



## Overview and Summary of Recent Initiatives

The life sciences are among six sectors targeted by **Enterprise Florida, Inc. (EFI)**, the state's public/private partnership for economic development. EFI, together with Workforce Florida and the **Florida High Tech Corridor** university/industry consortium, have commissioned a Life Sciences Roadmap from the Milken Institute.

Since the last BIO report, **Scripps Florida**—a unit of the San Diego Scripps Institute attracted by a \$310 million state incentive package—hired 160 scientific staff who were placed in a 40,000-square-foot, \$12 million temporary space at the Jupiter campus of Florida Atlantic University (FAU). A second, 33,000-square-foot facility is under construction at FAU Jupiter, slated for completion late this year. To avoid environmental delays at the originally designated site in West Palm Beach County, county commissioners in February chose an alternative site comprising 30 acres at FAU Jupiter and 70 more acres at the border with Palm Beach Gardens. The county, Jupiter, and Palm Beach Gardens are making financial contributions.

In his 2006 budget message, Governor Jeb Bush proposed a package of new research initiatives including funds for expanding the state's university-based centers of excellence, recruiting eminent scholars, and establishing performance incentives for high-impact biomedical research (see below under "Pending Proposals").

## Building Bioscience R&D Capacity

### Recent state investments in facilities

Aside from the facilities constructed for Scripps, major bioscience facilities projects recently constructed with state support include the following:

- **Interdisciplinary Research Building and Business Partnerships Building**, a \$40 million, two-building wet-lab complex totaling 230,000 square feet at the University of South Florida (USF) Research Park, provides 100,000 square feet for the Tampa Bay Technology Incubator (see below), up from 60,000 square feet.
- **Space Life Sciences Lab**, a 100,000-square-foot, \$26 million facility located on the grounds of the Kennedy Space Center, houses NASA's prime life science contractor, with 20 percent set aside for university researchers statewide through the Florida Space Research Institute.

- **National High Field Magnet Laboratory** at Florida State University, which is used by many bioscientists, received \$10 million in equipment upgrades.

State-supported projects in construction or planning are as follows:

- **Cancer and Genetics Research Building**, a 280,000-square-foot, \$85 million interdisciplinary complex, and the 155,000-square-foot **Biomedical Science Building** including both biomedical engineering and animal care, both at the University of Florida (UF) Gainesville.
- **Johnnie B. Byrd Sr. Alzheimer's Center and Research Institute** at USF Tampa, an eight-story, 1.1 million-square-foot building that will house 120 researchers and, once completed, will be the world's largest freestanding Alzheimer's research institute.
- **Florida Biologix**, a 23,500-gross-square-feet (gsf) biopharmaceutical production facility associated with the Center of Excellence for Regenerative Health Biotechnology (see below). Biologix will include 11,080 square feet of clean room for production of mammalian protein and vaccine products. The facility is adjacent to the Sid Martin Biotechnology Incubator at Progress Corporate Park near UF Gainesville.
- In the private sector, University of Miami Miller School of Medicine has started construction of the **Interdisciplinary Wet Lab Research Facility**, a 182,000-square-foot facility including a vivarium. **Mayo Clinic**, which in 2003 opened a 103,000-square-foot, \$22 million **Griffin Cancer Research Building** in Jacksonville, is also adding a new hospital.

## Research programs

Three university-based Centers of Excellence created 2 years ago under the Emerging Technology Commission received \$30 million in one-time support that would be expanded into ongoing support under the Bush administration proposal. All three have a bioscience component:

- **Center of Excellence for Regenerative Health Biotechnology** at UF. This center focuses on prevention, cure, and rehabilitation of chronic, genetic, and degenerative diseases.
- **Center of Excellence in Biomedical and Marine Biotechnology** at FAU Boca Raton. This center is in partnership with five other institutions.
- **Florida Photonics Center of Excellence** at the University of Central Florida (UCF) in Orlando, which includes work on biophotonics and advanced imaging.

The state also provides \$15 million a year in dedicated funding for research operations at the **Johnnie B. Byrd Sr. Alzheimer's Center and Research Institute** at USF Tampa.

