

ASU highlights growing role in defense research, education

By Jerry Gonzalez, ASU News
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Arizona State University is accelerating its role as a strategic partner to the U.S. Department of Defense as it continues aligning faculty expertise to support national security priorities.

Researchers and military program leaders discussed past projects and future initiatives during the Office for Veteran and Military Academic Engagement's yearly gathering held March 19 on the Tempe campus.

Titled "Research to Readiness: Showcasing ASU Expertise in Partnership with the DOD," the event convened university experts leading a range of defense-related work, from advanced robotics and emerging technologies to professional military education and health initiatives. Elijah J. Ditter, director of the Veterans Affairs Phoenix Health Care System also provided a VA update.

"ASU is about partnerships," said [Wanda Wright](#), director of the Office for Veteran and Military Academic Engagement, or OVMAE. "Many of ASU's faculty and programs are aligned in a way that allows us to respond quickly to Department of Defense and other federal needs through innovative research, workforce development or creating pathways for our veterans to succeed."

The event highlighted ongoing DOD collaborations while increasing awareness across the university of the breadth and impact of that work, Wright said. Aligned with OVMAE's mission, the gathering emphasized both strengthening partnerships and elevating visibility of military- and veteran-related research, teaching and initiatives across ASU.

During a panel focused on defense partnerships, program leaders outlined a series of recent initiatives and contracts aimed at advancing DOD priorities.

[Sean Ryan](#), director of irregular warfare research for ASU's [Advanced Capabilities for National Security Institute](#), highlighted the university's strengths relevant to DOD critical operational technology areas, including applied artificial intelligence, biomanufacturing, contested logistics, quantum technologies, battlefield information dominance, directed energy and hypersonics.

"We have to change the way we learn," said Ryan, a former Army colonel. "The landscape is changing dramatically, and the seams and gaps that exist between traditional military, law enforcement, and intelligence capabilities are exploited by our adversaries every day."

“We have to learn how to get in front of that.”

[Ryan Shaw](#), managing director of strategic initiatives and senior university advisor, highlighted ASU’s new [education partnership with the Army](#), a collaboration built around four core design aspirations: developing soldiers as master learners and master innovators, delivering education at the point of need and tracking each individual’s learning journey.

“We are seven years into being the online content provider for the Air Force’s Air University,” said Shaw, a former Army officer and experienced strategic planner. “We recently stepped into that space and more for the Army, which is a great opportunity.”

Shaw said the design aspirations and “learning fast” align with military needs as the defense environment continues to rapidly evolve.

“Things aren’t just changing based on directives out of the Pentagon,” he said. “They are changing from the front lines backwards.”

“We need to come up with a system where learning opportunities are delivered to the point and time of need so we can educate the force in real time.”

An example of the university’s forward-looking research, panelist [Alicia Ellis](#), a professor of practice and director of ASU’s Master of Arts in Global Security program, is leading a project focused on an emerging national security concern: agriculture.

“One trend that we’re really starting to see in national security and defense planning is this growing recognition that economic systems and critical supply chains can become targets in strategic competition,” said Ellis, who is also a former Air Force officer. “The primary goal of this research is examining how agriculture food systems function as a strategic infrastructure and how they can become targets or pressure points in modern geopolitical competition.”

ASU researchers have been instrumental to DOD mission areas, providing operational capabilities in wearable robotics, force health and readiness, and more recently, in human-machine team artificial intelligence.

[Rachel Cassalia](#), director of the Military and Veteran Resilience and Health Innovation Collaborative in ASU’s College of Health Solutions, shared her team’s work to expand service members’ access to health and wellness resources at five U.S. military installations. Her team developed integrated, comprehensive prevention plans for each site, strengthening coordination among program managers and support agencies, and helping foster a more cohesive, prevention-focused culture.

“We know that the number one factor in readiness is personnel,” Cassalia said. “Despite significant investment in prevention efforts, we noticed efforts across the installations can sometimes still be fragmented, siloed and not a lot of collaboration between programs.”

“We wanted to make sure personnel were getting access to services, care and treatment they need.”

[Jamie Gorman](#), human systems engineering professor, provided insight into how ASU is supporting warfighters through human-machine teaming. With the explosion of technologies, such

as large language models, a type of AI, Gorman's team explores how humans can take a central place in these evolving systems.

"We work on a variety of projects measuring human teams, human-machine teams, primarily focused on military applications," Gorman said. "We're very invested in supporting more fighter readiness."

One of the greatest research advancements with defense applications at ASU has been robotics.

[Thomas Sugar](#), systems engineering researcher, showcased his work in wearable robotics, prosthetics and exoskeletons designed to support mobility, rehabilitation and human performance for military members. In partnership with defense agencies, Sugar's team has advanced technologies that support injured service members and [help reduce strain and injury risk](#) for those on the front lines supporting military missions.

As partnerships expand across the university enterprise with multiple agencies and service branches, ASU remains steadfast in its vision on DOD support.

"ASU is an outcomes-driven organization," said [Chris Howard](#), ASU executive vice president and chief operating officer. "We want to be the preferred strategic learning and innovation partner to the U.S. military."

ASU ranks No. 5 in the nation for research expenditures among universities without a medical school, and it surpassed \$1 billion in annual research funding for the first time, according to the latest National Science Foundation Higher Education Research and Development survey for 2024, [announced in December](#).

This story originally appeared on [ASU News](#).

Main image



Ryan Shaw speaks about ASU's new education partnership with the U.S. Army, as fellow panelists Sean Ryan and Alicia Ellis look on. Photo by Charlie Leight/ASU News

Gallery



Wanda Wright, director of the Office for Veteran and Military Academic Engagement, provides opening remarks during the "Research to Readiness: Showcasing ASU Expertise in Partnerships with the DOD" panel event held March 19 in the Memorial Union on ASU's Tempe campus.



Thomas Sugar, systems engineering researcher, gives a presentation about his work in prosthetics, wearable robotics and exoskeletons designed to support mobility, rehabilitation and human performance for military members during the March 19 panel event.



Chris Howard, ASU's executive vice president and chief operating officer, provides a broad overview of the university's defense-focused ecosystem.



Elijah J. Ditter, director of the Veterans Affairs Phoenix Health Care System, updated attendees on the progress to date in the VA.