

 we connect

 we invest

 we educate

 report
2010



BioCrossroads®

"This intense concentration is the magic elixir of modern economies... why San Diego and Indianapolis are global players in life sciences..."

When cities collect networks of entrepreneurial firms, smart people, universities and other supporting institutions in close proximity, incredible things happen. People engage. Specializations converge. Ideas collide and flourish. New inventions and processes emerge in research labs and on factory floors. New products and companies follow."

Bruce Katz, Brookings Institution, in Time Magazine, November 1, 2010

And not just Indianapolis — the entire State of Indiana made measurable progress in supporting emerging life sciences companies, engaging with researchers and universities, expanding our workforce, and developing new products to improve health. Along the way in 2010, Indiana's life sciences strategy attracted some national recognition as well.

As the nation's economy continues to seek more stable footing at a time of continuing economic change, there is a newfound focus in Washington D.C. and elsewhere around the country on *economic innovation clusters*. The Brookings Institution, one of the leading public policy think tanks in the U.S., defines the phrase as a "geographic concentration of firms, suppliers, coordinating entities, and related institutions in a particular field that arises and grows because of the mutual benefits they derive from proximity and the powerful synergies it makes possible, whether of knowledge exchange, mutual access to skilled labor pools, or the use of shared public goods." While this idea of growing an economy through building on core sectors may be new to some, it's not to us. Organizing a strategy for Indiana's life sciences sector became BioCrossroads' mission nearly a decade ago, so that the next generation of Indiana's economic and entrepreneurial success could be based upon our rock-solid research, business and community strengths.

BioCrossroads seeks to capture that value proposition. To date, we have raised more than one-quarter billion dollars

for life sciences opportunities, organized four venture capital funds, launched eight new sustainable enterprises to advance signature life sciences strengths, partnered with state and local government to attract hundreds of new life sciences and healthcare-related jobs, and elevated Indiana's national visibility as a leader in biotechnology, medical devices and healthcare information technology.

For BioCrossroads, 2010 was a year that demonstrated what an effective cluster strategy can actually get accomplished, even in challenging times for both an industry and an economy. Against all odds, we began to deploy a brand new venture fund — the INext Fund — and seeded several new, significant companies. We attracted an outsized share of federal funding to advance our leading strengths in health information technology, and made great strides in advancing our other key initiatives in orthopedic devices, clinical research, sports-related life sciences and contract pharmaceutical development. We undertook new efforts to establish a comprehensive and credible database for Indiana's multi-strength life sciences sector, and advanced new efforts to prepare our young people for the life sciences jobs of tomorrow through an enhanced emphasis on science and math education. And throughout, we found ourselves involved in an increasingly national conversation about what successful economic innovation clusters, including our own, should be seeking to get done on behalf of our state and its citizens.

Economic innovation clusters can only survive and grow if funding is available

Even in a tough national market for raising and deploying venture capital, we started 2010 ahead of the game. The 2009 year-end close of the BioCrossroads-sponsored \$58 million INext Fund, a venture capital fund-of-funds, paved the way for critically needed funding for our leading start-up companies. Three of the top life sciences venture capital firms in the United States – 5AM Ventures, OrbiMed Advisors, and SV Life Sciences – received funding from the INext Fund and began to search out promising investments on the Indiana landscape – with more INext funding to come in 2011.

BioCrossroads continued to add to the supply of those promising new companies by adding three new start-up investments to our \$6 million Indiana Seed Fund investment portfolio, which now has a total of eleven companies. BioScience Vaccines (developing a novel product to boost the potency of vaccines), AgeneBio (developing treatments for Alzheimer's disease), and Aarden Pharmaceuticals (developing novel technologies to attack tuberculosis and other difficult-to-treat diseases) all received significant Seed Fund investments.

Other Indiana Seed Fund companies also saw success beyond initial investments in 2010. ImmuneWorks, a biotech developing novel therapeutic products for lung disease, signed a comprehensive joint development agreement in February with Lung Rx, a wholly-owned subsidiary of United Therapeutics. Respiratory monitoring device developer SonarMed received FDA 510(k) clearance to start product commercialization and completed a Series A round of funding.

