



MASSDEVELOPMENT

March 1, 2019

99 High Street
Boston, Massachusetts
02110

Tel: 617-330-2000
800-445-8030

Fax: 617-330-2001

www.massdevelopment.com

Mr. Michael D. Hurley
Senate Clerk
24 Beacon Street
Room 335 – State House
Boston, MA 02133

Mr. Steven T. James
House Clerk
24 Beacon Street
Room 145 – State House
Boston, MA 02133

RE: Innovation Voucher Program Fund Annual Report

Dear Sirs:

Massachusetts Development Finance Agency (MassDevelopment) is pleased to submit this first annual report of the Innovation Voucher Program Fund (Fund) as required by M.G.L. Chapter 75, § 45C. The Fund was established as of July 1, 2017, and regulations were promulgated on November 16, 2018. The University of Massachusetts (UMass) submitted its first invoice in January of 2019.

The Commonwealth has allocated \$2,000,000 to capitalize the Fund. The Fund is held by and administered by MassDevelopment and its moneys shall be deployed to:

(A) reimburse UMass for vouchers that it may issue to eligible small corporations and startup companies for a portion of the cost of either or both of (1) their use of Core Facilities, or (2) their contract for work to be performed by UMass using the Core Facilities; and

(B) reimburse MassDevelopment for its direct costs of administering the Fund.

UMass may award vouchers to companies whose use of the Core Facilities will, as determined by UMass, further the goals of job growth creation, innovation and economic development. Vouchers may be issued for the cost of using Core Facilities to perform work that includes, but is not limited to, the construction of prototypes, testing, and market research.

The attached annual report summarizes the progress MassDevelopment has made with respect to the Fund from the Fund's inception to February 28, 2019. UMass has reported the following details summarizing all vouchers awarded to date. Four UMass campuses issued 43 vouchers for which total reimbursement of \$419,217.91 was approved.

Sincerely,

Lauren A. Liss
President & CEO

Innovation Voucher Program Fund Annual Report

University of Massachusetts, Amherst

The University of Massachusetts, Amherst awarded 16 vouchers totaling \$153,241.30. The following details each voucher:

1. **Aclarity** was awarded \$48,078.45. The Fund enabled Aclarity to develop technologies for the removal of PFCs, disinfection of pathogens, and quantification of oxidants produced in various water matrices.
2. **Barnstorm Studios** was awarded \$637.50. The Fund enabled Barnstorm Studios to offset the high costs of core research, allowing them to hire recent UMass graduates and support innovation in the rapidly emerging field of 3D printing.
3. **Clean Membranes** was awarded \$55,302.00. The Fund provided a platform for Clean Membranes to pursue the development and piloting of innovative technologies in the membrane water treatment market.
4. **Cofab Design** was awarded \$2,542.50. The Fund allowed Cofab Design to very quickly turn around projects and add considerable technical value to work that they would be unable to sustain if they attempted to bring the pertinent technologies and services in-house.
5. **Cyta Therapeutics** was awarded \$106.96. The Fund has allowed Cyto Therapeutics to access spinning disk confocal microscope technology needed for live cell imaging as the company moves toward product validation.
6. **Etesian Technologies** was awarded \$226.13. The Fund allowed Etesian Technologies to reduce the cost and labor involved in the manufacture of a low-volume part that is a necessary component for their customers.
7. **Foghorn Therapeutics** was awarded \$145.00. The Fund enabled Foghorn Therapeutics to utilize the UMass Core Facilities to develop a completely novel anti-fogging product that has been instrumental in positioning the company to develop multiple product lines for sale nationally and internationally.
8. **FTL Labs** was awarded \$1099.85. The Fund allowed FTL Labs to develop more prototypes and meet critical project goals, which in turn has positioned them better to pursue additional government funding solicitations.
9. **Launchpad Medical LLC** was awarded two vouchers totaling \$12,187.50. The Fund allowed Launchpad Medical LLC to make significant advances in their research on a bone adhesive biomaterial technology.
10. **Mechanical Drive Components** was awarded two vouchers totaling \$2,232.00. The Fund enabled Mechanical Drive Components, Inc. to pursue new customers and new products with new technologies, by assisting customers at the beginning of their product life cycles.
11. **Multisensor Scientific** was awarded \$21,110.85. The Fund allowed MultiSensor Scientific to successfully build a gas leak imaging camera using 3D printing technology.
12. **Silicon Therapeutics** was awarded \$7,560.00. The Fund enabled Silicon Therapeutics to use the NMR core facilities at UMass, not only to perform routine drug discovery assays, but also to perform in-depth characterization of small molecule protein interactions by NMR.
13. **Volo Alero** was awarded two vouchers totaling \$2012.56. The Fund enabled Volo Aero to add 3D printed fixtures to make their production processes more efficient.

The University of Massachusetts, Boston

The University of Massachusetts, Boston awarded 2 vouchers totaling \$6,345.77. The following details each voucher:

1. **Fluid-Screen** was awarded \$1,211.27. The Fund enabled Fluid-Screen to develop equipment to accelerate iteration cycles, increase the quality of designs, and reduce outsourcing costs.
2. **Valerion Therapeutics** was awarded \$5,134.50. The Fund allowed Valerian Therapeutics to gain access to the powerful confocal microscope Core Facility, which has enabled them to run samples to develop proprietary product candidates to treat a disease with no current therapeutic options.

