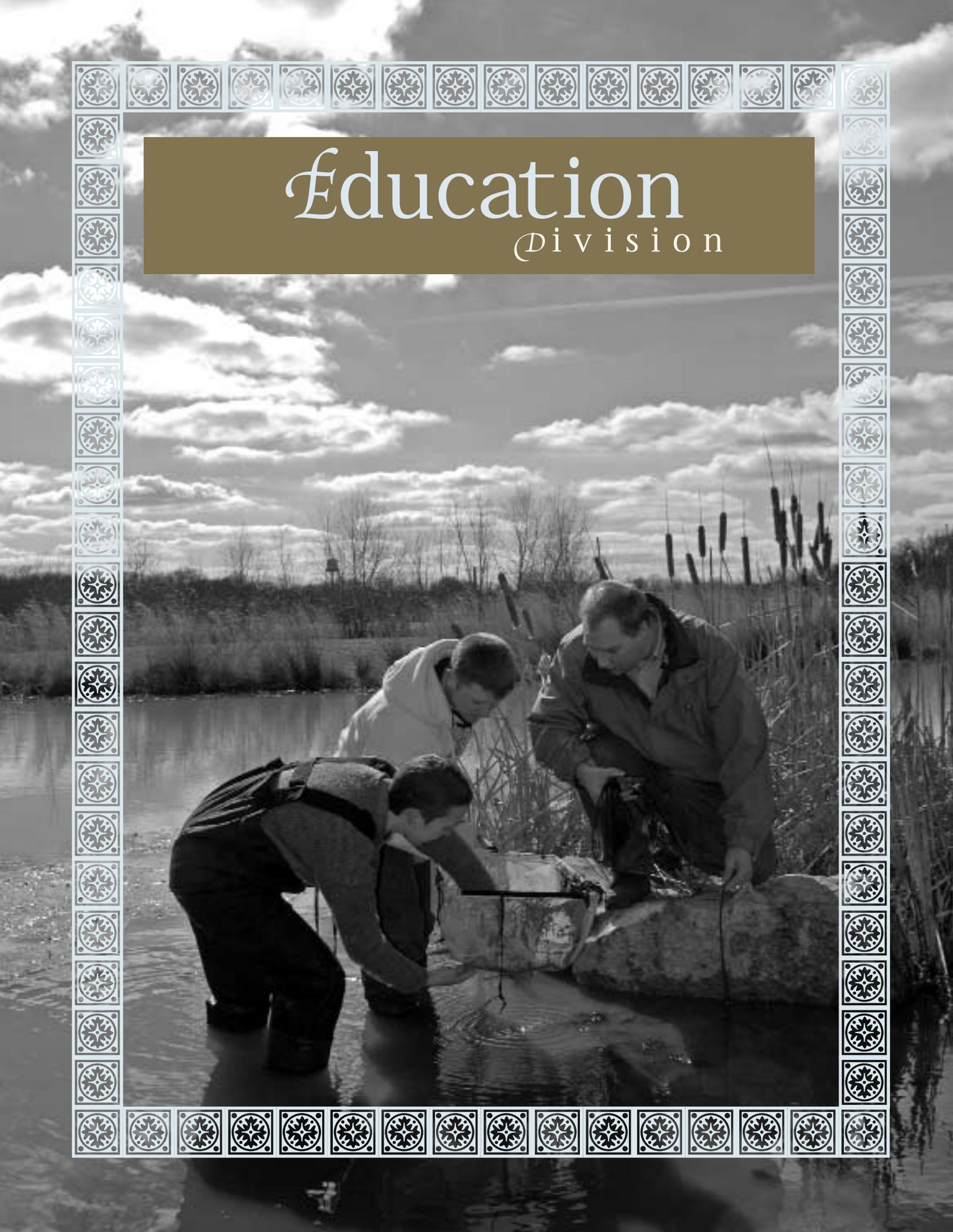


Education

Division



(opposite) Researchers get their feet wet for science at Rose-Hulman Institute of Technology. Ella Ingram (left), assistant professor of applied biology, and Michael A. Robinson (right), assistant professor of civil engineering, are two members of a team that received a \$100,000 Faculty Success Grant. The program encourages young faculty to pursue research and teaching interests. Here they enlist the help of senior Joshua Jacobs in collecting plant and water samples from Hawthorne Park Wetlands.

