

The Brains for Business

Campuses taking the lead in encouraging innovation and entrepreneurship.

BY SHARI HELD

Education and entrepreneurship. It's a winning combination that's only going to become more prominent in years to come. Institutions of higher education are teaching students the skills they need to start their own small businesses so they earn a livelihood or maybe even become millionaires (think Mark Zuckerberg). And more important, their innovations may make the world a better place.

Universities are going way beyond the classroom experience. They're paving the way for entrepreneurship with experiential learning, innovative programs, financial incentives and crucial support.

Whether they help community members create low-tech businesses or engineer opportunities for faculty researchers to partner with students and launch high-tech, bioscience-related startups, it's all important to the economic development of Northwest Indiana.

PURDUE UNIVERSITY NORTH CENTRAL

"We're here as a resource for entrepreneurs," says Cynthia Roberts, Ph.D., dean of Purdue University North Central College of Business, "whether they take classes or use our student talent to help them get going. And if we can't help them we have the information to connect them with someone who can."

Business students learn the fundamentals of what it takes to run a business, and Roberts says the school is rolling out some entrepreneurship courses this fall as part of its management concentration. "We are incorporating it into our regular curriculum," she says, adding that this is in response to increased

interest in entrepreneurship.

The Center for Economic Development and Research (CEDaR), in PNC's College of Business, partners with the Northern Indiana Small Business Development Center to organize continuing education workshops to promote entrepreneurship. "We are more into the business of helping the community," Roberts says. "We're not a Research 1 institution."

Last fall, the debut workshop attracted a full-capacity crowd of community folks and students. Moving forward, CEDaR plans to offer them each spring and fall. "We're excited about that partnership because it's going to increase opportunities for our students as well," Roberts says.

CEDaR's mission is to foster economic development of the region. Currently the center is working with economic development offices in Porter and LaPorte counties to see how they can effectively partner.

INDIANA UNIVERSITY NORTHWEST

Steve Dunphy, Ph.D., associate professor of management for Indiana University Northwest, is dedicated to helping the downtrodden areas of Indiana get "up-to-speed with Hamilton County." While he believes in the concept of business incubators, for example, he says it doesn't seem to serve the needs of his students. "They don't relate to what business incubators are doing," he says. "They just want a small business that they can get into quickly and make a little money."

Dunphy, who's been teaching entrepreneurship for nearly 25 years, sees a strong need in Gary for entrepreneurs to start new businesses, citing the many empty storefronts.

