

The Small Business Innovation Research (SBIR) Program: Creating the  
Future Foundation of Science and Commerce

Testimony before the U.S. House Small Business Committee on SBIR Reauthorization Bill

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Mr. Chairman, members of the committee, distinguished guests:

It is with great enthusiasm that I present this testimony in regard to the reauthorization of the Small Business Innovation Research (SBIR) grant program. It is not often that one has the opportunity to speak on behalf of a government program that meets and in many cases exceeds its expectations. In short – it works.

### **Creating a Climate for Small Business Innovation**

Quite simply, in order to create the future – to reach the many and considerable goals of enhancing, improving, and moving forward the goals of commerce, science, and society - we must begin that journey today. It is not enough to say that we want a better and brighter future, a more robust economy, a cure for cancer, or an improved quality of life for future generations. We must take positive and proactive steps today in order to reach those goals. We must continue to create an environment that supports the pursuit of not only the foundational science needed, but the translation and application of that science to productive use in business and society.

The Small Business Innovation Research (SBIR) program was conceived for just such a purpose. It creates and supports an environment that encourages the scientific and commercial pursuits needed to advance the applied technologies fundamental to the attainment of goals that benefit the United States and the world. It creates an environment that supports and encourages the nexus of innovation and commerce.

### **Creating a Leveraged Impact**

In preparing my remarks for today, I took some time to gather data and input from a number of my colleagues in the both the private and public sectors. In my both research and education activities, I can testify first hand the strong positive impact that the SBIR program has had in Southwestern Ohio. In the four county Region V of Ohio (Butler,

Clermont, Hamilton, and Warren counties) in 2004 and 2005, there were a total of 105 Phase 1 and 2 SBIR grants made to a 92 different ventures totaling nearly \$27 million dollars, from a low of \$67,000 to a high of \$981,000. These SBIR's cut across a broad range of scientific and commercial applications including but not limited to biology, chemistry, engineering, health care, nanotechnology, and physics to name a short list.

**SBIR funding Region V Ohio (Butler, Clermont, Hamilton, Warren Counties) 2004-2005**

# of Phase 1 SBIR	80	# of Phase 2 SBIR	25	Total # Phase 1 and 2 SBIR	105
Total	\$ 9,158,890.00	Total	\$ 17,819,124.00	Total	\$ 26,978,014.00
Avg	\$ 114,486.13	Avg	\$ 712,764.96	Avg	\$ 256,933.47
Min	\$ 67,353.00	Min	\$ 374,993.00		
Max	\$ 499,568.00	Max	\$ 981,229.00		

**The Case of the Hamilton County Business Center**

The Hamilton County Business Center (HCBC) is one of the most successful public incubators in the U.S. It is located in Hamilton County, OH as an integral part of The Hamilton County Development Center (HCDC). Under the skillful guidance of HCDC President, David Main, and the HCBC Director Pat Longo, we can gain a glimpse of the leveraged impact that the SBIR program can have in helping to create an environment the encourages and fosters the progress I mentioned earlier.

Over a dozen current and graduate HCBC companies have been able to advance both scientific and commercial goals as well as grow their business with an assist from the funding, connections, and processes the SBIR program provides. A brief sample of these venture include the **Maverick Corporation** (providing cutting-edge materials technology, setting the industry standard for service and developing advanced materials and technologies to the chemical, industrial, medical, missile, and space industries); **The Modal Shop** (providing structural vibration and acoustic sensing systems to engineers worldwide); **Sheet Dynamics** (whose expertise lies in the field of Mechatronics, the synergistic combination of mechanical and electrical engineering including controls, signal processing, image processing, and vibration); and **Advanced Biological Technologies** (developing a proprietary technology device used in diabetes research and development),

The HCBC not only sees the SBIR program as a strong component of its overall capital strategy for early stage research companies, but also recognizes the value to the stability and vitality of many early stage small business ventures. The competitive process of the SBIR program provides companies with difficult to secure, but incredibly needed funding to enhance the innovation and commercialization processes that early stage ventures need to go through to advance technology oriented products and services to solve market issues.

To quote Mr. Pat Longo, Director of the HCBC, “Without SBIR dollars, a number of HCBC's best success stories would not have made it to being successful product driven, market focused companies.” For more information on the Hamilton County Business Center, please contact:

Mr. Pat Longo, Director, Hamilton County Business Center, 1776 Mentor Ave., Norwood, OH 45212, Phone: 513-631-8292, Email: [longo@hcdc.com](mailto:longo@hcdc.com), Web: [www.hcdc.com](http://www.hcdc.com)

### **The Case of the BIOSTART Incubator**

In addition to the Hamilton County Business Center, Southwest Ohio is fortunate to have a state-of-the-art lifescience incubator located on the University of Cincinnati campus – BIOSTRART. Under the leadership and direction of BIOSTART President, Ms. Carol Frankenstein, the past ten years bear witness to leveraged success of the creation of an environment that fosters creativity and innovation at the nexus of science and commerce. The SBIR program enables these life science companies to conduct initial proof of concept and pre-clinical and clinical field studies to move their products to market. To quote Ms. Frankenstein, “This is a niche that even early stage funds are reluctant to fill because of the high risk and long time to market.” Clearly, the SBIR program is making a strong and sustained difference in advancing these scientific and commercial opportunities. For more information on BIOSTART, contact:

Carol J. Frankenstein, President, BIOSTART, Lifescience Catalyst and Community, 3130 Highland Ave. Third Floor, Cincinnati, OH 45219-2374, (513) 475-6610 phone, (513) 221-1980 fax, email: [cfranken@biostart.com](mailto:cfranken@biostart.com).

