

Advancing the future of nondestructive testing

ASU researcher Ehsan Dehghan-Niri earns ASNT Fellowship recognition for his contributions

By Aisha Kaddi, ASU News
August 31, 2026

Nondestructive testing and evaluation, or NDT/E, enables engineers and technicians to assess materials and structures without damaging them. Its applications extend from inspecting aircraft, bridges and pipelines to monitoring power plants and verifying the quality of manufactured components.

For [Ehsan Dehghan-Niri](#), NDT/E is ultimately about something larger than technology.

“I always emphasize the importance of purpose,” Dehghan-Niri says. “Safety is about protecting people.”

That purpose has guided a career spanning applied research, industry collaborations, education advancement and workforce development. Now, Dehghan-Niri, an associate professor of manufacturing engineering in the [School of Manufacturing Systems and Networks](#), part of the [Ira A. Fulton Schools of Engineering](#) at Arizona State University, has been named a fellow of the [American Society for Nondestructive Testing](#), or ASNT.

The fellow designation honors researchers who have demonstrated outstanding professional distinction and significant, ongoing contributions to NDT/E. ASNT, the world’s largest technical society for nondestructive testing professionals, supports a field dedicated to identifying flaws and irregularities in materials, components and structures before they compromise safety, reliability or performance.

“I was genuinely excited and honored when I learned about the recognition,” Dehghan-Niri says. “This is especially meaningful because it’s also representative of the outstanding students, colleagues and collaborators I have had the privilege to work with throughout my career.”

Dehghan-Niri’s research seeks to modernize how inspections are performed.

As director of ASU’s [Intelligent Structures and Nondestructive Evaluation](#), or ISNDE, Lab, his work encompasses [bioinspired acoustic sensing](#) — or acoustic-based testing and monitoring — robotic inspection and in-situ quality control for advanced manufacturing.

Creating smarter inspection

Dehghan-Niri's research also integrates inspection directly into manufacturing processes. He began studying acoustic-based in-situ monitoring for additive manufacturing while working at [General Electric](#). The technology has since evolved toward helping manufacturers detect problems and improve part quality during production, instead of relying only on inspection after fabrication.

His industry experience continues to shape his approach.

"The demands on NDT/E in our competitive world are beyond the fringes of our current capabilities," says [Shant Kenderian](#), principal scientist in the Space Materials Laboratory at [The Aerospace Corporation](#) and a longtime mentor of Dehghan-Niri. "Professor Dehghan-Niri's research is pushing the frontiers of NDE technology into the future."

Building new pathways into manufacturing

For Dehghan-Niri, advancing NDT/E also means rethinking how its future workforce is educated.

He serves as principal investigator and director of the [Certification to Degree in Manufacturing Consortium](#), or C2D, [an initiative that connects industry-oriented certification training with pathways to university degrees](#).

The consortium combines approaches including virtual reality, cyber hands-on laboratories, simulation tools, AI-assisted instruction and in-person training. Dehghan-Niri says the goal is to make high-quality manufacturing education more flexible, accessible and scalable for traditional students, as well as veterans and other nontraditional learners.

To date, the initiative has trained more than 300 people.

"Perhaps the most important outcome has been creating a modern educational platform that serves learners with different backgrounds and career goals," Dehghan-Niri says. "We have also helped introduce the concept of connecting industry certifications with university degrees, creating a bridge between nondegree training and higher education."

With support from the [Department of War](#) and collaboration from major defense manufacturers, the project is also helping address workforce needs in manufacturing and nondestructive testing.

The consortium grew from a \$3.5 million award through the [U.S. Department of War Manufacturing Engineering Education Program](#) and includes collaboration with other educational institutions and defense manufacturers. Its work addresses the need for technicians and engineers to support increasingly automated, technologically advanced manufacturing systems.

[Binil Starly](#), director and professor in the School of Manufacturing Systems and Networks and a collaborator of the consortium, has described developing that workforce as essential to the country's future.

"Professor Dehghan-Niri's recognition as an ASNT Fellow reflects not only his outstanding contributions to nondestructive evaluation, but also the growing influence our school is having in shaping the future of manufacturing," Starly says. "His group's work exemplifies how we can translate academic innovation into safer, more resilient manufacturing systems and a stronger technical workforce."

Looking ahead

Dehghan-Niri sees artificial intelligence, robotics and automation changing not only how inspections are conducted but also how professionals learn to conduct them. He is particularly interested in advancing bioacoustics and autonomous NDT/E while continuing to study new educational technologies.

Still, his measure of success extends beyond a particular technology, publication or award.

He aims for students to leave his lab equipped with heightened communication skills and an understanding of how engineering decisions affect society.

