A strong case can be made that AASCU institutions are leaders in research, in the sense that they serve regional communities through applied research in ways that traditional research universities do not.

Mention “research” and “university” in the same sentence and often the focus automatically turns to the handful of institutions that regularly top the list of federal support for research. But that’s a myopic point of view.

Drill down the list of universities that conduct research and you will find hundreds of institutions that also make significant contributions to the body of knowledge. Many of these institutions are distinctive for two critical reasons: they tend to conduct more applied research than basic, and the research they undertake focuses strongly on answering questions and solving problems that are of direct interest locally or regionally. This is the universe that AASCU institutions inhabit. Indeed, one can say that AASCU institutions “own” this universe.

AASCU institutions may not command the scale of federal research dollars that the largest research universities garner. But by other important measures—such as their significant contributions to regional economic development and workforce preparation and their focus on undergraduate learning—they in many ways outshine more well-financed institutions.

Dr. Dawn Goley, director of the Humboldt State University Marine Mammal Research and Education Program, studies gray whales off the coast of Northern California with HSU students Carrie Hudson and Allison Fuller.
The Dollar Impact

According to the National Science Foundation, academic institutions in the United States spent $54.9 billion on science and engineering research and development in 2009. They spent an additional $2.4 billion in non-science and engineering fields that year. In 2010, university spending on R&D in all fields totaled some $61.2 billion (that figure includes a $2.7 billion bump from federal stimulus funding).

Academic institutions performed nearly half (53 percent) of the nation’s total basic research in 2009. That’s up from 47 percent from the late 1980s. Academia conducted 36 percent of all U.S. basic and applied research in 2009, up from 24 percent in 1982.

Of the $61.2 billion spent for R&D in 2010, some two thirds, or about $41.2 billion, was spent in public institutions. Of that amount, about 66.5 percent was spent on basic research, and about 25 percent on applied research. (The balance was spent on development.)

Those aggregate statistics do not reflect the full story of research at AASCU institutions, where the proportions of basic and applied research might well be reversed. Another way of looking at the national statistics is that they mask the inestimable service that AASCU institutions offer to their regions through applied research.

Rather than defining themselves in comparison to the R-Is, AASCU institutions have identified their own mission in research. Their goals for research are carefully aligned with the rest of their mission in teaching, learning and—particularly—service to their regions.

Staking a Mission

The hierarchical tradition of higher education, coupled with the inter-institutional competitiveness and race for rankings that has marked much of the last couple of decades, spotlights the group of universities that used to be characterized as Research I institutions. (That label persists as a kind of facile shorthand years after the Carnegie Foundation stopped using it.) In an era when money talks, the universities that receive the most funding for research get a lot of the attention. And the nature of higher education is such that many institutions are perceived to aspire to be more like the R-Is, and to want to move up in the totals of research dollars received.

To be sure, every institution would like more funding for research. But looking at the entire universe of research universities as having a bunch of R-I wannabes is far too simplistic.

One of the unsung stories in higher education is that AASCU institutions have staked their own mission in research. Rather than defining themselves in comparison to the R-Is, they have identified their own mission in research. Their goals for research are carefully aligned with the rest of their mission in teaching, learning and—particularly—service to their regions. That’s an entirely different research mission—and it is one that distinguishes the AASCU sector.

Putting this in plain terms, Richard H. Wells compares the philosophy of research at the University of Wisconsin Oshkosh, where he is chancellor, to that of the state’s flagship, University of Wisconsin–Madison. “One of the obvious things that makes the so-called research institutions distinct is that their primary if not singular focus is on research. It’s not that they don’t care about or aren’t committed to teaching and learning—they are, at both the graduate and undergraduate levels. And it’s not that they don’t care about service in their region or state—they do. But their service area is more national or, in the case of Madison, international.” Noting that Madison gets some $1 billion a year in research support, Wells says “their commitment and their focus in terms of the impact of what they do is well beyond the state.”

