they acquire at NTU.

Students in the program learn the fundamentals of their chosen field and the practical applications of those skills. They also explore possible careers in their respective fields and gain real-world experience with hands-on projects through the program.

This Summer STEM and Skills program allows high school students to advance their studies while enjoying a unique on-campus experience at NTU. Participating students earn college credit, giving them a head start in their college education and the chance to get a feel for college life.

NTU believes learning should be fun and engaging, precisely what students experience with the Summer STEM & Skills program. The courses are structured to keep students engaged and interested, fostering interest in the fields of study and encouraging students to explore career paths they might have yet to consider.

Dr. Peter Romine, the mastermind of this program, has been at the forefront of shaping the program into its current iteration, ensuring that students receive the highest level of instruction and an excellent learning experience. The program is supported through research and workforce development grants with the US Department of Transportation, National Science Foundation, Department of Energy, and the National Aeronautics and Space Administration.

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The program culminates with the Dine Maker Faire, an event where each student showcases what they have made within their respective course. This event allows students to share their work with others and inspire other students to pursue their passions.

Overall, Navajo Technical University's Summer STEM & Skills program provides a platform for high school students to learn valuable hands-on skills, explore career paths, and gain college credit during the summer months. The program's focus on practical skills and individualized attention from instructors provides an excellent opportunity for students to jumpstart their academic and professional careers.

For more information, please contact:

Christine Reidhead
Associate Professor
E: creidhead@navajotech.edu
P: 505.387.7463



Dr. Peter Romine briefs Wingate High School students on the Summer Bridge Program.

DO YOU HAVE AN ANNOUNCEMENT TO MAKE? CONTACT DALE MORGAN AT

dmorgan@navajotech.edu

YOUR ANNOUNCEMENT WILL APPEAR IN THE FOLLOWING MONTH'S NEWSLETTER.

Navajo Technical University Rodeo Team attends CNFR Armband Ceremony.

Casper, WY - On June 10, 2023, the Navajo Technical University Rodeo Team is thrilled to announce their participation in the College National Finals Rodeo (CNFR) at the Ford Wyoming Center in Casper, WY. The team is prepared to demonstrate their exceptional skills and dedication during this prestigious event, which will commence with the highly anticipated Armband Ceremony.

During the Armband Ceremony, contestants from all corners of the nation will be bestowed with their armbands, symbolizing their qualification for the CNFR. As a distinctive departure from the traditional back number system, the armband represents honor and recognition. Worn throughout the competition, this armband signifies the competitors' commitment to their craft and distinguishes them as top athletes in their respective disciplines. The ceremony is reminiscent of the renowned back number ceremony witnessed at the INFR or NFR, paying tribute to the rodeo traditions.

"It is fascinating to be back in Casper, WY. Hiyo Yazzie has qualified for the College National Finals Rodeo in Team Roping, Tie Down, and Steer Wrestling. Hiyo Yazzie is the Grand Canyon Region All Around Cowboy." George LaFrance, NTU Athletic Director, said, "We are very proud of Hiyo Yazzie. Coach Nicole Pino did a great job working with our team. I want to say good luck to Hiyo Yazzie and give it your best."

"Feels great to be back here in the CNFR arena. Seeing familiar faces and knowing we all worked hard throughout the year to get here. This is the 1st time the CNFR committee tried the armband ceremony with the stage and recognition. It's a perfect opportunity to give the spotlight to these students. Coming into the CNFR, Hiyo is the #1 All-Around Cowboy in our Region and #2 in the Nation. We will give it our all because, coming here, everyone starts at zero. So, everyone has a shot at that Champion title." Nicole Pino, NTU Rodeo Coach, said.

Hiyo Yazzie, from NTU Rodeo Team, has secured qualification for the CNFR in three events: Team Roping, Tie Down, and Steer Wrestling. Demonstrating outstanding prowess and versatility, Yazzie has earned the coveted title of Grand Canyon Region All Around Cowboy.

"I feel good about myself, that good things are coming. I feel that this is where I'm supposed to be. I'm proud of who I am and where I come from." said Hiyo Yazzie, NTU Rodeo Student.



L-R: George LeFrance, Hiyo Yazzie, and Nicole Pino.

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Sandia National Labs Visits NTU

Crownpoint, NM – On June 30, 2023, Navajo Technical University (NTU) and Sandia National Laboratories Director Dr. James Peery met in a historic visit to Navajo Technical University, marking the first time a sitting national lab director has visited a tribal college or university. The event is designed to build on Sandia's growing partnership with NTU.

Sandia Labs personnel, as well as NTU staff, faculty, and students, met inside the Student Union Building to discuss further the partnership of the National Nuclear Security Administration's Minority Serving Institution Partnership Plan, which helps national labs partner with tribal colleges and universities that prepare students for technical careers in NNSA's laboratories and production plants.

Stan Etcitty, from Shiprock, presented himself and gave his introduction and interest. His research interest is that power electronics are necessary for integrating energy storage and distributed generation with the electric utility grid. He leads the power electronics and tribal energy storage subprograms as part of the DOE Office of Electricity Energy Storage Program. He is a Senior Scientist at Sandia National Laboratories in the Nuclear Fuel Cycle & Grid Modernization Center. He has worked at Sandia for over 28 years.

Dr. Elmer J. Guy spoke of Navajo Technical University as a tribal-controlled postsecondary career and technical institution with a main campus in Crownpoint and two smaller campuses in Chinle and Teec Nos Pos, Arizona. Dr. James Peery listened as he heard of NTU programs focusing on advanced manufactured metal parts, certification of 3D-printed metal parts, inspection methodologies and techniques, including equipment operation, and optical metrology, including testing and characterization of materials; all skills that can benefit Sandia's mission.

