

State must focus on continuing research, preparing a skilled work force

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According to Arizona's Bioscience Roadmap, commissioned and coordinated by The Flinn Foundation, the state needs to focus on four main strategies to build a strong bioscience hub. Here are those strategies and how Arizona fared in the second quarter of 2008:

Strategy 1: Build research infrastructure

- The Translational Genomics Research Institute and the Biodesign Institute at Arizona State University have central roles in a \$200 million bioscience initiative announced by the government of Luxembourg. major component of the initiative marks the first project of the Partnership for Personalized Medicine, an Arizona-based effort launched in October involving the two research institutes and Nobel laureate Lee Hartwell of the Fred Hutchinson Cancer Research Center in Seattle. They will collaborate to develop for Luxembourg a diagnostic tool for early detection of lung cancer. In addition, TGen is leading another component to establish a tissue bank.
- A host of promising research findings on various forms of cancer recently have been published or presented by several statewide research organizations, including the Arizona Cancer Center, Mayo Clinic, Scottsdale Healthcare and TGen. Cancer research was identified in Arizona's Bioscience Roadmap in 2002 as one of the state's three major areas of specialized expertise, along with neurosciences and bioengineering.
- Researchers from Banner Alzheimer's Institute and Mayo Clinic received a \$6.6 million grant from the National Institute on Aging this past quarter. The project will use brain-scanning technology to study a gene linked to Alzheimer's disease.
- Two planned facilities for the Phoenix Biomedical Campus are part of a \$1.4 billion package for university construction projects under consideration by the Arizona Legislature. A 375,000-square-foot health sciences education building is proposed, as well as an equally sized research facility: Building Two of the Arizona Biomedical Collaborative.
- The American Heart Association has adopted improved cardiopulmonary resuscitation techniques developed by University of Arizona cardiac experts. The new techniques, which will be taught nationwide, emphasize chest compressions and no longer involves mouth-to-mouth resuscitation.
- Several dozen international researchers, including 10 at the University of Arizona, have reached a milestone in the realm of plant genetics: They completed a draft genome sequence for corn, one of the world's most broadly cultivated and multipurpose crops. The project's lead investigators predict the genetic blueprint will help scientists improve the yield and hardiness of corn and other principal crops.

Strategy 2: Build critical mass of firms

- A local biotech executive has launched Latona Life Sciences Inc. in Phoenix. Under the leadership of Joseph Koziak, formerly of Isotechnika Inc., Latona has purchased the assets of Tucson-based Protein Therapeutics Inc., including orphan drug Oralgam, for treatment for juvenile rheumatoid arthritis. Latona plans to acquire the drug's patent rights from Research Corporation Technologies Inc. of Tucson.
- Two Valley medical device developers recently completed major rounds of private financing. Scottsdale-based Cayenne Medical Inc. completed a \$15 million round in the first quarter and has raised a total of \$32 million in private equity investments since its inception in 2005. Ulthera Inc. of Mesa raised \$22.5 million, with funds coming primarily from a venture capital firm based in Baltimore.

Strategy 3: Enhance business environment

- The Arizona BioIndustry Association has merged with its Tucson-based counterpart, the Bioindustry Organization of Southern Arizona. The move provides a more representative statewide structure for the trade association, including a statewide board of directors and a future chapter in Flagstaff. The association hosted its statewide bioindustry conference and expo in Tucson in April. The event, renamed Biozona 2008, drew more than 200.
- A Phoenix City Council subcommittee has recommended allocating \$792,000 in bond money to build wet-lab space of 5,000 square feet or more at GateWay Community College. The project is proposed to help address a local shortage in affordable lab space for startup bioscience companies.
- U.S. Sen. Jon Kyl, R-Ariz., was named Legislator of the Year for 2007-08 by the Biotechnology Industry Organization, the nation's largest biotech trade group. BIO also named Arizona Gov. Janet Napolitano Governor of the Year.

Strategy 4: Prepare work force, educate citizens

- The Phoenix City Council approved two grants totaling more than \$5.7 million for small specialty high schools using 2006 Capital Improvement Program Bond funding. The grant awarded to Phoenix Union High School District will establish a medical sciences school on the Bioscience High School campus in downtown Phoenix. The grant awarded to Paradise Valley High School District will establish the Center for Rigor, Relevance and Relationships in Engineering, Science, and Technology, focusing on biotechnology, engineering, and nursing.
- More than 100 bioscience teachers convened for Arizona's first bioscience education summit in Tempe, discussing ways to expand and strengthen statewide curricula and programs on the subject. Topics ranged from trends in biotechnology to models of exemplary biotechnology education.

- Northern Arizona University has landed a \$2.9 million, five-year grant from the National Science Foundation. The grant aims to bolster the interdisciplinary preparation of its graduate students in the biosciences and to strengthen bioscience education at schools across Northern Arizona. The grant launches a program that funds graduate fellows and places them in K-12 classrooms several hours each week.
- The University of Arizona College of Medicine is teaming with the university's Eller College of Management to offer a five-year, dual medical doctorate and business management degree beginning next year. The program will teach future physicians the business side of practicing medicine.