In addition, Seed Fund companies AgeneBio, BioScience Vaccines, CS-Keys, FAST, GRest, Pericardial Access and SonarMed, along with several other Indiana biotech companies, received a combined \$10 million through the federal Therapeutic Discovery Project Credit program. This Internal Revenue Service tax credit program selected start-up companies that are developing innovative therapeutic products as well as projects that develop a novel product, process, or technology to further the effective delivery or administration of innovative therapeutics.

Indiana has been the heart of health information technology (HIT) since BioCrossroads drove the formation in 2004 of the nation's largest health information network, the Indiana Health Information Exchange (IHIE). 2010 showed just how far Indiana has come in its HIT leadership, with an influx of federal funding from the American Recovery and Reinvestment Act (ARRA). BioCrossroads led the state's collaborative effort to secure \$10.3 million in federal funding to build an operational, state-wide network for health information exchange – further expanding Indiana's significant lead in delivering better healthcare through better information. In addition,

BioCrossroads collaborated with the IHIE on a federal grant application to the Beacon Communities Cooperative Agreement Program, a highly competitive program administered by the U.S. Department of Health and Human Services. IHIE received \$16 million, one of only 17 grants awarded nationally under the ARRA. The IHIE collaboration will track outcomes related to quality, affordability and population health, and has the goals of measurably improving blood sugar and cholesterol levels for a substantial portion of diabetic patients; reducing hospital admissions and emergency room visits for patients with conditions otherwise treatable in an outpatient setting; and increasing screening for cancers of the colon and cervix.

Over the year, Indiana received an additional \$23.2 million in federal funds for other critical projects in the expansion and education of HIT, including a \$12 million competitive award to Purdue University to advance the development of a university-based regional extension center program for utilizing health information technology. Indiana University, EmployIndy and Ivy Tech Community College also received federal funds to build HIT training courses and launch skills development programs for this exciting new sector of opportunity.

BioCrossroads initiatives drive our cluster forward

In its first full year of operation, Warsaw-based OrthoWorx made significant progress in assessing and advancing community assets that serve (and depend) on the orthopedic sector's continued success. So far, the organization has invested more than \$1 million into the Warsaw community and has also augmented the community's educational efforts. One of OrthoWorx's most notable achievements is the development of the OrthoWorx Center of Excellence in Orthopedic Regulatory and Clinical Affairs at Grace College. This first-in-the-nation program is designed to fill a pressing educational need for the medical equipment industry and will begin classes in early 2011. In addition, OrthoWorx partnered with The Remnant Trust to relocate the collection's headquarters to Winona Lake, Indiana and develop educational programming and community access to its extensive array of historical

“Indeed, Lilly was one of the lead initiators of the statewide BioCrossroads cluster initiative that has successfully fostered connections...”

The New Republic

“The success of individual clusters is striking. Over the past decade, for example, the Indiana life sciences cluster has funded BioCrossroads...”

The Case for Regional Innovation Clusters: Innovation Policy in Tough Times on Tight Budgets, Science Progress, Oct. 2010

documents. OrthoWorx also created the OrthoWorx Diversity Council to engage a broad range of community stakeholders in identifying and responding to issues of cultural diversity.

All six of OrthoWorx's targeted initiatives – Branding and Awareness, Talent and Workforce Development, Education, Community Enhancement, Innovation, and Transportation and Logistics – have attracted volunteer committees of industry and community leaders who are actively engaged to ensure that Warsaw's orthopedic industry and community are best positioned for long-term sustainability and growth.

The Fairbanks Institute for Healthy Communities now has 18 enrollment sites at clinics and hospitals located throughout Central Indiana, and by year-end, had reached 50% of enrollment targets for the coronary artery disease and type II diabetes platforms of the Indiana Health Study. Through the Indiana Health Study and key partnerships, the Fairbanks Institute is creating INbank™, a novel research resource available to academic, government and commercial researchers.

