



ST. LOUIS BIOBELT NEWS

The latest news and information from the St. Louis region.

CONTACT: STEVE JOHNSON (314) 444-1140
www.stlouisbiobelt.org
www.gotostlouis.org



At its St. Louis campus, Pfizer's new 330,000-square-foot building will house approximately 250 researchers focused on potential medicines to treat cardiovascular disease, respiratory diseases, pain and inflammation and Chronic Obstructive Pulmonary Disease.

St. Louis Emerges as Key Research and Expansion Site for Pfizer

The \$200 Million Expansion Will Further Efforts to Discover and Develop New Medicines.

www.pfizer.com



Pfizer Inc. is building a new research building as part of a \$200 million expansion of its Chesterfield, Missouri campus. When completed in 2008, more than 1,000 employees will be located at the Chesterfield campus.

The expansion will allow Pfizer to integrate research resources. "Our goal for several years has been to create a unified, integrated research and development site that brings our scientific work to a single location," said Daniel P. Getman, vice president and St. Louis site director at Pfizer. "This (expansion) will strengthen our ability to deliver new medicines."

"This (expansion) will strengthen our ability to deliver new medicines."

—Daniel P. Getman, Vice President and St. Louis Site Director at Pfizer

Pfizer, Inc. discovers, develops, manufactures and markets leading prescription medicines for humans and animals, and many of the world's best-known consumer products. Researchers in St. Louis, working with other Pfizer locations around the world, focus on potential medicines across 18 therapeutic areas.

CORTEX Opens New Biotech Center

170,000-square foot office/laboratory building; 175-acre redevelopment plan approved by the City of St. Louis.

CORTEX, the Center of Research, Technology and Entrepreneurial Exchange, opened its new 170,000-square-foot state-of-the-art office/laboratory facility in midtown St. Louis. The CORTEX 1 building is already home to Stereotaxis, Inc.—a company that makes advanced surgical equipment for preventive and life-saving cardiac procedures. The Siteman Center of Cancer Nanotechnology Excellence (SCNE) will be the building's second tenant. The Siteman Center at Washington University's School of Medicine and Barnes-Jewish Hospital is a National Cancer Institute Comprehensive Cancer Center.

"Both the completion of our first state-of-the-art building, as well as approval of our 175-acre redevelopment plan by the St. Louis Board of Aldermen, are very exciting because they signal that we are well on our way to a nationally-recognized life sciences district in midtown St. Louis," says

www.cortexstl.com



"We are on our way to a nationally-recognized life sciences district in midtown St. Louis."

—Lewis Levey, President, Real Estate, for CORTEX

Lewis Levey, president, real estate, for CORTEX.

CORTEX is a collaboration of major research institutions in the St. Louis area, backed by the region's business and civic community. Anchor institutions include: BJC HealthCare, the Missouri Botanical Garden, Saint Louis University, the University of Missouri-St. Louis, and Washington University in St. Louis.

Stereotaxis Graduates from Incubator

Center for Emerging Technologies says "farewell" to star tenant.

The Center for Emerging Technologies (CET), a St. Louis advanced technology incubator created by a public-private-academic partnership, recently bid farewell to its largest tenant, Stereotaxis, Inc.

Stereotaxis, which designs, manufactures, and markets an advanced interventional cardiology remote control system, grew from a collaboration in a lab into a publicly-traded company with worldwide sales. It is moving from CET into the CORTEX 1 building.

Transforming a small startup into a publicly-held company takes a mixture of ingredients, including access to capital, talent and infrastructure. "St. Louis has a very good supply of all three ingredients," says Bevil Hogg, president and chief executive officer of Stereotaxis. Hogg says St. Louis provided Stereotaxis with the needed ingredients. "Missouri has had an activist approach toward facilitating venture capital. St. Louis has been very accommodating with regards to research incubators," he says. "I don't think there are any ingredients lacking."

Accessing capital is the hardest ingredient to locate, Hogg says. "Obviously more capital is always better than less capital. But St. Louis has a flourishing venture capital scene," he says.

Along with raising the necessary capital, the right mix of talent is also

www.stereotaxis.com



"We're attracting talented people who are relocating from out of state. We have over 100 employees and we're contributing very significant payroll dollars to the local community."