Florida allocated a portion of its tobacco settlement to the **Lawton Chiles Endowment**, a portion of the income from which supports the **James and Esther King Biomedical Research Program** in the Department of Health. In the most recent year, this program allocated \$8 million to 16 projects. Grants are made in three categories:

- **New Investigator Research Grants**, up to \$150,000 a year for 3 years
- **Team Science Program Grants**, intended to prepare Florida institutions for National Institutes of Health program-project and research center awards

- **Small Business Technology Transfer Grants**, to explore feasibility of joint commercialization of technology, up to \$100,000 over the course of a year.

## Encouraging Academic/Industrial Interaction

The **Florida High Tech Corridor Council** offers an **Industry Matching Research Grant** program, across six fields including the life sciences. The program makes between 10 and 25 awards annually of between \$20,000 and \$100,000 for research at one of the three public universities conducted in partnership with industry. Companies must match 3:2 if applying to a field-specific competition (including the biosciences) and 2:1 in the open competition. Additional funds are available to assist in creating Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) partnerships.

## Moving Technology into the Marketplace

### Supporting bioscience entrepreneurs and emerging companies

Three independent nonprofits formerly funded by the state as “Innovation and Commercialization Centers” now provide support services to technology entrepreneurs:

- **Enterprise North Florida Corporation**, of Gainesville and Jacksonville
- **Enterprise Development Corporation of South Florida**, of Boca Raton
- **Central Florida Innovation Corporation**, of Orlando.

## Making Capital Available

### Pre-seed and seed capital

EFI makes SBIR/STTR Phase 0 grants up to \$2,500 for proposal development. Eligible applicants are companies resident in one of the 19 participating incubators or those with formal agreements with a participating Florida university.

### Venture capital

Three venture firms are certified under a \$150 million, 10-year Certified Capital Company (CAPCO) program:

- **Advantage Capital Florida Partners**
- **Stonehenge Capital Corp.**
- **Wilshire Partners.**

As part of a \$1 billion allocation to venture capital, the state pension fund has announced its intention to place up to \$350 million with funds that will include venture partnerships operating in Florida.

## Providing Space for Bioscience Companies

### Incubators

Bioscience incubators include the following:

- **Sid Martin Biotechnology Center**, a new 40,000-gsf facility at Progress Corporate Park in Gainesville. It includes a pilot fermentation plant, small-animal facilities, and a greenhouse.
- **Tampa Bay Technology Incubator**, which will grow from 60,000 to 100,000 square feet as it is relocated to the new interdisciplinary building at the USF Research Park. The incubator is part of USF CONNECT, a single point of contact between the university and the entrepreneurial community.
- The **Bennett Complex** at Central Florida Research Park, a 40,000-square-foot multitenant facility designed for incubator graduates that require larger amounts of space including wet-lab space.

The University of Miami is planning the **Miami Bio-Science Technology Center**, a 60,000-square-foot biomedical incubator.

### Bioscience research parks

The best established bioscience park in the state is the 204-acre **Progress Corporate Park** at Gainesville, which was started as an initiative of UF but is now privately owned. The park hosts the Sid Martin Biotechnology Incubator (see above). Additional parks with bioscience components include the following:

- **USF Research Park**, a 100-acre park including two buildings totaling 230,000 square feet and valued at \$40 million. The Center for Biological Defense will anchor the 130,000-square-foot **Interdisciplinary Research Building**, and the Tampa Bay Technology Incubator will occupy the 100,000-square-foot **Business Partnerships Building**.
- **Central Florida Research Park**, on 1,000 acres abutting the UCF campus in Orlando.
- **Innovation Park**, a 208-acre park in Tallahassee developed by Florida State University, Florida A&M University, and Tallahassee Community College.

Two additional bioscience parks are in earlier phases of development:

- **St. Lucie Research and Education Park**, a 1,800-acre facility being developed by St. Lucie County, is targeted at agbiotech and citrus research and anchored by a USDA laboratory and university facilities.
- **Florida Gulf Coast University** has announced plans to develop 20 of 80 acres recently donated by a private developer.

