THE MASSACHUSETTS LIFE SCIENCES CENTER BOARD OF DIRECTORS MEETING

MOTION

The Board of Directors of the Massachusetts Life Sciences Center hereby adopts the Draft Minutes of the meeting of the Board of Directors, held on July 23, 2008, in Boston, Massachusetts, as the formal Minutes thereof.

THE MASSACHUSETTS LIFE SCIENCES CENTER

Board of Directors Meeting Wednesday, July 23, 2008 Mack Conference Room #1 One Ashburton Place, 21st floor Boston, Massachusetts

MINUTES

A meeting of the Massachusetts Center Board was held on July 23, 2008 at the Mack Conference Room #1 on the 21st floor of One Ashburton Place, Boston, Massachusetts, pursuant to notice duly given.

Board Members present:

Co-Chair Daniel O'Connell, Secretary of Housing and Economic Development
Jay Gonzalez, Undersecretary for Administration and Finance, on behalf of Co-Chair Leslie A. Kirwan, Secretary of Administration and Finance
Jack Wilson, Ph.D., President, University of Massachusetts
Marc D. Beer, former President and CEO, ViaCell, Inc.
Peter L. Slavin, M.D., President, Massachusetts General Hospital
Lydia Villa-Komaroff, Ph.D., CEO, Cytonome, Inc.

MA Life Sciences Center Officers present:

Susan Windham-Bannister, President and CEO Melissa Walsh, Chief Operating Officer

Partial Listing of Others in Attendance:

Peter Antonellis, Legislative Aide to Charman Michael Rodrigues Abi Barrow, Massachusetts Tech Transfer Center Crista Bleyleben, Massachusetts Office of International Trade and Investment Peggy Bradley, Immune Disease Institute Suzanne Bump, Executive Office of Labor and Workforce Development Tom Chmura, University of Massachusetts Martha Farmer, North Shore Technology Council Kirsten Hinsdale, Boston Medical Center Kofi Jones, Executive Office of Housing and Economic Development Patrick Larkin, MTC's John Adams Innovation Institute Harvey Lodish, Whitehead Institute of Biomedical Research and MIT Jessica Long, Conference of Boston Teaching Hospitals Stan McGee, Executive Office of Housing and Economic Development Kevin McNicholas, WBUR John Monahan, Worcester Telegram Eric Nakajima, Executive Office of Housing and Economic Development

Beth Nicklas, MTC's John Adams Innovation Institute Eustacia Reidy, Vertex Pharmaceuticals, Inc. Anupendra Sharma, Siemans Venture Capital Joseph Walsh, Executive Office of Labor and Workforce Development Catherine Williams, freelance reporter

I. Call to Order

Co-Chair O'Connell called the meeting of the Massachusetts Life Sciences Center (Center or MLSC) Board of Directors to order with six board members present at 1:15 pm.

II. Approval of the Minutes of the May 13, 2008 and May 28, 2008 Board Meetings

On the motion of Mr. Beer, which was duly seconded by Dr. Wilson, the Board voted to approve the minutes of the May 13, 2008 and May 28, 2008 Board meetings. Dr. Slavin and Dr. Villa-Komaroff abstained from this vote since they were not Board members in May, 2008.

III. Introduction of New Board Members

Co-Chair O'Connell opened the meeting by welcoming everyone and expressing his excitement at the passage of the landmark Life Sciences Bill that was signed into law by the Governor on June 16, 2008. Secretary O'Connell applauded the collaborative efforts of the legislature in working with the Administration to support the vibrant life sciences sector in Massachusetts. Secretary O'Connell then thanked the members of the newly-constituted MLSC Board, noted that they had been duly sworn in immediately prior to the meeting, and requested that they introduce themselves.

Undersecretary Gonzalez began by expressing Co-Chair Kirwan's regrets that she was unable to attend this first meeting due to other pressing business, but anticipates attending meetings in person in the future. Undersecretary Gonzalez noted that he and Secretary Kirwan were extremely impressed by the unbelievable progress made thus far by the Center with Melissa Walsh's efforts under Secretary O'Connell's leadership.

President Wilson echoed Undersecretary Gonzalez's praise for the Center and its professionalization, and noted that he had served on the Board since its creation in 2006. President Wilson also recognized the Governor's work with the legislature in realizing this achievement. Dr. Slavin introduced himself as a physician trained in internal medicine who has been an active participant in the Life Sciences Collaborative over the past year and who is honored to serve as a member of the MLSC Board.

