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Florida focused on growing life sciences cluster

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With a strong commitment by Governor Jeb Bush, state and local government leaders and the state's economic development organization – Enterprise Florida (EFI) – as a foundation, Florida is quickly building its reputation as a thriving center for life sciences.

'With the state's strong research capabilities and Scripps Florida as a catalyst for progress, Florida's life sciences cluster is on the brink of a tremendous surge in growth,' said Governor Jeb Bush. 'Our confidence in the success of this growing industry rests with our universities, established medical research institutions and business community, and their pledge to work together to build on these strengths.'

The Scripps Research Institute finds a new home in the sunshine state

In October 2003, The Scripps Research Institute, based in La Jolla, California, announced it would establish a second research facility in Palm Beach County. As one of the largest and most renowned biotechnology research centers in the world, The Scripps Research Institute is internationally recognized for groundbreaking research in leukemia, ovarian cancer, Lou Gehrig's disease, Alzheimer's and AIDS. Scripps Florida, which is currently in temporary laboratory space at Florida Atlantic University, is expected to create 6500 direct and indirect jobs, and generate an extra US\$3.2 billion for the state's economy in the next 15 years. Once completed in 2006, the new state-of-the-art

364,000 square foot facility will focus on biomedical research, technology development and drug design to produce major drug candidates in a short period of time (Figure 1).

Researchers and life science professionals at The Scripps Research Institute found in Florida a dynamic business climate, a vibrant university research community, a growing investor base and community leaders who are willing to collaborate to create successful life sciences enterprises.

From the laboratory to the marketplace: Florida's growing life sciences community

Florida already ranks 11th in the number of biotechnology firms US-wide, with 54 biotechnology companies spanning all aspects of the industry (Box 1, Figure 2). Florida's biotechnology activities have traditionally been concentrated in the discovery and production of safer vaccines, new pharmaceuticals and faster, more reliable diagnostic tests.

Existing biotechnology companies in Florida say that they are proud to be part of Florida's developing life sciences community and world-class business environment. 'We have tapped into Florida's many business and academic resources, and worked with state



FIGURE 1

Aerial photo showing Mecca Farm, the 1900 acre site that will be the site of the Scripps Research Institute Florida. The view is looking southwest. Seminole Pratt Whitney Road is the western road; 100 Lane North is the road that borders the orange groves on the far left corner, where houses are visible.

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BOX 1

Florida biotechnology resources

BioFlorida

www.bioflorida.org

Enterprise Florida

www.eflorida.com

Florida Biomedical Society

www.florida-biomed-society.org

Florida biotechnology companies

Applied Genetic Technologies, Alachua

www.agtcf.com

Bioheart, Weston

www.bioheartinc.com

Custom Synthesis, Delray Beach

www.customsynthesisinc.com

DOR BioPharma, Miami

www.dorbiopharma.com

Dyadic International, Jupiter

www.dyadic-group.com

Exactech, Gainesville

www.exac.com

Nabi Biopharmaceutical, Boca Raton

www.nabi.com

Orogenics, Alachua

www.rogenics.com

Regeneration Technologies, Alachua

www.rtix.com

Tequesta Marine Biosciences, Boca Raton

www.tequestabio.com

VaxDesign Corporation, Orlando

www.vaxdesign.com

Viragen, Plantation

www.viragen.com

AxoGen, Gainesville

www.axogeninc.com

Accentia BioPharmaceuticals, Tampa

www.accentia.net

DNAPrint Genomics, Sarasota

www.dnaprint.com

biotechnology organizations to cultivate relationships that have helped us successfully commercialize our innovations,' said Viragen executive, Vice President Mel Rothberg.

Much of Florida's biotechnology development has stemmed from the innovative research taking place at universities throughout the state (Box 2). Many of Florida's major universities work closely with local research parks and technology-transfer centers. Technology transfer programs enable a quick transition of discoveries made at the universities to marketable products. Programs such as the

