

MSU's new atomic research center gives Michigan an economic, image boost

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LANSING -- It doesn't take a nuclear physicist to understand the importance of Michigan State University landing a \$550 million atomic research center.

Thursday's U.S. Department of Energy announcement underscores MSU's international role in such research. But it also provides a big shot in the arm to a state viewed nationally as an economic basket case.

MSU beat out the Argonne National Laboratory in Illinois for the Facility for Rare Isotope Beams. The project, to be built over the next decade in East Lansing, will mean hundreds of permanent high-paying academic jobs, thousands of direct and indirect jobs related to construction and a \$1 billion impact on the state's economy.

"I'm having a good day," MSU President Lou Anna K. Simon said after the announcement from Washington. "These are the kinds of projects that you very rarely have a chance to compete in, let alone win.

"It also says that Michigan is a place to come for cutting-edge technology," she said.

U.S. Sen. Carl Levin, D-Detroit, said a "massive effort to highlight MSU's unique capabilities paid off of MSU, Michigan and the nation. It is the best news for Michigan in a long time."

Construction funding still must be appropriated by Congress, but the award also means a likely tripling of the \$20 million in annual federal funding MSU receives for nuclear science research.

MSU's National Superconducting Cyclotron Laboratory has been a national leader in nuclear science for nearly half a century. MSU's graduate school of nuclear physics is ranked second in the nation by U.S. News & World Report. The new facility is expected to retain or generate 400 jobs, including 180 positions on campus. MSU currently attracts some 700 scientists from 32 countries for nuclear research. That user group is expected to grow to more than 1,000.

Project design will begin immediately with construction expected to commence in 2013 toward a completion date in 2017. An expansion of the current lab, which includes 10,000 square feet of experimentation space, is expected to be completed in 2010.

The centerpiece of the project is a next-generation, 400-meter linear accelerator that will tunnel underneath the MSU campus. The accelerator allows scientists to more effectively create and study rare isotopes -- atomic nuclei that offer insight into the basic nature of physical matter. From that research, scientists can delve into subjects ranging from the evolution of the universe to developing new techniques in nuclear medicine or manufacturing.

FACT BOX

What's a FRIB?

Facility for Rare Isotope Beams -- a \$550 million tool for distilling atoms into unique forms to study the structures of nuclei and the forces that bind them.

Why is that important?

Scientists can study the nuclear reactions that power stars, theorize about origins of the universe and test theories on the fundamental nature of physical matter.

How did MSU land the facility?

MSU's National Superconductor Cyclotron Laboratory is an international center for research and the school is a leading educator of nuclear scientists. The U.S. Department of Energy ruled MSU's fiscal and scientific proposal superior to that of the Argonne National Laboratory outside Chicago.

What does it mean for Michigan?

Jobs. Hundreds of research jobs, nearly 800 construction jobs, plus thousands more indirectly. And reputation. It confirms the important economic role of state universities and solidifies the state as a leader in public and private research.

It was critical that MSU land the FRIB project. Without the advanced equipment, akin to moving from dial-up Internet to high-speed broadband, university researchers feared the school's status as a national leader in rare isotope research would decline.

U.S. Rep. Vernon Ehlers, R-Grand Rapids, said the project "puts Michigan on the map scientifically in a way that it hasn't been before and keeps MSU on the map as a leader in this field."

Ehlers, a physicist, said MSU has a proven track record in nuclear science and was willing to financially commit to the project.

DOE officials said MSU provided a budget for the project that was "reasonable and realistic. MSU also offered a direct cost share to the project."

In a statement critical of the decision, U.S. Rep. Judy Biggert, R-Ill., said MSU offered financial resources that Argonne and its partners at the University of Chicago "simply did not have."

Simon, MSU faculty and students, Michigan's congressional delegation and an advisory group of some four-dozen civic leaders from around the state made a strong, concerted push for the project.

East Lansing economist Patrick Anderson said in addition to research jobs, construction jobs could near 800 over the duration of the project, and those jobs in turn would lead to nearly 5,000 indirect jobs.

Once in operation, he said, the project would give Michigan an advantage over other states in attracting other high-tech research jobs.

Michigan, struggling for much of this decade as the Detroit Three auto companies restructure, is viewed nationally as an ailing one-industry state. But it's also a state with considerable scientific talent in the public and private sectors, a fact that will become more widely known through this project, Ehlers said.

"Many new scientific discoveries tend to create new industries," Ehlers said. "Just as Silicon Valley emerged from Stanford and (the University of California at) Berkeley, there may well be scientific industries that will develop around MSU based on the work that is done there."

MSU, the University of Michigan and Wayne State University spent \$1.38 billion on research in 2006, according to Anderson's research, making it the fifth largest university research cluster in the nation. With nearly 50,000 full-time employees, the three schools had a net economic impact of \$13.3 billion in 2007.

Simon said the Michigan coalition that worked to secure the FRIB project "shows that when you have an alignment of assets working toward something big, we can pull that off."

"The odds weren't very high, but if you work hard and work creatively, you can make things happen that at one point seemed impossible," she said. "Those are good messages for the state of Michigan."

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