

# Nanotechnology Collaborative Infrastructure Southwest

NCI  
Southwest



## NNCI Annual Meeting

19 - 21 October 2022



Trevor Thornton – Director

Inès Montañó - PI at NAU, Quantum Materials

Jameson Wetmore - Deputy Director

Gabe Montañó – Nano-Biomaterials

Mariana Bertoni - Renewable Energy



Award # ECCS 2025490 |



## Awards



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Award Abstract # 2229983

## Microelectronics and Nanomanufacturing Partnership for Veterans

<b>NSF Org:</b>	<a href="#">DUE</a> <a href="#">Division Of Undergraduate Education</a>
<b>Awardee:</b>	PENNSYLVANIA STATE UNIVERSITY, THE
<b>Initial Amendment Date:</b>	July 27, 2022
<b>Latest Amendment Date:</b>	July 27, 2022
<b>Award Number:</b>	2229983
<b>Award Instrument:</b>	Continuing Grant



## Microelectronics and Nanomanufacturing Partnership for Veterans

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### ABSTRACT

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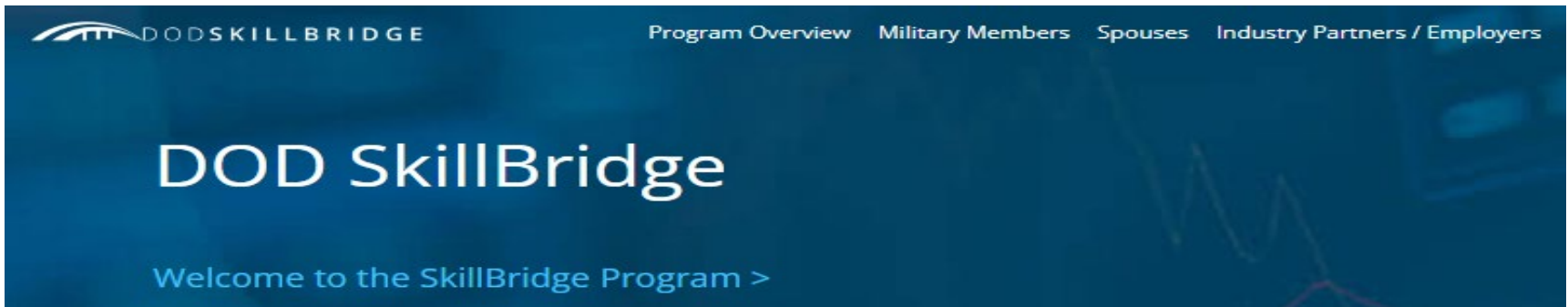
This project will provide educational opportunities for military personnel, veterans, and family members to gain the knowledge, skills and abilities (KSAs) needed to enter the nanomanufacturing workforce. Members of the collaborative include 2-yr and 4-yr institutions, microelectronics companies, and the Global SEMI Trade Association.

Led by Penn State with partners at Norfolk State University, UC San Diego, Georgia Institute of Technology, and **Arizona State University**.

2-year schools include Tidewater Community College, Southwestern College, **Rio Salado College**, and Georgia Piedmont Technical College

## Microelectronics and Nanomanufacturing Partnership for Veterans

Rio Salado College and Arizona State University will recruit veterans and active service members at Luke Air Force Base through the SkillBridge program.



### Military Members

Looking for your next career step after your military Service? Are you within 180 days of release from Active Duty? Discover opportunities to participate in training and development with industry and employers who are seeking the high-quality skills that you bring to the table.

[Read more >](#)



Broadening Participation in Science and Engineering Higher Education with semiconductor manufacturing internships and research experiences at ASU



**Intel's Mindshare at Universities**

Drive Intel's Thought Leadership Into Academia to Foster and Develop a Pipeline of Students' Savvy On Intel Technology and Monitor Technology Inflections

- CURRICULUM**  
Encourage the use of Intel technology in the classroom
- STRATEGIC UNIVERSITIES**  
Continuously connected with key institutions
- RECOGNITION AWARDS:**  
**Outstanding Researcher (ORA)**  
**Rising Star (RSA)**  
Faculty awards recognizing great collaborators and their connection with Intel
- ACADEMIC COMPUTE ENVIRONMENT**  
Cloud computing access to Intel technology for research
- UNIVERSITY SHUTTLE PROGRAM**  
Offer new technologies and products through the IFS in partnership with leading academics

intel

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**Intel's Mindshare at Universities**

Drive Intel's Thought Leadership Into Academia to Foster and Develop a Pipeline of Students' Savvy On Intel Technology and Monitor Technology Inflections

**Internships for community college students**

**Summer research experiences**

**CURRICULUM**  
Encourage the use of technology in the classroom

**UNIVERSITY TITTLE GRAM**  
Technologies and through the IFS in with leading semiconductors

intel

connection with intel



# Industry Investment in Semiconductors

## New Intel foundry



## New TSMC foundry







THE NEW ECONOMY INITIATIVE:  
**INTO THE FUTURE**

The New Economy Initiative is essential to prepare Arizona and its people for the future economic opportunities of the next 10 years - keeping Arizona strong, resilient and prosperous for our rising generation.



## FISCAL YEAR 2023 NEW ECONOMY INITIATIVES INCLUDE:

Through the New Economy Initiative budget request, the board has prioritized workforce development initiatives to advance the state's competitiveness and support economic development.

- New engineering faculty positions
- \$75 million to launch three new ASU Science and Technology Centers that will partner with Arizona industry and position Arizona as a semiconductor center.
- \$50 million for university high priority capital equipment needs

## FISCAL YEAR 2023 NEW ECONOMY INITIATIVES INVESTMENTS:

New e-beam lithography for the NanoFab

### ELS-BODEN

Supports wide application coverage from high resolution writing to high current high speed writing



## FISCAL YEAR 2023 NEW ECONOMY INITIATIVES INVESTMENTS:

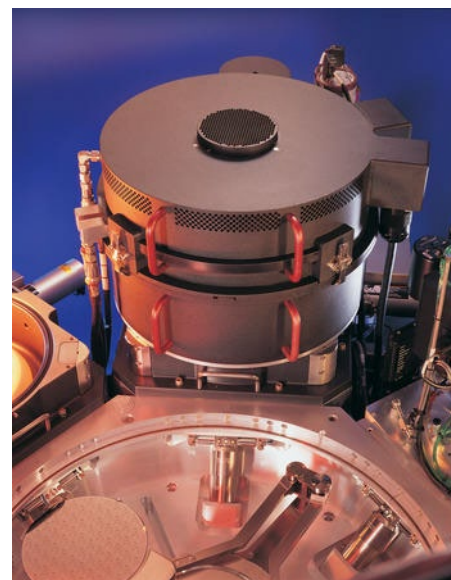
New direct write optical lithography for Advanced Electronics and Photonics core

MLA300 Maskless Aligner  
from Heidelberg Instruments





These FY23 investments on top of FY22 purchase of Applied Materials P5000 PEVCD and Centura etch tools will accelerate growth in the user base of the NCI-SW core facilities









**US policymakers tour ASU's MacroTechnology Works facility**



# Q&A