Datalys Center for Sports Injury Research and Prevention continued its focus on the collection and translation of sports injury, treatment and outcomes information, focusing on three study platforms in 2010:

- Collegiate Athletics (National Collegiate Athletic Association-collected data) injury surveillance for rates of injury and injury risk (2004–2009);
- Collegiate Athletics (Datalys-collected data) injury surveillance for rates of injury and injury risk (2009–present); and
- High School Athletics (Datalys-collected data) injury surveillance for rates of injury and injury risk and injury outcome treatments and costs.

In its three years of operation, Datalys Center has enrolled 85 collegiate institutions and 25 high schools into its injury surveillance platform. Datalys has also produced 125 standardized sport reports and 10 research reports for the NCAA.

Throughout 2010, BioCrossroadsLINX continued to advance its expertise and leadership in the nation's biopharmaceutical contract service sector by publishing an updated survey on biopharmaceutical market developments, *Industry Developments in U.S. Biopharmaceutical Contract Service*. The report highlighted evolving trends in the contract service sector, including the industry-wide drive for pharmaceutical and biotechnology companies to lower costs, access specialized services and increase flexibility through outsourcing work to contract service providers (CSPs). In addition, BioCrossroadsLINX promoted the state's comprehensive biopharma development sector to Indiana companies as well as biotech hotbeds in the U.S. and around the world.

In close collaboration with Eli Lilly and Company, EmployIndy, and community leaders, BioCrossroads created the OpportunitiesIN Web portal. As part of the BioCrossroads web site, OpportunitiesIN showcases a wide range of information about Central Indiana's life sciences companies, particularly information on our contract services sector, as Lilly accelerates its use of local and national biopharma service providers through its fully-integrated pharmaceutical network strategy.

BioCrossroads® LINX
Connections to Drug Development Resources

**FAIRBANKS
INSTITUTE**
SCIENCE FOR HEALTHY COMMUNITIES

DATALYSCENTER™
Sports Injury Research
and Prevention

OrthoWorx
Finding STRENGTH in People

Spreading the word around Indiana, BioCrossroads started and ended the year with events that brought the importance of our life sciences sector to the forefront.

Together with Eli Lilly and Company and the Indiana Science Technology Engineering and Mathematics Resource Network (ISTEM), BioCrossroads coordinated the early February 2010 Science Summit, an event focused on advancing science education reform for the entire state. More than 250 educators and life sciences leaders attended to build awareness and support of the need for better

science education for our children, our economy, our state, and our nation.

An outstanding group of nationally-recognized thought leaders and company executives headlined the October 2010 Indiana Life Sciences Summit, with a record number of people in attendance. Together with our new co-sponsor Credit Suisse, BioCrossroads organized timely discussions of healthcare reform, venture capital trends and economic cluster strategies. Recognizing a true state life sciences superstar for the third year, the Watanabe Life Sciences Champion of the Year was

The life sciences sector's success is making noise outside Indiana's borders

Achieving a national leadership status, Indiana and the BioCrossroads initiative were cited by several national "think tanks" and publications as a success story in life sciences market development. In BIO/Battelle's annual report on the U.S. bioscience sector, Indiana emerged as one of only five states with specialized bioscience employment in three of the four subsectors – Agricultural Feedstock & Chemicals, Drugs & Pharmaceuticals, Medical Devices & Equipment, and Research, Testing & Medical Laboratories.

As a whole, the number of bioscience jobs in Indiana has grown since 2001, increasing by 17.2% and outpacing the national average of 15.8%. According to the BIO/Battelle report, Bloomington leads the nation as the number one small city in Medical Devices & Equipment, and is one of only two metropolitan areas with a specialized employment concentration in all four bioscience subsectors. And it's not just Central Indiana that has a significant amount of life sciences activity. Other Indiana cities were highlighted as top life sciences regions including, Lafayette – Agricultural Feedstock & Chemicals and Drugs & Pharmaceuticals, South Bend/Mishawaka – Research, Testing & Medical Laboratories, Michigan City/La Porte – Medical Devices & Equipment, Muncie – Research, Testing & Medical Laboratories, and Columbus – Drugs & Pharmaceuticals.

