

## **Why Research Matters in Texas' Public Research Universities**

**(As published in the editorial pages of the Dallas Morning News, May 25, 2011)**

Texas public research universities have recently been a focus of media attention, but not for news on the latest breakthroughs in cutting edge science and technology research. Instead, the issue at hand is the role of the public research university and its fundamental value to society in a climate that is increasingly focused on immediate results versus long-term investment in scientific discovery and innovation. As President and President-elect of The Academy of Medicine, Engineering and Science of Texas (TAMEST), we strongly contend that great public research universities play an indispensable role in collaboration with industry and government for the benefit of our state and nation. For decades, the health of our society, stability of our national security and vibrancy of our economy has depended on this collaboration.

In Texas, as across the nation, public research institutions are the engines of innovation, discovery, knowledge creation and economic growth. Our great research universities will continue to play a central role in determining future prosperity for Texas because prosperity and economic vitality are, and increasingly will be, concentrated where discovery and innovation dominate. The great research universities of America are magnets for talent and innovation, and for this reason they may well be our nation's most important institutions. This environment creates a disproportionate amount of new companies, jobs and economic vitality that is concentrated in cities and regions where the creative genius of great research universities converges with the business and societal ingredients that fuel creativity, innovation, entrepreneurship and new business development. For example, every state dollar invested in UT Austin generates \$18 in spending in the Texas economy, and like many of the nation's public research universities, UT Austin is one of the largest employers in the city of Austin. Today, combined external research funding at The University of Texas at Austin and Texas A&M University exceeds \$1 billion annually.

It's clear that the economic vitality of Texas and its tax base are dependent upon great research universities, but there are additional societal advantages as well, given the integral role of teaching and research. Only at great research institutions can students learn about new knowledge as it's being discovered, from the people making the discoveries. Students not only learn course material, but they also learn in a hands-on manner about research and about the future that research is revealing. The opportunity for undergraduate and graduate students to work in research laboratories and participate in discovery hones their skills as innovators and provides them with the knowledge of how to shape the future. For students majoring in science, engineering, health care and technology fields, where research is constantly changing everything, great research universities give students a huge competitive advantage. The best companies do most of their professional-level recruiting from the nation's leading research universities, as this is where students gain the knowledge and skills that benefit both industry and society.

Excellent teaching and advanced research are inextricably linked to recruiting and retaining the best faculty, a goal that must be achieved by all public research universities that aspire to provide the best undergraduate and graduate education. Outstanding educators will always be drawn to university positions that strongly support the development of world-class research programs. Outstanding research at our universities does not diminish the mission of excellence in teaching. On the contrary, research generates new knowledge essential for vital, dynamic teaching and education.

Future prosperity in Texas depends on strong collaborations between business and university researchers, venture capitalists and business leaders to start and build successful companies. For Texas and the nation, success in the global economy clearly depends on the coalition of education, research and innovation. Our public research universities, and all they represent, need and deserve our support if we are to meet the challenges of an increasingly competitive world.

---

*Drs. Stephen A. Holditch and William R. Brinkley are the 2011 president and 2012 president-elect of The Academy of Medicine, Engineering and Science of Texas (TAMEST). TAMEST is the organization of Texas' National Academies members and Nobel Laureates committed to securing the future of Texas as a national leader in science and technology.*