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Utah Lures Research Stars With Money and Support

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Salt Lake City

As many universities that rank above it in research spending have been slashing budgets, the University of Utah has been rolling out a cushy welcome for new faculty members, who include an internationally known expert on medical-imaging analysis from the University of North Carolina at Chapel Hill, brain researchers from Boston and Harvard Universities, and an engineering professor who develops nano-size sensors from Case Western Reserve University.

The researchers, along with 26 others hired into new positions in the past five years, are the fruits of the university's continuing campaign to bring aboard grant-winning and commercially minded professors in fields selected because they align with the state's existing economic strengths, such as medical devices and computer gaming. The university's gains in the time-honored practice of faculty poaching (it claims a "hit rate" of more than 50 percent for the candidates it's gone after) have been made possible by financing from a state-government-backed program called UStar.

Now the effort is attracting interest from other cash-crunched states and even other countries, like Finland, Norway, and Mexico, because of its long-term horizon, its board-directed strategic focus, and its relatively small price tag.

"The idea that universities can be great in all areas is a concept of the past," says William E. Kirwan, chancellor of the University System of Maryland, who admires the way the University of Utah has used the UStar money as well as how UStar's political backers helped to keep the program largely unscathed during the recession.

Enacted in 2006 as the Utah Science and Technology and Research Initiative, UStar was conceived as a \$25-million-a-year program. It began with \$10-million less per year than its backers had hoped, and has been cut some since its heady early days. But over the past six years, the Utah Legislature has approved annual appropriations ranging from \$14-million to \$25-million a year for the program, thanks in part to federal stimulus funds.

Most of the money goes to pay the costs of start-up packages for faculty researchers in newly created positions here and at Utah State University, in Logan, with the expectation that those professors will discover new ways to diagnose cancer, deliver drugs, or curb the effects of atmospheric carbon, which could eventually become the basis for new companies and jobs in the state.

For Guido Gerig, the professor recruited in 2007 from Chapel Hill, where he had worked for a decade, the extra resources of the UStar program and a faculty appointment in the Scientific Computing and Imaging Institute make for an attractive setting. It means he can count on IT professionals to help him manage his computers, budget managers to oversee his grant paperwork, and business specialists from UStar to advise him on any budding notions for commercializing his work. "I can spend more effort on research," he says.

The UStar staff includes business-development personnel who work alongside the two universities' technology-transfer offices to ensure inventions and early-stage ideas from UStar professors don't languish. The program also spends a few million a year for grants that other public colleges can use to help develop early-stage ideas into commercial products.

The universities are the major beneficiaries, but "we really sold it as economic development, not part of higher education," says A. Scott Anderson, who as president of Zions Bank was one leader of a business coalition that helped get UStar enacted. He now serves on its governing board. The high-profile backers included the late Larry H. Miller, owner of the Utah Jazz NBA team and a legendary Utah entrepreneur who had made his fortune as a car dealer and famously never attended college.

The Value of 'Quick Wins'

The program is drawing notice for several reasons. For one, it's based on a business plan that calls for continued and increasing state spending on new faculty hires for 30 years, a time span that runs longer than most political careers and just about any university presidency. (The plan, which projected the state would recoup in taxes more than five times what it spent at the end of 30 years, even went so far as to include optimistically precise predictions that the program would result in 422 new companies and 123,406 new jobs.)

UStar represents the first substantial financing appropriated by the Utah Legislature specifically for academic research. The Legislature also provided a total of \$160-million to construct new buildings for researchers at the two universities: Utah State's is open, while the

University of Utah's is slated for occupancy in 2012. Further, while the money for additional faculty is a boon to the universities, ultimate control over the spending rests with the UStar Governing Authority board—a body that has not been shy in pushing its research priorities or in its willingness to cut off funds for research teams that it believes aren't working out. The 10-member board includes some of the state's top business leaders.

The board has been particularly involved at Utah State, which receives 40 percent of the research-team money. Dissatisfied by one team's lackluster performance in landing new grants and another's slow progress in commercialization, the board has canceled financing for the first and redirected the research focus of the other. It's also directed a shake-up of Utah State's technology-transfer operation.

The University of Utah has received a few rebukes, too. Early on, the board rejected the university's requests to use UStar to create a research cluster focused on new drugs because such efforts take a long time and carry far more risks of failure than projects in diagnostics or even medical devices. The board also pushed the university to get cracking on establishing and hiring for a digital-media cluster.

Where possible, some "quick wins" are important, says Dinesh Patel, a venture capitalist (with a Ph.D. in physical pharmacy) who championed UStar and now chairs its board. The state is home to many computer-gaming companies, so digital media, he says, "is one area where the commercialization is quick."