Mr. Beer introduced himself as the former CEO of a local stem cell company that had recently been purchased, and an entrepreneur with over 20 years of experience in biotechnology, pharmaceuticals and diagnostics. Mr. Beer also congratulated Dr. Susan Windham-Bannister for her appointment as CEO and President of the MLSC and expressed his confidence that she brings the best experience and skills to this new position. Dr. Villa-Komaroff introduced herself as a scientist with a background in cell biology and the CEO of Cytonome, a small life sciences company. Dr. Villa-Komaroff explained that she was initially privileged to serve on the MLSC's Scientific Advisory Board (SAB) and to participate in the SAB's evaluation of proposals to the Matching Grant Program.

Stacia Reidy, Director of Public Policy for Vertex Pharmaceuticals, offered the regrets of Dr. Joshua Boger, President and CEO of Vertex, who was unable to be at the Board meeting in person and conveyed how excited Dr. Boger is to be serving on the MLSC Board and working with Dr. Windham-Bannister.

IV. Report of the President

Secretary O'Connell introduced Dr. Susan Windham-Bannister and expressed his enthusiasm and conviction that under her leadership and with her extensive experience in the health care business, the Center would invest wisely to promote the Commonwealth's life sciences cluster. He then turned to Dr. Windham-Bannister for her first report to the Board.

Dr. Windham-Bannister thanked everyone for their interest in the Center and the privilege of being selected to guide an organization with such a strong foundation and which has the support and commitment of the Governor and Legislature. She began by reporting on the enthusiasm and excitement in San Diego at the BIO2008 conference regarding the passage of the Massachusetts Life Sciences Act, and the observation from participants at the conference that while "California got this type of legislation first, Massachusetts got it right." Dr. Windham-Bannister explained that she would provide a summary of the new legislation and provide a sense of her priorities for the coming year.

She provided a brief history of the legislative process with Governor Patrick's announcement of the legislation at last year's Bio2007 conference in Boston, the Governor's filing of the draft legislation in July 2007, approval by the Senate and House of the Conference Committee report on June 11 and 12, 2008, and the Governor's signing of the bill into law on June 16, 2008 at Dana Farber Cancer Institute.

Dr. Windham-Bannister explained that the law provides for a 10-year, \$1 billion investment in the Massachusetts super cluster, with \$500 million allocated to capital funding, \$250 million to the Massachusetts Life Sciences Investment Fund through an annual budget appropriation, and \$250 million in tax incentives to be awarded to certified life sciences companies. The law provides for an 18-member advisory board to be appointed by the Governor and five Regional Technology Innovation Centers throughout the state. The challenge will be to identify which projects will provide the greatest leverage to promote health-related innovations by supporting research, development, manufacturing, and commercialization in the life sciences.

Dr. Windham-Bannister then turned to an implementation work plan for the Center, with the goal of being fully functional by the end of the Center's first year by: (1) developing the Center's organizational structure within its first 6 months; (2) setting the strategy and framework for decision making within the next several months; (3) providing ongoing communications and outreach regarding the Center's activities; and (4) building the Center's organizational capacity within the second half of the year.

As part of the organizational development phase, Dr. Windham-Bannister explained that a first priority would be to fully review and assess the new legislation, locate office space, and hire key personnel. Dr. Windham-Bannister then proudly announced that Melissa Walsh, former Chief of Staff for the Center, has accepted the role of Chief Operating Officer, and that she is thrilled that Ms. Walsh will continue to be her partner. As part of this step, Dr. Windham-Bannister will be spending considerable time actively listening to the Center's partners, and soliciting their advice about the unique role that can be played by the Center in collaboration with its partners and stakeholders.

The second step involves articulating a vision and mission for the Center. Dr. Windham-Bannister reported that she would be soliciting input from the Board of Directors, the Scientific Advisory Board, and stakeholders in the life sciences space to: (1) assess major gaps and unmet needs among super cluster stakeholders; (2) identify "where" and "how" the Center can make a difference; and (3) determine the focus and priorities for the MLSC. One of the important inputs will be to assess the implications of the Life Sciences Talent Initiative study, scheduled for release at next month's Board meeting, for setting priorities.

Communications regarding the Center's activities will be ongoing. Dr. Windham-Bannister anticipates that there will be information next month regarding the website for the Stem Cell Registry going live and developments in the creation of the Advisory Board and Regional Technology Innovation Centers. Among the activities that will occur as part of the Center's organizational capacity building, Dr. Windham-Bannister described the importance of refining the Center's strategy, solidifying the Center's team, monitoring funding, refining impact metrics, creating a database, reviewing and Matching Grant Program, conducting necessary studies, and continuing to collaborate extensively.

Dr. Windham-Bannister indicated her intent to meet with each of the Board members and to set up subcommittees of the Board to address specific areas of focus. She closed by referencing the proposed list of future meeting dates for the Board and requested that Board members notify either herself or Melissa regarding the feasibility of these dates.

