

**MINUTES OF A REGULAR MEETING
OF THE BOARD OF DIRECTORS OF THE
MASSACHUSETTS LIFE SCIENCES CENTER**

DATE: November 29, 2017
TIME: 2:00 p.m. EST
PLACE: Massachusetts Technology Collaborative
2 Center Plaza
Suite 200
Boston, Massachusetts

DIRECTORS PRESENT: Mike Kennealy (designee for Secretary Jay Ash)
Dominick Ianno (designee for Secretary Mike Heffernan)
Julie Chen (designee for UMass President Martin Meehan)
Pam Randhawa

DIRECTORS ABSENT: Gary Kearney
Peter Parker

1. Call to Order

Mike Kennealy called the meeting of the Board of Directors (the “Board”) of the Massachusetts Life Sciences Center (the “MLSC” or “Center”) to order at 2:18 p.m. The meeting, having been duly convened, was ready to proceed with its business.

2. Approval of Board Minutes

The Board then reviewed the minutes of the September 27th, 2017 Board meeting. Upon a motion duly made, seconded and carried, the Board adopted the resolution to approve the minutes.

3. Chairs’ Updates

The Board Chairs ceded their time to the CEO.

4. CEO Update

Travis McCready thanked the Board as well as the MLSC Staff for their efforts in regards to the MassNextGen Program announcement.

Mr. McCready also announced the first in a series of committee hearings in regards to the bill for reauthorization of the Life Sciences Center. The meeting will take place at UMass Medical in Worcester at 11:00 a.m. with the Joint Committee on

Economic Development and Emerging Technologies. Secretary Jay Ash will give testimony, and Mr. McCready and Secretary Heffernan will attend to address questions from the committee. The Board is encouraged and welcome to attend.

5. Microbiome Quick Fire Challenge: Holobiome Approval

Ms. Jennifer Griffin gave an update on the winner of the Microbiome Quick Fire Challenge with Johnson and Johnson. The Massachusetts winner was Holobiome, Inc., a company developing microbiome-based therapeutics that target depression and other central nervous system disorders.

Upon a motion duly made, seconded and carried, the Board adopted the resolution to approve Holobiome, Inc. as a certified life sciences company within the meaning of the Life Sciences Act.

6. Update and Proposal: Internship Challenge Program

Ms. Beth Nicklas gave an update on the 2018 launch of the Internship Challenge Program. Since 2009, the MLSC has funded 3,300 internships with 672 companies, and the program continues to expand. Interns represent 195 different academic institutions, and a student must either be a resident of Massachusetts or a student going to school in Massachusetts. Data indicates that 22% of interns were offered employment directly following their internship. Companies are limited to hiring two interns per program year, however, if they hire community college students, they are eligible to hire two additional students, for a total of four students. 46% of students participating in the program are female, and 39% of students are non-white. 66 new companies took part in the program in 2017, with the largest percentage categorized as medical device companies. A yearly survey was provided to the interns and companies in regards to the 2017 program. Results from the survey indicated that 38% of student respondents were offered employment following their internship. Overall students responding to the survey gave an “exceeds expectations” rating in regards to their internship experience.

Upon a motion duly made, seconded and carried, the Board adopted the resolution to approve \$3,700,000 for the 2018 Internship Challenge.

7. Update and Proposal: High School Apprenticeship Program

Ms. Nicklas gave an update on the High School Apprenticeship Program. Last summer the MLSC subsidized 94 high school student apprenticeships including an

expansion within the Worcester area. The MLSC is also working with the Boston PIC to help students with resume preparation and general preparedness for the apprenticeship program.

Upon a motion duly made, seconded and carried, the Board adopted the resolution to approve \$500,000 for the High School Apprenticeship Program.

Additionally, Mr. McCready also reminded that Board that through the Internship Challenge and High School Apprenticeship Programs, as well as other programmatic offerings, the MLSC has developed an academic and workforce pipeline. No one else in the United States has established such a pipeline in regards to workforce development.

8. Biomanufacturing Supply Side Analysis Presentation and Discussion

Prior to their presentation, Mr. McCready provided a brief background in regards to the two biomanufacturing studies that the consulting firm, Fletcher Spaght, had completed. Initially, the firm was asked to focus on several questions as they relate to biomanufacturing within the Commonwealth, including if building a biomanufacturing use facility in central Massachusetts would encourage small biotech and pharmaceutical companies to engage in biomanufacturing within the Commonwealth. The results of the initial analysis indicated that there is increased demand for bioprocessing manufacturing within the state. Additionally, the second study looked at the supply side of biomanufacturing capacity within Massachusetts. Fletcher Spaght presented on these results, and there were several outcomes for the study. When surveying the industry, most agreed that in order to establish successful partnerships for biomanufacturing in the life sciences, there is a need to engage in the following: solidifying public and private partners before breaking ground on a new facility, establishing GMP (good manufacturing practice) or manufacturing capabilities, and identifying and marketing to a targeted industry sector. CDMOs (Contract and Development Manufacturing Organizations) recognize the benefit of partnerships to overcome upfront capital investment, but will require design input for facilities and build-outs. Vendors would like to have an indirect role, via agreements with anchor CDMOs, including providing equipment and consumables such as bioreactors, media, sensors, etc. Several design and construction firms, with domain expertise in biomanufacturing plans, expressed interest regarding the conversion of existing buildings to bioprocessing suites and would

collaborate with CDMOs in building out the facility. Additionally, most of the individuals surveyed agreed that workforce development will be a critical factor for the biomanufacturing facility to succeed. Training programs would need to focus on developing GMP manufacturing skills with a separate “advanced program” needed for exposure to the next generation of technologies and prototypes.

Finally, Fletcher Spaght finally provided a road map for success, including clearly defining the mission of the facility, identifying an anchor CDMO and facility design parameters, centralizing workforce development, and aiding the CDMO in establishing partnerships with vendors.

Adjourn

Dominick Ianno, upon motion duly made, seconded and unanimously carried, adjourned the meeting at 4:06 p.m.

List of Materials and Exhibits Used During Meeting:

- Board Agenda
- Minutes from September 29th, 2017 Board meeting
- Motion: To approve the minutes from the September 29th, 2017 Board meeting
- Motion: To approve Holobiome, Inc. as a certified life sciences company within the meaning of the Life Sciences Act
- Motion: To approve the 2018 Internship Challenge Program
- Motion: To approve the 2018 High School Apprenticeship Program