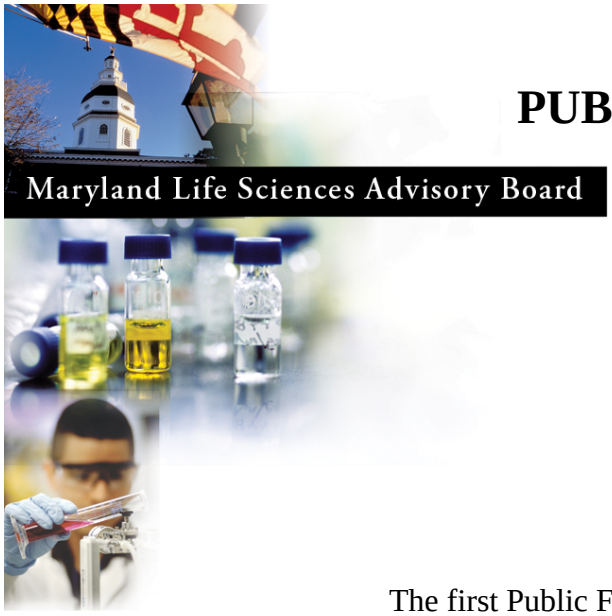

PUBLIC FORUM OF THE LSAB

April 24, 2008

USM Conference Center
9630 Guldesky Drive
Shady Grove Life Sciences Center
Rockville, MD

The first Public Forum of the LSAB was convened at 9:35 a.m. Approximately 50 were in attendance, not including the Board.

Attending Board members and Working Group Chairs:

Tom Watkins, Chair
Hercules Pinkney
Norka Ruiz-Bravo
Larry Diamond
Norma Allewell
David Iannucci
Ken Carter
Chuck Fleischman
Stephen Desiderio

Attending Staff: Larry Mahan, DBED; Jerry Parrott, HGS

Summary

Tom Watkins welcomed those present and acknowledged the sponsors TCM/MdBio, Greater Baltimore Tech Council, Women in Bio, and the Maryland Department of Business and Economic Development. He then proceeded with an overview of the LSAB, its structure, mission and focus of efforts over the past six months. Following this was a summary of strategic concepts that came from the efforts of the various working groups with integrated public comment and Q&A for each. The meeting was adjourned at 12:15 p.m. Presentation materials and public comment will be posted on the LSAB website located on www.choosemaryland.org.

SUMMARY OF PUBLIC COMMENTS and Q&A

Capital Formation

Casey Eitner, Expression Pathology: Comments based on a study from the Center for Venture Research in NH. Must recognize the change in where investment comes from in biotechnology today. The past was VCs, IPOs, etc. Now it has retrenched to a less risky position. VC in seed and early stage is now ~5% in biotech vs. 25% years ago. Angel investors have filled this void: investment went to $23B in 50,000 companies vs. VC investment of $22B to 3000 companies. This is the first time the scales were tipped. Need to recognize this (BioInvestor TC does).

Need also to consider the SBIR bill before Congress that includes VC involvement. Where is the balance for the state in terms of creating and directing "innovation capital" given these changes in the investment landscape?

Bob Kosak, Atlantic Biomass: Are biofuels and biomass included? *(Yes – under industrial/environmental definition)* Do we really understand the energy industry? It is commodities-based and presents a difficulty in talking to VCs who are focused on the blockbuster drugs market. If entering this sector, one is in it for the long term returns – the state needs investment focus on this subject with knowledgeable investors.

In biofuels the "valley of death" is post SBIR Phase II and before the production plant. 80-90% loans available for a demo prototype pilot production facility at 5-10% size and approximately 1-5$M cost. Can the state assist here? Revolving loan or a public-private financing vehicle?