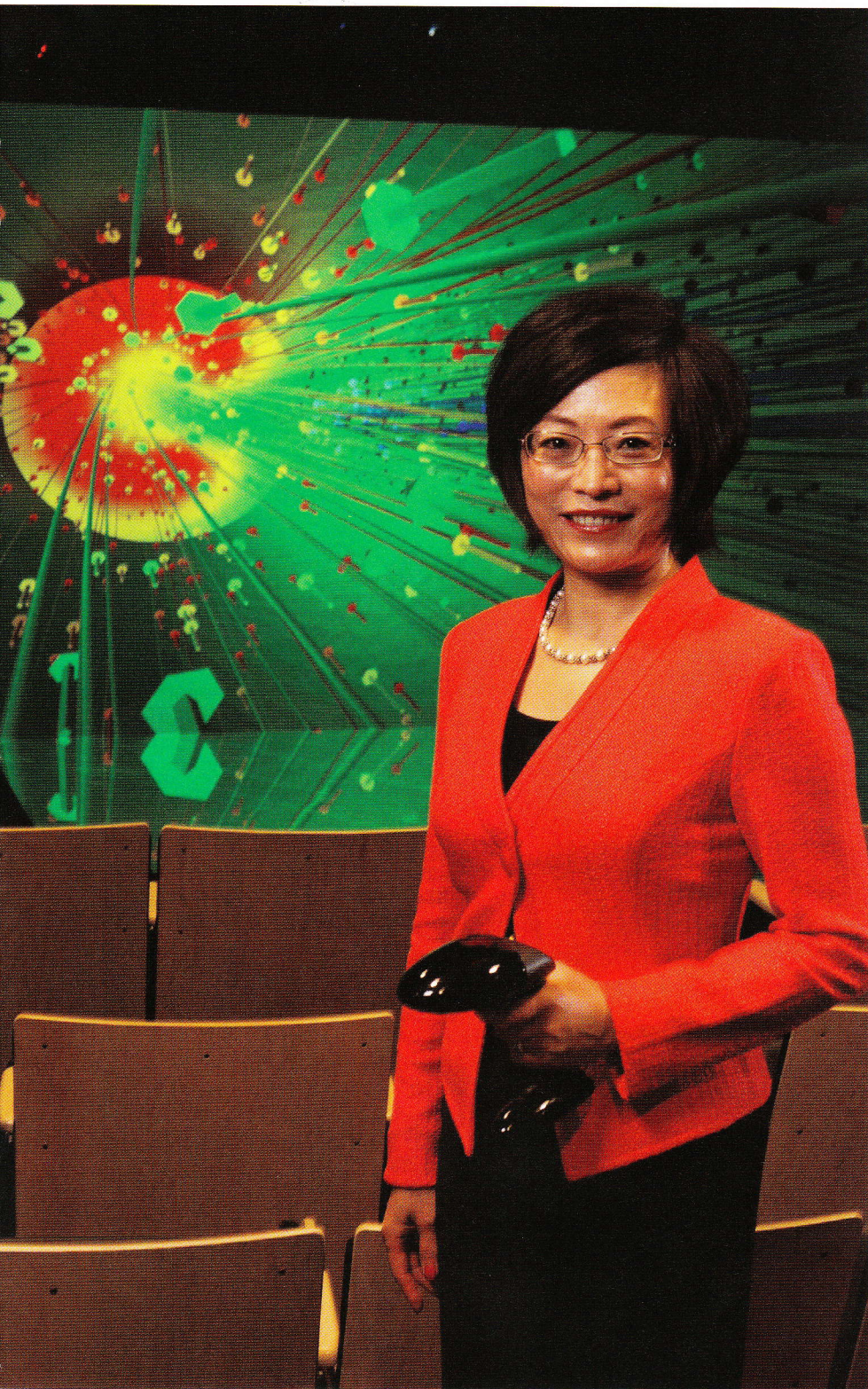
He encourages his undergraduate students to write business plans based on what the market needs and wants as well as their particular talents.

Businesses that were successfully implemented by his undergraduates include a Polish deli, a pet-grooming salon, a windshield repair business and an Aurelio's Pizza franchise. Dunphy's colleague Ranjan Kini, Ph.D., a professor of management information systems at IUN, created iGarage, a tool that helps students create their own apps. One student created an app that tells users what's on tap at various microbreweries in the Region. "Students who are computer savvy can do some unique things," Dunphy says. "It's a good time for entrepreneurs—especially if you have those skills."

IVY TECH COMMUNITY COLLEGE NORTHWEST

The key resource the Gerald I. Lamkin Innovation & Entrepreneurship Center at Ivy Tech Community College Northwest offers fledgling entrepreneurs is the Society of Innovators of Northwest Indiana, which is celebrating its 10th year this year. The society, which consists of more than 300 individual business professionals and more than 600-plus associate members, provides the expertise for all the center's programs.

Society members speak to the students at the center's I&E (Innovation & Entrepreneurship) Chats. CEOs and business leaders come in "with their sleeves rolled up" and tell students the things they won't learn from textbooks as well as answer all their questions. "Those questions will either have a student entrepreneur leaping forth or retreating to go back into the business world," says



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OPPORTUNITIES Chenn Zhou, Ph.D., is director of Purdue Calumet's Center for Innovation through Visualization and Simulation.

O'Merrial Butchee, director of the center.

One student who didn't give up on his ideas is Brandon Griffin. Griffin founded FyeBye, a multimedia

company that offers content geared to entrepreneurs. In 2012 he co-founded SMDG LLC, a social media development company for non-profits. Each year Ivy Tech Northwest

and the society awards entrepreneurs and business professionals and recently Griffin was inducted into the society for all his innovative services. Butchee says he's one of the youngest inductees and a role model for others. "You look around and you can find these stories everywhere," she says.