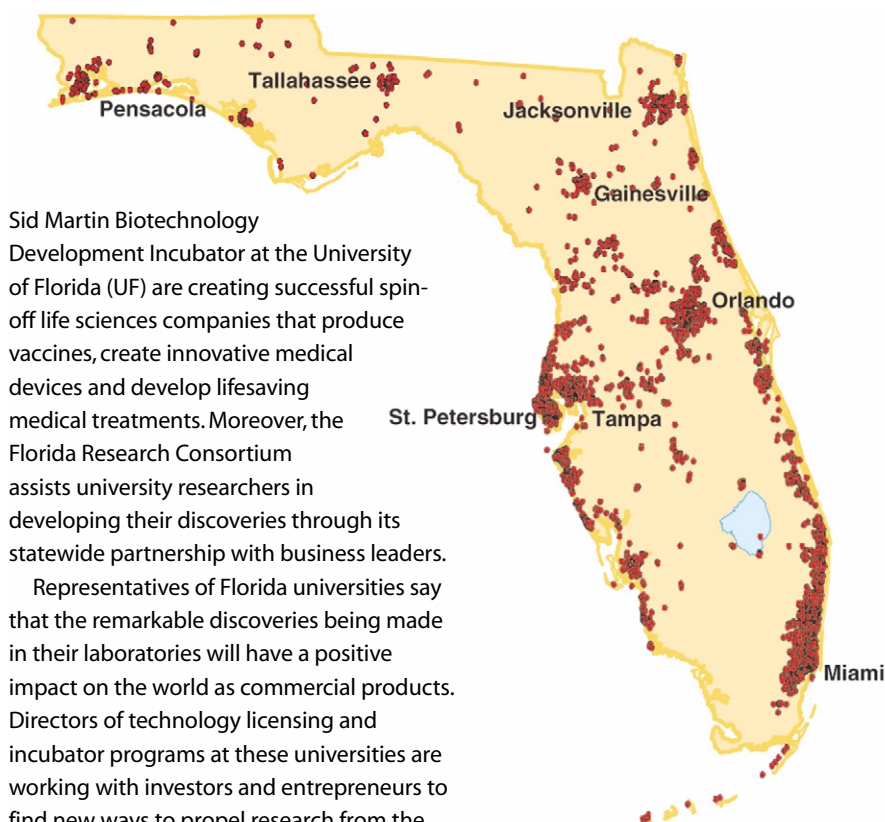


FIGURE 2

Hotspots of biotech activity in Florida. The red dots represent biotechnology companies or research operations in the state.

Sid Martin Biotechnology Development Incubator at the University of Florida (UF) are creating successful spin-off life sciences companies that produce vaccines, create innovative medical devices and develop lifesaving medical treatments. Moreover, the Florida Research Consortium assists university researchers in developing their discoveries through its statewide partnership with business leaders.

Representatives of Florida universities say that the remarkable discoveries being made in their laboratories will have a positive impact on the world as commercial products. Directors of technology licensing and incubator programs at these universities are working with investors and entrepreneurs to find new ways to propel research from the laboratory to the marketplace.

Florida has dedicated efforts to enhancing its university programs, with a US\$30 million commitment to establish centers of excellence in biomedical and marine biotechnology at Florida Atlantic University, regenerative health biotechnology at UF, and photonics at the University of Central Florida. The centers are designed to bridge the gap between academia and industry and to give university-produced innovations a helpful push towards commercial viability.

Florida is also home to many prestigious medical research facilities, such as the Mayo Clinic in Jacksonville and the Cleveland Clinic Florida, that draw top researchers and medical professionals from around the world. The H. Lee Moffitt cancer center and research institute at the University of South Florida is focused on early-stage translational research (the speedy transition of laboratory results into patient care), which has earned the center the distinction of being known as a comprehensive cancer center.

Florida's support for life sciences growth

In addition to universities and research facilities, growing biotechnology companies in Florida have the support of several industry

organizations. BioFlorida is an organization of life sciences professionals representing business, academia and government. The group was formed to encourage the development of biotechnology and life sciences companies in the state. Another group, the Florida Biomedical Society, was founded to encourage the free exchange of ideas and information between biomedical professionals, and to promote the use of biomedical technologies to serve the medical community better.