Neil Campbell, Mosiagen: Company focus is life sciences venture creation overseas to bring to opportunities into the U.S. Benchmarks discussed by the Board are good but the LSAB needs to think and act globally. Business intelligence: comments that a good source of information is the Committee on Foreign Investment in the United States (or CFIUS) is an inter-agency committee of the U.S. Government that reviews the national security implications of foreign acquisitions of U.S. companies or operations. There are foreign angel investors here in MD that could be another possible source.

Business Environment

Sally Sternbach, REDI: The efforts seem to miss the celebration of where businesses connect with one another! Isn't this the role of the tech councils? Suggests that the LSAB look to San Diego for an example (a reference to UCSD Connect or BIOCOM).

Neil Campbell, Mosiagen: Maryland should increase the R&D tax credit fund by 2-3 fold. Look at leveraged assets/dollar credit to show legislature why the program needs increasing and sunset elimination. Why not create an Advanced Technology Tax Credit? On angel networks … look to the PA Angel Network as an model example.

Elaine Amir, JHU: Things are not so good for funding in life sciences. Look at the BRAC effort in the State! Why can't the State mount an effort from the Governor's office like this? A pension fund initiative would be great.

Workforce Development & Education Programs

Casey Eitner, Expression Pathology: Alberta, Canada is a good example of recent programs for life sciences and workforce development. Several companies get internships supported by provincial funding (~$35,000/year). These would be good to emulate.

Sally Sternbach, Rockville Partnership: Expand the final point (on the workforce slide) to include post-doctoral fellows at the federal labs and universities. These are highly vetted, qualified individuals in the life sciences talent pool.

Bob Kosak, Atlantic Biomass: Likes especially the "9-12" initiative. Bob reiterated the BRAC program example of mobilization around workforce. On the subject of bioenergy: UMD is a land grant school but don't see much "land" in the programs. What do "bioenergy" people need? Who is addressing these issues such as metabolizing enzymes, relevant crop research, etc. UMBI could get expansions in this area and continue to develop eastern shore initiatives. Dr. Allewell concurred that UM CP could expand in these areas.

Kathy Higgenbachen, NCI: Transportation issues can attract and retain – has the State considered the use of satellite hubs areas, where employees can go opposite commute flow patterns?

Janis Peters, MCO DED: Internships are critical but so are externships for teachers – add this to the internship funding request if there is one.

Susan Jessee, Midwest Research Institute. We need to return to mandatory science fairs – they stop at middle school.

Early Stage and Pipeline Programs

Steve Carchedi, Zoom Intelligence: Money comes where it is treated well. Maryland has been a mixed bag in this respect. What are we doing to attract entrepreneurs into the state? Will this get a level of interest of the legislature? Lower taxes … North Carolina has good examples, their industry is booming, they are actively recruiting entrepreneurs and businesses. Other states are trying to recruit talent from Maryland (e.g. the computer tax example).

Neil Campbell, Mosiagen: How many possible CEOs and other upper management individuals or other serial entrepreneurs are out there? We could set up a program to recruit. We are centric in our global views. Think global.

Casey Eitner, Expression Pathology: Alberta, Canada visa program is an example. An L-1 program would really help with respect to the above comment.

Trent Carrier, Invitrogen: Entrepreneur development programs – our business schools don't have this strength … the LSAB needs to emphasize building these programs. Other examples: MIT has "practice" programs in the business school.

Fizie Haleem, Montgomery Co. DED: Put together a searchable database? Have it provide access to other funding programs beyond state and local, e.g. national programs and special interest groups.

Linda Voss, Core Dynamics: One area that could use attention is to provide the shared (through a center?) resources to assess markets for early stage companies and their intended products. This is a very costly process but key to any good business plan.

Academic Institutions, NGOs, and Translational Research

Steve Carchedi, Zoom Intelligence: Technology transfer groups are proficient in getting patents but not so good in marketing. Our company is working on this subject with the universities. The grant mentality doesn't work in the business community. These offices have to know how to connect to the markets.

