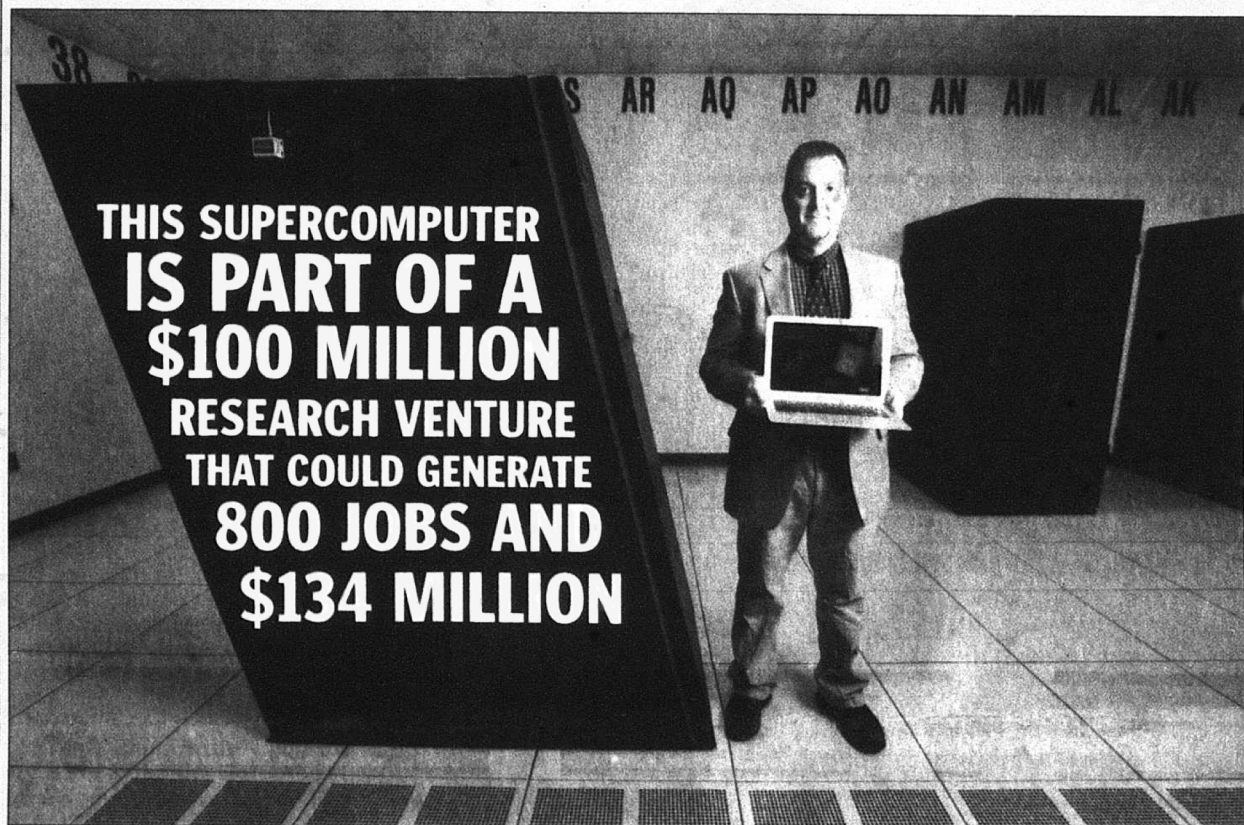


Local colleges flex economic muscle



JEN RYNDA staff photographer

David Topham, vice provost and executive director of Health Sciences Center for Computational Innovation at UR, stands next to a supercomputer. One supercomputer is equivalent to 4,000 desktop computers with one processor.

JAMES GOODMAN
STAFF WRITER

How colleges contribute to the local economy is not always easy to measure, with their footprint going well beyond the payrolls they must meet and the research dollars they bring in.

The latest reminder of higher education's considerable economic clout is a new report by the Commission on Independent Colleges and Universities, showing that private colleges in the Rochester region contributed about \$4 billion to the local economy in 2009.

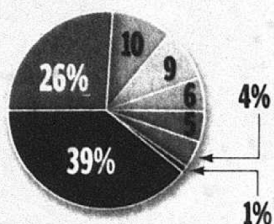
Eleven private colleges in the area, including University of Rochester and Rochester Institute of Technology, were responsible for an estimated 35,800 jobs and more than 38,000 students.

This report comes on the heels of a state comptroller report finding that New

A big footprint

Private colleges are major players in the local economy, with the Rochester Institute of Technology and the University of Rochester accounting for almost two-thirds of college enrollment in the Rochester area.