(below) Elizabeth Shea, coordinator of the Indiana University Contemporary Dance Program, puts students through their paces for a performance of "Coming to Light," a result of a grant in the New Frontiers in the Arts and Humanities Program.

Indiana Colleges Embrace the Chance to Build Intellectual Capital

Brain power

"Intellectual capital is the capacity of a society – or, in this case, our state – to solve problems and to conceptualize new ideas that improve the quality of life of its citizens," says Purdue University President Martin Jischke.

In a highly competitive global economy, intellectual capital will be the most important factor in Indiana's success," Jischke says. "Our ability to develop new businesses, retain and expand existing companies and attract new enterprises to Indiana depends more than anything else on our intellectual capital. The people of Indiana should be concerned because their future and the future of their children depend on intellectual capital."

The world of business has long valued intellectual capital. Communities everywhere now recognize that they need it, too. And that includes many in Indiana.

Traditionally, the term has described the intangible assets of knowledge, creativity, proficiency, experience and skills of businesses or other organizations. It is more than an assortment of smart people, however. It involves the web of connections and relationships among talented people through which they generate new ideas and enhanced ways of operating and in so doing attract other intellectual capital into the mix.

critical mass

Think of it as a physics problem, suggests Arthur B. Western, a physicist and vice president of academic

affairs and dean of the faculty at Rose-Hulman Institute of Technology in Terre Haute, Ind.

"Indiana needs to develop a critical mass," Western says. "If you have just one or two units of energy, it's hard to build that critical mass needed to move forward. But if you have everyone working toward the same goal, it will be much easier to achieve. Indiana needs a critical mass of intellectual capital to move forward."



Building that critical mass is at the heart of Lilly Endowment's \$100 million Initiative to Recruit and Retain Intellectual Capital. The challenge was issued to 37 Indiana colleges and universities to envision what they could do to enhance the stock of intellectual capital at their institutions and, in the process, help raise the intellectual capital quotient for the entire state. The amount awarded to each

institution ranged from \$500,000 to \$26 million, depending largely on the enrollment of students.

In some ways, the challenge to build intellectual infrastructure is greater in Indiana than other places. According to many commentators, the state has a low level of educational attainment among its citizens, in part because in the past its citizens did not require college degrees to have rewarding jobs in manufacturing. As the manufacturing

(below) Jeffrey Hass, director of electronic and computer music at IU, shared the New Frontiers grant with Shea and Robert Shakespeare (not pictured) of the department of theater and drama. The performance combined unusual lighting and a new score for computer and electronic music. The New Frontiers grants highlight the importance of creativity and intellectual curiosity in the realm of intellectual capital.

(opposite) Helen McNally, a senior research scientist, works at Purdue University's new Birck Nanotechnology Center in Discovery Park. She is observing chick embryo cells for research into paralysis and spinal-cord injury.



licensing revenues and patent activity.

So the questions remain: How does a state with a history of low educational attainment support the strategies required to attract intellectual capital to its colleges and universities? How can Indiana retain the intellectual capital it has and use it to compete in a global economy?

The Endowment's intellectual capital initiative sought to tap into the imaginations of Indiana's colleges and universities to help address these challenges. They responded creatively to the Endowment's offer and are using the funds in a variety of ways that fit their unique missions and needs. Several are making their campuses more attractive to faculty, whether by improving laboratory facilities, rewarding teaching excellence, funding new research, supporting sabbaticals or by providing opportunities to pursue advanced degrees. Students are being wooed with scholarships, experiential learning programs, new housing for honors scholars, improved campus facilities and offerings, and intensive freshman experiences.

At Rose-Hulman, for example, the Endowment initiative is underwriting a \$1 million program called Faculty Success Grants to encourage the endeavors of new faculty.

