

# BIOTECH PROGRESS REPORT

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*According to Arizona's Bioscience Roadmap, commissioned and coordinated by the Flinn Foundation, there are four main strategies the state needs to focus on to develop a strong bioscience hub. Here are those strategies and how Arizona fared in the fourth quarter of 2007.*

### Strategy 1: Build Research Infrastructure

TGen and the Biodesign Institute at Arizona State University team with Nobel laureate Lee Hartwell of the Fred Hutchinson Cancer Research Center in Seattle on a \$45 million effort to advance personalized medicine. Funded by the Virginia G. Piper Charitable Trust and the Flinn Foundation, the project aims to study the body's proteins to develop personalized diagnostics tools to improve healthcare outcomes and reduce medical costs. A portion of the funds will be used to involve additional statewide research universities, health care providers, research institutes, and industry partners.

The Stardust Charitable Group awards \$25 million to Science Foundation Arizona (SFAz), satisfying the private-match requirement for the first year of a four-year, \$100 million commitment approved by the Legislature earlier this year.

Two of Arizona's strongest research-focused hospital systems, Banner Health and Sun Health, announce their intent to merge. The move provides Sun Health needed capital and Banner a stake in the growing West Valley. Banner's research operations and Sun Health Research Institute may partner in the future.

U.S. Rep. Gabrielle Giffords sponsors a successful bill based on the model of the Critical Path Institute (C-Path) in Tucson to authorize expanded public-private collaborations toward quicker and safer drug development. C-Path also receives a \$2.1 million grant from SFAz to team with Ventana Medical Systems of Tucson to develop standards for the U.S. Food and Drug Administration for evaluating diagnostic tools used in conjunction with drug therapies. Finally, Gov. Janet Napolitano honors C-Path with an Arizona Innovation Award.

The four-story, 86,000 square-foot Arizona Biomedical Collaborative facility opens on the Phoenix Biomedical Campus. Two floors are occupied by research labs for the University of Arizona College of Medicine-Phoenix, in partnership with ASU; the other two floors house ASU's Department of Biomedical Informatics.

In Flagstaff, the Applied Research and Development building opens on the campus of Northern Arizona University, housing collaborative research programs and offices including the Keim Lab and the Center for Microbial Genetics and Genomics. Also, construction begins on Flagstaff's new business incubator, the Northern Arizona Science, Technology, and Clean Energy Center, on the site of the future Science and Technology Park.

Mayo Clinic performs the Valley's first artificial-heart transplant through a new program launched in 2005, providing a medical service to Arizona previously available only in Tucson.

The Arizona Cancer Center in Tucson receives a \$12 million grant from the National Cancer Institute to continue research into cancers of the digestive system. Only four other institutions nationwide received this type of grant from NCI's Specialized Program of Research Excellence.

Researchers at TGen and NAU win an intensely competitive \$4.5-million grant from the National Institutes of Health to design a diagnostic tool for a highly contagious bacterial disease weaponized by the Soviet Union and U.S. during the Cold War.

The FDA provides much-needed funding for a clinical-trials study on valley fever led by three researchers from UA's BIO5 Institute. More than half of all valley-fever infections occur in the Phoenix-Tucson corridor.

ASU receives a \$2.2 million grant from SFAz to partner with petroleum giant BP to study environmentally friendly biofuel production. BP will contribute funds equal to SFAz's grant.

Battelle presents the Northern Arizona Regional Bioscience Roadmap, a study outlining recommendations for Flagstaff, Prescott, Payson and other northern communities to build a strong regional bioscience base.

## **Strategy 2: Build Critical Mass of Firms**

Sanofi-aventis, a French pharmaceutical firm with an operation in Oro Valley, breaks ground on a \$40 million, 110,000-square-foot research facility that will expand its local staffing capacity to 108 employees.

Los Angeles-based Abraxis BioScience, a pharmaceutical company specializing in cancer therapeutics, launches a Phoenix site by taking over the former manufacturing facility of Watson Pharmaceuticals. The company employs 85 there. Meanwhile, another cancer therapeutics firm, Semafore Pharmaceuticals of Indianapolis, announces plans to open an office in Scottsdale initially staffed by 20.

## **Strategy 3: Enhance Business Environment**

High Throughput Genomics of Tucson announces a \$10 million venture-capital investment led by pharmaceutical giant Merck.

The Arizona BioIndustry Association, the state's bioscience trade group, hires a new President and CEO from Maryland. C. Robert (Bob) Eaton led the MdBio bioscience industry support group for 10 years.

Desert Tech Investors LLC, a new for-profit investment group, forms in southern Arizona. The group will work closely with UA's Office of Technology Transfer and intends to invest \$400,000 in promising projects by UA researchers.

The Arizona Department of Commerce reports that \$1.68 million has been provided in state tax credits to investors of early-stage high-tech and bioscience firms. This stems from the angel tax credit passed by the Legislature in 2006.

The Washington D.C.-based Biotechnology Industry Organization honors Gov. Janet Napolitano as its 2007 Governor of the Year award, recognizing her support of the biosciences in Arizona and her leadership on behalf of the biosciences during her term as Chair of the National Governors Association.

#### **Strategy 4: Prepare Workforce, Educate Citizens**

Phoenix Union High School District officials celebrate the opening of Phoenix Bioscience High School's permanent facility of on a two-acre site north of the Phoenix Biomedical Campus. The school's 150 students previously had been housed at nearby Phoenix Preparatory Academy.

Midwestern University, a private medical school in Glendale, introduces a one-year master's degree program in biomedical science. The new curriculum aims to address Arizona's chronic shortages of physicians, dentists, and pharmacists.

A Chandler Hamilton High School senior earns a trip to Vienna, Austria, to participate in the Sixth World Congress on Stress. Nancy Leo's project on the effects of stress was one of 18 selected for presentation.

Final results of an inventory of Arizona's high-school bioscience programs are now available via "Building the Bioscience Pipeline," a brochure available at [www.flinn.org](http://www.flinn.org).