Bob Kosak, Atlantic Biomass: MTECH does a great job of marketing. In general, however, express the concern that *not enough* basic research going on. If too much focus is on commercializable research then one just follows the scientific "trends". We need to expand the floor of basic research programs to let the other (applied/commercial) percolate up. Put more money into basic research.

Kathy Higinbotham, NCI Technology Transfer Office: It would be really helpful if there was a fund for IP management and patent costs. NIH might not patent but the inventors can. They might want to start a company but are scientists, not business people. The Entrepreneur Resource Center could solve this. Often at NIH: the mission is to publish so there is a very tight deadline to get the patent processed. Also NIH is not good about taking money from companies for its investigators. There are conflict of interest (COI) issues.

David McDonough, JHU Real Estate: Consider the efficiency of our science cluster – in light of cluster theory – this market place has the highest concentration of life sciences assets but doesn't have the output efficiency of CA or MA. One thing that is lacking is a communication infrastructure, via internet connectivity, that links and leverages the assets. We are trying to do this with UMD and other research campuses – (is this is the Vision 2030 effort?) – to map "who" (significant investigators, programs, infrastructure) is out there. With funding from State and county, the goal is to set up a database to enable communication among all.

Another element is how do we help businesses operate more efficiently? … for example through the sharing of capital equipment needs by outsourcing to others in the "network", or providing bulk purchasing, etc.

Leveraging Maryland's Unique Federal Resources

Brian Darmody, University System of Maryland: Commented on the Brookings report on the National Innovation initiative to be located at NIST, the National Capital Association of Seed and Venture Funds (they are looking for a place for their annual conference in 2010 … hold in MD!) and the fact that we have many civilian researchers - potential entrepreneurs in residence in federal labs that could start incubator companies when they have to leave.

Brian Darmody submitted:
1) The National Innovation Foundation report released by the Brookings Institution. It calls for the Foundation, modeled on the National Science Foundation, to be headquartered at NIST and funded at $ 1-2 B/annually. http://www.itif.org/files/NIF.pdf

2) An excerpt will be provided from a longer presentation on the Fed Lab Consortium in 2005 calling for a federal lab technology foundation. The region would disproportionately benefit from such a federal entity. *(This presentation will be posted on the LSAB website)*

3) Reference was made to the web site of the National Association of Seed and Venture Funds: http://www.nasvf.org/. They focus not on VC funding in general but on the early seed capital programs states and regions that are developing. In addition they provide useful free bi-weekly newsletters that report on what other states and regions are doing in technology-led economic development. They are having their 2008 conference in September and are looking at a host for the 2009 year and it would be useful to consider putting together a regional bid or state bid to host them.

Bob Kosak, Atlantic Biomass: With regard to capturing federal projects: be proactive! We lose opportunities and it is not for lack of expertise, it is engaging with the full support of the State at the national level.

Marketing and Promotion of Maryland Globally

Ted Roumel, UMBI: The newly formed Maryland Drug Discovery and Development Network effort with the State is a recent example of a program that could be marketed globally. The access points and portals are critical. Get these in place.

Fizie Haleem, Montgomery Co. DED: Direct flights are key – more international flights at BWI are needed and this will increase business-to-business interactions.

GENERAL BOARD MEMBER COMMENTS:

Hercules Pinkney, LSAB : We want a continuum in the STEM area (with focus on biotech). Montgomery College and University of Maryland College Park have some of this in place. The desire is to create a synergistic environment of internship, entrepreneurship and education: a "three legged approach". First leg: An institutional facility for teachers to come and learn (summer camps) and then add students to come to biotechnology summer schools, extending to high school students to come to a Community College, then add a collaboration with a 4-year university to move that program through the community college to continue on to the BA/BS degree. Second leg: Add a business incubator on the same campus to generate entrepreneurship. Third leg: A business park for location. Also the plan is to get business people involved in the first two programs. This synergistic environment is under development now at Montgomery College. MD has invested several million $ to get this underway and includes federal funds.