Regional and State Involvement for Wright State's School of Medicine

By Robin Suits

By most measures, Ohio's economy is not keeping up with other states and has in fact been falling further behind over the past decade. In spite of the economic recovery elsewhere, Ohio lost 5,100 manufacturing jobs last year and, even considering other types of jobs, still had a net loss of 200 non-farm jobs. Only Michigan lost more jobs in 2004.

"We need to accept the fact that our economic base has eroded and that we need to pivot to a new economy and educate our workforce for new jobs—different kinds of jobs," Sen. Mike DeWine told corporate leaders in a widely quoted speech in Cleveland last December. "Medical research, technology, and innovation are the driving forces to improving the quality of life in Ohio. The state really must make a decision to invest in higher education as if the future of Ohio depends on it—because it does."

DeWine cited the Third Frontier Project as an example of the kind of initiative the state must undertake to invest in Ohio's future. Launched by Ohio Gov. Bob Taft in 2002, the 10-year, $1.1 billion initiative brings together universities and private companies in collaborative efforts to expand high-tech research, encourage company formation, and create high-paying jobs. The state's largest development investment ever, the project has awarded more than $235 million to date.

"We have to build on the strong research organizations we have in the state," Taft says. "We can build on our strengths to create more higher-paying jobs, form partnerships between research organizations and businesses, and accelerate the advance of the knowledge economy in Ohio."

"At Wright State University School of Medicine, we've been involved in a number of mutually beneficial partnerships with the region—like the Third Frontier Project—that have allowed us to have a greater impact than we could have had on our own," says School of Medicine Dean Howard Part, M.D.

Wright State is one of the institutions comprising the Genome Research Infrastructure Partnership (GRIP), which was created in 2001 with a $9-million grant from the Ohio Biomedical Research and Technology Transfer Commission, a predecessor to the Third Frontier Project. WSU's Center for Genomics Research works to cultivate collaborations between basic and clinical researchers through its affiliation with GRIP. Besides Wright State, the group includes the University of Cincinnati, the Children's Hospital Research Foundation (Cincinnati), Procter & Gamble Pharmaceuticals, Acero Inc., and the Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base. Critical local support from The Kettering Fund has also advanced the school's biomedical research programs.

Last fall, Ohio officially unveiled the Third Frontier Network, the most advanced statewide fiber-optic network in the nation. An initiative of the Ohio Board of Regents, the network was designed to enhance Ohio's higher education system by connecting educational institutions, their business partners, research laboratories, and Wright-Patterson Air Force Base. It can move one gigabyte of information per second through secure connections and double the speed of broadband video conferencing. The network's speed and stability will enable researchers, physicians, and educators to work virtually side-by-side. "The Third Frontier Network promises to transform education, research, and patient care for Ohioans while also creating critical jobs in the high-tech sector," Part says.

The National Institutes of Health "Roadmap" of funding priorities calls for developing "new partnerships among organized patient communities, community-based physicians, and academic researchers." Crucial to this are more frequent interactions between scientists and physicians to move discoveries from the bench to the bedside. Clinical scientists play the critical role of observers and can spur scientific inquiry at the bench. The NIH refers to "bench to the bedside" research as translational, and it is placing a heavy emphasis on new programs to improve the effectiveness of and shorten the time frame for clinical research.

The School of Medicine collaborates in several projects designed to meet the goals of increasing and improving translational research. One example is the Center for Genomics

Research, which is using state-of-the-art technology to expedite our understanding of the genetic basic of disease in both basic and clinical science studies.

The school also continues its commitment to developing mutually beneficial partnerships with the local healthcare community. The school's new Department of Geriatrics, an initiative supported by Premier Health Partners and the Dayton Veterans Affairs Medical Center, is an outgrowth of that commitment. Working with local health systems, the community will be better prepared to serve the expanding elderly population. "These kinds of partnerships are the key to future," says Part.

Other collaborative efforts include the Cell Dynamics and Engineering Center of Excellence and the Ohio Valley Affiliates for Life Sciences (OVALS). Through a collaborative agreement with AFRL, the interdisciplinary research center recently opened a state-of-the-art facility at Wright State to study cellular control mechanisms and build biologically based microsystems for the Air Force. The program is an offshoot of the Wright Brothers Institute, a grassroots organization formed in June 2003 by the Dayton Development Coalition. OVALS is a partnership with the University of Cincinnati, University of Kentucky, University of Louisville and AFRL, along with their regional economic development councils, which was formed to grow and develop the biotechnology industry in the region.

"Higher education is critical to getting Ohio back on track. It is the economic engine that can bring high tech jobs to the state. The state's medical schools are a key resource in this initiative," Part says.