—Bevil Hogg, President and Chief Executive Officer, Stereotaxis, Inc.

needed. "We're attracting talented people who are relocating from out of state. We have over 100 employees and we're contributing very significant payroll dollars to the local community," Hogg says.

Stereotaxis relocated to St. Louis in late 1994 from Menlo Park, California with two employees and \$5 million in financing organized by St. Louis-based venture capital firm Gateway Associates. Their initial public offering was in August 2004.

St. Louis-based Monsanto Receives European Approval for YieldGard® Rootworm Corn

Decision Paves Way for Farmers to Use Product in Growing Human Foods.

The European Union's (EU) recent decision to approve Monsanto's YieldGard® Rootworm Corn for food ingredients has paved the way for YieldGard Rootworm to be used in human foods in Europe. "This approval is expected to open doors in European markets that had previously not accepted YieldGard Rootworm and should therefore increase the

www.monsanto.com



number of places where growers can sell their single-trait YieldGard Rootworm grain," said Phoong Tang, Monsanto's Business Manager for Biotech Grain. "This is great news for all segments of the corn industry."

Danforth Center Receives Over \$13 Million in New Funds

Renewable Resources, Cassava Root Focus of Research.

The St. Louis-based Donald Danforth Plant Science Center continued to reach new milestones in 2005 with a \$10 million contribution to its "Campaign for a Green Future" and a separate \$3.3 million grant to improve the nutritional value of cassava, an African root crop.

The \$10 million contribution was gifted by Jack Taylor, founder of St. Louis-based Enterprise Rent-A-Car, and was the first major contribution to the Campaign since its launch by the Center in 2004 with a \$50 million matching gift fund from the Danforth Foundation. The matched gift from the Taylor family will be used to establish The Taylor Fund for the Environment—supporting scientific work to increase

www.danforthcenter.org



the production of renewable sources of fuel, to control plant pests and diseases, and to reduce the use of agricultural chemicals.

The Center also received a \$3.3 million grant from the Bill and Melinda Gates Foundation for a five-year project to enhance the nutritional value of cassava—a starchy, root crop grown in Africa. Cassava feeds nearly 700 million people worldwide, but is deficient in many essential nutrients and is susceptible to yield-limiting diseases.



Pictured during the Governor's Advisory Council award presentation from left to right: Patrick M. Kelly, BIO Director, State Government Relations; Missouri Governor Matt Blunt; Hugh Grant, Chairman, President and Chief Executive Officer, Monsanto Company; Dr. Roger Beachy, President, Donald Danforth Plant Science Center; and Kelly Gillespie, Executive Director, Missouri Biotechnology Association.

Missouri Governor Matt Blunt and Illinois Congressman John Shimkus Honored by BIO

Missouri Governor Matt Blunt was honored by the national Biotechnology Industry Organization (BIO), for his support of the biotechnology and life science industries statewide. The announcement was made during the first meeting of the Governor's Advisory Council on Plant Biotechnology held at the Donald Danforth Plant Science Center in St. Louis in September, 2005.

Illinois Congressman John M. Shimkus' (R, IL-19) work and leadership on behalf of the life sciences was acknowl-

edged in March when he accepted BIO's Legislator of the Year award for 2005-2006. "BIO commends Representative Shimkus for his leadership as a co-chair of the House Biotech Caucus and as a champion of the industry," BIO President and CEO Jim Greenwood stated. "The Congressman is an articulate spokesman for issues important to farmers in Illinois and throughout the country such as the adoption of agricultural biotechnology and increased domestic production of ethanol."



The National Corn-to-Ethanol Research Center, located at University Park, a research park on the campus of Southern Illinois University Edwardsville, is the only facility in the world that fully emulates both a corn wet-mill and dry-mill commercial ethanol production center. Sixteen trials are currently underway.

National Corn-to-Ethanol Research Center Education

Internship Program Addresses Growing Demand for Ethanol Researchers and Engineers.