Finding good faculty

Like many colleges and universities, Rose-Hulman is seeing a major turnover in faculty as baby boomers retire. Nearly 50 percent of its current faculty members have been at Rose-Hulman five or fewer years, according to Western.

Attracting and retaining quality faculty is a particular challenge for Rose-Hulman, a specialized university focused on teaching undergraduate engineering students. "It's a competitive market for us," Western says. "It's challenging to hire good engineering faculty who are interested in teaching when people have so many more career choices. One of the chief ways to attract and retain faculty is to tell them that they will be able to build something at this institution. It's important that they can quickly feel ownership, to feel a part of things here."

Faculty Success Grants of up to \$100,000 each are already helping create that environment through collegial competition as well as collaboration, according to Western.

The first Faculty Success Grant was awarded in 2005

sector changes, however, many employees are losing their jobs, or their jobs have been changed dramatically. Good jobs in the future certainly will require more education.

"Indiana isn't the only state that is moving away from its agricultural and manufacturing roots toward an economy based more on brains than traditional muscle. Every state in the union has a plan," says Indiana University Chancellor Kenneth R.R. Gros Louis. "We have to be smarter and more nimble because we're under no illusion that we're the only state focusing on these issues."

Lilly Endowment has been working with colleges, universities, local communities, and business and civic leaders for nearly a decade to address these challenges. The Endowment has funded a statewide scholarship program, a myriad of programs to encourage completion of college degrees and several efforts to encourage the placement of Indiana college graduates in Indiana internships and jobs.

Although these efforts and those of others are showing some signs of progress, Indiana has a long way to go to compete effectively for the intellectual capital required for future prosperity.

Salaries at Indiana universities on average are lower than the national average and no Indiana college or university appears on the list of the top 50 higher education institutions with respect to federal research and development expenditures. Indiana institutions also lag behind institutions in other states in the amount of

to three Rose-Hulman professors working to develop an undergraduate computational research program in cutting-edge areas of chemical engineering; a second grant recently was awarded to three faculty members conducting water-quality research in an outdoor laboratory near the Rose-Hulman campus.

“Being able to offer research grants sends the message to faculty that they can chase their dreams while fulfilling Rose-Hulman’s mission of teaching the next generation of engineers,” Western says.

Best and brightest

Similar excitement – on a larger scale – is being generated at Indiana University, where \$26 million has been designated to strengthen IU’s work in the neurosciences and the arts and humanities and to add scholarships for top Indiana students.

A search is under way to find world-class researchers for six Presidential Life Sciences Professorships – three for the IU Bloomington campus and three for the IU School of Medicine at Indiana University Purdue University-Indianapolis – in the neurosciences.

The goal is to help boost to international prominence the neurosciences – a cross-disciplinary field that has roots in IU’s traditional strengths of biology, chemistry, psychology, optometry and medicine.

“It only makes sense to build on those strengths by adding great researchers in the neurosciences. The effects, both direct and indirect, will be lasting and far-reaching,” according to Michael McRobbie, interim provost and vice president for academic affairs at IUB.

Building on IU’s other traditional strengths in the arts and humanities, part of the intellectual capital funding has been earmarked for a five-year program called New Frontiers. The theme for the first year of the program is “technology in the arts and humanities.”

One project that has received support from the New Frontiers funds is called Contemporary Traditions. It features five separate works slated for presentation in 2006.

One work, “Coming to Light,” is the brainchild of Elizabeth Shea, coordinator of the IU Contemporary Dance Program, a part of the department of kinesiology. “Coming to Light” is a multidisciplinary work featuring contemporary dance, “revolutionary, never-before-seen lighting effects” created by Robert Shakespeare from the theater and drama department, and a newly commissioned score for computer and electronic music by Jeffrey Hass from the Jacobs School of Music.

Reflecting similar collaborations, faculty and students from the School of Fine Arts and the African American

Dance Company also are contributing their talents to the Contemporary Traditions show.