## Addressing Talent Needs

### Specialized postsecondary programs

Workforce Florida is now field-testing in seven counties a biotech training curriculum previously developed by the **Florida Consortium for Biotechnology Workforce Development**.

Workforce Florida has issued a request for proposal for a cluster-based workforce education center in biotechnology. Other Workforce Florida grants have targeted bioinformatics.

Recent Department of Labor grants have supported biotechnology degrees at Miami Dade Community College and training programs in Palm Beach County and the Great Northwest region.

### K-12 outreach programs

**BioFlorida** is supporting the **Bioscience Career and Education Expo** to be held in every high school throughout the state to motivate students to consider bioscience careers by exposing them to working scientists and other bioscience professionals.

Seminole Ridge High School operates the state's first biotechnology academy in Palm Beach County. The county plans additional academies and a biotech-themed charter school.

## Pending Proposals

Governor Bush's proposed research initiative crosses several fields including the biosciences. It would include the following:

- \$100 million in new funding for the Centers of Excellence Program
- \$100 million for a **World Class Scholars Program** to recruit academic researchers
- \$75 million in tax credits to attract early-stage venture capital
- \$250 million for an **Innovation Incentive Program** to pursue future one-time opportunities such as the Scripps recruitment, plus a \$50 million "quick action closing fund" cash-incentive program for recruitments.