V. Massachusetts Life Sciences Innovation Day

Mr. Anupendra Sharma and Dr. Abi Barrow reported on the success of the MLSC-sponsored Massachusetts Life Sciences Innovation day on June 3, 2008. The purpose of this sold-out event (477 participants and 100+ post-doctoral students) was to provide researchers with everything they need to build a life sciences company in one room.

Mr. Sharma described the day as consisting of: a showcase of two innovator-founded companies, an opportunity for researchers to bounce ideas off of angel investors and serial entrepreneurs, a research showcase with 32 Massachusetts labs presenting their cutting-edge ideas, and a reception with venture capitalists. A distinguished panel of entrepreneurs evaluated three "live idea" presentations and provided examples of the need for more commercialization training for researchers. Mr. Sharma closed by recommending that the Innovation day be repeated on an annual basis with some adjustments such as a showcase of VC-backed companies, an early-stage traditional investor panel, awards for commercialization, and additional outreach to the medtech community.

VI. Matching Grant Program

Secretary O'Connell opened this portion of the agenda by thanking Professor Harvey Lodish, Chair of the Scientific Advisory Board (SAB) and MTC's John Adams Innovation Institute for managing the Matching Grant Program for the Center. Secretary O'Connell informed the Board that Professor Lodish would present the peer review process and recommendations for the New Investigator and New Faculty Startup Grants, there would be an opportunity for Board discussion, and then the Board would vote on each grant. Secretary O'Connell requested that Board members sign the MLSC's Conflict of Interest policy and recuse themselves from the discussion and vote on any grant for which they had a conflict. Dr. Villa-Komaroff indicated her intent to recuse herself from all votes on the Matching Grant Program because she was a member of the SAB during their consideration of these proposals.

Professor Lodish began by explaining that he was present to make recommendations to the Board on behalf of the SAB with respect to the first two grant programs. Professor Lodish acknowledged the top-notch caliber of the SAB members who bring diverse perspectives from the life sciences field to their deliberations. He referred Board members to the Report from the SAB in the Board's materials.

Following a peer review of the 35 New Investigator applications, the SAB carefully reviewed applications in the competitive range and unanimously recommended funding for 11 proposals. While the SAB generally followed the rank ordering of the peer review panel, there was additional professional knowledge among SAB members that resulted in a different outcome in one case. Although the MLSC had available

funding for 12 proposals, the SAB decided to err on the side of caution and recommended funding of only the proposals with the best science.

Mr. Beer asked Professor Lodish to share any lessons learned from the New Investigator process. Professor Lodish noted that the diversity of proposals submitted for consideration precluded having a peer review panel with expertise on every single application, despite the highly-qualified reviewers that comprised the panel.

Secretary O'Connell then asked for the motion to approve funding for the New Investigator grants. Upon motion duly made and seconded, members of the Board of Directors voted individually on each grant as follows:

The Board of Directors of the Massachusetts Life Sciences Center (MLSC), acting pursuant to the authority delegated under Chapter 23I of the General Laws of the Commonwealth, does hereby authorize the expenditure of monies in an amount not to exceed \$3.2 million for eleven (11) grants over three (3) years, as presented, to the following research institutions for research to be conducted by new investigators affiliated with such institutions:

Beth Israel Deaconess Medical Center Boston University Broad Institute Harvard Medical School Massachusetts General Hospital Massachusetts Institute of Technology (2) Cummings School of Veterinary Medicine at Tufts University University of Massachusetts Amherst University of Massachusetts Lowell Whitehead Institute for Biomedical Research

These grants shall be awarded under the MLSC Matching Grant Program, Solicitation No. 2008-MLSC-01, to spur innovative research and advance the careers of new investigators working in the life sciences at colleges, universities, and affiliated research institutions in the Commonwealth. Approval of these grants is subject to the execution of a grant agreement by each of the above research institutions in a form and with terms approved by the President and Chief Executive Officer of the Massachusetts Life Sciences Center.

Beth Israel Deaconess Medical Center: Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

Boston University:

Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Donahoe and Villa-Komaroff recused

Broad Institute: Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

Harvard Medical School: Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Slavin and Villa-Komaroff recused

Massachusetts General Hospital: Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Slavin and Villa-Komaroff recused Massachusetts Institute of Technology (Boyer): Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

Massachusetts Institute of Technology (Saeij): Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

Cummings School of Veterinary Medicine at Tufts University: Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

University of Massachusetts Amherst: Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Villa-Komaroff and Wilson recused

University of Massachusetts Lowell: Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Villa-Komaroff and Wilson recused

Whitehead Institute for Biomedical Research: Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

Professor Lodish then turned to the SAB's recommendations regarding the New Faculty Startup grants. For this solicitation, he explained that there were only 12 proposals from nine institutions. On account of this number of applications and because this program is funding a faculty position, rather than specific research, there was a decision to have the SAB serve as the peer review board. Professor Lodish indicated that he read all 12 of the applications and assigned each grant to three members of the SAB who wrote written reviews and scored them. Based on these scores, the applications were ranked and the SAB discussed each proposal in detail.

