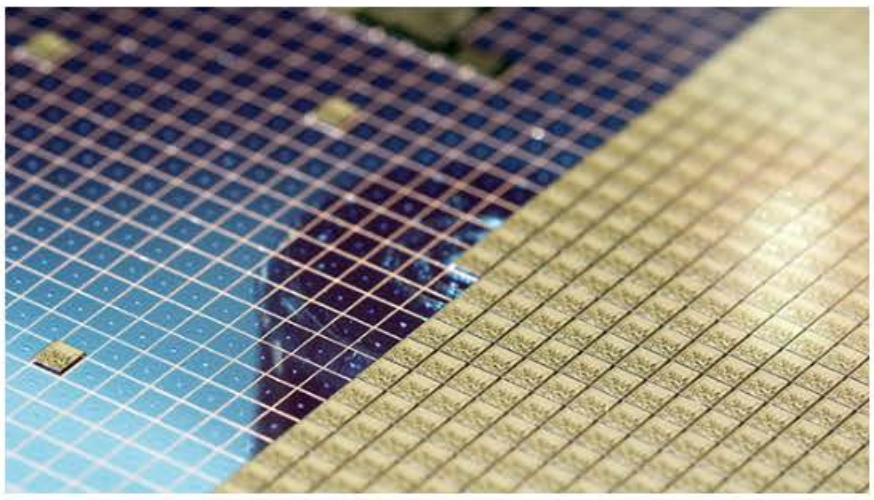
NCI Southwest

"At its core, the National Nanotechnology Coordinated Infrastructure (NNCI) exists to help scientists and engineers from around the country access the state-of-the-art resources necessary to participate in the nanotechnology revolution. As the southwest regional node of the NNCI, the goals of the NCI-SW are to build a regional infrastructure for nanotechnology discovery and innovation, to address societal needs through education and entrepreneurship, and to serve as a model site of the NNCI."

Dr. Trevor Thornton
https://ncisouthwest.org/

Department of Defense selects ASU for Microelectronics Commons Hub

ASU announced it will establish one of eight Microelectronics Commons regional innovation hubs supported by the CHIPS and Science Act funding. The Southwest Advanced Prototyping (SWAP) Hub is a microelectronics innovation and prototyping center submitted to the National Security Technology Accelerator as part of the Microelectronics Commons. SWAP aims to accelerate domestic hardware prototyping and "lab-to-fab" transition of semiconductor technologies.
Learn More...



Workshop on Nanotechnology Infrastructure of the Future.

The current National Nanotechnology Coordinated Infrastructure (NNCI) award cycle ends in 2025. On September 12-13, 2023, NNCI and NSF shared facilities stakeholders came together in Washington D.C. to discuss the future of national resources in nanotechnology science and technology infrastructure. NNCI funding supports research by providing a low-barrier entry point to advanced fabrication and characterization resources and provide experiential learning opportunities for the next generation workforce. The recent passing of the CHIPS and Science Act calls for current NNCI-supported facilities to create strategies to ensure the continuation of support for technical capabilities, education, and shared infrastructure resources that support the advancement of domestic semiconductor research and manufacturing.
The White House Office of Science and Technology Policy (OSTP) released a readout of the summit, which can be found here.

Plenty of Beauty at the Bottom

In honor of National Nanotechnology Day, October 9th, the NNCI hosted our annual **Plenty of Beauty at the Bottom** image contest. Referencing Richard Feynman's 1959 lecture, "There's Plenty of Room at the Bottom," this image contest celebrates the beauty of the micro and nanoscale.

Darian Rosales, 2023 NCI-SW REU participant and current Mesa Community College student, shared his image for the 2023 contest, titled, "Atomic Structure of Carbon Chains at the Nanoscale". Rosales created his whimsical image with a Transmission Electron Microscope while working this summer at Northern Arizona University in the MIRA Center. Rosales explains, "I was fabricating sp bonded carbon chains which are stabilized by gold atoms. This image showcases the atomic structure of individual chains of carbon atoms. It was captured while conducting carbon nanomaterial attached to gold atoms. It was possible using the samples prepared during the summer to determine the way that the carbon chains crystallize. We combined HREM with Convergent beam diffraction to work out the structure."