The development of biotechnology firms is also encouraged by eager Florida communities: state and local government and economic development officials work together to assist life sciences companies in locating or expanding in the state. In 2002, Florida designated life sciences as a high-impact industry, making biotechnology, medical devices and pharmaceutical companies eligible for special incentives and tax credits. EFI promotes the growing cluster with a multimedia marketing campaign and participates in events, such as

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BOX 2

Florida's top biotech companies

Applied Genetic Technologies

www.agtcfl.com

Applied Genetic Technologies (AGT) develops gene therapies for the treatment of acquired and inherited genetic diseases. The company pursues small focused markets where patients have unmet medical needs. AGT's lead product candidate is a treatment for α 1-antitrypsin deficiency, an inherited cause of emphysema and the most common potentially fatal hereditary disease of adults in the developed world. Phase I clinical trials for an initial formulation of this treatment are currently underway. Other products in development include treatment for Pompe's Disease, an inherited enzymatic deficiency causing muscle weakness, and Leber's Congenital Amoroso, an inherited deficiency that results in early blindness.

Nabi Biopharmaceutical

www.nabi.com

Nabi is focused on the development and commercialization of products that prevent and treat infectious and autoimmune diseases, especially Gram-positive bacterial infections, hepatitis and kidney disease (nephrology). Nabi has significant R&D capabilities and a broad product portfolio. Several clinical trials are currently underway in the areas mentioned above and three pharmaceutical products are already on the market: PhosLo® (for the control of hyperphosphatemia in patients with end-stage renal failure), Nabi-HB® (for the passive immunization following exposure to hepatitis B virus) and Aloprim™ (for the reduction of serum and urinary uric acid levels in oncology patients).

Oragenics

www.oragenics.com

Oragenics aim to develop technologies from the University of Florida or other academic institutions. They do this by developing products through human proof-of-concept before partnering with major pharmaceutical, biotechnology or healthcare product firms for advanced clinical development and commercialization. Products in development include an oral rinse that could provide lifelong protection from most forms of tooth decay, and a novel antibiotic that acts against all Gram-positive bacteria, including multidrug resistant *Staphylococcus aureus* and *Enterococcus faecali*. A third product being studies uses naturally occurring bacteria to promote oral and periodontal health.

Regeneration Technologies

www.rtix.com

Regeneration Technologies is a leader in the processing and distribution of human musculoskeletal and other comprehensive healing and natural tissue products. The company processes and sterilizes human tissue into allograft implants for orthopedic, oral maxillofacial, urinary and cardiovascular surgeries. These allograft implants are used by surgeons to repair and promote the healing of bone and other tissue defects. The company invented the BioCleanse™ tissue sterilization process, which is so far the only sterilization technology that eliminates viruses, bacteria, fungi and spores from tissue without compromising its structural and biomechanical properties.

Viragen

www.viragen.com

Viragen is specialized in the research, development and commercialization of natural and recombinant protein-based drugs for the treatment of life-threatening illnesses. These protein-based drugs include Multiferon™, natural human α interferon, which stimulates and modulates the human immune system. Viragen's oncology program includes the development of novel, highly target-specific monoclonal antibodies that can identify and destroy cancer cells. The company hopes to use avian transgenic technology as a biomanufacturing platform for the large-scale, cost-effective production of therapeutic proteins.

the annual international BIO convention, to help attract life sciences companies and the high-value jobs and business opportunities that come with them.

'Biotechnology, as one of the most rapidly growing industry sectors in the world, presents unique opportunities for the creation of high-wage, high-value jobs for Floridians,' said EFI President and CEO Darrell Kelley. 'Florida's dedication to create jobs in its developing life sciences cluster is evident in efforts to attract new biotechnology businesses, bolster research programs and showcase the state's life sciences investment opportunities.'

Investing in the future of biotechnology

The early-stage funding, which is critical to the development of emerging biotechnology companies, is becoming more abundant in Florida. According to a recent study by PricewaterhouseCoopers, Thomson Venture Economics and the National Venture Capital Association, Florida ranks 19th in the US in terms of venture capital investment. In 2004, Governor Bush announced plans for Florida's pension fund to allocate US\$350 million to venture capital investments, with the potential to invest up to US\$1 billion in the coming years. Florida also hosts a variety of

events showcasing the state's life sciences opportunities to attract venture capital funding. The Southeastern Bio Investors Conference, which was held in Miami in November 2004, showcased Florida's growing biotechnology cluster and investment opportunities to more than 400 investors and life sciences professionals.

'Florida has the talent, resources and infrastructure to support the growth of a flourishing life sciences cluster,' said Governor Bush. 'Our universities, business leaders and elected officials are all committed to fulfilling Florida's legacy as a hub for biotech innovation.'