



Overview and Summary of Recent Initiatives

Efforts in Alabama to build the state's life science sector in the past were primarily driven by the **University of Alabama at Birmingham (UAB)**, which has focused its efforts on building its bioscience R&D base. UAB is developing a 7,800-acre planned development that includes a research park that includes a 67,000-square-foot technology incubator with facilities for bioscience companies.

Since the last BIO report, Governor Bob Riley has announced his intention to invest in developing the bioscience sector in Alabama. The state has committed \$50 million, which is being matched by \$80 million in private resources, to construct a facility to house the newly established, not-for-profit **Hudson-Alpha Institute for Biotechnology (HAIB)** in Huntsville. HAIB, which recently broke ground for its facility in Cummings Research Park (CRP), is an initiative being led by a Huntsville biotechnology pioneer that aims to combine research and product development. The three-fold mission of the institute is to foster biotechnology-based research into why disease occurs and cost-effective ways to treat it, to commercialize biotechnology discoveries to stimulate economic development in Alabama, and to inspire Alabama's youth to seek careers in science by offering them access to cutting-edge biotechnology courses through distance learning. In addition, the Governor has proposed investing \$50 million to support bioscience research at UAB.

Investments in growing the biosciences are also being made in Mobile and Auburn. In Mobile, the **University of Southern Alabama (USA)** is moving forward with the development of the USA Cancer Research Institute, which is funded, in part, with state tobacco settlement dollars. In Auburn, **Auburn University** is launching an initiative to build a research park and has broken ground on the first building in the park, which will include wet- and dry-lab space and an incubator. Each of these projects has received state support.

Building Bioscience R&D Capacity

Recent state investments in facilities

Construction of the **Richard C. and Annette N. Shelby Interdisciplinary Biomedical Research Building** at UAB is scheduled to be completed in 2006. Funding for the \$90 million facility was provided by state government, the federal government, the City of Birmingham, and Jefferson County. The 12-story, 340,000-square-foot building will house four research programs: (1) autoimmunity and immunobiology, (2) the brain initiative, (3) biomedical engineering and bone matrix research, and (4) UAB Diabetes Center.

A 100,000-square-foot research and clinical outpatient facility is under construction at USA to house the **USA Cancer Research Institute**. The building is scheduled to be completed in 2008.

Construction began in early 2006 on a facility to house the **HAIB**. Construction is expected to take 2 years.

Moving Technology into the Marketplace

Supporting bioscience entrepreneurs and emerging companies

The **Alabama Technology Network (ATN)** provides technical assistance, workforce training, and technology transfer services to Alabama's manufacturers. ATN assists companies that produce medical components and supplies, pharmaceutical companies, hospitals, and medical clinics with manufacturing and quality systems, workforce training, and environmental/health and safety and management systems. ATN is composed of 10 centers that link the University of Alabama System, Auburn University, the Economic Development Partnership of Alabama, and selected 2-year colleges throughout the state.

Both the Office for the Advancement of Developing Industries (OADI) Technology Center and the Business Technology Development Center (BizTech) provide commercialization support to client companies. See below under "Incubators."

Making Capital Available

Pre-seed and seed capital

A \$20 million fund is being raised to invest in UAB-developed technologies in Birmingham.

An angel network is active in Huntsville.

Venture capital

In 2002, Alabama passed legislation providing \$100 million in tax credits to insurance companies that invest in certified capital companies or CAPCOs. Six venture capital funds have received investments through this program. They include Greer Capital Advisors LLC, Hickory Venture Group, Merchant Capital LLC, New Capital Partners, Redmont Venture Partners Inc., and Southeastern Technology Fund.

Providing Space for Bioscience Companies

Incubators

The UAB houses the **Office for the Advancement of Developing Industries Technology Center**, a technology incubator facility with wet-lab facilities for bioscience companies. Located in the UAB Research Park at Oxmoor, OADI has 20,000 square feet of laboratory space within the 67,000-square-foot building. OADI provides a wide range of professional services to tenants, including help developing business plans, formulating marketing strategies, and discussing intellectual property rights issues. Since the program was established in 1986, 46 companies have graduated. OADI currently houses 17 tenant companies. Additional incubator and wet-lab space will become available when UAB completes a

renovation of a 140,000-square foot building. The new building, which will contain extensive wet-lab space, will replace the existing incubator space at OADI.

SourceCF, Open Biosystems, and Applied Genomics, three local biotechnology start-up companies, have combined to open the **Huntsville Biotechnology Center**. The center, located on Odyssey Drive in CRP, is housed in a 24,000-square-foot building and is designed to encourage and foster the growth of new jobs and advancements in the biotech industry in the Huntsville community.