### **Cincinnati Creates Companies**

After extensive planning over the course of two years by a multi partner, cross disciplinary planning/steering committee, in January 2004, Cincinnati Creates Companies held its first class meeting for aspiring technology entrepreneurs in January 2005. Made possible in part by a \$600,000 grant for the National Science Foundation's Partnerships for Innovation, the program is intended to fuel nascent technology entrepreneurship in the Greater Cincinnati and Northern Kentucky area.

Together, the University of Cincinnati, the Colleges of Business, Engineering, and Medicine, the UC Center for Entrepreneurship Education & Research, Children's Hospital Medical Center, Bio/Start, CincyTech USA, and the Hamilton County Business Center put together a hands-on, outcome-oriented program that supports innovation through the development of people, tools, and the infrastructure needed to connect new scientific discoveries to practical and commercial applications and uses. The co-founders of this innovative technology entrepreneurship program include myself, Dr. Charles H. Matthews, University of Cincinnati; Dr. Dorothy Air, University of Cincinnati; Dr. Ed Grood, University of Cincinnati; Ms. Carol Frankenstein, BIOSTRART; Mr. Pat Longo, HCBC; and Dr. Sid Barton, University of Cincinnati.

Overall, the CCC program provides three modules for the participants. The first module consists of the 10-week intensive classroom portion conceptualized, formulated and executed by Dr. Matthews. The rigorous curriculum includes all aspects of the business planning process and is facilitated by guest speakers, videos, lectures, and group discussions. Sessions are videotaped for inclusion on the class Blackboard web site for later viewing or if someone misses a class. All materials, lectures, PowerPoint slides, videos, etc. are archived on the Blackboard web site. At the end of the 10-week course, all participants present their baseline business plans. The second module consists of a 15-week structured mentor program, including extensive one-on-one feedback from Dr. Matthews on the written baseline business plans complete in the first module. Each participant is assigned an individual mentor to work with them to refine the business plan. Every other week during this module, the cohort gathers to hear a panel present a topic to assist in the development of their business plans. Topics include, networking, financing, organizing, managing technology ventures, and more. The third module consists of a business plan competition. All participants are encouraged to vie for seed grants and in-kind services to help with the launch and growth of their ventures. Over the four years, teams will have the opportunity to vie for over \$200,000 in seed money.

The program provides an educational framework for taking participants through feasibility assessment, concept development, business plan development and implementation planning. At the same time participants are learning key principles associated with each stage, they will be applying the information to their own business plan. To enhance successful outcomes, each participant is directly linked to a pipeline of relevant resources to take their idea stage to successful company formation/growth. Participants who complete the program will be eligible to present their business plans before a panel of judges for potential funding and feedback. Any funds received by a participant directly through the program or as a result of external connections are done on a competitive basis. All who participate in the program will have the opportunity to gain valuable exposure and connections through the Cincinnati SoundingBoard and other business groups within the network.

During the three years of the initial NSF grant, 47 nascent technology ventures were selected from over 150 applicants. The inaugural group of 16 ventures, the second cohort of 12 ventures, the third cohort of 10 ventures and the fourth cohort of nine ventures (nearly 100 individual participants in all) met weekly over three academic quarters. In addition to learning necessary skills for launching and sustaining a successful business, participants received personal mentors who actively guided their work on their individual business plans.

Each participant entered the program at a slightly different stage in the business launching process, yet each received significant benefit from the program.

It is particularly noteworthy that the following BIOSTART client companies that participated in CCC are SBIR grant recipients:

**Bexion Pharmaceuticals** (Xioayang Qi) is a start-up company focused on the development of cures for cancer. The company has a first-in-class biologic product with data-driven potential for treatment of a broad range of human cancers.

**PDS Biotechnology** (Frank Bedu-Addo) PDS Biotechnology Corporation is a biopharmaceutical start-up company pioneering the development of potent and targeted lipid-based immunotherapies for the treatment of cancer and infectious diseases. PDS utilizes its own proprietary technology to treat specific cancers and infectious diseases for which no cures currently exist.

**Satiety Solutions** (Randy Sallee) Satiety solutions is positioned as a specialty, platform R&D enterprise, focused on central nervous system drug targets for enhanced satiety through either novel mechanisms of action, or reformulations of off-patent drugs with proven therapeutic utility to enhance satiety and reduce caloric intake.

**Spineform LLC** (Joe Reynolds) Cincinnati-based SpineForm is working to advance and commercialize less-invasive spinal deformity surgical treatment without fusion.

In today's fast changing, complicated world, it takes a dedicated effort to create and sustain an environment that encourages and facilitates the ideation, conceptualization, formulation, and implementation of technology ventures. The NSF funded program, University and community partners, dedicated volunteers, and willing participants when leveraged with the SBIR program makes for a very power combination.

### **Creating the Future**

In closing, I am reminded of two of my favorite quotes. The first is attributed to Michelangelo:

“The greater danger for most of us lies not in setting our aim too high and falling short; but in setting our aim too low, and achieving our mark.” *Michelangelo*

The other is attributed to the Roman orator Seneca, who said, “It is not because things are difficult that we do not dare; it is because we do not dare that they are difficult.” *Seneca*

The mission/mantra I wrote for the Center for Entrepreneurship Education & Research is simply, “To remove barriers and create gateways to the next generation of entrepreneurs...”

I encourage you to consider that vital role that the SBIR program plays in removing those barriers and creating gateways that encourages today's entrepreneurs to aim high and dare to create a vibrant future built on the foundations of science and commerce.

Thank you.