New Office of Societal Impacts helps measure the broader impact of research

Research, Innovation & Impact  
May 2020

The University of Arizona has a lot on its institutional plate.

As a land-grant institution, the University's mission is to educate and serve the people of the state of Arizona. As a Research 1 institution, its mission is to ask questions and pursue answers by doing research at the highest level. And as a Hispanic-Serving Institution and an American Indian and Alaska Native-Serving Institution, its mission is to serve minority and historically underserved populations.

For Jennifer Fields, director of the new Office of Societal Impacts, these multiple missions add up to myriad and exciting ways of making a positive difference in the world.

Traditionally, the impact of a research program has been measured by how researchers are advancing knowledge within their specific disciplines. As Fields puts it, "Success was measured by how many publications you have, how many presentations you've given, and how much research funding you've brought in."

But about 20 years ago, the National Science Foundation introduced a new criterion for proposal evaluation. Under the banner of "Broader Impacts," researchers were asked to add a statement indicating how they would broaden the impact of their work beyond their discipline. Soon other funders followed suit, and today researchers are expected to allocate funds and provide plans detailing how they will leverage their research to make an impact beyond the pages of a peer-reviewed journal.

Where the Office of Societal Impacts comes in

As a part of Research, Innovation & Impact, the Office of Societal Impacts is all about helping researchers identify benefits, stakeholders and impacts on the larger world.

"Funders expect it," Fields says, "and our job is to help facilitate planning and execution by making connections and identifying existing infrastructure on campus, in the community, and across the country."

To help researchers begin identifying impact focus areas, Fields encourages them to think about the impact they want to make as part of their personal identity.

"We're asking researchers to reflect on what sparked their curiosity in the first place. Why did they pick their field of study? What do they ultimately want to accomplish? Instead of a different impact statement for each proposal, they can then be more focused and more successful."
Particular areas of impact of interest to funders include: advancing the health and welfare of the American public; supporting national defense; producing science usable by natural resource managers and policy makers; enhancing partnerships between the academy and industry; increasing American economic competitiveness in global markets; developing a globally competitive workforce through improved pre-K-12 STEM education and teacher development and improved undergraduate STEM education and instruction; improving public scientific literacy and engagement with science and technology in the U.S.; and expanding participation of women and individuals from underrepresented groups in STEM, including African Americans, Hispanics, Native Americans and people with disabilities.

What does success look like and how do you measure it?

Historically, universities have not developed mechanisms for collecting or analyzing data on societal impacts.

This is one of the challenges Fields and her colleagues are undertaking. Because the societal impact of a research breakthrough in chemistry, for instance, will look very different from a breakthrough in fine arts, each department or college needs to develop its own impact profile, she says.

"One of our jobs is to help units develop their own language and way of telling their impact stories," Fields says. "With agreed-upon parameters in place, researchers can more effectively document impacts and understand the true impact on the wider world."

Take environmental science, for instance. Research around climate change entails considerable interaction with local, regional and state policymakers, indigenous peoples, land managers, engineers, government agencies and private landowners. A successful proposal may have as much to do with gathering data as it does with working with stakeholders and attending meetings.

Because of the varied parameters around measuring impact, Fields says that one of the office's ultimate goals is to shift the thinking around promotion and tenure criteria so that work related to societal impacts is valued alongside teaching, service and research/scholarship.

Leading the way

The University of Arizona is among the first American universities to establish a societal impacts-focused office. As a leader in the field, Fields has been named to the leadership team of the NSF-funded Advancing Research Impact in Society Center, an organization founded to help researchers across the U.S. engage with and demonstrate the impact of research in local communities and society at large.

Fields isn't the only ARIS leader on campus.
Alison Meadow, associate research professor with Arizona Institutes for Resilience [1] (a newly organized group of research units formerly under the banner of the Institute of the Environment), and Gigi Owen, an assistant staff scientist who works with the Climate Assessment for the Southwest [2], were recently selected as 2020-21 ARIS fellows. Their project, "Evaluating the Societal Impacts of Climate Change Research: A guidebook for natural and physical scientists," is designed to provide clear and succinct guidance on how to identify, document and evaluate a range of socioenvironmental impacts of climate change adaptation research.

According to Meadow and Owen, their guidebook will provide examples of societal impacts and methods for measuring and documenting those impacts.

"I think we all come into the research enterprise with the hope that our research will have positive impacts in the world, that it will be meaningful work," Meadow said. "But, often, the ways in which academic research is evaluated focuses very narrowly on its impact within the world of academia."

"Science shouldn't just live in academic journals," Owen said. "It should be applied to everyday challenges. Climate change is already affecting people and the environment? we are in a critical moment to take action to curb future climate impacts."

"Going beyond academia to track and measure societal impacts is particularly important at a land-grant institution because of our mission to serve the people of Arizona," Meadow added. Ultimately, Fields, Meadow and Owen hope that by giving researchers the tools to evaluate results and offering more recognition for societally engaged research, the University will be in an even stronger position to fulfill its missions and have an even bigger impact across the state and around the world.

For more information on the Office of Societal Impacts and upcoming workshops, contact Fields by sending an email to research@arizona.edu [3].

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