BizTech is a 15,000-square-foot incubator located in Huntsville that focuses on companies offering technology, energy, or life science products and/or services. BizTech was funded by the State of Alabama, NASA/Marshall Space Flight Center, the Tennessee Valley Authority, and the City of Huntsville. BizTech provides business and management advice to both resident and nonresident clients.

Bioscience research parks

Cummings Research Park, Huntsville, the second largest research park in the United States, was created in 1962. The park, which today includes 3,800 acres, is home to 225 companies, including bioscience companies. It also houses University of Alabama and federal laboratory facilities. In January 2006, CRP announced the creation of a 120-acre CRP Biotech Campus. The first tenant of the campus will be the HAIB. Ground was broken in January 2006 for the first building that will house the institute and some associated biotech companies. The institute expects an employment level of 500 to 600 by 2008. Within 10 years, employment on the CRP Biotech Campus is projected to be close to 1,600 workers. The park also contains a 40,000-square-foot NASA-affiliated incubator.

The **UAB Research Park at Oxmoor** is a joint initiative of the City of Birmingham and the University of Alabama Research Foundation. The park targets tenants that are “substantially technology oriented,” especially in the pharmaceutical and life sciences. The park, which is still in an early stage of development, includes an incubator, a single-tenant headquarters building occupied by a health-care business, a large pharmaceuticals distribution company, and a 60,000-square-foot multitenant building.

The University of South Alabama is developing a 35-acre **USA Research and Technology Park** that is targeting medicine and biotechnology, engineering and environmental sciences, and software and information technology. A 76,000-square-foot complex opened in 2003 and is fully occupied. Additional plans include a Class A speculative multitenant office building, two Class A single-tenant or multitenant office buildings, and a hotel and conference center.

Auburn University has announced its development of a 156-acre **Auburn University Research Park** adjacent to the university campus. The first phase includes the construction of two buildings of 70,000 and 60,000 square feet. The groundbreaking for the first building occurred in November 2005. The building will include wet- and dry-lab space, an incubator, and office space for tenant companies. The State of Alabama has pledged \$10 million for the project, with the City of Auburn contributing another \$5 million. The first building is expected to be completed in late 2006.

Addressing Talent Needs

Recruiting management talent

The incubator BizTech offers a **Venture Catalyst** program that links experienced entrepreneurs to serve as mentors to BizTech clients. Venture Catalysts commit to spending a certain number of hours each week at the facility to provide one-on-one counseling on the day-to-day issues that arise in getting a new

enterprise launched. There have been cases in which a Venture Catalyst has joined a BizTech company as a CEO or a principal of the company.

Specialized postsecondary programs

The **Bridges to Biotech Collaborative** is a joint undertaking of multiple organizations in Jefferson County, including UAB, two community colleges, a vocational high school, city and county government, and the Biotechnology Association of Alabama in addition to the Heritage Center, a community-based organization that is leading the effort. The program is designed both to meet the immediate needs of companies for bioscience workers and to create a pipeline of future skilled bioscience workers. The model includes outreach activities and educational and training from grades K through college. It also provides matriculation between secondary and postsecondary institutions; a unique feature of the program once it is fully implemented is that the postsecondary institutions will accept the hours of informal training provided by the Heritage Center toward advanced certifications or degrees. The collaborative will deliver internships, apprenticeships, and employment opportunities through a single coordinated source for participants and students.

K-12 outreach programs

One of the missions of the **HAIB** is to interest Alabama students in science and technology. Space will be allocated in the building that is under construction for high-school-level and college-level outreach and training programs. In addition, the institute is working with Columbia High School to develop a biotechnology curriculum that will be made available via the Internet to students from across the state.

Huntsville Partnership for Biotechnology Resources is a grass roots effort that conducts outreach to students and teachers.

Proposals Pending

The Governor has proposed providing \$50 million to fund R&D at UAB.