So far, awards have been made for more than 60 New Frontiers projects in four categories of arts and humanities, leaving an impact on at least five IU campuses throughout the state.

IU also used a portion of its intellectual capital initiative funds to create the Hoosier Presidential Scholars program. In the fall of 2005, IU enrolled 33 Hoosier Presidential Scholars on six campuses and is in the midst of recruiting candidates and reviewing dossiers in preparation for the 2006 awards, to be made during the spring semester.

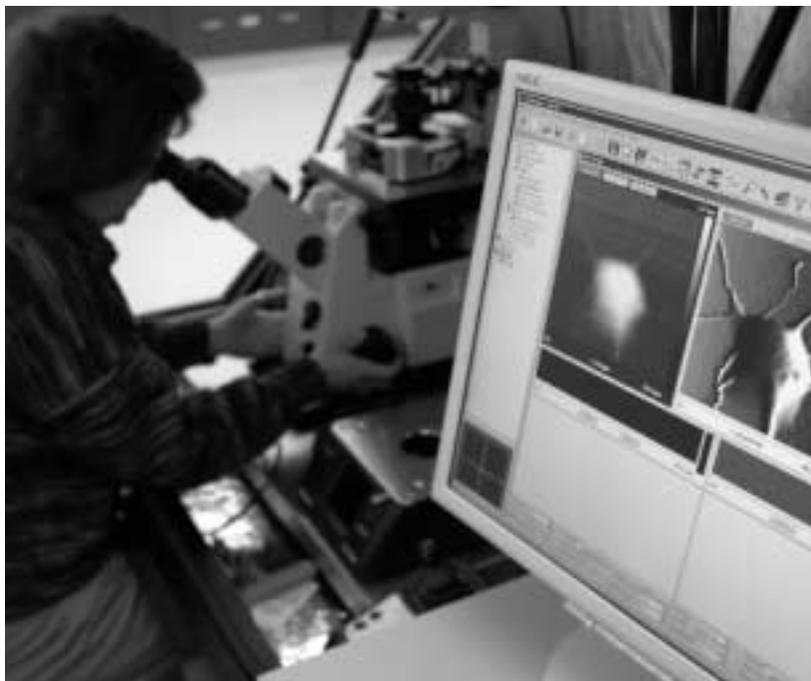
When Gros Louis met the first group of scholars at a special reception in Bloomington, he was struck by how mature – and often, funny – the freshmen were. Many of the scholars were students who had multiple offers from other colleges in other states.

“We wanted the best and the brightest, and they were,” he says. “Their families were wonderful, too, and very grateful for the financial aid that is allowing them to remain in the state to go to school. Our hope, of course, is that their experiences at IU through this scholarship program bind them to the state in ways that they might not have been otherwise.”

‘success breeds success’

At Purdue University, officials used a \$17.5 million intellectual capital grant to attract top faculty for recruitment, with a bit of a twist.

By creating the Purdue Faculty Endowment Challenge, Purdue used Endowment funds to leverage even more support, offering to match gifts from private sources in support of newly endowed faculty positions.



 (below) Professors from Tohoku University in Sendai, Japan, make a stop at Purdue's nanotechnology center. George B. Adams (left), research development manager at Birck, and John P. Sullivan (second from right), professor of aeronautical and astronautical engineering and director of Purdue's Center for Advanced Manufacturing, describe the new technologies burgeoning on the Purdue campus.

"This allows us to tell prospective donors that their gifts will have twice as much impact," Jischke says.

During the first six months of 2005, the Purdue Faculty Endowment Challenge created 22 endowed chairs in at least six diverse fields, including agriculture, science and education.

The combined effects of these matching funds will allow Purdue to attract some of the nation's best and most promising faculty minds to Indiana, according to Jischke.