2009 private college enrollment*



* Figures include full-time and part-time undergraduate and graduate students.

** Figure doesn't include campuses abroad and co-op students.

† Includes St. Bernard's School of Theology and Ministry, Colgate Rochester Crozer Divinity School, Northeastern Seminary and Finger Lakes Health College of Nursing (Ontario County)

SOURCE: Commission on Independent Colleges and Universities KEVIN M. SMITH graphics editor

York's 269 degree-granting colleges generated about \$62 billion in economic activity that same year.

Colleges are increasingly described as economic en-

of the biggest drivers" of the economy in the state.

"What you will see is that higher education is driving this," Duffy said.

But there's a difference between being a research center and serving as a hub of economic activity — with a sizable gap existing between the large sums of research dollars pumped into some universities and the local companies spawned by their research.

UR, which is the largest area employer with Strong and Highland hospitals under its umbrella, has been on a growth spurt, at least partly fueled by research dollars.

Since 2005, UR has experienced a 31 percent increase in research funds, culminating in the \$461 million received for the fiscal year that

gines. Lt. Gov. Robert Duffy, who is the former mayor of Rochester, said as much during a recent appearance at Roberts Wesleyan College when he called colleges "one

Colleges

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ended last June, while the number of UR employees rose by almost 20 percent to just under 20,000.

But the spillover of research to startups has been less pronounced. UR is now licensing the know-how from its research to 31 local companies that, as of about a year ago, employed 346 workers.

Another 67 companies outside the Rochester area have licensed UR technology for commercialization.

Both UR and RIT are trying to increase their economic presence locally. UR is teaming up with IBM to establish a \$100 million high-powered computer center that will provide unique research capabilities in health-related sciences, while RIT is establishing itself as a leader in promoting cost savings in green technology and industrial sustainability.

On Monday, the Rochester Community Coalition — which includes local leaders from colleges, businesses, the city and county governments, and labor — plans to meet with lawmakers and officials in Albany to push for state funding for this work at UR and RIT, as well as other priority projects.

UR President Joel Seligman said the university is committed to helping a city that has its roots in a "knowledge-based economy."

Thinking local

The Cuomo administration has put a priority on connecting state economic development funding streams to projects recommended by regional councils that will be made up of a cross-section of local leaders.

As set forth in Cuomo's proposed budget, 10 Regional Economic Development Councils would be established across the state that would put leaders from academia at the same table with business, government, labor and other community leaders.

Duffy is slated to chair these councils — and said he would probably spend two-thirds of his time with them.

The councils would serve as "one-stop shops" for all state-supported economic development and business programs, and could better harness the economic power of local colleges.

Regions would compete for funding based on the best plans for job development, with colleges, businesses and communities applying for state funds through the council structure.

"They fill the critical gap by creating linkages. There is a benefit to getting people aligned in the same direction," said Robert Atkinson, president of the Information Technology and Innovation Foundation, based in Washington, D.C.

More than \$340 million of the Cuomo administration's economic development funds would be set aside for regional initiatives — with \$130 million of this money to be allocated to what are considered the best proposals submitted by the various regional councils.

Proposals submitted by colleges would be among the projects across the state competing for a piece of this \$130 million.

"It would be about organizing by region and then prioritizing what we feel are the best ideas, the best suggestions. It's all job growth," said Duffy at his Roberts Wesleyan appearance.

In a recent interview, Duffy said that Cuomo was inspired to do this by his use of Empowerment Zones when he was secretary of the U.S. Department of Housing and Urban Development during the administration of President Bill Clinton.

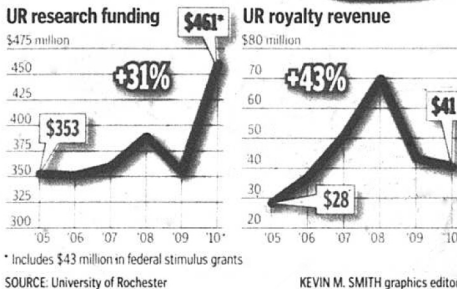
Regional councils also were used for planning and distributing some state funds when Mario Cuomo, Andrew's father, was governor of New York.

Among the priority items of the Rochester Community Coalition are \$33 million in state funds for the UR-IBM Health Sciences Center for Computational Innovation and \$25 million for the new facility that RIT will build for its Golisano Institute for Sustainability.

Peter Robinson, executive director of UR's Office of Government and Com-

Research and royalties

The University of Rochester has seen its research dollars climb as UR has emerged as a major research university. UR's royalty revenue results from licensing the know-how from its researchers to companies ranging from large corporations to start-up firms for commercialization. Royalties are a sign of how successful a university is in turning research into products.



munity Relations, suspects that the \$130 million pot that Cuomo wants to make available for local development projects might not be used for major projects.