Mr. Patel says that the board wants to know that the researchers are succeeding in winning federal grants and taking steps to consider commercial projects, but that its members are mindful that UStar is meant to endure for the long haul.

For some of the research, that may be what it takes. The brain researcher from Boston University, John A. White, for example, says it could be 20 years before the implantable biomedical devices he and his colleagues are experimenting on come into common use. He's applying for a business-development grant now, he says, but "we're at the beginning of a new industry."

Mr. Gerig, who says he had no patents and "was not a businessman" at Chapel Hill, says he feels no "urgent need" to convert a research idea into a product, although he does imagine commercial potential for his research, which is aimed at making the flood of imaging data now available to physicians more digestible and useful. Since

coming to Utah, he has about doubled his level of grant funds and started five new courses in computer imaging. "I see one of the missions of a UStar professor as teaching and education," he says.

Still, all the UStar professors say they recognize that they're expected to try to commercialize their research: It's one of six obligations, along with increasing their grant support, publishing, and teaching, laid out in their UStar contracts.

Meanwhile, the University of Utah is moving on its search for digital-media professors and has already hired one: Craig Caldwell, from Griffith University in Australia—allowing Mr. Patel to add a picture of a kangaroo to the map he uses in presentations. Titled "Recruiting All-Star Talent," it features symbols of the dozen-plus institutions from which UStar faculty have been drawn.

The Art of the Poach

The University of Utah now receives about \$250-million annually from the state. Compared with that, the UStar funds, which have averaged about \$12-million a year for the institution over the past five years, are more like icing on the cake. But, says David W. Pershing, senior vice president for academic affairs and a prime player in UStar recruiting efforts, "it's very special icing."

Typically, says Mr. Pershing, Utah recruits faculty members at the assistant-professor level, as they're starting their careers, but "with the UStar packages we can go after highly visible national stars and meet their start-up demands." Some UStar hires have come in as assistant professors but most are associate or full professors.

The recruiting is deliberative. The university not only has to win approval for new clusters from the UStar governing authority by showing how the research field builds on the university's and the state's expertise, but also has to establish that there are "dream candidates" who could fill the spots and that they "might be moveable," says Mr. Pershing.

"One of the ways we win is the person has a hard time commercializing where they're at," says Mr. Pershing. (Utah's record in commercialization and in forming start-up companies based on faculty research is on the rise, an accomplishment it and its public-relations company have been touting relentlessly.)

Nonacademic factors also come into play. Located 45 minutes from Alta, Snowbird, and a half-dozen other world-class ski resorts, the university often includes a trip to the slopes in its recruiting regimen. Indeed, Mr. White jokes that if there are "certain markers" for predicting which professors will accept offers at Utah, being a

skier is certainly one of them, along with a love of the outdoors.

"Utah plays that very well," adds Mr. Gerig, whose window-lined office has a postcard view of the downtown skyline and the snow-covered Wasatch mountains. (He and Mr. White both ski.)

Whether it's the lure of the fresh powder or the research support, Utah is enjoying the results. Along with the professors from Chapel Hill, Case Western, and BU, the program has helped Utah lure researchers loaded with federal grants, like Brian J. McPherson, who oversees a \$60-million-plus U.S. Department of Energy research project on carbon sequestration, and a duo of brain researchers from Harvard University, Deborah Yurgelun-Todd and Perry F. Renshaw—all brought in as full professors to head up or help run one of 10 active UStar clusters.

The university been less successful with its "personalized medicine" cluster, having been turned down by two eminent professors (whom it won't name). It wooed one for two years and then the other for 18 months. Despite its prominence in genetics, and the marquee value of its own homegrown genetics all-star, Mario R. Capecchi, winner of the 2007 Nobel Prize in Physiology or Medicine, it's had to put that cluster on the back burner.

The clusters are designed to involve professors from different disciplines—Mr. White, for example, is part of a cluster with a professor with expertise in pharmaceutical chemistry recruited away from the University of Maryland at Baltimore, Hamid Ghandehari. Each cluster gets about \$5-million for five years.

The interdisciplinary focus is a priority for the UStar board, which sees the requirement as another way to keep the program grounded in both the business and academic realms. "Industry is always interdisciplinary," says Mr. Patel. And "someone in computer imaging might see the brain differently than a physician."

The start-up money goes toward equipping labs, the professors' salaries, and support of graduate students, postdocs, and in some cases, additional research professors. Mr. White used about \$300,000 of his money to build a powerful microscope that he says was vital to his and a colleague's winning a very competitive \$1-million two-year grant from the National Institutes of Health to further his work on the relationship between calcium and epilepsy. Massood Tabib-Azar, a professor of electrical and computer engineering recruited from Case Western, spent some of his money on equipment for a microfabrication lab. After five years, the university expects that the UStar professors will cover those costs themselves through grants. If they can't, the university will

continue to pay their salaries.