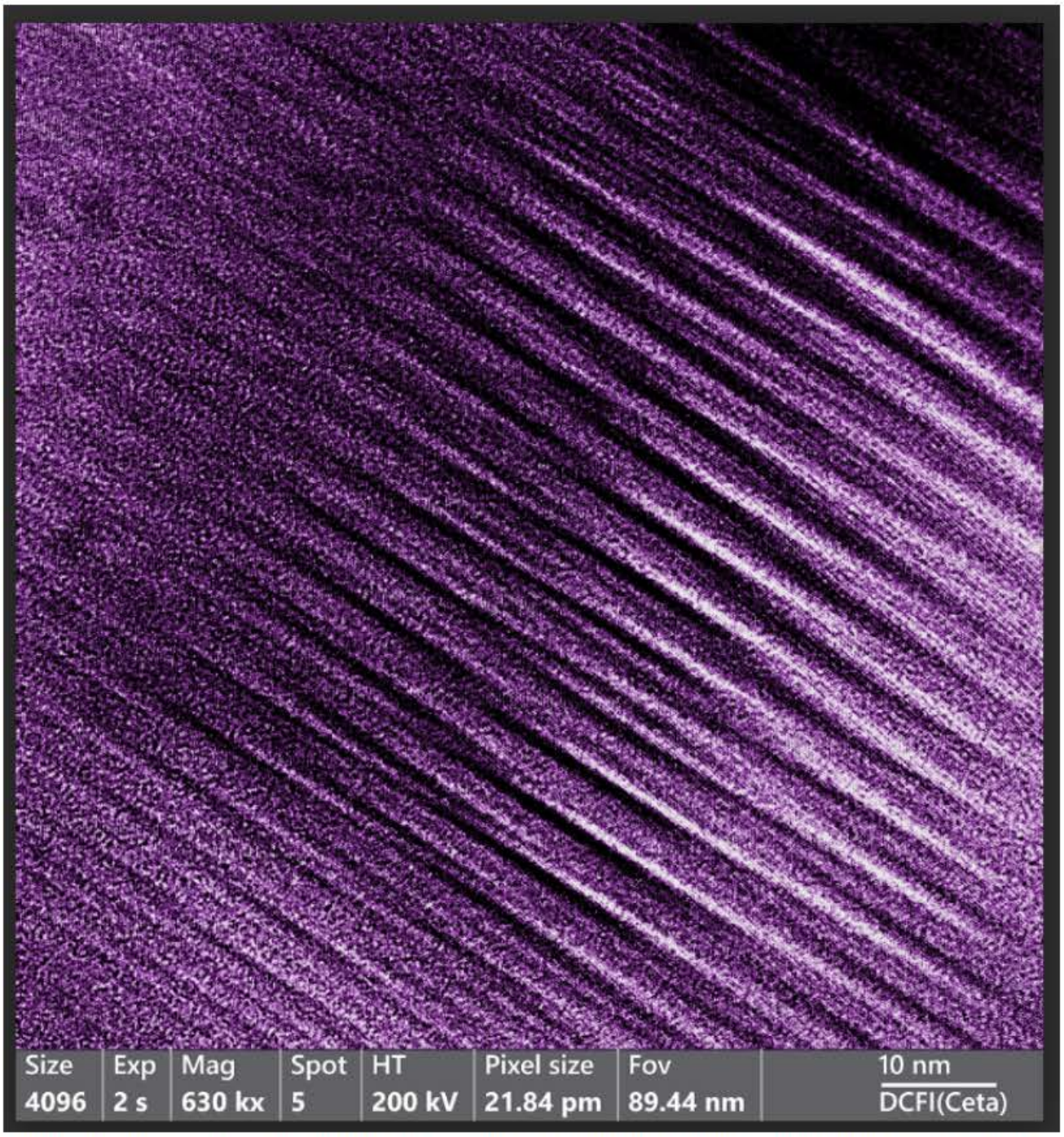


Photo credit: Darian Rosales - undergraduate student, and scientist with support from Jesus Velazquez research scientist, Blake Rogers graduate student, Dr. Miguel José Yacaman - Professor of Physics at Northern Arizona University.