"You will be seeing three- to five-million dollar projects coming out of that process," Robinson said.

But the regional councils would connect local priority projects to other state funding streams.

"It's a vehicle for us to bring forth a message," said Deborah Stendardi, vice president for government and community relations at RIT.

Educational growth

UR's Health Sciences Center for Computational Innovation hopes to go beyond being a \$100 million research venture.

"It would be a magnet in the same way that the nanotechnology center is for Albany," said Seligman about how the UR center — now in its early stages of development — could do for Rochester what SUNY Albany's College of Nanoscale Science and Engineering did for that region.

With the computation power equivalent to 16 supercomputers, the center would be able to process enormous amounts of data in a short time. Such a capability would be expected to spin off businesses and attract companies from outside the area.

Seligman said that preliminary figures from a Center for Governmental Research study being done for UR show that the cen-

ter would generate 800 jobs and attract \$134 million in new investment over 10 years.

As it is, UR has a memorandum of understanding about this project with IBM, which two years ago gave UR a \$2 million Blue Jean supercomputer. The computer has already opened up new avenues for conducting research on everything from vaccines to brain trauma injuries.

While Seligman hopes to get \$33 million from the state for its UR-IBM computational innovation center, he said that UR and IBM would be responsible for coming up with the rest of the \$100 million.

Some of this money could come from other universities and businesses wanting to participate in this project.

IBM spokeswoman Jenny Galitz McTighe said that while IBM is excited about partnering with UR, it was too early to get into the details of this arrangement.

In his office at UR's School of Medicine and Dentistry, David Topham, who is executive director of the fledgling center, can pull up on his computer screen an image of two proteins interacting with a virus.

The image was created by researchers taking human blood and isolating for analysis certain cells that are part of the immune system. Complex genetic information about these cells was then fed into the supercomputer, which created the models on Topham's screen simulating how the human

body might respond to viruses and their mutations.

"You need the supercomputer to handle the amounts of data required for this sort of simulation," said Topham, explaining how this high-powered computer is helping researchers trying to design a vaccine against a range of viruses.

In mid-February, Seligman and at least one IBM official discussed the project with Duffy in Albany.

Duffy said that the proposal provides a "great opportunity for the economy and jobs," but it remains to be seen how this project would fare in competing for the funding that the Cuomo administration hopes to make available for regional economic development.

Other proposals from colleges for the \$130 million in development funds would be less ambitious.

Nazareth College, for example, might seek \$2 million, so that it could expand the clinical labs for its nursing program, which in turn would allow the college to admit more nursing students.

Meanwhile, the \$25 million from the state that RIT is seeking would help equip the new headquarters that will be built on campus for the college's Golisano Institute for Sustainability.

In April, RIT will break ground on the 84,000-square-foot facility, which has a \$38 million price tag and is being funded in part by a \$10 million state grant.

With the \$25 million now being sought, RIT could purchase some of the equipment needed for this facility to service businesses wanting to find environmental efficiencies on everything from heating and air conditioning to waste disposal systems.

Computerized devices with sensors, for example, could be installed to conduct tests that would measure the wear on vehicles and their emissions when using alternative fuels, such as biodiesel or ethanol.

Striking alliances

Since most colleges are nonprofit institutions, with their main mission educational, they are different from businesses,

which are motivated by the bottom line of maximizing profits.

Typically, research universities license to businesses for commercial use the inventions that these colleges patent.

Sometimes these businesses are startup companies, with the researcher serving as the chief scientific or technology officer.

The colleges own the patent and get royalties from these license agreements. UR, for example, got \$41 million in royalty payments for the past fiscal year.

Cornell University President David Skorton, who two years ago chaired a governor's task force on higher education partnerships, said that while colleges can't compromise their independence, they can forge closer ties with the business community.

That could happen in any number of ways — from promoting more business internships to licensing practices that put a priority on making the research available for commercial use.

"You've got to get the stuff out there," Skorton said.

The big economic development priority for the 64 colleges and community colleges in the State University of New York system is to have more freedom to enter into arrangements with the private sector.

SUNY officials welcome a proposal in the Cuomo budget that would no longer require SUNY schools to get state Legislature approval for agreements with the private sector to lease campus land.

Instead, a state-appointed board — with broad representation — would give the OK. The expectation would be that the land use is related to educational purposes.

Ken Levison, vice president for administration at State University College at Geneseo, said that such a change would be important. The state Legislature has been reluctant to approve these leases and the proposed changes include safeguards to ensure accountability.

"It will help the local economy," Levison said. □

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