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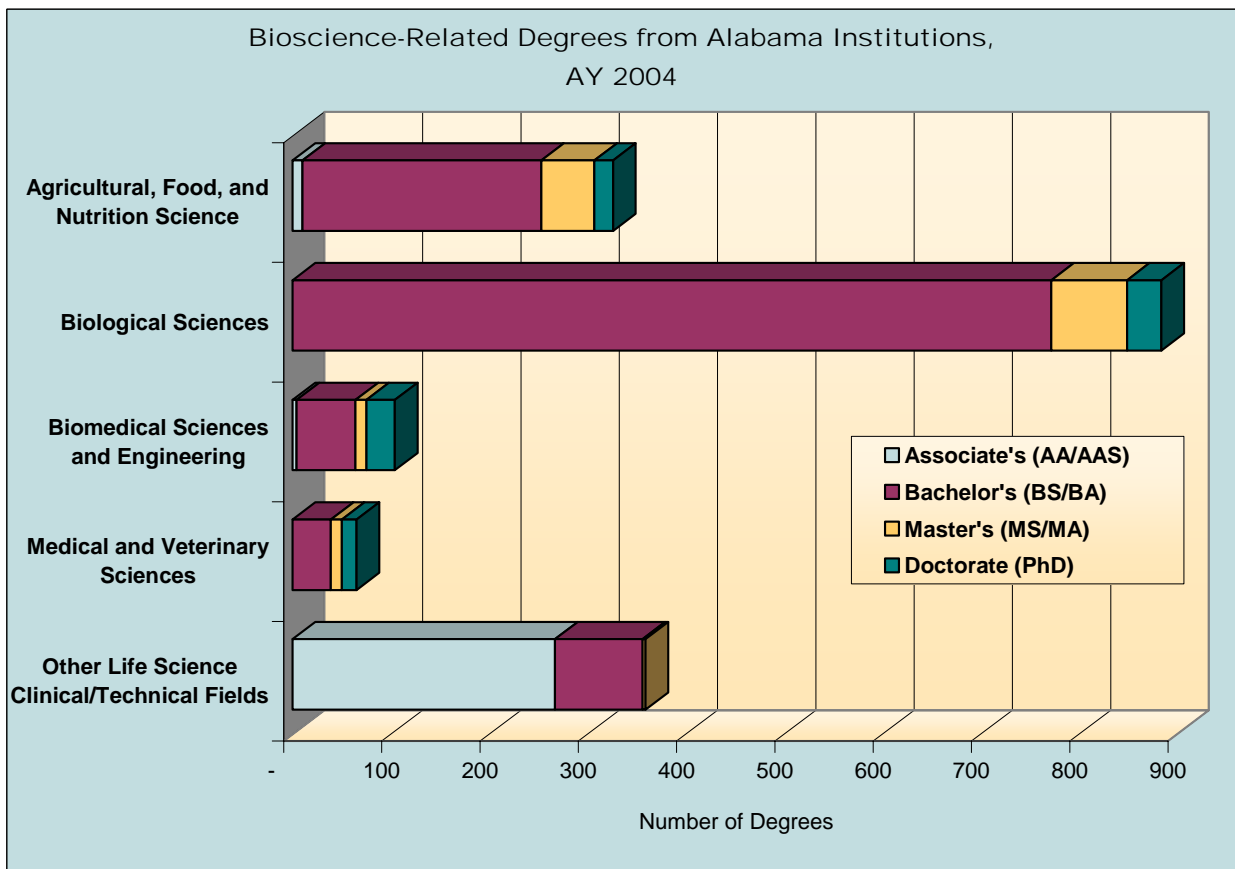
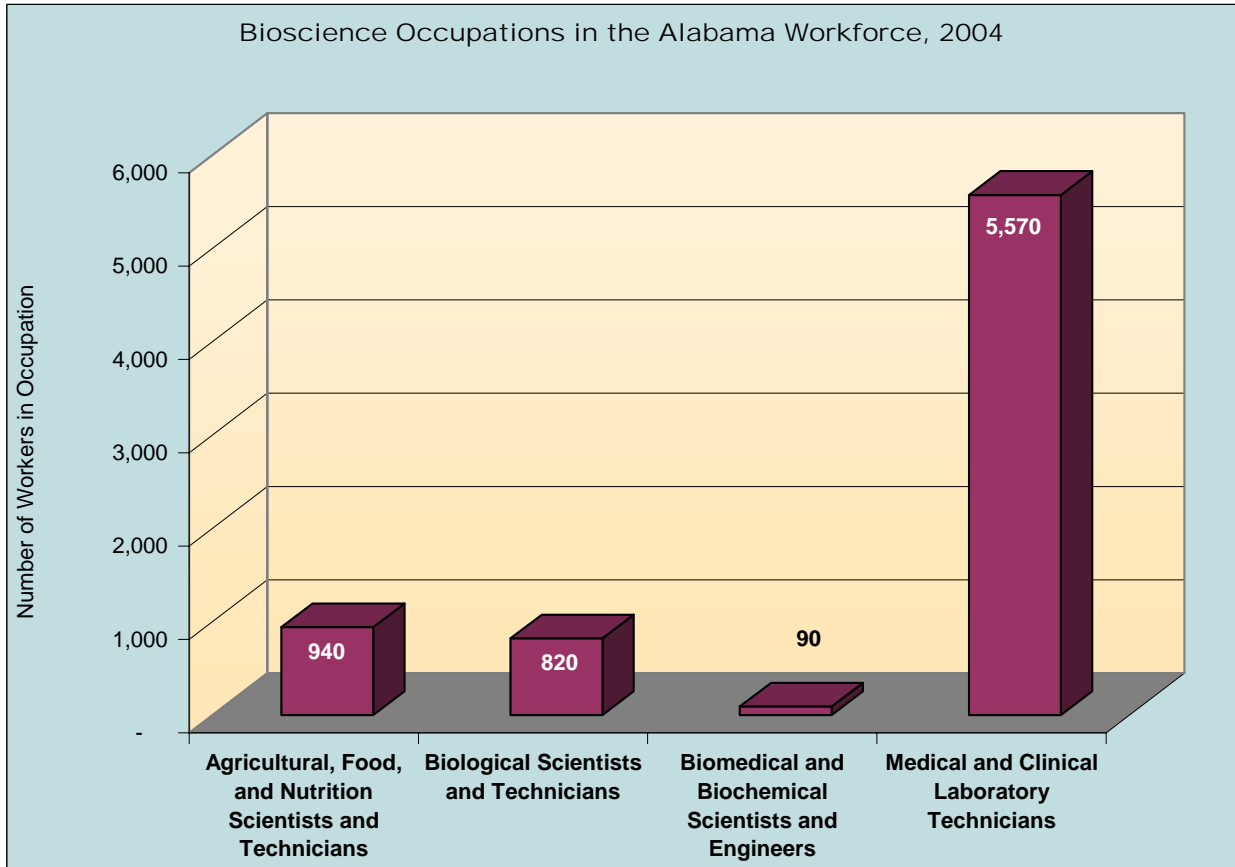
The Biotechnology Association of Alabama (BAA) is a statewide organization representing Alabama's bio-related industries, research scientists, clinicians, and business professionals who are working together to foster, develop, and support the life sciences in Alabama. BAA's events, programs, and member benefits are designed to enhance the progress of its industry and members.

