Column: Texas a global leader in scientific innovation, research

Kay Bailey Hutchison
CNHI

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Texas is uniquely blessed with a thriving network of research institutions and an inventive spirit that propels us forward in scientific advancements and technology breakthroughs. We attract world class talent, and we are able to realize the full potential of their work because of our state’s leading institutions’ commitment to work collaboratively. These strengths have enabled Texas to establish an Innovation Infrastructure that we must continue to strengthen and expand in order to maintain our leading edge.

Ten remarkable individuals in Texas are Nobel Laureates, and their contributions are changing the way we live. Dr. Michael Brown and Dr. Joe Goldstein of UT Southwestern Medical Center won the Nobel for their work on cholesterol metabolism 25 years ago. Today, they are making an equally important contribution by developing future leaders. In 2004, Dr. Brown and I cofounded the Academy of Medicine, Engineering, and Science of Texas (TAMEST), in part, to ensure the tools for achievement are passed down to our state’s burgeoning scientists. After all, we cannot rest on our Nobel Laureates alone!

At TAMEST’s annual conference at the beginning of January, the Academy’s O’Donnell Awards were presented for Texas’ best new research as chosen by a Nobel Laureate committee.

Dr. Margaret Goodell, pediatrics and genetics professor and director of Stem Cells and Regenerative Medicine Center (STaR) at Baylor College of Medicine, was presented with the medicine award. Dr. Goodell was honored for her innovative use of genetics to provide greater understanding about the relationship between the immune system, stem cells and diseases such as leukemia, lymphomas, and AIDS.

Dr. J.C. Chiao, an electrical engineering professor at UT-Arlington and adjunct associate professor at UT-Southwestern, received the engineering award for developing sensors to test treatments for illnesses that can lead to cancer. Dr. Chiao merged his expertise in electrical engineering and internal medicine, resulting in this innovative device.

Dr. Kim Orth, associate professor in molecular biology at UT-Southwestern, received the science award for discovering ways invading bacteria debilitate cells’ ability to fight disease. This understanding can improve treatment of infectious and immune-related diseases.

I applaud the achievements of these outstanding researchers and look forward to watching their promising careers unfold.

One reason for the acceleration of achievement in Texas is that our research institutions collaborate, rather than compete. Prior to the founding of TAMEST, a silo approach to research was prevalent and institutions were largely unaware of the work being conducted around the state. There was also an element of competition. But now they work cooperatively to maximize the impact of their efforts, hastening the rate of innovations.

For example, UT-Arlington, in conjunction with the Consortium for Nanomaterials for Aerospace Commerce Technology, is developing nanotechnology applications to recharge PDAs. The technology is also being applied to power unmanned aerial vehicles, or drones, which are increasingly being used by the military in Afghanistan, as well as along the Texas border, to detect illicit activity.

Later this year, Texas Advanced Computing Center will unveil its newest super-computer, LONESTAR 4. Through a joint effort by the National Science Foundation, UT-Austin, Texas Tech, Texas A&M, Dell, and Intel, LONESTAR 4 will help bring Texas to the forefront nationally for computer-based modeling in energy, biology, physics, and cyber-security.
The importance of this work is not lost on Congress. We recognize the long-term value and economic sense of investing in basic research. As savvy farmers know, you can’t eat your seed corn. Likewise, America must continue investing in research to foster innovation that fuels the economy.

In December, the America COMPETES Act, legislation to reauthorize the key science agencies responsible for supporting basic research, passed in Congress handily. I am proud the legislation was fiscally responsible and eliminates duplicative federal programs, allowing us to focus investment on high-value research. It is my hope that this legislation will provide our research institutions the long-term resources to build on our state’s strong momentum.

With our Texas can-do spirit, I am confident our state will remain the best place in America to live, to work, to think and to create.

Kay Bailey Hutchison is the senior U.S. Senator from Texas and is the Ranking Member of the Senate Committee on Commerce, Science, and Transportation.