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## Keep Science Fairs Alive

Science fairs, those time-tested incubators of future American scientists and engineers and a national fixture for generations, are in trouble. Recent stories in major metropolitan newspapers across the country have reported that science fairs are being threatened with extinction when local sponsors drop out. In Los Angeles, the California Science Center is looking to find a sponsor for its annual California State Science Fair after a major corporate sponsor dropped out. Last year, the Irvine, Calif., Unified School District almost canceled its well-respected science fair because of lack of funding.

A major Midwest paper recently sounded the alarm, noting that "cuts threaten these showcases for student inventions and scientific research. Beyond blue ribbons, the fairs offer students college scholarships and are launch pads to prestigious national competitions and even careers."

Amen.

Science fair funding cuts pose a national crisis, especially in light of sobering academic statistics that continue to show our kids running well behind students in China and a dozen other countries in science and math. The recent PISA (Programme for International Student Assessment) ranks the U.S. a dismal 17th in science and 25th in math.

Clearly, this is not the time to neglect science fairs -- a nationally recognized platform for project-based learning. They are an essential building block for STEM (Science, Technology, Engineering and Math) education and training of our next generation of innovators -- those engineers, scientists and teachers we need to ensure continued U.S. competitiveness in global markets and at academic institutions that fuel innovation and technology.

Millions of kids have the aptitude to discover and innovate, and when we take away a ready-made opportunity to engage them in project-based STEM learning at a critical stage of their education, we eat our own economic seed corn.

Last fall, President Obama invited students to the White House to showcase their science fair projects to make the case that project-based learning is integral to closing the STEM education gap. He unveiled a report from the President's Council of Advisors on Science and Technology

that urges business leaders to "think of creative ways to engage young people in math and science."

At Broadcom Foundation, we have heeded the call by sponsoring a national middle school science fair competition, the Broadcom MASTERS, in partnership with the Washington DC-based Society for Science & the Public (SSP). The Foundation sponsors the Irvine science fair (the one jeopardized last year because of budget cuts) and actively supports the Orange County Science & Engineering Fair. Additionally, we are encouraging Broadcom engineers -- as well as engineers from other local companies -- to volunteer at local, regional and state fairs as well as the upcoming SSP International Science & Engineering Fair (Intel ISEF) in Los Angeles in May.

Broadcom has chosen to focus on the "Wonder Years" of sixth, seventh and eighth grades when students have mastered fundamentals of basic math and language and begin to ask, "What do I want to be when I grow up?" This important question at a pivotal time in a young person's development commands our attention.

In middle school, students decide to engage in - or opt out of - STEM courses that can set them on the path to exciting careers that require proficiency in mathematics, science or engineering. It's also a time when we begin to hear "I'm not good in ..." or "I don't like ..." from some students. Yet, a modicum of concerted effort can turn around their youthful, untested self-assessment about STEM learning. The excitement of creating a science or engineering project for a local science fair can ignite a personal passion and keep a student interested in STEM learning throughout high school.

A science fair project is often a student's first -- and in many cases only -- opportunity to apply STEM subjects in ways that directly relate to his or her own life, personal interests or aspirations. An inspiring teacher or mentor, coupled with the intense gratification of creating a hands-on science project or problem solving with peers, can be the powerful catalyst that redirects a student's academic choices and opens new pathways to college and careers.

Those of us in industries that depend on constant innovation recognize that this is a matter of self-interest as well as national interest. This is true across the country, and especially in Southern California, where Broadcom is based and where companies in industries such as aviation, electronics, biotech and others have depended for generations on science and engineering expertise that got us to the moon, created the Internet and enabled the 21st Century global revolution in communications.

So, whether it's support for STEM education in middle school or other grades K-12, American businesses must reach out to local school districts with resources and volunteers in support of STEM initiatives. Support for science fairs should be viewed as an essential, not collateral, STEM learning opportunity, even in these difficult financial times.