And if she has anything to say about it, you'll be seeing even more. Ivy Tech's business curriculum requires students to take business development courses and create a business plan, but Butchee saw the need for a business development course for non-business majors and created one. "We have a very intense culinary, HVAC and nursing focus at Ivy Tech," she says. "Those are the kinds of skills that, once learned, you could start your own business tomorrow."

Butchee is also passionate about creating a more robust business environment for the area. "Creativity and innovation will be the foundation for economic growth and development for the region," she says. "To the outside world, we're known as an area that grows corn. They have no idea about the brilliance that comes out of Northwest Indiana. We have made it our mission to discover, encourage, celebrate and honor our most innovative people across our seven counties."

PURDUE CALUMET

Founded in 2009, Purdue Calumet's Center for Innovation through Visualization and Simulation (CIVS) is a research center that fosters the development of applications across many disciplines. Currently it works with more than 65 faculty and staff and more than 80 external organizations. While visualization and simulation applications are key to her mission, Chenn Zhou, Ph.D., the center's director, has made it her goal to promote entrepreneurship for students and faculty campus-wide.

"When students graduate they have all kinds of opportunities," Zhou says. "I just believe there is more opportunity to commercial-

ize their technology and innovative ideas. That's why we want to promote this culture, so our students can become successful entrepreneurs in the future."

This spring CIVS invited consultant Kelly Schwedland, Elevate Ventures' entrepreneur-in-residence for the Northern Indiana regions, to speak with faculty. Elevate Ventures works with emerging and existing high-

potential businesses to take them to the next level. Plans are to have him talk with students next time.

CIVS encourages faculty, research staff and students to apply for grants from the National Science Foundation and other grant-issuing institutions to train them how to start their own companies. The center also actively copyrights software developed by faculty and students through

the university. "Once the copyright is guaranteed, the entrepreneurs can commercialize those copyrights," Zhou says.

To date CIVS has copyrighted the first virtual blast furnace, which will be used as virtual training for the steel industry worldwide and an Irish dance application. That's diversity for you! And this is just the beginning. Many other copyright applications are in the works.

PURDUE UNIVERSITY CALUMET

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THE UNIVERSITY OF NOTRE DAME

Notre Dame is also seeing increased interest in entrepreneurship classes. And many students go on to start their own companies after they've earned their MBAs. "Most of them will go to work for an existing business for a few years until they pay off their loans, and then start a business," says Jeffrey Bernel, director, Gigot Center for Entrepreneurship at the University of Notre Dame. "That's the progression we're seeing."

Although Notre Dame is usually thought of as "the premier arts-and-letters university," Bernel says the university's doing a lot of research in nanotechnology, biotechnology and engineering. Four years ago it built Innovation Park at Notre Dame which houses more than 30 businesses, mainly started by faculty. And plans are already in the works to build a state-of-the-art wet- and dry-lab facility within the next few years. "All the lab equipment is supplied by the university for students to use so they don't have the huge capital expenditures necessary for a startup," Bernel says.

And the move is on to protect intellectual property via Notre Dame's Tech Transfer department, which assists faculty with obtaining copyrights and patents. "If that intellectual property becomes commercialized then the university can license it or take an equity position in any company that's started based on that intellectual property," Bernel says.

To take more intellectual property into the marketplace Notre Dame's MBAs are partnering with faculty and research students to create



TECH TRANSFER Dan Hasler is president and chief entrepreneurial officer of the Purdue Research Foundation.

startup companies. The way it works is that the MBAs create the business plan and run the business side of the startup based on the work done by faculty researchers. NanDio, an oral cancer detection test, recently won the McKloskey Business Plan Competition, sponsored by the Gigot Center of Entrepreneurship. NanDio is a partnership between MBA Ben Miller and Sharon Stack, Ph.D., professor of chemistry and biochemistry,

Examples of MBA/faculty startups and more mature companies include: F Cubed LLC, a molecular diagnostic method based on the F3 chip; Vennli, a cloud-based platform for creating and executing growth strategy; Data Realty, a world-class data center that delivers access to advanced computing infrastructure to mid-sized businesses; Torigen Pharmaceuticals, producers of the Vetivax kit which contains all the components a veterinarian needs to make a personalized cancer vaccine in the office, in one hour.