With 15 to 20 new ethanol plants built throughout the U.S. each year, the demand for professional ethanol researchers and engineers continues to grow. The National Corn-to-Ethanol Research Center (NCERC), located at University Park, a research park on the campus of Southern Illinois University Edwardsville, is answering this need with internship programs through the University of Illinois, University of Missouri, as well as Southern Illinois University at Carbondale and Edwardsville.

www.ethanolresearch.com



A current grant funds a collaborative research project with Washington University in St. Louis. This collaboration includes an intern and a post-doctoral researcher, who are working with the University's chemical and environmental engineering departments and utilizing the university's capacity for modeling.

Corporate News Advancements in St. Louis Plant and Medical Science

www.tripos.com



Tripos Working With Leading International Pharmaceutical Companies

St. Louis-based Tripos is collaborating with prominent pharmaceutical and life science companies from Europe and North America to provide knowledge-driven, customized chemistry services. The companies, including CeNeS Ltd., Gemin X Biotechnologies Inc., Genzyme Corp., GlaxoSmithKline Research and Development Ltd., and Schering-Plough Research Institute, represent the cutting edge of biotechnology. Tripos will provide a variety of research activities such as: medicinal chemistry programs, the development of new LeadQuest® compounds, follow-up libraries based on hits from LeadQuest, provision of synthetic protocols, fragment-based screening and LeadHopping® projects.

www.centocor.com



Centocor Biologics Accomplishes Key Milestones

After only 18 months, Centocor Biologics, LLC is successfully producing two biopharmaceuticals. In December 2005, the St. Louis facility passed an important clinical milestone when a dose produced in St. Louis was administered to the first patient in a Phase III clinical trial. The site is also expanding its manufacturing capacity by adding another sterile processing suite.

Centocor Biologics, LLC produces clinical stage and commercial biomedicines for use in therapeutic areas such as immune mediated inflammatory disorders and oncology.

www.solae.com



Solae's New Soy Initiatives Fight Malnutrition

St. Louis-based Solae Company is participating with Tetra Pak International in a Nigerian project aimed at reducing widespread childhood malnutrition. The company is producing a vitamin- and mineral-fortified maize and soy drink that does not require refrigeration and offers a complete, high-protein

meal. The goal is to help both the nutritional and educational needs of Nigeria's children, almost half of whom suffer from malnutrition.

Solae is also involved in the Soy in Southern Africa Alliance, a public-private partnership focusing on improving nutrition and creating sustainable economic development throughout the region.

Solae, a joint venture of DuPont Protein Technologies and Bunge, Ltd., consolidated its headquarters and research operation to St. Louis in 2004.

www.mallinckrodt.com



Mallinckrodt Opens R&D Facility

Mallinckrodt Pharmaceuticals recently opened its new state-of-the-art research and development facility in the St. Louis suburb of Webster Groves. Nearly 100 employees formulate active pharmaceutical ingredients for generic pain relief products into tablets, capsules, or liquid products at the facility. Several new generic products are also under development at the new Center. "Our expansion into Webster Groves helps recruit employees who can choose to live in a wonderful community only minutes from where they work," said Mike Collins, Group President of Mallinckrodt's Pharmaceutical Division. "These employees are attracted to the St. Louis area because it provides outstanding technical resources from the universities here. Plus, it's a vibrant and extremely affordable metropolitan area."

www.chemir.com



Chemir Expands Pharmaceutical Capabilities

Chemir Analytical Services recently completed a 20,000-square-foot laboratory for its contract pharmaceutical services. The capital improvements will allow the firm to offer clients a rapid response to market conditions and increased capacity in support of drug development. Chemir expects to augment the company's staff with additional pharmaceutical scientists—including 40 degreed chemists, 11 with doctorates. Construction is also underway on a new synthesis laboratory.

"St. Louis has embarked on a comprehensive biosciences strategy around its strengths in plant and life sciences. Already it has **raised nearly \$500 million** in private dollars for venture capital; embarked on a **medical district/park plan** to offer shared facilities with its universities and industry; and **created innovative mechanisms** such as the St. Louis BioGenerator to commercialize research from both universities and industry."

—Dr. Walter H. Plosila, Vice President of Technology Partnership Practice, Battelle Memorial Institute, Area Development magazine, February/March 2006

Washington University Continues Research Breakthroughs

www.wustl.edu



USDA Approves Vaccine

Laboratory-based biopharming technology discovered at Washington University in St. Louis is being used by Dow Agro Sciences, LLC to develop the first plant-based animal vaccines approved for sale in the United States.