The University of Massachusetts, Lowell

The University of Massachusetts, Lowell awarded 19 vouchers totaling \$88,060.57. The following details each voucher:

1. **Adaptive Surface Technologies** was awarded \$2,158.50. The Fund enabled Adaptive Surface Technologies to reduce the cost of their instrument-intensive testing to validate product lines, thereby accelerating development. The Fund has also allowed them to gain access to technologies that may have been cost prohibitive, and develop more comprehensive testing strategies.
2. **Advanced Silicon Group** was awarded \$1,041.75. The Fund enabled Advanced Silicon Group to continue working on a project between phases 1 and 2 of their SBIR grants, during which time they would not have otherwise had the resources needed to continue.
3. **Amastan Technologies** was awarded \$960.50. The Fund has allowed Amastan to accelerate their material R&D by allowing quick turn-around affordable characterization with the self-use facility.
4. **APorous** was awarded \$6,120.00. The Fund has accelerated APorous's competitive advantages by allowing them to pin-point product deficiencies and focus on targeted upgrades.
5. **Cam Med LLC** was awarded \$5,112.94. The Fund allowed Cam Med LLC to provide training for employees to operate advanced tools in CRF.
6. **Glyscend** was awarded \$567.00. The Fund allowed Glyscend to hire 3 interns and train them on equipment, as well as enhance their core data set with more robust NMR, SPR, and other analytical data that they would have otherwise needed to outsource.
7. **Hyalex Orthopaedics** was awarded \$3,464.60. The Fund has enabled Hyalex to rapidly iterate through formulations of their product in a cost-effective manner, and effectively narrow the specifications of their products. They recently achieved a "formulation freeze", a critical development milestone for their products.
8. **KnipBio** was awarded \$740.25. The Fund has allowed KnipBio to develop and validate new analytical methods for its biotechnology platform. Moreover, through the MLS and Voucher programs, they were able to hire and train a UMass Lowell student working full time over the summer and part-time during the school year.
9. **Launchpad** was awarded \$2,467.31. The Fund has allowed Launchpad to make significant advances in novel bone adhesive biomaterial technology which they intend to commercialize for medical use.

10. **Lionano** was awarded \$354.50. The Fund has allowed Lionano to utilize the facilities at UMass Lowell to accelerate the development and characterization of its advanced lithium-ion battery materials portfolio.
11. **Lysosomal Therapeutics** was awarded \$38,166.00. The Fund has allowed Lysosomal Therapeutics to use the UMASS Core for RNA-seq analysis, while taking some exploratory risks that a small company with a limited budget would otherwise not be able to undertake.
12. **Optowares** was awarded \$2,147.63. The Fund allowed Optowares to train several employees to perform research on MEMS devices, plasmonic solar cells, and hydrogen storage. The data generated enabled the company to grow the number of programs and increase personnel.
13. **Palomaki Consulting LLC** was awarded \$6,457.50. The Fund has accelerated Palomaki's progress and business expansion, and allowed them to hire a UMass Lowell student to assist with projects.
14. **Pendar Tech** was awarded \$7,814.25. The Fund has allowed Pendar Tech to significantly expand their work at the Nanofabrication Center at UMass Lowell.
15. **Performance Indicator** was awarded \$1,121.50. The Fund has played a critical role in helping Performance Indicator continue their research and development at UMass Lowell and commercialize their products.
16. **Versatope Therapeutics** was awarded \$1,327.50. The Fund has allowed Versatop to hire more staff and expand their research and development activities to reach the proof-of-concept milestone sooner.
17. **Vuronyx** was awarded \$1,490.06. The Fund has allowed Vuronyx to characterize a proof-of-concept technology based on a novel material. Promising results from the technology have led to hiring of one scientist and potential hiring of another scientist early next year.
18. **ZS Genetics** was awarded \$4,798.28. The Fund has helped ZS Genetics to accelerate their work in developing medical diagnostics by allowing them to perform more and larger projects that their current budget would not have allowed.

The University of Massachusetts Medical School

The University of Massachusetts Medical School (UMMS) was awarded 6 vouchers totaling \$171,570.27. The following details each voucher:

1. **Ankaa Therapeutics** was awarded two vouchers totaling \$62,069.52. The Fund enabled Ankaa Therapeutics to utilize the small molecule core facility at UMMS to perform drug discovery research on several important cancer targets.
2. **Fuse Therapeutics** was awarded two vouchers totaling \$60,000.00. The Fund enabled Fuse Therapeutics to access a small molecule screening facility to identify hit molecules for a therapeutics development project.
3. **Gel4Med** was awarded \$21,285.75. The Fund enabled Gel4Med to continue using electron and confocal microscopy to see improved wound healing with hydrogels.
4. **Orionis Bioscience, Inc.** was awarded \$28,215.00. The Fund enabled Orionis Bioscience, Inc. to obtain the proteomics data needed for their discovery research surrounding early drug discovery.