All of Wisconsin is proud of Madison’s accomplishments, Wells says. “They’re one of the best in the country, and that makes them distinctive,” he observes. “But we at UW Oshkosh don’t need to become more like them.” In fact, he suggests, the reality that UW Oshkosh’s practice of research is “grounded in the particular, unique needs of our region” makes it distinctive in its own right.

The $12 million in funded research and sponsored programs that UW Oshkosh garners each year pales in comparison to Madison’s total. Nonetheless, UW Oshkosh is making an impact in research. Positioning itself as a “living,
learning laboratory” in northern Wisconsin, for example, the university is pioneering the development of energy through biomatter. With a corporate partner, the university built a state-of-the-art dry fermentation anaerobic biodigester facility in Oshkosh that uses grass clippings and campus food waste to produce electricity and heat from biogas. The university is also partnering with Wisconsin’s largest dairy to develop a large biodigester that converts manure to energy. In addition to generating clean energy that will result in cost savings for the campus, the facilities also serve as research laboratories.

Such innovations fit well with the university’s mission, Wells says. “UW Oshkosh is first and foremost centered on teaching and learning, and on serving the region in which it sits,” he says. “Using AASCU nomenclature, we are stewards of place. We have a special obligation to be focused on our backyard in any way we can to enhance the quality of life and the economy.”

Rollin C. Richmond, the president of Humboldt State University, has a similar perspective. “Our philosophy is that because we are supported by the citizens of the state of California, we need to do research that’s relevant to the communities and the state in which we are located and which supports us,” Richmond says. In large part, he says, that means applied research.

Richmond says that it is important to a university like Humboldt State “for scholarship to be relevant to the community where we are found.” As one example, he points to work by faculty in the Humboldt State School of Business to help students be entrepreneurial and start businesses. Because that kind of economic development is important to the community, it is also important to the university, Richmond says.

That is not to say that Humboldt State does not engage in any basic research—it does. Richmond notes that such scholarship can support applied work in the field. For example, one Humboldt State faculty member conducts basic research on redwood tree ecology that informs more applied work that another faculty member is doing to investigate the effects of fire on forests and forest management.

The University of Texas–Pan American follows a similar tack. Located 10 miles north of the Mexican border, UTPA serves a predominantly Hispanic student body in the southern tip of Texas known as the Rio Grande Valley. The average per-capita income there is $13,130. “We have a mission to graduate kids and ensure that they get an education,” says UTPA president Robert S. Nelsen. “Because every child that we touch, every student who earns a degree, means one less family that is in poverty in the Valley.”

“We are dedicated to doing what will help the Valley,” Nelsen says. “If that involves research, yes, we’re going to do it.”

Capitalizing on growing cross-border manufacturing commerce—parts made in Mexico, for example, are often assembled in the United States—UTPA has positioned itself as a strategic partner with regional industry. Two engineering professors and a team of students at UTPA developed a new way to create nanofibers, which are used widely today in product manufacturing. To commercialize that research, the university created its first technology start-up company, FibeRio Technology Corporation. The university earns royalties from the company, which of course also provides jobs and boosts the local economy.

Like other AASCU institutions, the University of Southern Maine conducts basic as well as applied research, but it has a particularly strong focus on research that will have a direct impact on the region it serves. USM president Selma Botman calls her institution “the indispensable university.” By that she means “we’re indispensable in many ways. We’re indispensable in applied research. We’re indispensable in training the workforce. We’re indispensable in solving problems.”
Botman says that while USM expects its faculty to conduct research—and in fact many are engaged in activities like start-up ventures that look a lot like those at the large research universities—much of the research there has a decidedly regional focus. "We are essentially trying to understand what the community needs. Our faculty engage in the kind of research that answers those local questions," she says.

That means, for example, that USM researchers might be investigating women’s health, rural public health, child welfare, K-12 educational policy, or chromium and arsenic levels—because such topics are of concern in the community the university serves.

Campus Ventures, USM’s commercialization accelerator program, was designed to help entrepreneurs in Maine and university faculty members advance technology-intensive projects and provide rich experiential learning opportunities for students. In that process, the program supports innovation and economic development and helps create jobs.