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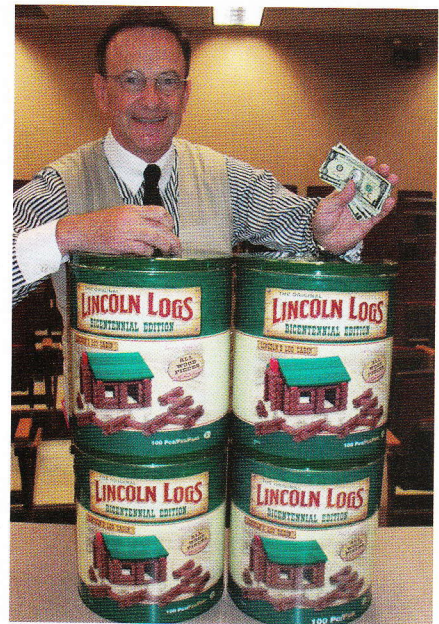
"We are seeing a number of interesting technologies at the university that are going commercial," Bernel says. "It's a very interesting growth that has occurred."

**PURDUE UNIVERSITY
WEST LAFAYETTE**

The Purdue Research Foundation was founded nearly 80 years ago to help support the move of life-changing

technologies into the marketplace. One of its functions is to manage four technology parks in Indiana, including the Purdue Research Park of Northwest Indiana. Altogether they host about 240 companies and employ nearly 4,500 employees, at above-standard wages for the communities.

Another function is to oversee tech transfer. The foundation receives



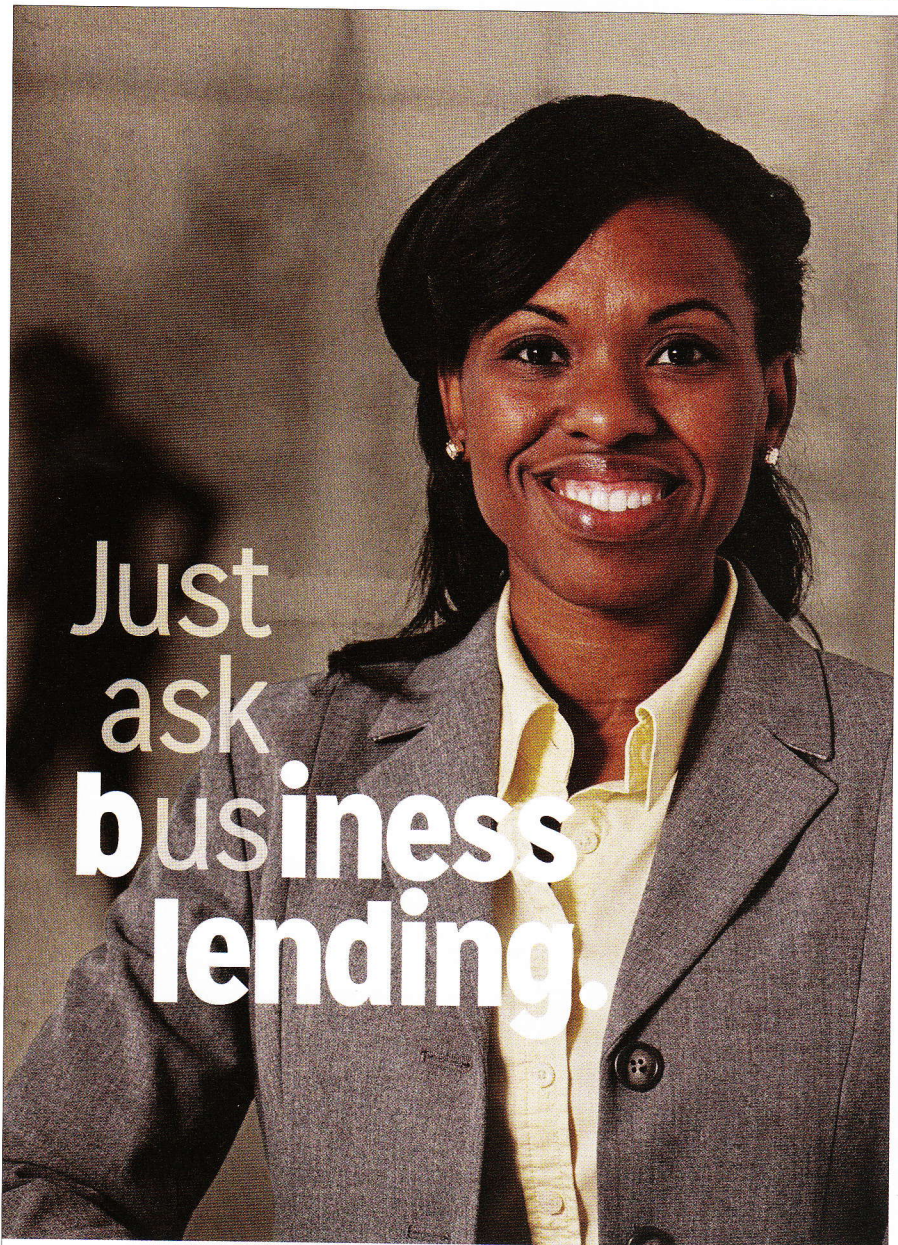
"A GOOD TIME FOR ENTREPRENEURS"
Steve Dunphy, Ph.D., is associate professor of management for Indiana University Northwest.