“Ultimately, I hope people will say that my work helped make the world safer through research and education,” Dehghan-Niri says. “Beyond individual projects, I hope to build sustainable educational and research programs that continue creating opportunities long after my own career.”

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

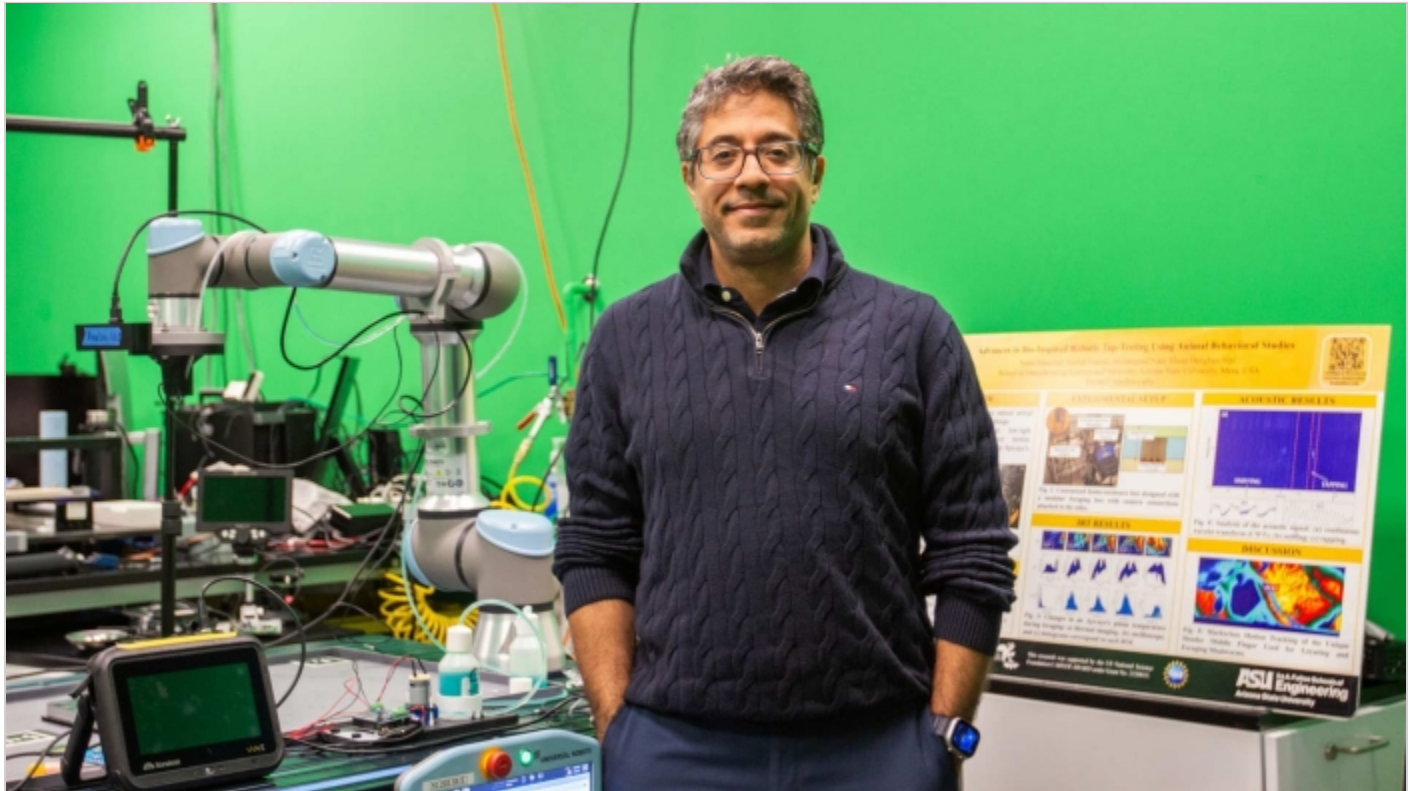
Main image



Ehsan Dehghan-Niri, an associate professor of manufacturing engineering in the School of Manufacturing Systems and Networks, part of the Fulton Schools, conducts research in the Intelligent Structures and Nondestructive Evaluation Lab on ASU's Polytechnic campus. Dehghan-

Niri was recently recognized as a fellow of the American Society for Nondestructive Testing. Photo by Aisha Kaddi/ASU

Text image(s)



Ehsan Dehghan-Niri, an associate professor of manufacturing engineering in the School of Manufacturing Systems and Networks, part of the Fulton Schools, poses in front of a robotic arm in the ISNDE Lab, located on ASU's Polytechnic campus. Photo by Aisha Kaddi/ASU