More Horsepower

Many of the UStar professors were drawn to Utah by less tangible benefits.

Mr. Tabib-Azar, who spent 22 years at Case Western, says he appreciates the 65-percent raise he got for coming to Utah ("We were really underpaid at Case," he says). But even more, he appreciates the supportive environment for him and for his field of study. At Case they were turning off the power in the electrical-engineering building on weekends to save money, he says. Here, by contrast, staff members from UStar help him create Web pages for his spinoff company and advise him on ways to apply his eclectic mix of research projects in new ways. Those include a body-sensor monitoring project he and one of his Ph.D. students are working on, with the director of training for the university's football team, that could involve planting nano-devices in the players' helmets.

Mr. Tabib-Azar, who says he turned down offers from North Carolina State and the Universities of Miami and South Carolina to come to Utah, says the university's use of UStar funds reflects an understanding he didn't see at Case. "If you don't support engineering, medicine has nowhere to go." (A Case Western official said Mr. Tabib-Azar's complaint about power in the building was a mischaracterization of an energy-saving initiative and disputed the professor's assessment of the university's attitude toward electrical engineering, noting that Case Western is itself now adding 15 new faculty members in engineering-related positions. "I wish Massood was here; Utah is lucky to have him," said P. Hunter Peckham, a professor of bioengineering overseeing the hiring. But "who really knows" why academics move?)

Marc D. Porter, a professor of chemistry who specializes in finding disease markers, came to Utah in 2007 from Arizona State University, where a year earlier his hiring at the Biodesign Institute had been a coup for that institution. He moved, he says, because UStar and Utah's technology-transfer experience in diagnostics (the university owns its own diagnostics company called ARUP Laboratories) are making it easier for him to commercialize his research and develop his start-up company. He uses some of his UStar money to hire scientists who've worked in commercial instrument companies. "It gives you the horsepower" to do things more commercially focused, he says.

Mr. Porter and his UStar colleagues have been productive. They accounted for about 7 percent of the 750 or so "invention

disclosures" reported to the university by the entire faculty from 2006 through 2010. Disclosures are what might eventually become patents, products, or the basis for new university-spin-off companies. The proportion of new grant money the professors have brought to the university has been steadily increasing, too, although it still accounts for just over 4 percent of the university's \$450-million total. "Are we betting the research future of the University of Utah on the UStar program? The answer is no," says Thomas N. Parks, vice president for research.

Nonetheless, the university is grateful for the attention UStar brings. Polling by the university this spring found that 71 percent of the public recognized the institution as "important to the state's economy," up from 60 percent in 2006.

Faculty Resentment

Yet UStar has also created some challenges. Some faculty members already working at Utah resented the star treatment afforded their new colleagues, and even some top administrators, like Pierre V. Sokolsky, dean of the College of Science, worried at first that its focus was too short-term and commercial, and too centered on chasing big names from other institutions. For the newcomers, it was uncomfortable too. Some of them, recalls Mr. Sokolsky, "felt they had a target on their back."

The dean says he came around after being reassured by Mr. Patel, and he's since encouraged chairs of basic science departments like physics and chemistry "to look at the UStar program as the only new money that was going to be available for a while," and find ways to use those hires to help their departments.

The university's decision that all UStar faculty members be vetted by and have their tenure status approved by at least one academic department also helped relieve some resentment. Still, Mr. Sokolsky, for one, says he wishes some of those UStar start-up millions could be redirected into "retention packages" that would help the university keep some of its own professors who leave for attractive offers elsewhere. Among them: a professor from the College of Science who left for a university in Europe. If UStar wasn't so focused on attracting outsiders, Mr. Sokolsky says, the university "certainly could have retained a few."

That kind of expansion for UStar doesn't appear to be in the cards, at least not anytime soon.

If anything, UStar's backers say their next challenge is keeping the state money flowing, particularly now that some of the program's original legislative champions have left office. Mr. Anderson, the

bank president, says he or some other member of the governing board plans to visit every legislator in his or her home or business over the next few months to sell the program and reverse a trend of declining support. The Legislature appropriated just under \$14-million for UStar in 2012, about a half-million less than in 2011.

In the late 1990s, says Mr. Anderson, "Utah was thrilled every time we got a call center moving to Utah," but the state is growing, and today its young, educated populace needs more. UStar isn't the sole solution, says Mr. Anderson, but "it's symbolic of the direction we want the economy to go in."

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