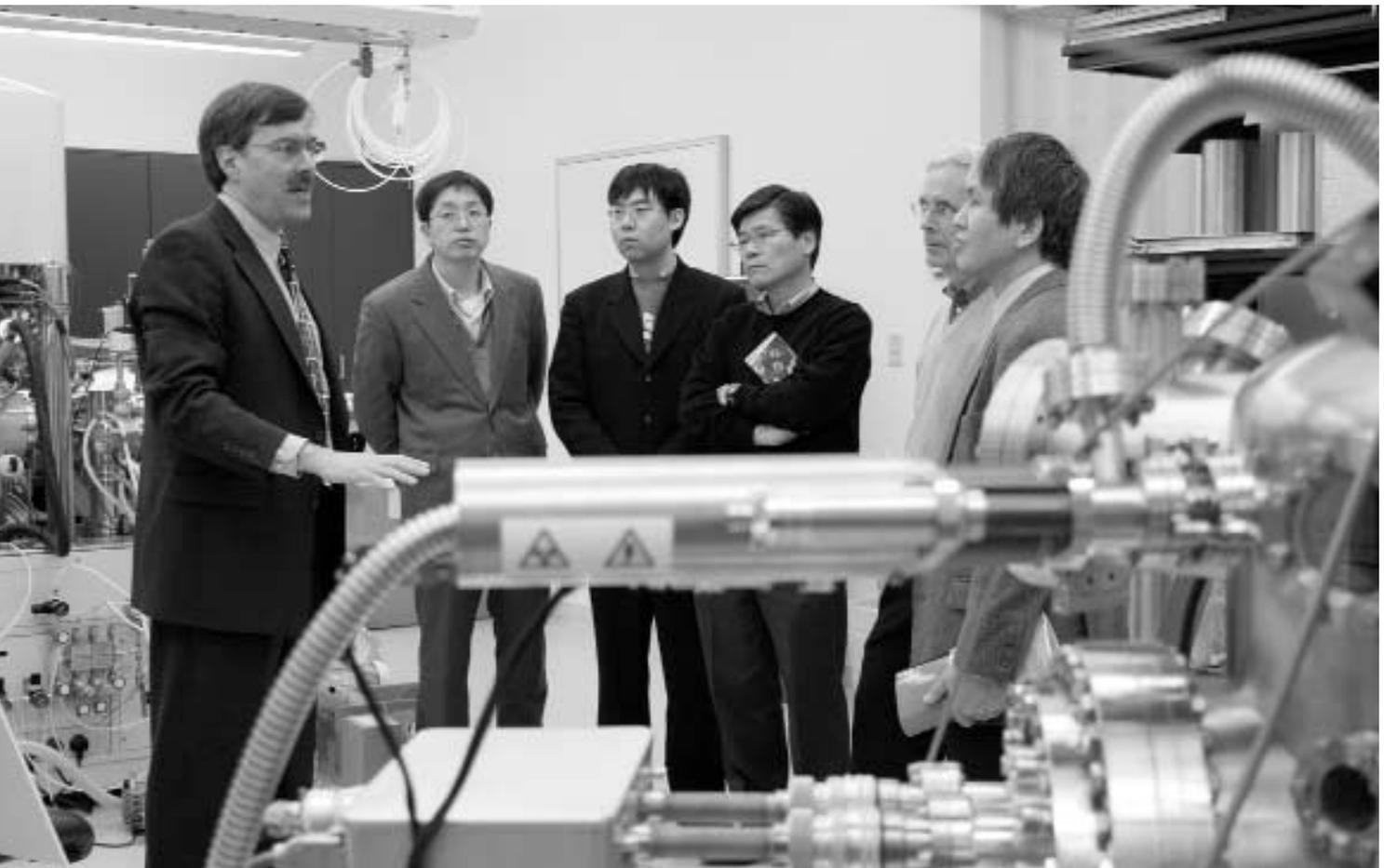
"The quality of a university depends – more than anything else – on the quality of its faculty," he says. "When an acknowledged leader of a particular discipline decides to come to Purdue, the best people in his or her field of study are motivated to follow, and the very best students – especially at the graduate level – want to pursue their studies in the same environment. Success breeds more success."

The Endowment Challenge extended beyond Purdue's West Lafayette campus. In an historic first, two endowed faculty positions in nursing and business have been created at the Purdue North Central campus. Five endowed pro-

fessorships have been funded at Purdue's Calumet Campus, and three newly endowed chairs have been established in Fort Wayne.