## Contacts

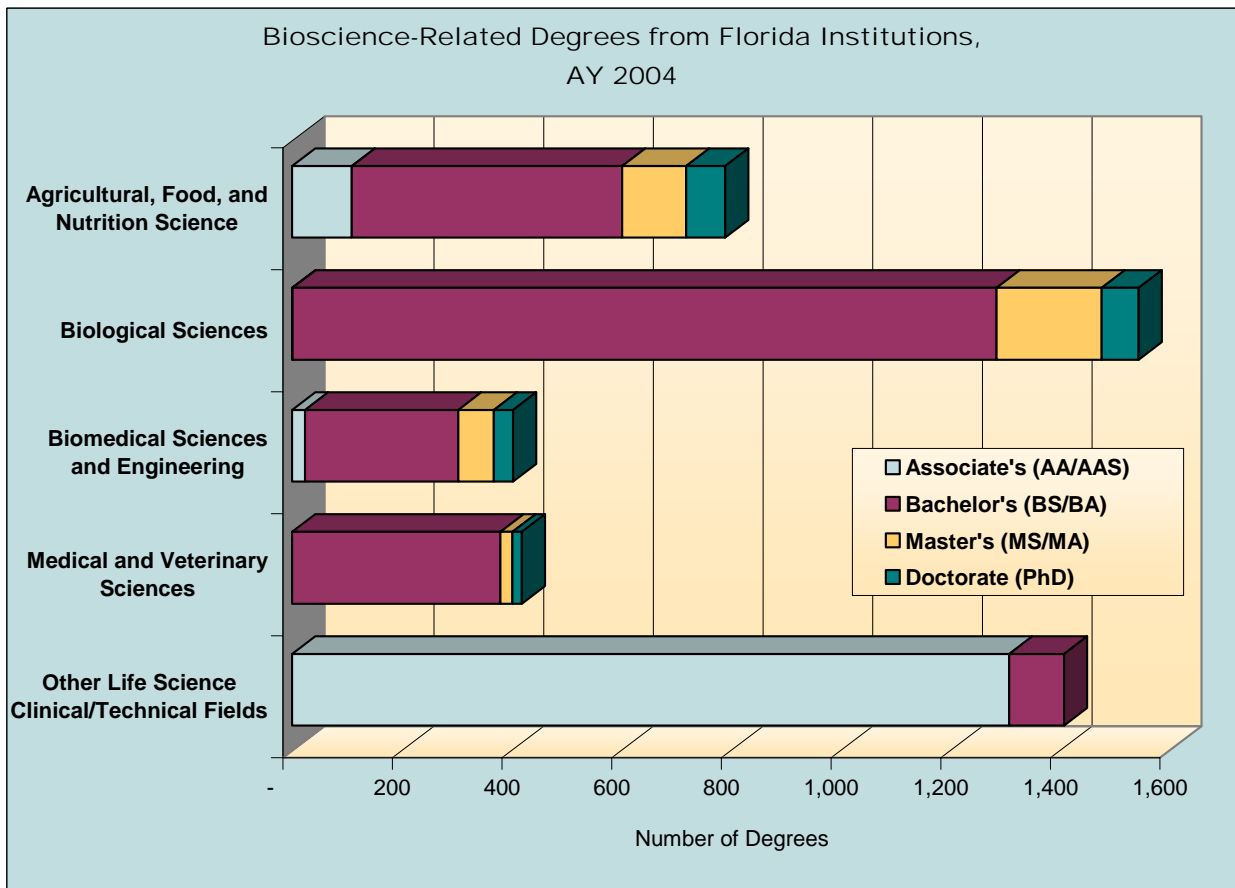
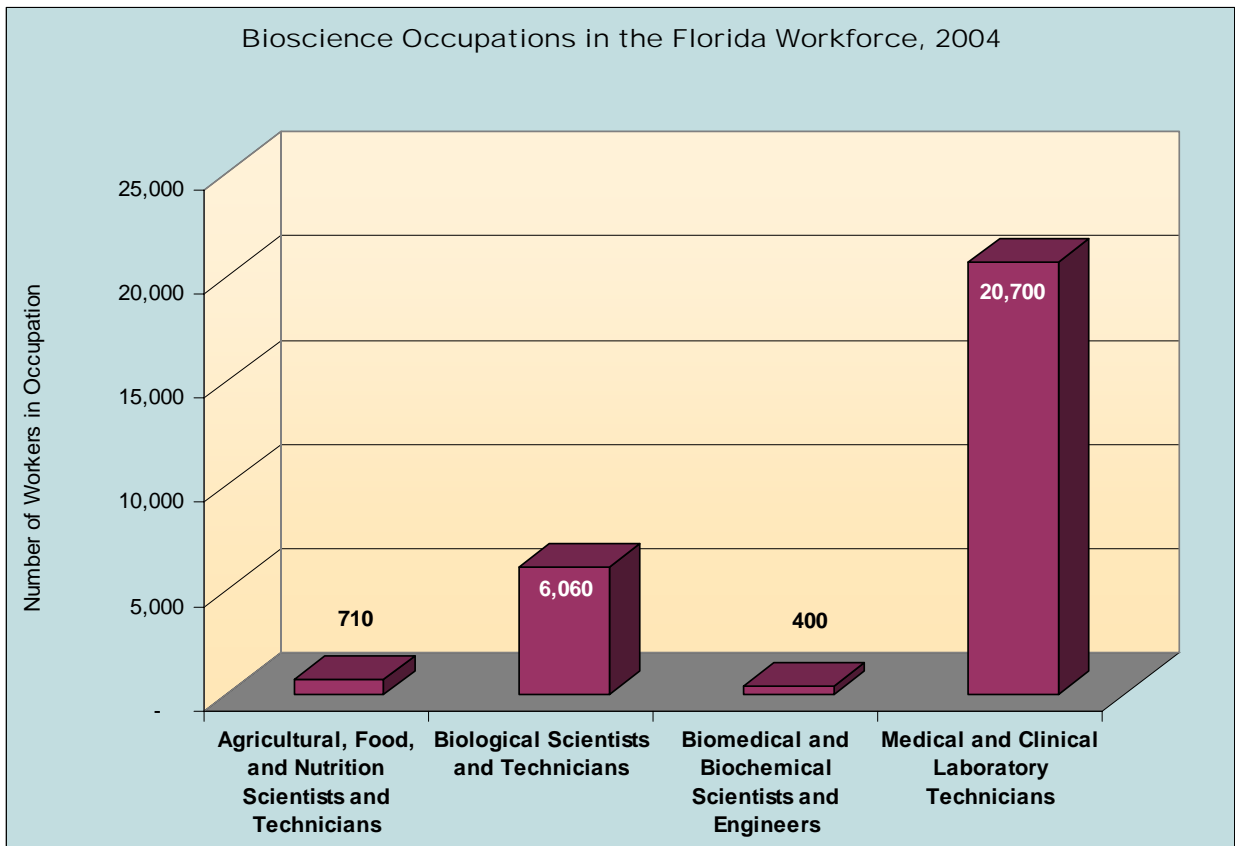
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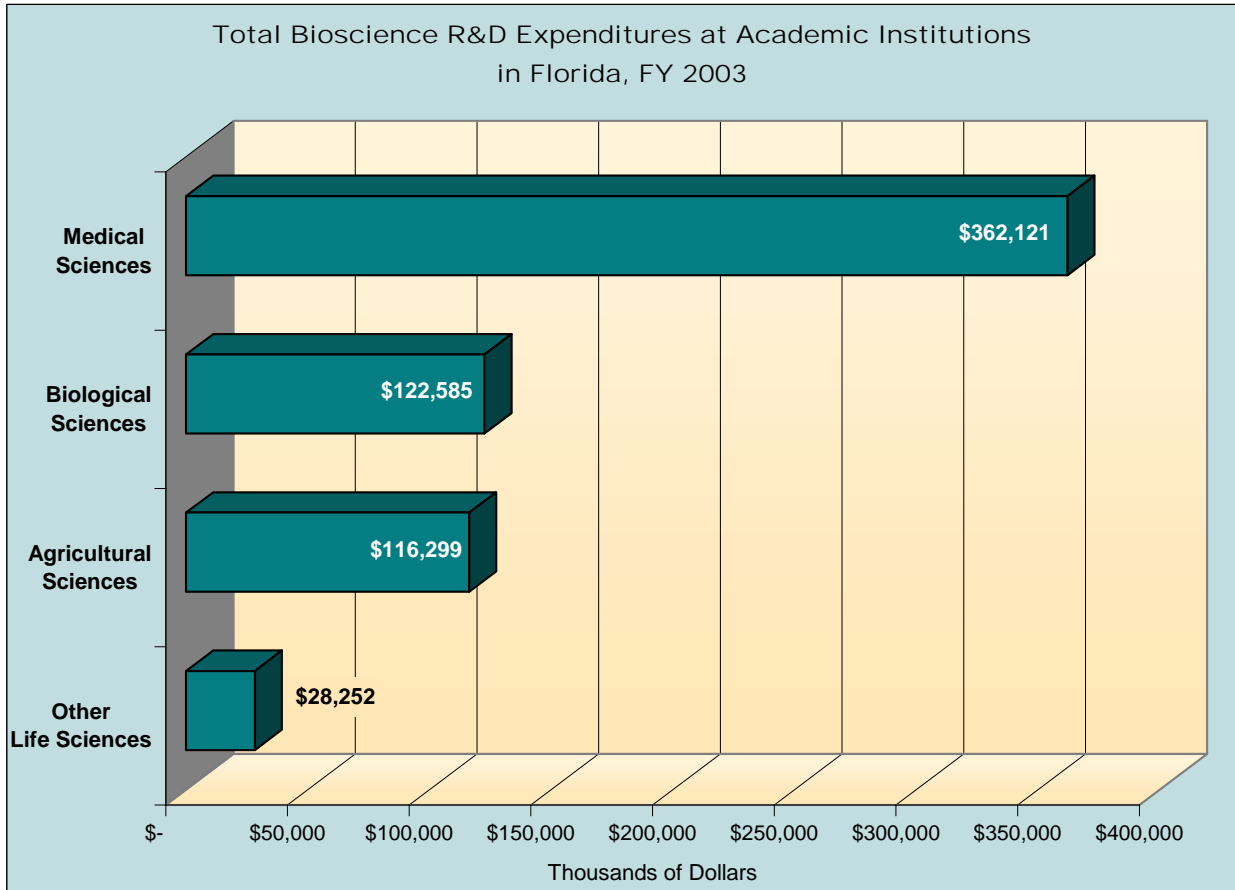
BioFlorida is Florida's independent, statewide bioscience organization and serves its members by providing the infrastructure to exchange information and ideas through industry-specific programming, education, networking, and legislative initiatives.