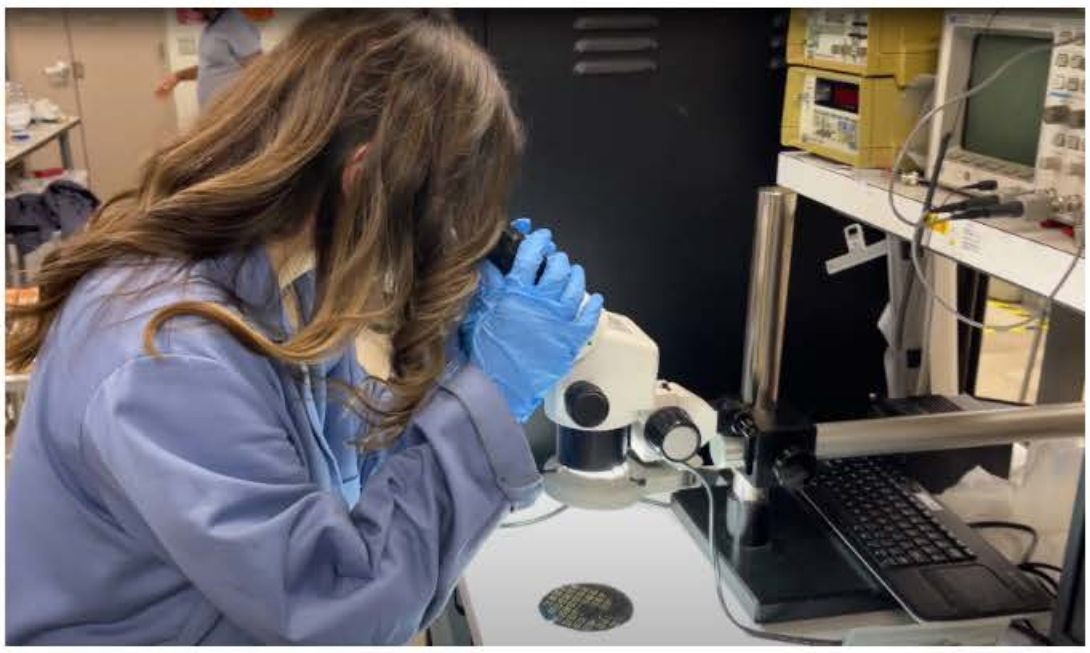
Voting to determine contest winners will begin on October 10, 2023 at noon and will conclude on October 17th. Voting for the contest can be found here.

Follow NCI-SW on LinkedIn!

11th Annual Winter School on Emerging Technologies: Accelerating Impactful Scholarship. January 3-10, 2024.

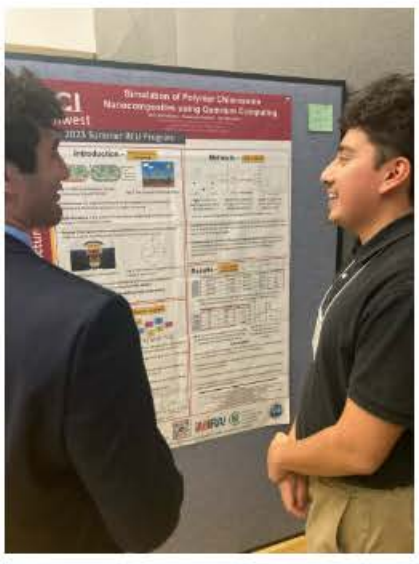
The National Nanotechnology Coordinated Infrastructure Coordinating Office supports the School for the Future of Innovation in Society at Arizona State University's 2024 Winter School - an opportunity for junior scholars and scientists to be introduced to and gain practical experience with methods and theory for better understanding the social dimensions of emerging technologies. The 2024 Winter School will be focused on the broad notion of impact with an aim to explore ways for participants to increase and diversify the impact of their work. Applicants should be advanced graduate students or recent PhDs (post-doc or untenured faculty within three years of completing a PhD at time of application) with an expressed interest in studying emerging technologies such a nanotechnology, robotics, synthetic biology, geoengineering, artificial intelligence, etc.

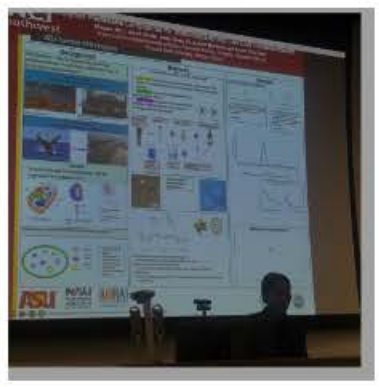
Visit https://sfis.asu.edu/events/winter-school/ to learn more & apply.
DEADLINE FOR APPLICATIONS IS MONDAY OCTOBER 16, 2023.