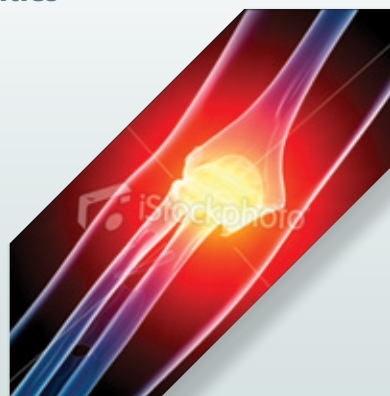
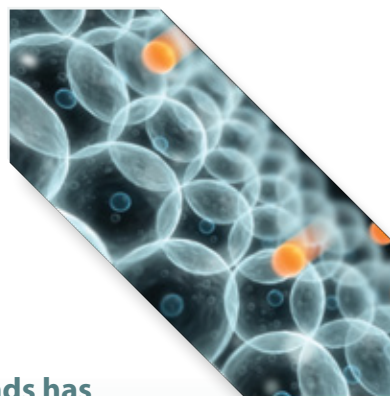
Our nation's capital became an excellent location to showcase Indiana's life sciences strategy and strengths during the latter half of the year. A September Washington D.C. event was sponsored by BioCrossroads, BioEnterprise (Cleveland), CONNECT (San Diego) and the Georgia Research Alliance. Through concrete examples involving tangible successes in the HIT, medical device, wireless medical technology and vaccine development arenas, the organizations provided critical insights on what is working in their respective regions to an attentive audience of thought leaders, media and public officials.

Just a week later, the Brookings Institution hosted a national symposium on regional innovation clusters in Washington, D.C. Lilly CEO John Lechleiter

delivered the event's keynote speech, *Encouraging Regional Innovation, Driving Economic Growth*, to an audience of more than 300, stressing the critical link between smart cluster strategies and stronger businesses – large and small. Dr Lechleiter used BioCrossroads, and our relationships with Eli Lilly and Company and the broader community, as his leading example, noting the many ways in which BioCrossroads serves as a catalyst for collaboration and growth in Indiana.

As a follow up to Dr. Lechleiter's presentation, Brookings Institution released a related report *The New "Cluster Moment": How Regional Innovation Clusters Can Foster the Next Economy* and recognized BioCrossroads as a leading national example of an effective regional cluster strategy.

Since the beginning, BioCrossroads has raised more than one-quarter billion dollars for life sciences opportunities in the State of Indiana.



awarded to Biomet Founder Dane Miller. For Dr. Miller, the honor was a well deserved tribute to his legendary entrepreneurial success in building Biomet into one of the largest orthopedics companies in the world, and to his exemplary service to the community and the State of Indiana.

There's no question that Indiana's life sciences sector pushed forward for progress in 2010, and there is momentum fueling our efforts. We've consolidated, identified and bolstered our strengths; we are being nationally recognized for our success; and we are busy looking

ahead for the next, best ways to grow some of Indiana's most exciting 21st century opportunities.

To measure the progress Indiana's life sciences industry has made over the last decade, BioCrossroads has embarked on a landmark study that will capture data and analyze Indiana's robust life sciences sector. The report, to be released in mid-2011, will provide an invaluable resource as Indiana prepares for significant changes – in capital markets, governmental policies, and the pace of innovative discoveries – over the exciting years ahead.

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“The exciting plot of this success story begins with Indiana’s surprising strengths in life sciences and follows a clear strategy that might have predated the term ‘regional innovation cluster’ – but in fact that’s what it was...

BioCrossroads plays such an important role in our story that I’d like to give you some details. BioCrossroads is designed to form connections among Indiana’s life sciences research institutions, corporations, philanthropies and state government to create new opportunities and prepare for a future that will increasingly be global, networked, and entrepreneurial.”

Encouraging Regional Innovation, Driving Economic Growth Speech at Brookings Institution Conference on Regional Innovation Clusters, John C. Lechleiter, Ph.D.



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