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Industry Subsector	Florida	United States
<b>Agricultural Feedstock &amp; Chemicals</b>		
Establishments 2004	98	2,111
2001-2004 Establishment % Change	5.6%	0.4%
Employment 2004	6,653	104,893
2001-2004 Employment % Change	7.6%	-6.9%
Share of U.S. Employment	6.3%	100.0%
Location Quotient	1.08	n.a.
Average Annual Wage 2004	\$57,317	\$63,383
Direct-Effect Employment Multiplier	6.34	10.91
Total Employment Impact	42,187	1,212,094
<b>Drugs &amp; Pharmaceuticals</b>		
Establishments 2004	89	2,589
2001-2004 Establishment % Change	0.0%	-0.6%
Employment 2004	4,160	313,207
2001-2004 Employment % Change	-2.3%	2.7%
Share of U.S. Employment	1.3%	100.0%
Location Quotient	0.23	n.a.
Average Annual Wage 2004	\$49,329	\$79,303
Direct-Effect Employment Multiplier	3.93	9.51
Total Employment Impact	16,362	2,731,321
<b>Medical Devices &amp; Equipment</b>		
Establishments 2004	1,055	15,190
2001-2004 Establishment % Change	3.5%	0.2%
Employment 2004	23,507	411,460
2001-2004 Employment % Change	1.4%	-3.6%
Share of U.S. Employment	5.7%	100.0%
Location Quotient	0.97	n.a.
Average Annual Wage 2004	\$48,240	\$56,449
Direct-Effect Employment Multiplier	2.77	4.56
Total Employment Impact	65,157	1,817,705
<b>Research, Testing, &amp; Medical Laboratories</b>		
Establishments 2004	1,514	20,565
2001-2004 Establishment % Change	25.4%	19.4%
Employment 2004	20,073	413,550
2001-2004 Employment % Change	11.8%	8.2%
Share of U.S. Employment	4.9%	100.0%
Location Quotient	0.82	n.a.
Average Annual Wage 2004	\$49,797	\$65,414
Direct-Effect Employment Multiplier	2.19	3.15
Total Employment Impact	43,956	1,272,936
<b>TOTAL PRIVATE SECTOR</b>		
Establishments 2004	518,042	8,156,137
2001-2004 Establishment % Change	15.4%	4.8%
Employment 2004	6,427,838	109,249,195
2001-2004 Employment % Change	4.4%	-0.7%
Share of U.S. Employment	5.9%	100.0%
Location Quotient	n.a.	n.a.
Average Annual Wage 2004	\$34,421	\$39,003

Source: Battelle calculations -- based on Bureau of Labor Statistics QCEW data from the Minnesota Implan Group, RIMS II Employment Multipliers from the Bureau of Economic Analysis, and the Census Bureau's Economic Census.  
 Note: n.a. = metric is not applicable.





	Florida	United States	Rank
<b>University R&amp;D Expenditures, FY 2003</b>			
Total (\$ thousands)	\$1,204,592	\$40,104,621	11
Life Science R&D (\$ thousands)	\$635,846	\$24,062,088	13
Percent of Total R&D	52.8%	60.0%	
Life Sciences Per Capita	\$37.36	\$82.74	
Change in Life Sciences FY 1999–2003	52.4%	52.7%	
<b>NIH Support to Institutions, FY 2004</b>			
Total (\$ thousands)	\$354,854	\$22,556,459	19
Per Capita Expenditures	\$20.85	\$77.56	
Change in Expenditures FY 2000–2004	56.9%	53.2%	
<b>Higher Education Degrees in Bioscience Fields, AY 2004</b>			
	4,564	111,329	6
<b>Bioscience Occupations in the Workforce, 2004</b>			
	27,870	616,140	5