"The university's ability to serve the state will depend more and more in the years ahead on the quality of the regional campuses," Jischke says. Purdue officials have called the impact on regional campuses "transformative."

If Indiana is to compete successfully for intellectual capital, colleges and universities throughout the state are a logical place to make the investment. "Higher education is at the very heart of this matter," he says. "Universities educate the people who become the leaders of our corporations and institutions. They prepare the teachers who educate our children. They have the ability to solve technical and societal problems in cooperation with business, government and nonprofit organizations. Universities also are our most prolific source of the new knowledge that makes future progress, including economic growth, possible."



Hispanic Scholarship Fund

New grant funds local outreach

As president and CEO of the Hispanic Scholarship Fund, Sara Martinez Tucker wants every Latino student to believe in the importance of education.

It all starts at the local level – first with families and then with the community – to make sure that students graduate from high school “college-ready,” she says.

“We have a job to do in helping our families understand that a college education is the only thing that will give them a permanent ability to have a good life,” Tucker says.

Getting local Hispanic communities to buy into the dream is one of the goals of a \$12.3 million grant from the Lilly Endowment in 2005.

HSF is the nation’s leading organization supporting Hispanic higher education. Founded in 1975, HSF’s vision is to strengthen the country by advancing college education among Hispanic Americans, now the largest minority segment of the United States population.

HSF received its first Endowment grant in 1999 when it received \$50 million to strengthen the capacity of the organization to serve Latino students. The new grant will enable HSF to build on the momentum created by the first grant. According to HSF, traditional college-age Hispanics are substantially underrepresented in the country’s institutions of higher education.

With the new grant, HSF hopes to expand its community outreach through enhanced regional efforts and local ownership of HSF’s national agenda.

Regional offices in southern California (the largest Hispanic market) and in the Midwest (an emerging destination for Hispanics), as well as New York and Washington, will help HSF cultivate the support of successful alumni of HSF programs and attract new donors. They also will give HSF better access to Latino students and their families.

new partnerships

Past scholarship recipients and local leaders send a powerful message if families can point to them as success stories in their own community, she says. “We’re hoping to get local ownership of our mission,” Tucker explains. “We’ve got to get the Hispanic community to invest in their own children, to set high expectations and to rally Hispanics to this cause.”

The plan also includes pilot partnerships with the

University of Texas (UT) at Austin and the University of Georgia at Athens (UGA). The two schools present different challenges: UGA is dealing with the challenges of a quickly emerging Hispanic population, while UT is dealing with an established Hispanic population.

According to recent studies, the Hispanic population is exploding in the South. “Georgia’s Hispanic population has grown 300 percent in the last decade and is the third-fastest growing in the country,” notes UGA President Michael Adams. The Hispanic enrollment at Georgia is about 1.8 percent of the total enrollment. “We look forward to building on current programs whose aims are to retain and support our Latino students,” he says.

At UT-Austin the Hispanic population accounted for 13.3 percent of the total enrollment in 2004. UT President Larry Faulkner pledged to create a campus culture more “comfortable and welcoming to Hispanic students. As the number of Latino students in Texas continues to rise and the university explores how it can improve college graduation rates among Hispanic students, relationships with organizations such as the HSF are important to our success,” he says.

The new effort will identify the needs facing Hispanic students, develop outreach programs, increase scholarship opportunities and devise programs for retention of students at the college level.

The pilot program will be the basis for building relationships with colleges and universities in other states. “Lilly Endowment encouraged us to consider how we could work more strategically with higher education institutions themselves,” Tucker says. “It will be great to see what we can accomplish together.”

By partnering with flagship public universities in two states, Tucker hopes HSF can convey the message that, with the right preparation and support, Latino students can succeed anywhere.

“A big challenge we have is to portray our children as an investment, not a charity,” Tucker says. “What you get from your investment is a worker, citizen, neighbor, taxpayer, and consumer. Our kids are a good investment.”