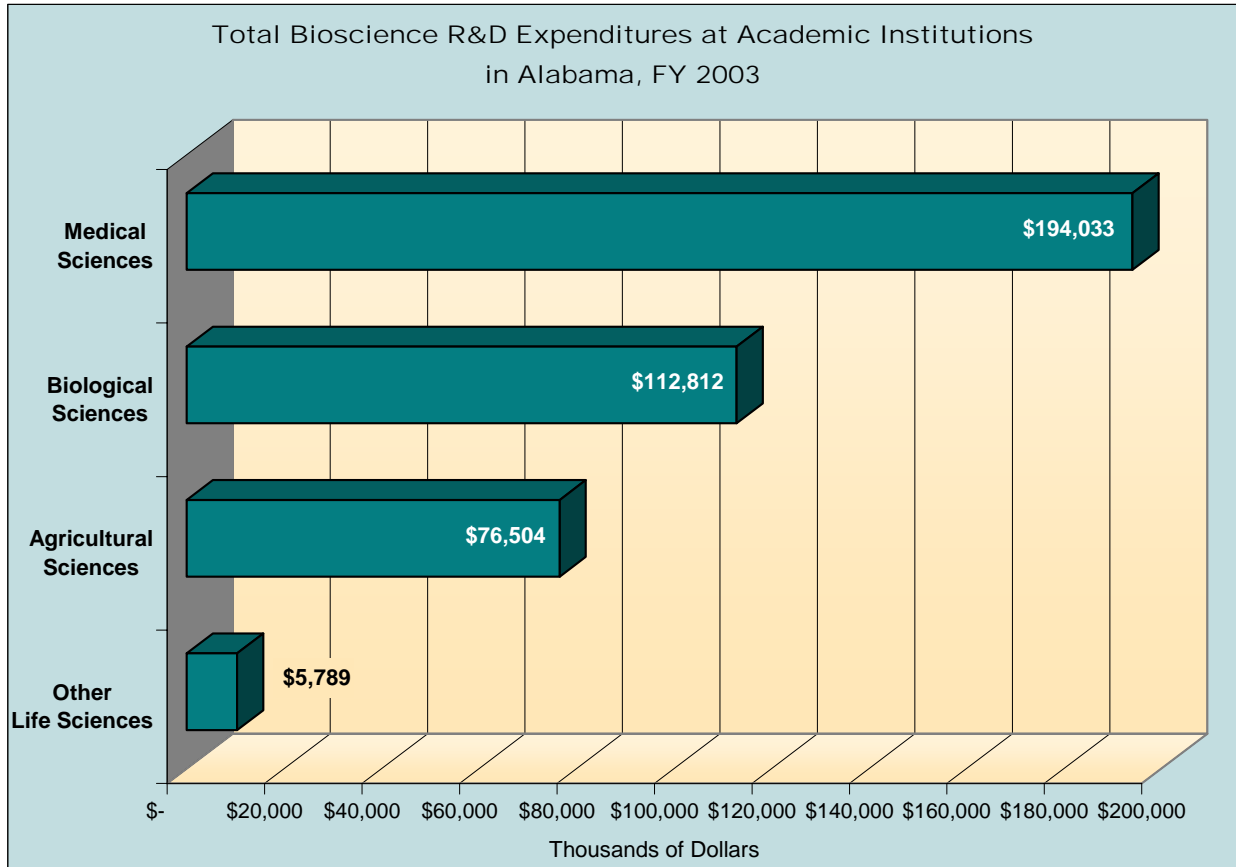
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Industry Subsector	Alabama	United States
Agricultural Feedstock & Chemicals		
Establishments 2004	41	2,111
2001-2004 Establishment % Change	0.7%	0.4%
Employment 2004	2,994	104,893
2001-2004 Employment % Change	-25.8%	-6.9%
Share of U.S. Employment	2.9%	100.0%
Location Quotient	2.07	n.a.
Average Annual Wage 2004	\$64,250	\$63,383
Direct-Effect Employment Multiplier	6.16	10.91
Total Employment Impact	18,455	1,212,094
Drugs & Pharmaceuticals		
Establishments 2004	17	2,589
2001-2004 Establishment % Change	30.8%	-0.6%
Employment 2004	445	313,207
2001-2004 Employment % Change	55.1%	2.7%
Share of U.S. Employment	0.1%	100.0%
Location Quotient	0.10	n.a.
Average Annual Wage 2004	\$40,606	\$79,303
Direct-Effect Employment Multiplier	3.18	9.51
Total Employment Impact	1,414	2,731,321
Medical Devices & Equipment		
Establishments 2004	176	15,190
2001-2004 Establishment % Change	-12.7%	0.2%
Employment 2004	2,754	411,460
2001-2004 Employment % Change	-9.3%	-3.6%
Share of U.S. Employment	0.7%	100.0%
Location Quotient	0.48	n.a.
Average Annual Wage 2004	\$30,781	\$56,449
Direct-Effect Employment Multiplier	2.30	4.56
Total Employment Impact	6,323	1,817,705
Research, Testing, & Medical Laboratories		
Establishments 2004	245	20,565
2001-2004 Establishment % Change	16.2%	19.4%
Employment 2004	2,885	413,550
2001-2004 Employment % Change	-19.6%	8.2%
Share of U.S. Employment	0.7%	100.0%
Location Quotient	0.50	n.a.
Average Annual Wage 2004	\$45,393	\$65,414
Direct-Effect Employment Multiplier	2.17	3.15
Total Employment Impact	6,267	1,272,936
TOTAL PRIVATE SECTOR		
Establishments 2004	108,041	8,156,137
2001-2004 Establishment % Change	1.5%	4.8%
Employment 2004	1,509,288	109,249,195
2001-2004 Employment % Change	-0.7%	-0.7%
Share of U.S. Employment	1.4%	100.0%
Location Quotient	n.a.	n.a.
Average Annual Wage 2004	\$32,816	\$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.





	Alabama	United States	Rank
University R&D Expenditures, FY 2003			
Total (\$ thousands)	\$557,859	\$40,104,621	23
Life Science R&D (\$ thousands)	\$395,825	\$24,062,088	18
Percent of Total R&D	71.0%	60.0%	
Life Sciences Per Capita	\$87.95	\$82.74	
Change in Life Sciences FY 1999–2003	34.2%	52.7%	
NIH Support to Institutions, FY 2004			
Total (\$ thousands)	\$323,113	\$22,556,459	21
Per Capita Expenditures	\$71.79	\$77.56	
Change in Expenditures FY 2000–2004	59.6%	53.2%	
Higher Education Degrees in Bioscience Fields, AY 2004	1,738	111,329	23
Bioscience Occupations in the Workforce, 2004	7,420	616,140	25