"NTU welcomes a strengthened relationship with Sandia. Honoring the ideas of students and programs, being involved, and inviting the partnership toward the Sandia Labs, where students could grow and learn." – Dr. Elmer J. Guy

Dr. James Peery presented an update dating back to August 2018; with the help of Sandia, NTU obtained accreditation from the Accreditation Board of Engineering and Technology for its industrial engineering and electrical engineering programs. Having an ABET accreditation allows Sandia to hire NTU graduates. Sandia also has seven effective programs carried out through global security, such as information cybersecurity, science and technology products, surveillance, and reconnaissance.

"Sandia will work with NTU on an initiative to dramatically increase the number of Native American researchers in advanced manufacturing, power and energy engineering, and other technical disciplines." – Dr. James Peery.

Sandia also works with NTU to expand programs in other disciplines, including chemical and mechanical engineering. The Navajo Nation chartered NTU as a university under the auspices of the Tribally Controlled Community Colleges and Universities Act. In addition to Sandia Labs, we have research projects with many mainstream universities and private sector partners.

NTU 2023 Dine' Maker Faire

Crownpoint, NM – On June 29, 2023, Navajo Technical University (NTU) hosted its 6th annual Dine' Maker Faire inside the Wellness Center from 9 AM – 11 AM. Students showcase their work and skills learned over the last four weeks.

NTU's Summer STEM and Skills program began in 2018 and introduced dual credit students to construction, welding, culinary arts, baking, automotive technology, pre-engineering, and business. High school students can earn up to 9 credit hours if they complete the program. The program is designed to provide students with a unique and engaging learning experience by offering hands-on skills in various fields, including welding, construction, culinary arts, engineering, and marketing.

Fifty Wingate High School students gathered inside the Wellness Center along with staff and faculty, as the audience will be able to walk around and see other students' skills and final projects during their four weeks at NTU at their set-up booths. Christine Reidhead, Assistant Professor / Chair for the School of Business and Education coordinated the event by introducing Dr. Colleen Bowman, Dr. Casmir I. Agbaraji, Jason Arviso, and NTU instructors. Students were given a certificate of achievement for participating in the NTU summer STEM and skills program. The student's final projects were displayed as centerpieces during the event. Sammy the Skyhawk made a surprise visit on campus and was greeted with hugs and selfies with students.

Students in Electrical Engineering designed their work with 3D printing technology and drone technology. For example, students learned different parts of a drone and how they work. Drones can be as large as an aircraft or as small as the palm of your hand. Dr. Peter Romine incorporated Electrical Engineering into Dine' Maker Fair, which helped students with hands-on projects.

Roy Rafael stated, "The Wingate students are attentive and ready to learn. We had fun teaching them to design in CAD and even create a handheld personal fan. They even had a chance to 3D print models downloaded off the internet."

"The Wingate students enjoy learning about the EE program. They learned about measuring AC & DC, using a multimeter for different measurements." – Dr. Sundaram Arumugam, Asst—Professor of Electrical Engineering.

Welding instructor Christopher Storer and his students learned that each metal and metal alloy respond differently to heat, and in this way, they can be manipulated. Metals expand and soften when heated, resulting in different uses and applications. They also respond in different ways to the various welding methods used. Heat hot enough makes the metal bend while making it bloom. Students created objects such as tiny teepees, hogans, and flowers.

The high school students in the carpentry program made birdhouses, doghouses, and picnic tables with instructor Tom Bebo. The picnic table is an innovative and functional addition to any household. The outdoor table is sure to please as it gives it a natural, rustic touch and the well-made construction gives you and your guests a sturdy, safe way to enjoy eating outside.

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Christine Reidhead says, "This program exposes high school students to various college classes available to them." Christine and her marketing students developed their businesses and introduced a marketing plan for promotion. Some students learn to run a business, operate, direct, oversee, and manage. Marketing students worked on a video to create a hands-on task for the summer program.

Students in Culinary Arts debuted by going off a theme from a character they have made through 3D printing from the Electrical Engineering program. The first group chose the character from the movie Ratatouille which is French cuisine; the second group went with Spirited Away, which defines Tawainese traditional foods; and the last group chose Demon Slayer from a Japanese-inspired menu. Small proportions were served to guests and the audience. Chef Brian Tatsukawa oversaw the project. The project consisted of cooking, baking, and sanitation duties.

"Mise en place skills are life skills." – Brian Tatsukawa, Culinary Arts Instructor.

Overall, Navajo Technical University's Summer STEM & Skills program provides a platform for high school students to learn valuable hands-on skills, explore career paths, and gain college credit during the summer months. The program's focus on practical skills and individualized attention from instructors provides an excellent opportunity for students to jumpstart their academic and professional careers.

Al Martinez, Headteacher at Wingate High, states, "NTU offers us a great opportunity for dual credit, and the program offers us what we don't have. This summer enrichment program provides us with an opportunity to do something different. The students enjoy it and thrive doing an excellent job. NTU supports our students first, so we thank Christine Reidhead, Dr. Peter Romine, and Dr. Casmir I. Agbaraji for hosting us."

Congrats to all the students, interns, instructors, and everyone who helped!

For more information, please contact:

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Associate Professor
E: creidhead@navajotech.edu
P: 505.387.7463

Christine Reidhead (far left) along with NTU staff and Wingate High School students.