The company's vaccine to protect poultry from Newcastle disease was recently approved by the USDA's Center for Veterinary Biologics. Dow will use the Newcastle vaccine technology to develop other vaccines for pets, horses, food production animals and, through a sister company, humans. Vaccines are expected to be on the market by 2010.

Nanotechnology Cancer Study

Washington University's School of Medicine has received a five-year, \$16 million grant to study the use of nanotechnology to diagnose and treat cancers. The study will focus on breast cancer, melanoma and general oncology applications.

With a single injection, nanotechnology has the potential to replace the numerous tests, scans and surgeries associated with cancer treatments. "We've entered a new era of precisely targeted and individualized cancer therapy," says Samuel A. Wickline, M.D., head of research at Siteman Center of Cancer Nanotechnology Excellence (SCCNE). The tiny spheres travel through the bloodstream, deep

into the body, to locate and highlight tumors undetectable by typical means. While at the tumor site, nano particles can deliver therapeutic agents to destroy the tumor.

The SCCNE is a collaboration among Washington University's School of Medicine, Siteman Cancer Center, Barnes-Jewish Hospital, University of Illinois Urbana-Champaign and various companies including St. Louis-based Kereos, Inc.

Genome Sequencing Center Collaboration

Washington University's Genome Sequencing Center is working with 454 Life Sciences Corporation of Branford, Conn. to sequence disease-causing pathogens and RNA (ribonucleic acid). The project has the potential to help physicians diagnose, treat and/or prevent infections. The university's scientists will use the 454-developed Genome Sequencer 20 Systems to sequence and analyze genomes of pathogens. Data from the research will help scientists better understand changes in virulence, infectivity, antibiotic resistance and other factors crucial to controlling and treating infectious diseases.

New Biotech Incubator Opens



www.siu.edu/UNIVERSITYPARK

Construction is now complete on a \$1.6 million biotechnology research center inside the 330-acre University Park at Southern Illinois University Edwardsville. The center, which will be known as the Biotechnology Laboratory Incubator, spans 11,076-square-feet and will house up to 12 wet labs designed for biology, chemistry and bio-chemical experimentation.

The creation of the incubator is in response to a shortage of available wet labs for small enterprises engaged in scientific activity. According to James Pennekamp, special assistant to the chancellor for regional economic development and executive director of University Park, "We looked at the infrastructure necessary for these cutting-edge companies, but we found that we didn't have enough of this kind of real estate for the St. Louis region. We knew there was demand, and historically there has been interest in this kind of space. We have already had inquiries." The first wet lab will be a model biology lab—other wet labs will be built to tenant specification as space is leased.

"Companies both large and small must have access to research facilities that will provide that critical spark of innovation," said Illinois Governor Rod R. Blagojevich. "Innovation is imminent in the biosciences, and this new wet lab will provide a synergy that could bring revolutionary products to the market."

Funding for The Biotechnology Laboratory Incubator was provided by the Illinois Department of Commerce and Economic Opportunity.

"Innovation is imminent in the biosciences, and this new wet lab will provide a synergy that could bring revolutionary products to the market."

—Illinois Governor Rod R. Blagojevich

Saint Louis University Advances Discoveries in HIV, Avian Flu and Inherited Nerve Disorder



Scientific American Recognizes Dr. Belshe, Director of the Center for Vaccine Development

Robert Belshe, M.D. is listed as one of "Scientific American's 50 for 2005: Leaders Shaping the Future of Technology." Dr. Belshe is noted for "getting serious about flu," and his article in the *New England Journal of Medicine* regarding intradermal flu vaccinations is cited. Dr. Belshe's research demonstrates a possible way to more than double the available supply of influenza vaccines for adults. The magazine writes, "This insight could

On The Forefront of HIV Research

Researchers at Saint Louis University's Institute for Molecular Virology have uncovered how the HIV virus infects, or integrates through a molecular mechanism, healthy cells. The discovery could lead to new drug treatments for HIV.

