TESTIMONY ON
AMERICA COMPETES: SCIENCE AND THE U.S. ECONOMY

UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE, & TRANSPORTATION

NOVEMBER 6, 2013
2:30 PM
RUSSELL SENATE OFFICE BUILDING – 253

Stephen S. Tang, Ph.D., M.B.A.
President and CEO
University City Science Center
3711 Market Street, Suite 800
Philadelphia, PA 19104

Thank you, Chairman Rockefeller and Ranking Member Thune. And good afternoon, everyone.

I'm Steve Tang, President and CEO of the University City Science Center in Philadelphia. It's an honor to join my distinguished colleagues on today's panel.

I'd like to start by confirming that the Science Center supports the reauthorization of the America COMPETES Act. Since 2007, America COMPETES has provided critical investments in science, space, energy, STEM education, and innovation, all with the goal of increasing our nation's global competitiveness.

The Science Center also supports the Act's establishment of a "Regional Innovation Program" to encourage regional innovation strategies for technology commercialization and tech-based economic development.

And toward the end of my remarks, I'd like to share with you a few new ideas on how Congress can help encourage still more technology transfer that will ultimately lead to new companies, new jobs and new economic growth.

With a PhD in chemical engineering from Lehigh and an MBA from Wharton, and with an extensive background in science, business and entrepreneurship, I have a first-hand understanding of the power and potential of technology commercialization.

I also served as a member of the U.S. Commerce Department's Innovation Advisory Board, which guided the 2012 study of the nation's economic competitiveness and innovation capacity, pursuant to the last reauthorization of America COMPETES. This report made several thoughtful recommendations, and the President has since issued a number of Executive Orders that have drawn attention to this subject. However, I believe that additional legislative action is needed to translate these ideas into concrete results.

At the Science Center, we cultivate and expand the possibilities that open up when research moves out of the lab and into the marketplace. We are the nation's oldest and largest urban research park, and I am proud to report that we are celebrating our 50th anniversary.

As an independent nonprofit organization, we are a dynamic hub for innovation and entrepreneurship in Pennsylvania, New Jersey and Delaware. We provide space, services and support to academics and entrepreneurs working in diverse emerging technologies, such as materials, IT, life sciences and clean tech.

Over the past 50 years, graduates of our incubators have created more than 15,000 direct jobs that remain in Greater Philadelphia today and contribute more than $9 billion dollars to the regional economy annually.

Our current start-ups are pursuing technological breakthroughs in fields such as food safety and cancer treatment. Many of these companies rely on targeted Federal funding from NSF and other agencies covered under America COMPETES.

For example, one of our current residents, Graphene Frontiers, a spinout from the University of Pennsylvania, is developing a large-scale production process for graphene, a nanomaterial with an unbeatable combination of strength, flexibility and conductivity that promises to revolutionize everything from scientific instruments to consumer electronics. Graphene Frontiers has received nearly $1 million dollars in NSF grants.

We're also collaborating with the Children's Hospital of Philadelphia on the commercialization of an online interactive health, wellness and prevention system. This project is funded in part by a $1 million dollar grant from NSF's Accelerating Innovation Research program.

At the Science Center, we support technology commercialization in the broadest sense, by acting as an innovation intermediary – or linchpin– that brings together academia, industry and capital.

Our QED Proof-of-Concept Program provides business support for academics working on life science technologies with high commercial potential. The goal is to retire the business risk in these early-stage projects, so that they can attract follow-on investment.

Twenty two colleges, universities, hospitals and research institutions throughout Greater Philadelphia participate in QED. Of the 12 research projects that have completed the program, five have resulted in new licenses or new companies based on their technologies. What's more, these five projects have so far

attracted more than $9 million dollars in follow-on funding from the private sector.

And our new Phase 1 Ventures Program helps early-stage companies apply for and obtain SBIR and STTR grants, and then provides the companies with management support and access to outside expertise, as well as connections to private sector funding, in order to help them grow.

The Science Center's vast networks of relationships and connections help make us a leader in technology-based economic development, or TBED.

Yet, like other research parks and other non-profit TBED organizations, we are unable to fulfill our potential as catalysts for tech transfer and commercialization, simply because we are not eligible to apply for most grants from NSF and other Federal agencies. This lack of eligibility is due to the fact that we are not an academic institution. As a rule, access to most grant opportunities at NSF and other agencies are limited to degree-granting academic institutions.

I fully appreciate the current budget situation, and understand that we're playing a zero-sum game. However, I believe there are more effective ways we can allocate and deploy existing research dollars, to maximize the nation's return on investment.

So I appear before you today to advocate not only for the reauthorization of COMPETES, but also for two other proposals. First, the Science Center supports an increase in the allocation of existing Federal funding for translational research, commercialization, and tech transfer by universities and companies alike, as a critical, and logical, complement to the nation's historic emphasis on basic research. Second, we support an expansion of the ability of TBED organizations like the Science Center, which are not degree-granting academic institutions, to apply for and secure Federal grants from NSF and other agencies.

These moves would enable organizations like ours to ultimately help speed the acceleration of cutting-edge technologies from lab to market.

In addition, the Science Center supports measures such as HR 2981, the TRANSFER Act of 2013, which would allocate existing funding to proof-of-concept

activities that validate the commercial potential of early-stage research. This legislation would require that agencies such as NIH, NSF, DOD, and DOE devote a small portion of the already scheduled increase in their STTR funding to earlier stage proof-of-concept and prototype development research. This re-allocation of funding would further incentivize the commercialization of new technologies and creation of small businesses.

Thank you for your time, your attention, and your interest in this important topic! I welcome your comments and questions.