

# "America's Pressing Challenge"

## - the 'companion piece'

If you read the companion story on *Science and Engineering Indicators 2006*, you understand why they were accompanied by a "companion piece" titled "America's Pressing Challenge – Building a Stronger Foundation." This companion piece begins by citing *Educating Americans for the 21st Century*, issued by the National Science Board Commission on Precollege Education in Mathematics, Science and Technology in 1983 and covered in our May 1984 issue. It notes that this 1983 document called for U.S. precollege achievement to be "best in the world by 1995." The citations move on to *A Nation at Risk*, issued in the same year (1983) and calling for U.S. students to be "first in the world in mathematics and science achievement" by 2000.

Both target years have now passed, and instead we have TIMSS and PISA scores, as reported in our Winter 2005 issue, that continue to show U.S. students scoring below the international average. "America's Pressing Challenge" takes care to distinguish between the TIMSS, which tests the memorization of factual knowledge, and PISA, which measures the application of knowledge. Given the need for a larger science and engineering workforce, this document pronounces that "the time is now to get serious about this problem and better sharpen our efforts at all grade levels, in order to dramatically accelerate progress, lest we find our Nation in severe workforce and economic distress" (echoes of "Rising Above the Gathering Storm," reported in our Fall 2005 issue).

To this end, "America's Pressing Challenge" calls for "a high quality science and mathematics teaching workforce," compensation to retain that high quality teaching workforce, and professional development to nurture it. It also advocates focusing student assessment along the lines of PISA rather than TIMSS. To achieve these goals, public support is an absolute necessity, not only from school administrators who are the "'gate-keepers' of science and mathematics education," but also from the tax-paying public. Although not every citizen is expected to pursue a career in science, technology, engineering, or mathematics (STEM), they would all benefit from an appreciation for the role of these areas in their lives. Like the *Science and Engineering Indicators*, "America's Pressing Challenge" is not without reference to Friedman's *The World is Flat*. A sidebar contains a direct quotation, and the conclusion refers to the importance of "America's competitive edge in this 'flat world.'"

According to the May 2006 issue of *NSTA Reports*, the National Science Board voted to form yet another Commission on 21st Century Education in Science, Technology, Engineering, and Mathematics, with a charge to "make recommendations to the nation . . . for a bold new action plan . . . to implement an effective, realistic, affordable, and politically acceptable long-term approach to the well-known problems and opportunities of U.S. preK-16 STEM education." A year ago, "Rising Above the Gathering Storm" was intended to do this. Is it wishful thinking to expect that, more than two decades after the report of its earlier Commission on 21st Century Education, the National Science Board will "get it right"?

"America's Pressing Challenge" can be read or downloaded at [www.nsf.gov/statistics/nsb0602](http://www.nsf.gov/statistics/nsb0602).

