

# Alabama

## Life Sciences Industry



Alabama is home to seven research universities, a highly accomplished contract research organization, a brand new biotechnology research institute, and dozens of life sciences companies. The state has produced six FDA approved cancer drugs, and is on the forefront with major initiatives for flu, vaccines, cancer, and more.

### Highlights

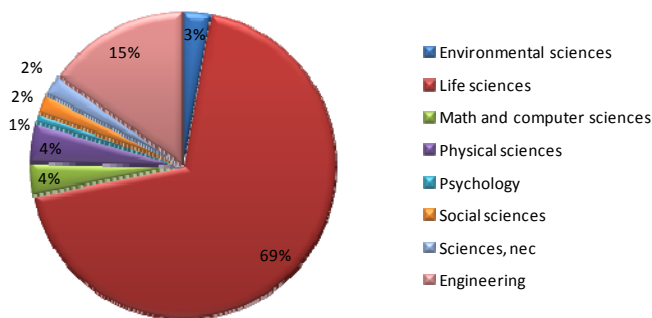
- Alabama's research institutions received almost \$234 million in NIH funding from in 2007.
- New additions to Alabama's growing biotechnology infrastructure include a \$100 million, 340,000 square foot, interdisciplinary biomedical research facility opened in 2006 and a \$130 million, 260,000 square foot biotechnology institute opened in November 2007.

*Sources: The National Institute of Health and National Science Foundation.*

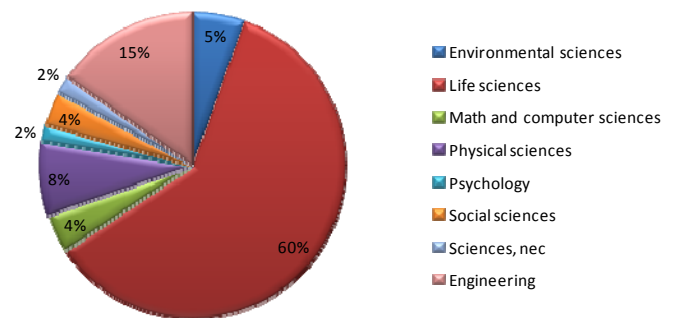
### University R&D Expenditures Fiscal Year 2007

Alabama universities spent almost 70 percent of R&D expenditures (> \$450 million), for life sciences research—exceeding the national average.

Alabama



United States





**UAB HEALTH SYSTEM**  
Medicine that touches the world.

**The University of Alabama at Birmingham (UAB)** is one of America's premier research universities, ranking 27th nationally in total federal research funding and attracting more than \$400 million annually. UAB is home to one of the original NIH-designed Comprehensive Cancer Centers. The university's highly interdisciplinary, collaborative culture has a track record of producing groundbreaking research in the sciences, medicine and engineering.

UAB is ranked No. 5 nationally in the "Best Places to Work in Academia" survey of life science researchers published in the November issue of *The Scientist* magazine. UAB, ranked 47th last year, skyrocketed to the top of the rankings with high scores in the survey's categories of job satisfaction, pay, tenure and research resources. The magazine credited UAB's rapid rise in the rankings to its strong interdisciplinary approach to research, reflected in its 17 university-wide research centers, and state-of-the-art facilities.

**Southern Research** is an independent, not-for-profit center for scientific research, based in Birmingham, Alabama. For 65 years, Southern Research has provided pharmaceutical, biotechnology, government and academic partners with high quality essential services in support of numerous drug and vaccine discovery and development programs.

**SOUTHERN RESEARCH**  
Legendary Discoveries. Leading Innovation.

- ◆ Six FDA approved anti-cancer therapies were discovered at Southern Research. With six additional drugs in clinical trials, Southern Research continues to demonstrate its commitment to excellence and to the value of partnering in the search for tomorrow's breakthrough discoveries.



**HUDSONALPHA**  
INSTITUTE FOR BIOTECHNOLOGY

Opened in November 2007, **HudsonAlpha** is a \$130 million project. The institute conducts research in biotechnology and partners with for-profit companies to develop new biotech products.

Dr. Richard Myers, former professor and chair of genetics at the Stanford University School of Medicine and director of the Stanford Human Genome Center, is the scientific director of HudsonAlpha.

The project is a campus-like environment on 120 acres at Cummings Research Park. It includes a 260,000 s.f. main building that houses biotech companies and facilities for eight teams of scientists hired by the institute. The institute has recruited 15 companies to the campus. Announced initial employment is 500-600; expectations are that it will employ 1,600 within 10 years.

## Recent Achievements

### Brookwood Pharmaceuticals Expansion

**Brookwood Pharmaceuticals'** scientific team has industry-leading experience in a wide-range of drug delivery systems - with particular depth in long-acting parenterals.