Following a healthy discussion, SAB members voted up or down on each proposal. Out of the five proposals that were recommended by the SAB for funding, three of them received unanimous endorsement. The other two proposals received significant support with 7 "yes" votes and 8 "yes" votes, 1 "no" vote for each of them, and 1 "abstention" in one case and 2 "abstentions" in the other.

President Wilson observed that these faculty grants have a very different intent than the new investigator grants. The faculty grants are intended to match institutional support to recruit new talent. Dr. Slavin noted the difficulty for institutions to line up their recruitment needs to the timing of this solicitation. Professor Lodish reported that this same concern was expressed by a member of the SAB, and that this would be a topic for the next SAB meeting.

Secretary O'Connell then asked for the motion to approve funding for the New Faculty Startup grants. Upon motion duly made and seconded, members of the Board of Directors voted individually on each grant as follows:

The Board of Directors of the Massachusetts Life Sciences Center (MLSC), acting pursuant to the authority delegated under Chapter 23I of the General Laws of the Commonwealth, does hereby authorize the expenditure of monies in an amount not to exceed \$3.5 million for five (5) grants over three (3) years, as presented, to the following research institutions to support the funding of faculty positions at such institutions:

Boston University

Brandeis University University of Massachusetts Amherst University of Massachusetts Boston University of Massachusetts Lowell

These grants shall be awarded under the MLSC Matching Grant Program, Solicitation No. 2008-MLSC-02, to support the recruitment of nationally prominent researchers to the faculty of colleges and universities in the Commonwealth. Approval of these grants is subject to the execution of a grant agreement by each of the above research institutions in a form and with terms approved by the President and Chief Executive Officer of the Massachusetts Life Sciences Center.

Boston University: Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Donahoe and Villa-Komaroff recused

Brandeis University: Approved by a vote of 5 in favor, 0 opposed, 0 abstaining, Villa-Komaroff recused

University of Massachusetts Amherst Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Villa-Komaroff and Wilson recused

University of Massachusetts Boston Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Villa-Komaroff and Wilson recused

University of Massachusetts Lowell Approved by a vote of 4 in favor, 0 opposed, 0 abstaining, Villa-Komaroff and Wilson recused

Dr. Windham-Bannister and Professor Lodish noted that an agenda item for the next SAB meeting in late September will be to debrief on the Matching Grant Program and to consider recommendations for the future. Dr. Windham-Bannister informed the Board that based on these decisions, pre-prepared e-mail notifications were being sent to all grant applicants.

Professor Lodish closed by noting the importance of these state investments in the life science research enterprise in Massachusetts, and pointed to the 2008 ARISE (Advancing Research In Science and Engineering) report from the American Academy of Arts and Sciences that support this conclusion.

Mr. Beer expressed his appreciation to Professor Lodish and the management of the grant program and applauded the aggressive timetable for conducting the peer review process and recommending funding of the best science. He added that many other states have taken much longer to make investments. Ms. Walsh remarked on the professional integrity of the entire process and the careful consideration by peer review panelists and SAB members of scientific merit and economic development criteria.

Ms. Walsh reported that these Board decisions commit a total of nearly \$7 million to these two grant programs. Undersecretary Gonzalez pointed out that the Center will need to develop metrics to evaluate the impact of these investments. Dr. Windham-Bannister concurred and indicated that the Center would be looking at economic models and other evaluation tools to track outcomes. Secretary O'Connell pointed out the level of commitment that the MLSC Board has shown to life sciences research through these approvals.

President Wilson applauded this aggressive infusion of monies to support the creation of talent. Mr. Beer encouraged broad communication of these investments, particularly since labs in Massachusetts are losing top people to other states.

VII. MLSC Operating Budget

Secretary O'Connell indicated that because the 2009 fiscal year began July 1st and with the constitution of a new Board, one of the first tasks of the new President and CEO will be to develop and present a budget for this fiscal year. Until the Board reviews and approves such budget, an interim formality is needed to ensure the continuing operation of the Center.

Undersecretary Gonzalez asked for a motion to approve a monthly operating budget for the Center prior to adoption of the FY2009 budget by the Board. Upon motion duly made and seconded, all attending members of the Board of Directors voted unanimously:

The Board of Directors of the Massachusetts Life Sciences Center (MLSC), acting pursuant to the authority delegated under Chapter 23I of the General Laws of the Commonwealth, does hereby authorize the expenditure of monies by the MLSC in an amount not to exceed \$50,000 per month for the purposes of an operating budget until the formal adoption of the FY2009 budget by the Board.

Secretary O'Connell moved to adjourn, Mr. Beer seconded the motion, and the meeting adjourned at 2:45 p.m.