Although scientists theorized the infection process, until this discovery, investigators were unable to illuminate it. "Many biological and structural aspects of HIV integration are undefined," explains Sibe Bera, Ph.D. "Therefore, any insights into the

The AT&T Foundation has contributed \$1 million to support the life-saving research at Saint Louis University's new **\$67 million Biomedical Research Building** now under construction.

"The generous commitment of the AT&T Foundation to the Saint Louis University research building will allow us to incorporate **cutting-edge technologies** to support the work of more than **200 biomedical researchers** in midtown St. Louis. We are proud to have AT&T as a partner in the construction of this **world-class facility.**"

—Rev. Lawrence Biondi, S.J., Saint Louis University President

Biotech Companies Thriving at St. Louis Incubators

www.oriongenomics.com



Orion Genomics

Orion Genomics LLC, a biotechnology company developing oncology diagnostic products and located at the Center for Emerging Technologies (CET), began a partnership with leading researchers at Washington University in St. Louis in August, 2005. The goal is to discover novel biomarkers for the development of tests that screen for cancer at an early stage and provide information about treatment. Scientists at both entities will focus on the most common cancers including lung, breast, cervical, prostate and ovarian cancer.

National Science Foundation. Divergence is located at the Nidus Center for Scientific Enterprise.

www.kereos.com



Kereos

Kereos, a biotechnology company developing targeted imaging agents and therapeutics to improve the detection and treatment of cancer and cardiovascular disease, is also based at CET. Largely due to its relationships with key institutions like Washington University in St. Louis and Barnes-Jewish Hospital, Kereos attracted venture funding from around the U.S. in 2005. This included \$19.5 million, the largest venture funding in St. Louis in 2005, for early clinical trials of its targeted cancer diagnostic test and treatment.

www.divergence.com



Divergence

Divergence, Inc., which discovers and develops proprietary products to safely and effectively control parasitic nematode diseases in plants, animals, and people, was named the 2005 Outstanding Incubator Client in the technology category at the National Business Incubation Association's 19th International Conference. Divergence was also awarded \$296,000 in a Phase II Small Business Innovation Research grant from the U.S. Department of Agriculture and recently received \$500,000 from the

www.chlorogen.com



Chlorogen

Nidus Center resident, Chlorogen, Inc., which genetically engineers tobacco plants to produce therapeutic proteins, has raised \$6 million to fund development of an innovative ovarian-cancer drug. Chlorogen will use this funding to grow larger quantities of its modified plants in open fields and to develop a means of extracting and purifying the bioactive protein.

also lead to an array of new techniques for administering regular flu vaccines to groups who have a weak response to traditional flu shots."

Discovery of New Gene for Rare Nerve Disease

Saint Louis University neurologist Florian Thomas, M.D., Ph.D. is included in a multi-national research team that has discovered a gene mutation that causes a rare form of Charcot-Marie-Tooth disease, an inherited nerve disorder. Scientists hope the discovery will help doctors understand other illnesses. "The discovery of every gene advances our knowledge of the function of the organ system for which it is relevant and in which it is expressed," explains Dr. Thomas, professor of neurology, molecular virology and molecular microbiology and immunology at the university's School of Medicine. Dr. Thomas, his co-researchers and affiliated institutions have applied for an international patent for their finding.

molecular mechanism of this process are significant in developing integrase inhibitors."

The findings, are published in the journal *BioChemistry*, and are designated a "hot article," a status reserved for findings of a significant nature.

In addition to the integrase discovery, Saint Louis University is taking their NIH-supported HIV study to the next phase. The university's Center for Vaccine Development will conduct investigation trials among 3,000 people.

Avian Flu Prompts New Studies

Saint Louis University will conduct research studies using a killed flu virus known as A/H5N1. Researchers are investigating the vaccine's safety and ability to stimulate antibodies in children. Previous studies investigated the vaccine in adults. Now that safety data are available from that study, the NIH plans to conduct additional tests.



The St. Louis Regional Chamber & Growth Association partners with the City of St. Louis and the surrounding 16 counties in the bi-state St. Louis region to provide a seamless, one-stop resource dedicated to your success. For fast, easy access to information on the plant and medical sciences in the St. Louis region, please call us at (314) 231-5555 or visit us on the web at www.stlouisbiobelt.org or www.gotostlouis.org and click on the economic development link.



Perfectly Centered. Remarkably Connected.