

## **Congress has a chance to boost U.S. innovation**

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The U.S. Congress is considering legislation to help our nation maintain its hard-fought position as a global economic leader. This legislation, recently passed by the U.S. House of Representatives, reauthorizes the America COMPETES Act — Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science.

Now the focus shifts to the U.S. Senate to make sure the measure, which calls for improved education, innovation and basic research, is passed into law and fully implemented.

The legislation authorizes increases in basic research funding in the physical science and engineering fields by doubling the funding levels at the National Science Foundation, the Department of Energy Office of Science and the National Institute of Standards and Technology. These agencies support essential research and provide incentives for technological innovation that can be developed from the laboratory into the marketplace. They support work being done at Utah's research universities: University of Utah, Utah State University and Brigham Young University, as well as at other higher education institutions in our state.

I am proud to be from the United States when I travel abroad and meet scientists in other countries. Our freedom to carry out scientific research and pursue its consequences in the marketplace is almost unparalleled in today's world. And the recognition in this country that our current and future economic prosperity rest on the fruits of research and innovation is exceptional.

These qualities of support for research and innovation are also among the strengths of our own state of Utah that I can point to in interactions with scientists elsewhere. As a state and as a nation, we can ill afford to underfund basic research, which has a proven track record of leading to innovations that have changed our lives for the better. Where would we be without the MRI, GPS or Internet today? All of these inventions started in labs with scientists conducting basic research.

To continue this positive track record we need to continue essential support for research. In spite of the positives, we have some worrying signs in our current educational and research environments.

First, other nations are well aware of the importance of scientific and engineering research as a foundation for competitiveness and are on track to overtake and exceed our own efforts. Furthermore, our children are lagging behind children in competing countries in the critical areas of math and science education. The most recent report by the Organization for Economic Cooperation and Development, which measures science and math literacy among 15-year-olds internationally, shows that the U.S. has a long way to go in educating its students in math and science.

According to the results, U.S. students ranked 25th in math and 21st in science among the 30 OECD members (economically developed and developing countries). Even the highest-achieving U.S. students in math and science scored below the OECD's average. I am sorry to note that Utah students are nowhere near the highest achieving in these areas.

Clearly, there is no time to waste. We cannot allow our nation or state to continue to slip behind in math and science education and research, key areas for an increasingly high-tech economy. An important step in the right direction will be for the U.S. Senate to follow the House in reauthorizing the America COMPETES Act.

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