Local Community College Students and Graduates participate in NCI-SW Research Experience for Undergraduates (REU) Summer Program

With support from the National Science Foundation, NNCI Research Experiences for Undergraduates (REU) at the NCI-SW is a stimulating nine-week summer research program for undergraduates from accredited community colleges and universities. Our Summer 2023 cohort included seven students representing Estrella Mountain Community College, Mesa Community College, Glendale Community College, Chandler-Gilbert Community College, and Moraine Valley Community College. Three REU participants studies under Dr. Miguel José Yacamán, Dr. Inès Montaño, Dr. Gabriel Montaño at Northern Arizona University's Materials Interfaces in Research and Applications (MIRA). Four students studied under Dr. Trevor Thornton, Dr. Timothy Long, Dr. Nicholas Rolston, and Dr. Nidhin Kurian Kalarickal at Arizona State University. **Read more...**





ASU Knowledge Enterprise
Arizona State University

Core Research Facilities

Pioneering Innovation:
ASU's Core Facilities' Semiconductor Spotlight

Dear Jessica,

We are eagerly anticipating the **Pioneering Innovation: ASU Core Research Facilities Semiconductor Spotlight s**ymposium this Wednesday, and we're thrilled that you'll be joining us!

Event Details:

📍 **Location:** Old Main, Carson Ballroom, 400 E Tyler St., Tempe, AZ 85281
📅 **Date:** Wednesday, October 11th
⏰ **Time:** 11:00 am - 5:00 pm
🚗 **Parking:** Fulton Parking Garage
🔗 **More Info:** https://bit.ly/Semiconductor_Symposium_2023

Why You Won't Want to Miss This:

Insightful Sessions: Dive into how ASU is pioneering advancements in the semiconductor industry in Arizona and the broader global context.

Networking Opportunities: Engage with professionals, industry leaders and fellow participants to forge new connections.

Speaker Line-up:
- Dr. Matthew Hulver, ASU Knowledge Enterprise Vice President of Research
- Dr. Ravi Mahajan, Intel Fellow
- Dr. Zachary Holman, ASU Fulton Schools of Engineering Vice Dean for Research and Innovation
- Dr. Manpuneet Benipal, Advent Diamond Co-founder and CEO
- Robin Hammond, Fulton Schools Career Center Founding Director
- Kevin McGinnis, ASU Strategic Technology Initiatives Manager Director
- Gary Sypherd, Applied Materials Senior Programs Manager and Engineer

As we converge to discuss, deliberate and determine the future strides of the semiconductor industry, your participation will add great value to the dialogue.

Looking forward to seeing you this Wednesday and exploring the innovations and trends together!

This event is brought to you in collaboration with the ASU Core Research Facilities, ASU Corporate Engagement, the National Nanotechnology Coordinated Infrastructure (NNCI), the ASU Engineering Schools and Skysong Innovations.

¡MIRA! – Diversity is in Our DNA - Northern Arizona University

The Center for Materials and Interfaces in Research and Applications (¡MIRA!) at Northern Arizona University is focused on the development of functional materials through the exploration of materials interfaces. Users of the ¡MIRA! Center have access to capabilities and expertise in characterization and modeling of hard and soft materials.
https://mira.nau.edu/

Join the ¡MIRA! Colloquia series. Never miss an event by signing up to join our *MIRA*/APMS/NCI Mailing List! To join: send an email to listserv@lists.nau.

Microelectronics and Nanomanufacturing Certificate (MNC) Program for Veterans

Funded by the National Science Foundation, Arizona State University is collaborating with Rio Salado College and Penn State University to host hands-on-site training for a Microelectronics and Nanomanufacturing Certificate (MNC) Program. Recent MNC graduate and Navy veteran Matt Feyereisen reflects on his passion for technology that motivated him to complete the program and join the nanomaterials workforce. **Read more about Matt ...**

Designed specifically for veterans, the Microelectronics and Nanomanufacturing Certificate (MNC) Program helps meet the needs of a growing microelectronics and semiconductor workforce. Funded by the National Science Foundation, this innovative approach features live-streamed lectures delivered by Penn State's Center for Nanotechnology Education and Utilization (CNEU) faculty to four regional community college partners, and includes substantial hands-on-site training in a cleanroom environment at the local partner universities. Participants enrolled in this 12-week program will learn the principles and practices they need to succeed when they enter the semiconductor industry.

Participants should have a basic understanding of high school physics and chemistry and have access to a laptop or desktop computer to access course assignments, grades, and other materials.

Lectures will be live-streamed to participants via Zoom Monday through Friday from 11 am – 1 pm ET. Additionally, participants will be trained in a cleanroom at the regional partner university (on-site) approximately twice per week for about 3-4 hours each session, with an additional 1-2 hours set aside to complete the accompanying assignment. Additional readings from a provided textbook and virtual lab assignments (similar to a demonstration lab where steps are explained and a video is used to illustrate the concept) are estimated to take approximately 3-8 hours per week to complete.

https://www.cneu.psu.edu/military-ed/