In April 2008, Brookwood acquired a new facility in Birmingham that will expand its capacity for research and development activities and clinical manufacturing. Additionally, the building will be Brookwood-parent SurModics' corporate center for commercial GMP manufacturing of drug delivery products for pharmaceutical and biotechnology customers. A total investment of approximately \$30 million is estimated for the facility and associated renovation. Projected employment could reach roughly 300 over the next three to five years.

The facility expansion represents growth in both R&D and manufacturing services at Brookwood. Plans also call for the manufacture of late-stage clinical trial and commercial I-vation™ TA Intravitreal Implant product for Brookwood customer Merck & Co., Inc.

Brookwood was founded in 2005 as a spinoff from Southern Research Institute. In August 2007, Minnesota-based SurModics, Inc. acquired Brookwood, which remains in Birmingham and operates as a separate business unit of SurModics.



### Shelby Interdisciplinary Biomedical Research Building



Located at the University of Alabama at Birmingham (UAB), the \$100 million facility opened in March 2006. The state-of-the-art facility stands 12 stories tall with 340,000 gross square feet of space, increasing the amount of research space for the University by approximately 25 percent. The new facility includes research laboratories, research support areas including a state-of-the-art microscopy area, offices, administrative space for graduate programs, and conference rooms.

### 17 Consecutive Years: UAB Hospital Ranked by U.S. News

Nine UAB Hospital specialty programs are among the nation's top 50 - five are in the top 25 - of the 16 categories evaluated at America's 5,462 hospitals by *U.S. News & World Report*. The rankings appear in the magazine's 18<sup>th</sup> annual "America's Best Hospitals" issue (2008).



### University of South Alabama Mitchell Cancer Institute

The University of South Alabama Mitchell Cancer Institute was initiated in 2000. This new, academic cancer research institute has a stated goal of achieving National Cancer Institute Comprehensive Cancer Center designation within the next decade. It has garnered more than over \$125 million in federal, state and philanthropic funding, and is constructing a \$75 million research and clinical outpatient facility.





**Gambro Renal Products**, part of Gambro Group, a Sweden-based global leader in renal (kidney) and cell-based therapies, is currently building a 100,000 square-foot manufacturing plant in Opelika, Ala. The plant will produce 10 million Polyflux® dialyzers annually to serve patients with kidney failure who must undergo dialysis treatment several times weekly for survival. Construction is expected to be complete by 2010.



**BioCryst Pharmaceuticals**, based in Birmingham, was awarded a \$102.6 million, four-year contract from the U.S. Department of Health and Human Services (DHHS) to develop the influenza neuraminidase inhibitor, peramivir, for the treatment of seasonal and life-threatening influenza, including avian flu.

The January 2007 award to BioCryst is part of a larger HHS initiative to pursue the development of new therapies and vaccines which may expand the ability of the United States to respond quickly to a potential pandemic. Funding from the contract will support Phase II and Phase III product development activities including manufacturing of clinical lots, process validation, clinical studies and other product approval requirements needed for U.S. licensure.



**Vaxin, Inc.** is a Birmingham-based biotechnology company developing vaccines and other biological products to address market and public health needs. The company uses proprietary technology for non-invasive delivery to the nasal passages or to the skin, and has shown proof of principle in animals and in initial human clinical studies.

The company's products use proprietary, safe, non-replicating adenovirus or bacterial vectors to deliver vaccine antigens (proteins) to the nasal mucosa or to the skin (topically) where they stimulate a protective immune response.

The company's lead programs include vaccines for influenza, anthrax, avian influenza, tetanus, and Alzheimer's.

- ◆ Vaxin was awarded \$2.4 million in 2005 by the U.S. Dept of Health and Human Services to further develop its adenovirus nasal anthrax vaccine.
- ◆ In 2005, Vaxin was awarded \$3 million by the U.S. Dept of Health and Human Services to further develop its replication of defective Adenovirus-Vectored Pandemic Influenza.

## Alabama Technologies Database

In 2008 a **new intellectual property database** for searching Alabama technologies was established. This web-based resource provides summaries and contact information for technologies available for commercialization and licensing from academic institutions and federal research facilities. Each summary includes a brief description, potential applications, licensing and patent information. Participating organizations include:

- ◆ US Army Aviation & Missile Research, Development and Engineering Center
- ◆ Auburn University
- ◆ Southern Research Institute
- ◆ The University of Alabama
- ◆ University of Alabama at Birmingham
- ◆ University of Alabama in Huntsville
- ◆ University of South Alabama

Visit the database at <http://www.alabamalaunchpad.com/technologies.html>

Alabama Launchpad, a not-for-profit organization dedicated to support entrepreneurship in Alabama, partnered with the founders of InvenioIP, University of Maryland, to launch the database.