Another AASCU institution with a distinctive vision for research is Portland State University. PSU has a strong history of community engagement. To some extent, it has focused its research activities—and even the structure of its research administration—to reflect and extend that tradition. The university appointed a vice president for research and strategic partnerships (at one time called the vice president for research and engagement) “based on the idea that at PSU, our research that is most important and most visible will be based around our work in this region, and will feed our work in this region,” says president Wim Wiewel. Wiewel says that PSU’s decision to connect research with community partnerships in one office was intentional. “It was very much about [research] being applied to the challenges of this region, or being suggested by challenges and opportunities in this region,” he says.

PSU has identified three overarching areas—sustainability, K-12 education, and the life sciences—“where we as an institution feel can really make a difference, both in terms of research and the curriculum,” Wiewel says. “That’s a way both to organize strengths that we already have, but also to send a clear signal to faculty that that’s where we’re going to put a certain amount of incentives and support. And that’s where we encourage research.” Studying the K-12 pipeline, for example, PSU faculty in social work, psychology, education, mathematics and science education, among other disciplines, are all conducting research to find ways to make schools work better. “You can see in that topic that the connection between the local and the global is quite continuous and clear, as it is with sustainability,” Wiewel says.

“We do not put any impediments in the way of faculty pursuing whatever their academic niche is,” Wiewel says. “But in terms of the things we most often talk about, the things we celebrate, we tend to find a way to connect it with a local purpose.”

**Links to Learning**

In addition to its applied and regional focus, research at AASCU institutions is distinctive in another important way—its direct link to the undergraduate educational experience. For example, the $15 million in research funding that Humboldt State University obtains each year may look modest by some measures, Richmond says, but “it still provides a real opportunity for students.”

“I think undergraduate research makes a big difference in young people’s lives,” he observes. “One of the real strengths of both Humboldt State and the California state universities in general is that we recognize that involving students in scholarship with faculty is one of the best ways out there to help students learn about a discipline, particularly in the sciences.”

“A quality education for undergraduate students, which is our number-one priority, can be enhanced by research and the creative intellectual activity of the faculty we support. Particularly if they engage undergraduate students in that,”
Wells says. "The research that we do is important in and of itself, but it is also important because it allows us to deliver a better quality educational experience in support of our teaching and learning mission."

Another benefit of strong institutional support for research is that it helps institutions attract and retain faculty members. "Research keeps your faculty alive, active and dynamic," Wells says, noting that faculty who share their research with students model how knowledge is generated in the first place.

Looking to the future, research will likely play an even larger role in AASCU institutions. Portland State, for example, aspires to double its external research funding to $100 million annually. And some institutions hope that research funding and profits realized through commercialization will help offset, at least in part, the recent declines in state appropriations for public higher education. Having weathered budget cuts of 7.5 percent and then 17.76 percent over the last two years, for example, UTPA has set a strategic goal of increasing its funding for research over the next 10 years from the current level, about $9 million annually, to $30 million.

But such aspirations are more to fulfill missions that are specific to AASCU institutions versus striving to be more like an R-I. "Many comprehensive universities have sought to become Research I institutions," Botman says. "I believe that those times are probably over because there isn't enough funding for everyone to be a Research I. Nor should all institutions be Research Is." Developing new ideas and solutions to solve problems locally is vitally important, she says.

"Part of the goal is differentiation," says Jonathan Fink, vice president for research and strategic partnerships at Portland State. "What is it that PSU can do that other schools can't do as well, or at least where can we really distinguish ourselves?" Fink says Portland State can capitalize, for example, on its commitment to its urban mission in a city that values sustainability.

Apart from financial considerations, AASCU institutions will continue to seek ways to expand their research footprint because research, particularly in its applied form, links fundamentally to delivery of institutional missions—and distinguishes AASCU institutions from others in higher education.

As Wells says, "We value research for its own sake, but we especially value it because it drives the teaching, learning and service mission of our institution."

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