

## TAMEST Contact

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## Texas' Top Scientific, Academic and Corporate Experts Issue United Call for World-Class Math and Science Education

*Vision for the Next Frontier starts with training, supporting and paying  
high-quality teachers – now*

**AUSTIN, Texas – December 9, 2008** – Texas National Academies Members, Nobel Laureates, university and industry leaders – joined together as The Academy of Medicine, Engineering and Science of Texas (TAMEST) – have issued a report offering critical steps to solving the math and science education crisis facing our state. ***The Next Frontier: World-Class Math and Science Education for Texas*** calls for the state to set a world-class bar for science, technology, engineering and math – or STEM – education, and outlines four key findings and recommendations that TAMEST members hope will move Texas lawmakers to even bolder action during next year's legislative session.

“We’re not here to criticize; we’re here to energize,” said Dr. Kenneth Shine, Interim Chancellor of The University of Texas System, past president of the Institute of Medicine and TAMEST member. “We’re applauding the efforts of Texas’ policymakers and education leaders up to now. And today, we’re letting them know we stand united – ready to respond to the opportunity of this next frontier, ready to raise the bar high in Texas, and ready to help them accomplish even more.”

The report, created by the TAMEST Education Steering Committee, draws upon President John F. Kennedy’s inspirational 1960 vision of a New Frontier for America, and illustrates Texas standing at the edge of the next frontier – science and technology – at risk of future failure for our children, our economy and our state as a whole. The Committee’s call for action follows the release of unfavorable statistics on the status of science and math preparedness, not only in Texas, but also across the country.

“The United States is being left behind,” said Committee Co-chair Dr. William Brinkley, Senior Vice President for Graduate Sciences and Dean of the Graduate School of Biomedical Science at Baylor College of Medicine – Houston. “In China today, over 40 percent of college undergraduates earn engineering and science degrees, while in the U.S., only 5 percent of students do. And Texas is in the bottom half among the states – our students consistently score lower than the national average on math and science proficiency tests. This is simply unacceptable.”

“If we, as Texans, don’t roll up our sleeves and work together to begin providing our children with the science and math knowledge they need *today* – starting with training, supporting and paying great teachers – then our kids and our state will not succeed tomorrow,” added Dr. Mary Ann Rankin, Dean of the College of Natural Sciences at The University of Texas at Austin and Committee Co-Chair.

The *Next Frontier* report's findings and recommendations center around four key areas of STEM education:

- **Teachers:** Recruiting, rewarding and retaining high-quality teachers;
- **Curriculum:** Developing curriculum that piques and holds student interest;
- **Accountability:** Modifying the accountability system to reward improvement, and better preparing students for college and careers; and
- **Guidance:** Establishing a statewide advisory council to oversee and coordinate Texas' STEM education efforts.

### **LEAVING BEHIND A WEAKENED ECONOMY**

Experts agree the number-one priority for STEM education is to stop the hemorrhage of good teachers from Texas' public schools. The ripple effect is shocking:

- *An educated workforce requires passionate teachers who are fully certified in their subjects and willing to spend their careers teaching.*  
**Last year, about 4,000 math and science teachers left Texas classrooms for other professions or retirement – costing the state an estimated \$27 million to replace them.**
- *A shortage of good teachers negatively affects student performance.*  
**Nationwide last year, Texas ranked 37th on students' SAT math scores; on the ACT, Texas scores ranked 39th in science and 36th in math.**
- *Poor academic performance is one of the reasons students drop out.*  
**Texas' overall graduation rate is among the lowest nationwide – in fact, every hour of every school day, an astounding 90+ students drop out of Texas schools.**
- *In an increasingly knowledge-based economy, college-readiness means workforce readiness.*  
**Almost 40% of students at two-year Texas colleges and about 25% of students at four-year Texas universities are enrolled in at least one remedial course – at an annual cost of \$300 million to our state.**

### **MAKING THE MOST OF PAST PROGRESS**

The *Next Frontier* report highlights several programs already successfully improving STEM education in Texas, including:

Math and Science Scholars (MASS) at Texas A&M University, which works to enlist the brightest students to become secondary math and science teachers, employing a mentored, field-based, hands-on approach to certification;

UTeach at The University of Texas at Austin, which provides new teachers with up to five years of induction support and additional training. Nationally, only 50% of new teachers are still teaching after three years, while 80% of UTeach graduates are still teaching after five years. UTeach was recommended in the National Academies' *Rising Above the Gathering Storm* report, and the National Math and Science Initiative is supporting the replication of UTeach across the country, including three Texas universities in the first phase, with the goal of making UTeach the national standard for math and science teacher preparation; and

Advanced Placement Strategies (AP Strategies), which features an incentive program that promotes strong teaching and testing of college concepts by providing monetary stipends for successful high-school teachers and students. Within a decade, the number of Texas students passing the AP exam with a score of 3 or higher rose from 361 to 1,300.

“Great teachers are the foundation upon which we will build world-class science and math education here in Texas,” said Committee member Kurt Swogger, Executive Vice President Investments, Planned Innovation® Institute. “Thanks to attention, ideas and funding from our state leaders, Texas already has many programs proven to recruit, reward and retain great teachers. But we must go further to take Texas from our ranking at the bottom of the U.S. to the top of our class, to create a workforce ready to compete globally, and to take on the next frontier.”

## **ABOUT TAMEST**

The Academy of Medicine, Engineering and Science of Texas (TAMEST) was founded in 2004 by U.S. Senator Kay Bailey Hutchison and Nobel Laureates Dr. Michael S. Brown and the late Dr. Richard E. Smalley. It is comprised of Texas' 10 Nobel Laureates and 200+ Texas members of the National Academies – the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine – working together to strengthen our state's position as national research leader and hub of achievement within these fields, and to help cultivate the next generation of Texas scientists.

For further information, please visit [www.tamest.org](http://www.tamest.org) or call (512) 471-3823.

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