more than 400 disclosures of intellectual property each year, receives about 120 patents each year and licenses about 120 technologies to the marketplace each year.

"About 20 of those technologies will be licensed to startup companies," says Dan Hasler, president and chief entrepreneurial officer of the Purdue Research Foundation. "The reason we're so focused on startup companies is that they tend to stay in Indiana, tend to hire Hoosiers and, 100 years from now, will be the Cooks or the Lillys—the corporate headquarters companies."

Two years ago, five startups based on Purdue technologies were founded. Last year there were eight. But the foundation has recently implemented several entrepreneur-friendly practices, and this year, Hasler anticipates 20 to 23.

One of the first things the foundation did was make changes to its intellectual property policies, creating an express license that makes it much easier for faculty, in particular, to license their technology and take it to startup companies. It also created a support organization called The Foundry, which provides legal services, visa support, help with business plans and assistance locating funders. "They've been overrun with clients," Hasler says. "At any



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point in time they're working with 50 to 70 clients—faculty, staff and students.”

The foundation also opened a prototyping facility so entrepreneurs could create prototypes of their products—a step crucial to finding funding—and The Anvil, a student incubator, which typically houses up to eight student-run LLCs. Discovery Park Partners provides office space for entrepreneurs partnering or doing business with Purdue faculty within walking distance of the campus.

To encourage potential investors for Purdue's life science startups, the foundation created the not-for-profit Foundry Investment Fund. This ever-green fund will match a certain percentage of the investment on the same terms as the lead investor. “It's not so much about the money, but what that demonstrates to the inves-

“To the outside world, we're known as an area that grows corn. They have no idea about the brilliance that comes out of Northwest Indiana.”

—O'Merrial Butchee, Ivy Tech Community College

tor is that if they make an investment in a Purdue company, Purdue will invest with them. We won't walk away,” Hasler says.

Not all the entrepreneurial endeavors coming out of Purdue are high-tech—there's Coffee Coals, a Purdue student startup that converts waste coffee grounds into charcoal briquettes, for instance. But many of them do. Here are a few faculty or faculty/student success stories. SpeechVive helps patients with Par-

kinson's disease speak louder and more clearly; SPEAK MODalities LLC produces SPEAKall! and SPEAKmore! applications which help nonverbal children with autism learn speech; Bearing Analytics produces an analytics sensor for predicting ball bearing failure in machinery such as large energy-generating windmills; Symic Biomedical is developing a

process that takes embryonic tissue and grows it on scaffolding to produce more specialized tissue such as a kidney.

“There's a movement now toward entrepreneurship,” Hasler says. “And a realization that real innovation and real value-creation in the U.S. have always been on the backs of entrepreneurs and startup companies.” **BQ**

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